Among the occurrence of SH, a maximum signal power of $5$ nW can be obtained via the signal fiber. In comparison of the collecting efficiency of the two fibers, the fiber-cavity coupling is optimized so that the SH signal from the pump fiber is observable but the maximum power is over one order of magnitude weaker than the power from the signal fiber. From either fibers, SH signal is absent when the pump is off-resonance with cavity modes, which helps to eliminate the possibility of spurious signals such as the second order diffraction of the EMCCD grating.