Issue #1 (1/6)

Environment Setting

1. SG1 : set to 1.0dBm CW@153.6MHz and connect to “REF_IN” port.
   - at “REF_IN” port is ~0dBm@153.6MHz.
2. SG2 : set to 1.2dBm CW@1700MHz and connect to “RF0” port.
   - at “RF0” port is ~0dBm@1700MHz.
3. Oscilloscope : port impedance set to 1Mohm.
4. Evaluation Board : modify to differential IQ mode.
   - remove R35-R38, R39-R46, R51-R52 and T5-T6.
   - add 0R to R35-R38, R47-R50 and R67-R68.

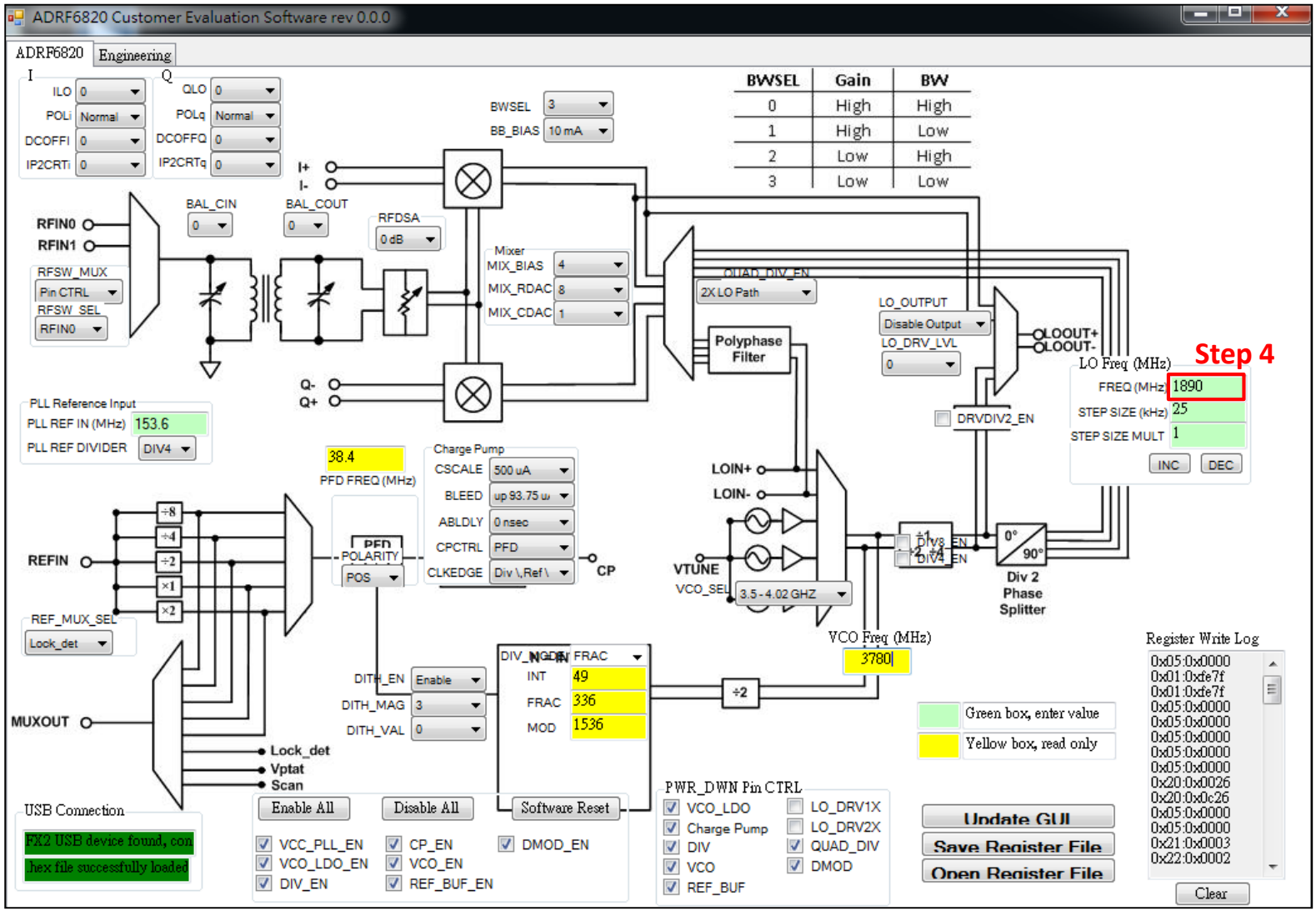
Issue #1 (2/6)

Operating Procedure

1. Turn on DC power.
2. Open control software (ADRF6820 Customer Evaluation Software).
3. Turn on SG1.
4. SW set LO frequency to 1890. (see page 3)
5. Turn on SG2.
6. Read register data. (see page 4)

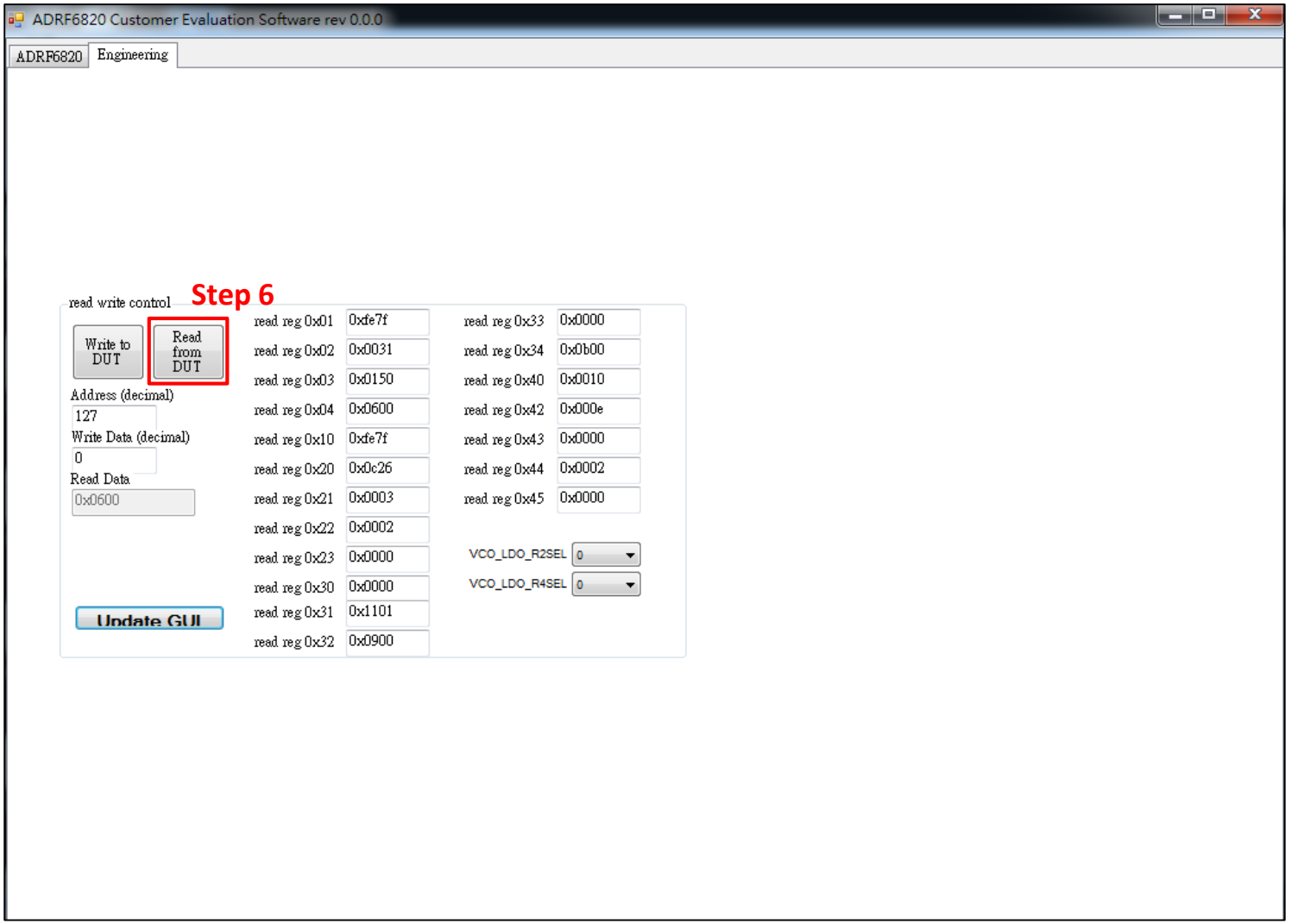
Issue #1 (3/6)

Control Software Setting



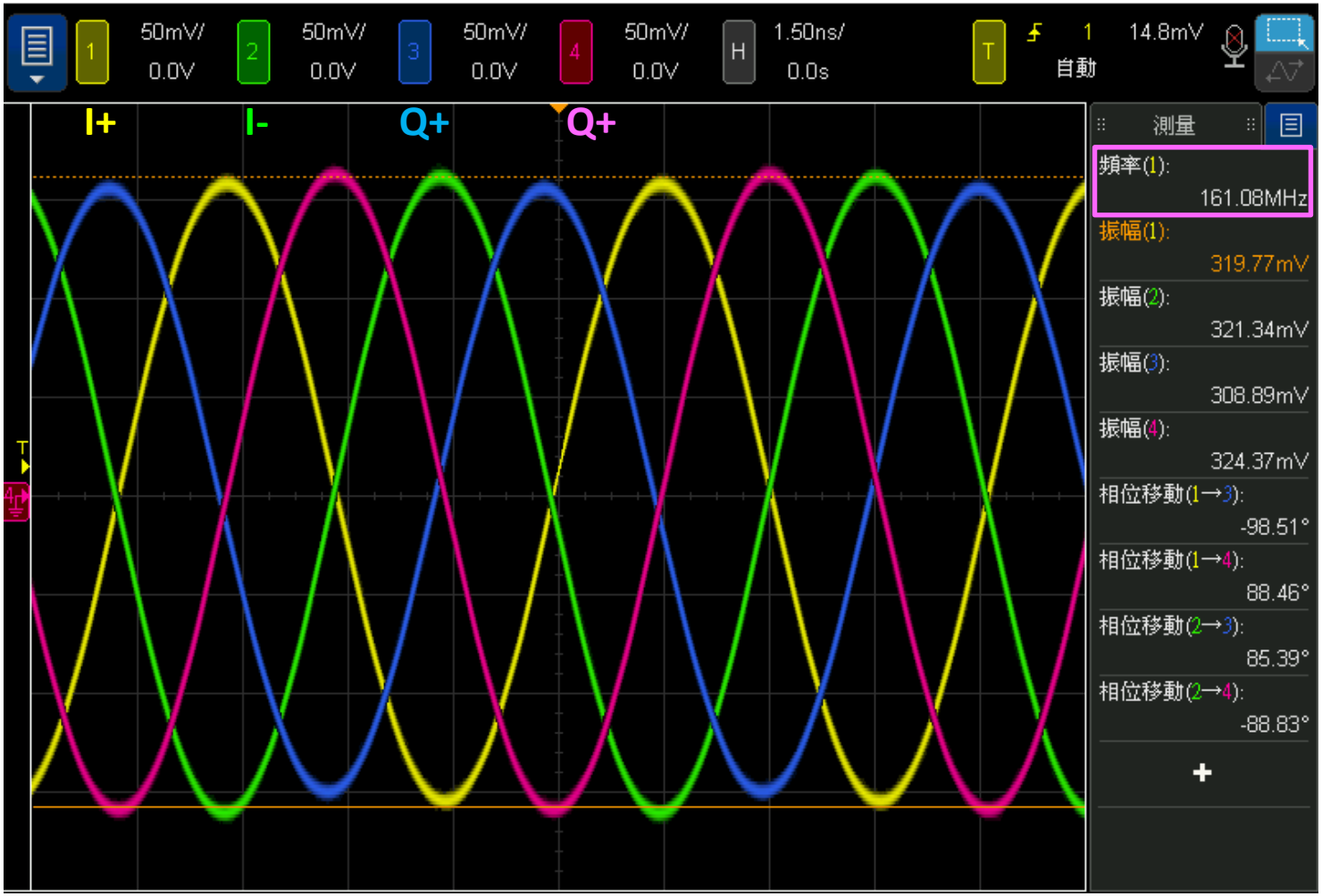
Issue #1 (4/6)

Read Register



Issue #1 (5/6)

IQ Plot



Issue #1 (6/6)

Issue

1. When switch “PWRDWN” to “high” or “low”, ADRF6820 is always working. Why??
2. Why IQ frequency is ~160MHz?? (RF is 1700MHz, LO is 1890MHz)

Issue #2 (1/6)

Environment Setting

1. SG1 : set to 1.25dBm CW@1890MHz and connect to “LO_IP” port.
   - at “LO_IP” port is ~0dBm@1890MHz.
2. SG2 : set to 1.2dBm CW@1700MHz and connect to “RF0” port.
   - at “RF0” port is ~0dBm@1700MHz.
3. Oscilloscope : port impedance set to 1Mohm.
4. Evaluation Board : modify to differential IQ mode.
   - remove R35-R38, R39-R46, R51-R52 and T5-T6.
   - add 0R to R35-R38, R47-R50 and R67-R68.

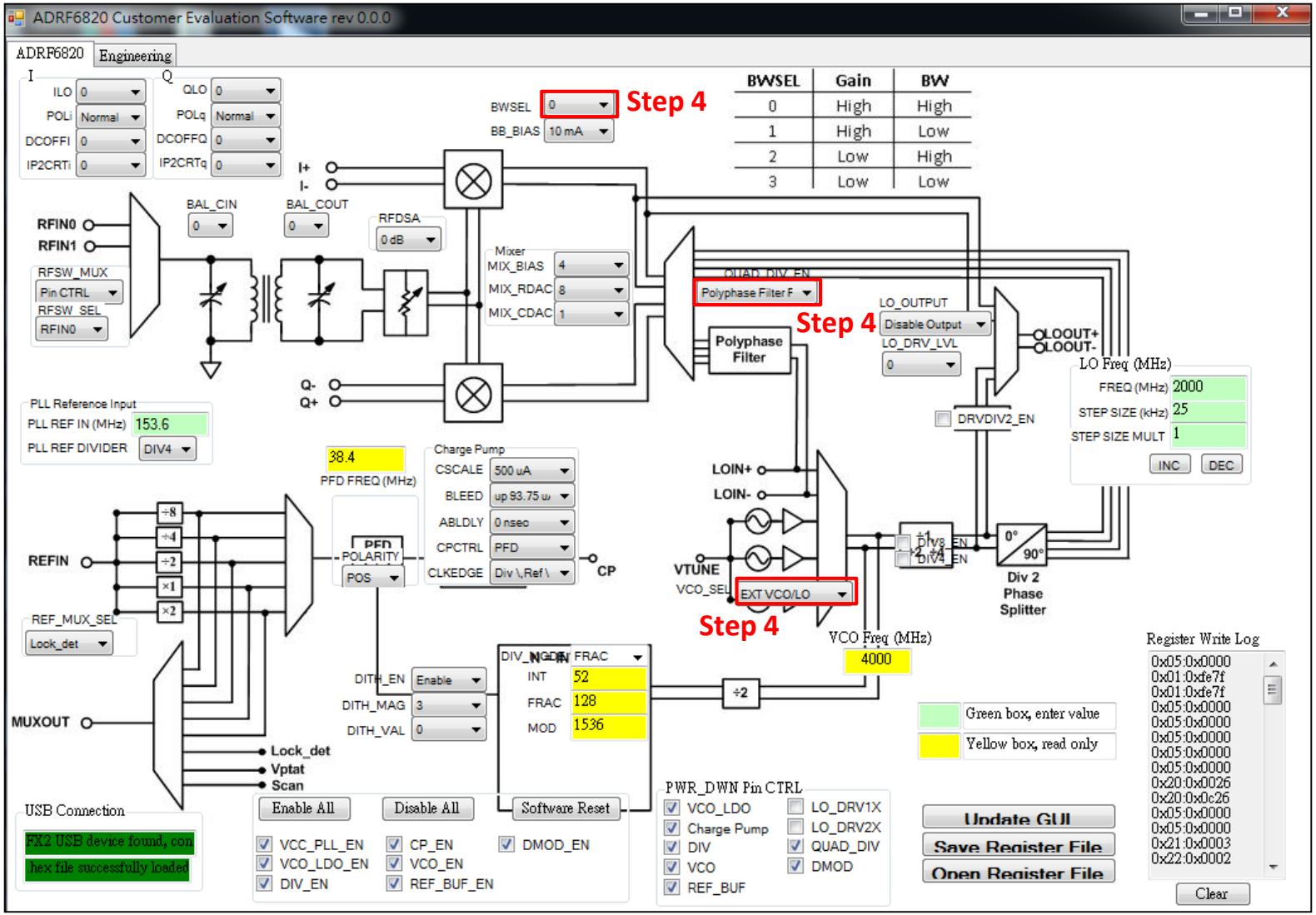
Issue #2 (2/6)

Operating Procedure

1. Turn on DC power.
2. Open control software (ADRF6820 Customer Evaluation Software).
3. Turn on SG1.
4. SW set to “EXT VCO/LO”, “Polyphase Filter” and “BWSEL 0” (see page 9).
5. Turn on SG2.
6. Read register data. (see page 10)

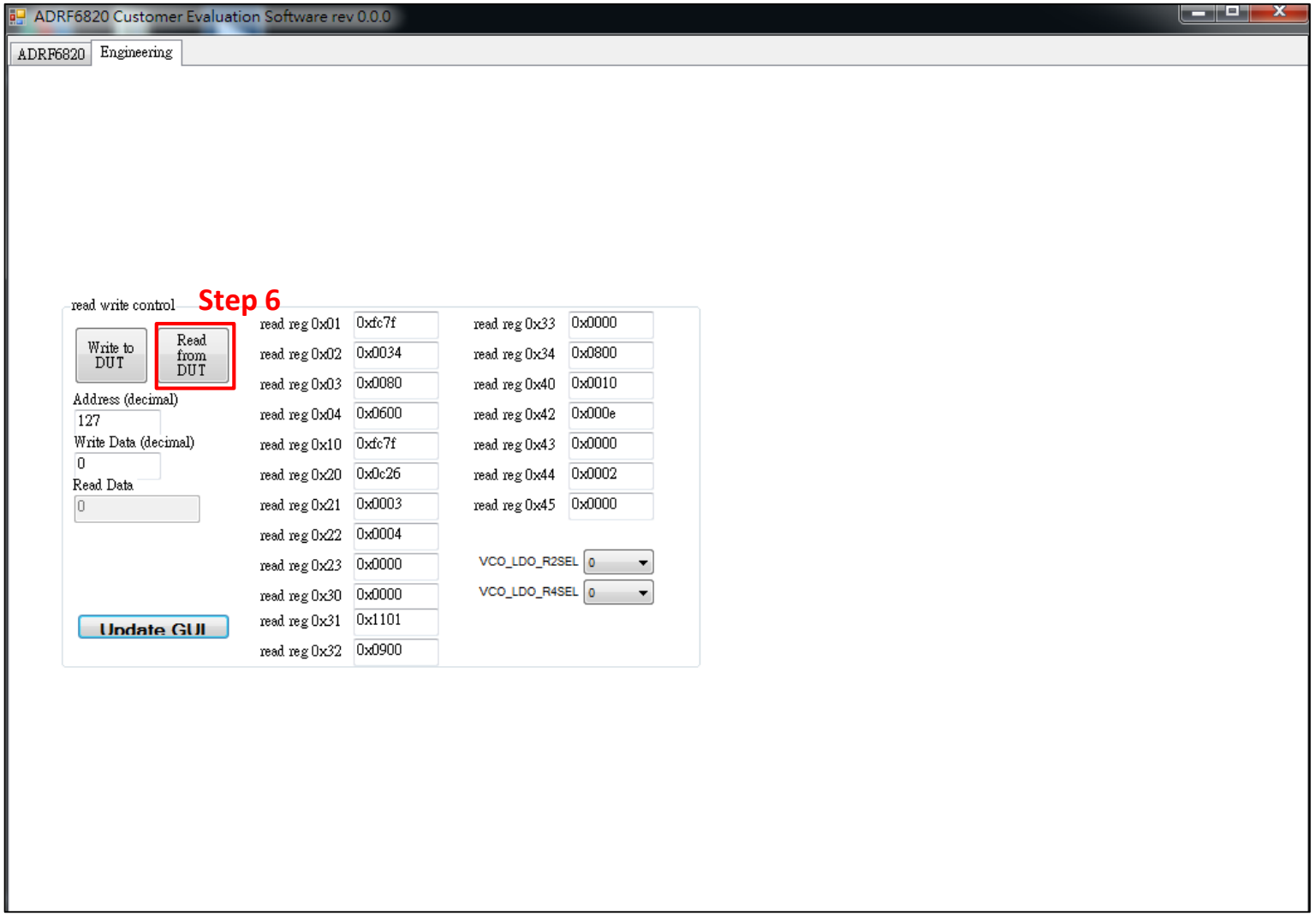
Issue #2 (3/6)

Control Software Setting



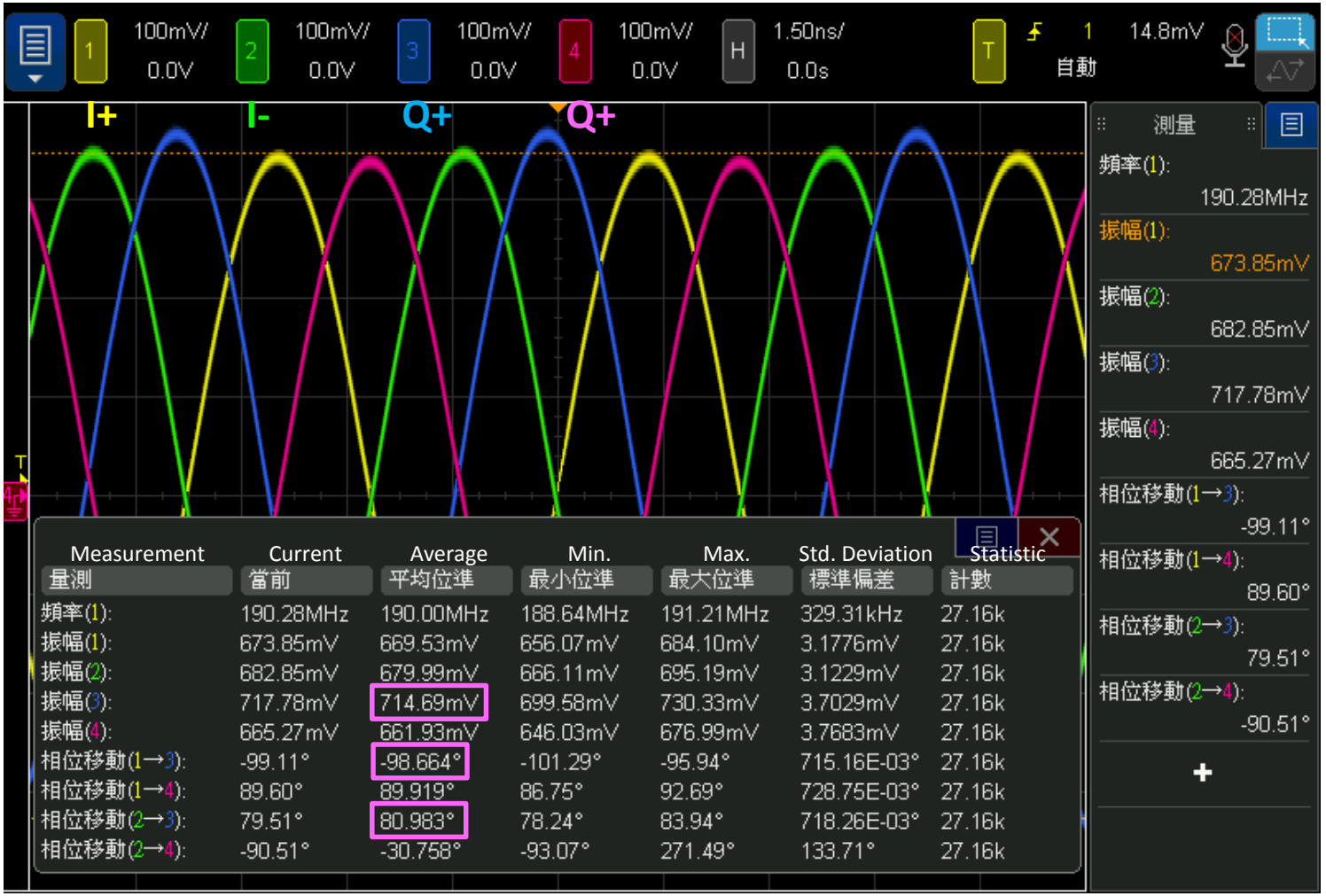
Issue #2 (4/6)

Read Register



Issue #2 (5/6)

IQ Plot



Measurement 量測	Current 當前	Average 平均位準	Min. 最小位準	Max. 最大位準	Std. Deviation 標準偏差	Statistic 計數
頻率(1):	190.28MHz	190.00MHz	188.64MHz	191.21MHz	329.31kHz	27.16k
振幅(1):	673.85mV	669.53mV	656.07mV	684.10mV	3.1776mV	27.16k
振幅(2):	682.85mV	679.99mV	666.11mV	695.19mV	3.1229mV	27.16k
振幅(3):	717.78mV	714.69mV	699.58mV	730.33mV	3.7029mV	27.16k
振幅(4):	665.27mV	661.93mV	646.03mV	676.99mV	3.7683mV	27.16k
相位移動(1→3):	-99.11°	-98.664°	-101.29°	-95.94°	715.16E-03°	27.16k
相位移動(1→4):	89.60°	89.919°	86.75°	92.69°	728.75E-03°	27.16k
相位移動(2→3):	79.51°	80.983°	78.24°	83.94°	718.26E-03°	27.16k
相位移動(2→4):	-90.51°	-30.758°	-93.07°	271.49°	133.71°	27.16k

Issue #2 (6/6)

Issue

1. The amplitude of Q+ is much bigger than others, is it reasonable??
2. The phase of Q+ is much bigger than others, is it reasonable???
   - I+ to Q- and I- to Q- are both ~90 degree. So, the deviation comes from Q+.
3. The differential IQ Vpp is ~670mV, is it reasonable (RF_IN is ~0dBm and BWSEL is “0”)?? Has any formula to calculate the RF input power vs. differential IQ Vpp??