affect the other signal. The SiPM signal detection was about 80.5% at 100MHz. As the target frequency is much lower than 100MHz, we can expect that almost all the signals coming from the urine chemical light will be read and recorded with the system. After the ASIC chip is confirmed, the SiPM board will be replaced with ASIC chip. Then the board itself will be downsized and easier to be assembled.

IV. Conclusion

We developed an ASIC chip, test board, photon generator, and test amplification circuit for the urine chemical luminescence. The ASIC chip passed the test with its test board. SiPM was tested with the same layout of the developed ASIC chip and showed satisfactory results. The fully integrated board will be manufactured for the final product. The detection system developed in this research is minimal and fast reacting. Thus, the final product of this research is planned to be used as a ubiquitous health point of care testing for healthy and diseased users. Results of point-of-care testing tend to be discarded. Using a Mashup-Platform, Device-Platform as an IoT platform comparison with subsequent results and historical data will easily.

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