4.6 Out-of-band Emissions

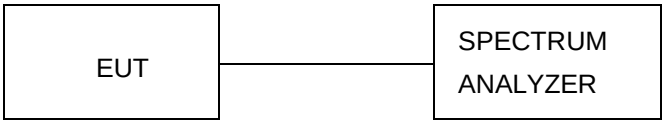
Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF con-ducted or a radiated measurement, pro-vided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter com-plies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector , and max hold. Measurements utilizing these setting are made of the in-band reference level, bandedge and out-of-band emissions.

Test Configuration

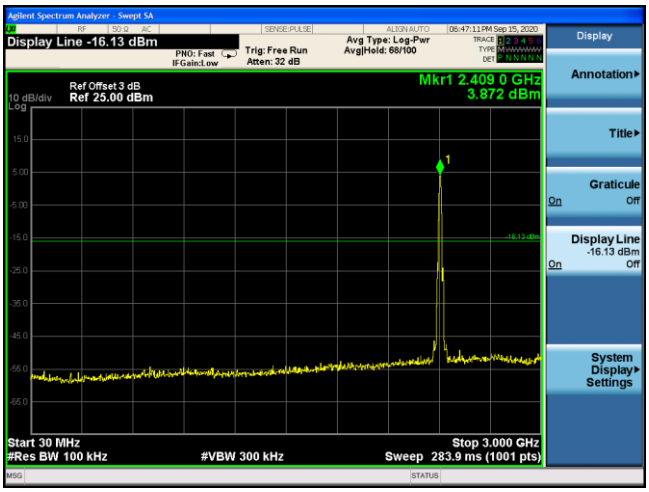


Test Results

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandage measurement data. And record the worst data in the report.

Test plot as follows:

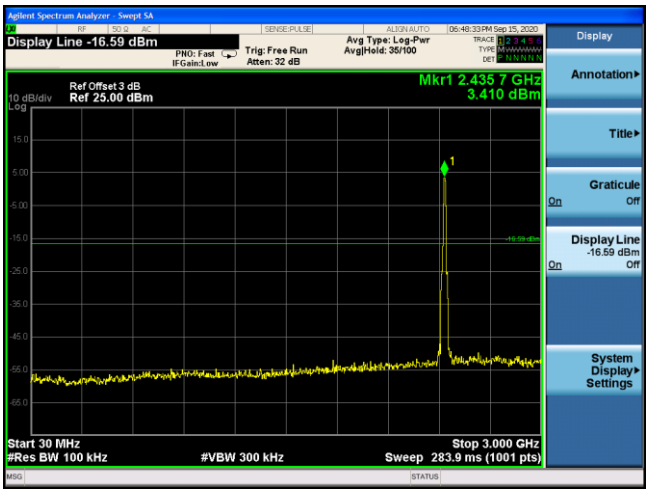
802.11b



30MHz-3GHz

3GHz -25GHz

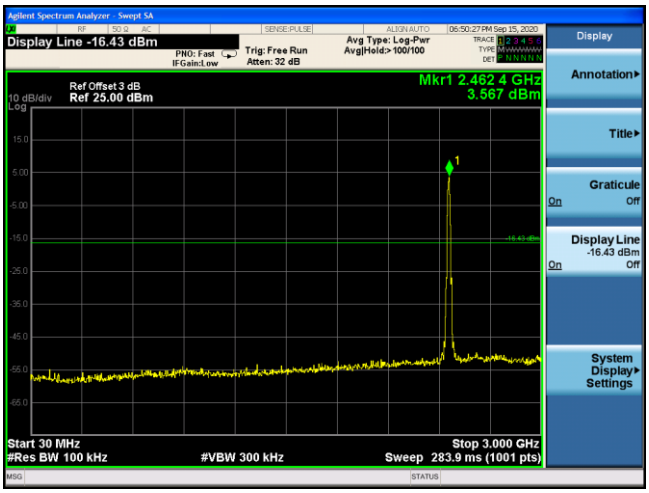
CH01



30MHz-3GHz

3GHz -25GHz

CH06

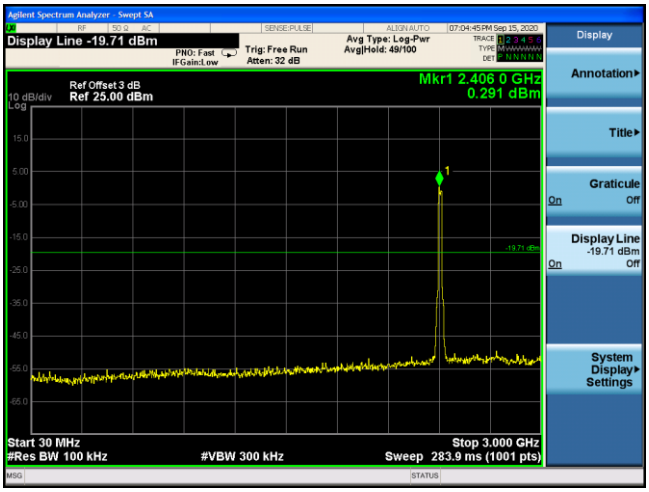


30MHz-3GHz

3GHz -25GHz

CH11

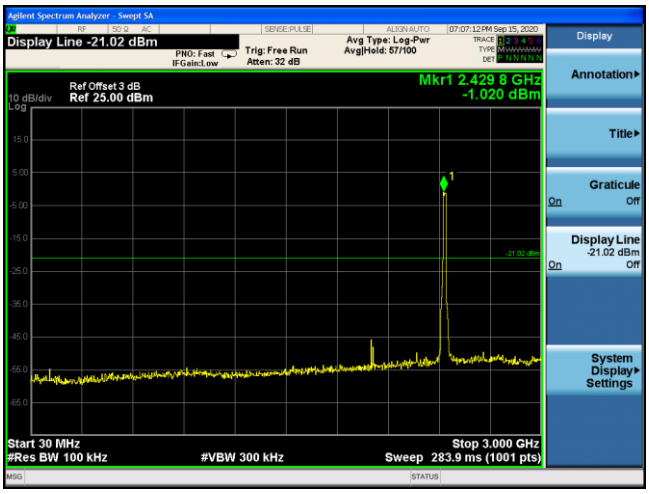
802.11g



30MHz-3GHz

3GHz -25GHz

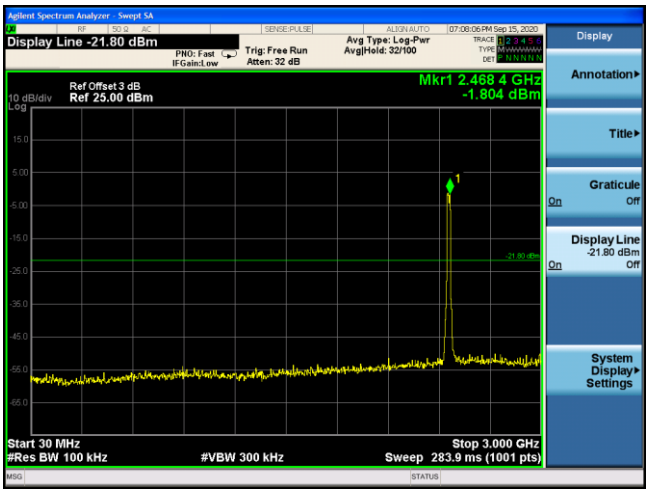
CH01



30MHz-3GHz

3GHz -25GHz

CH06



30MHz-3GHz

3GHz -25GHz

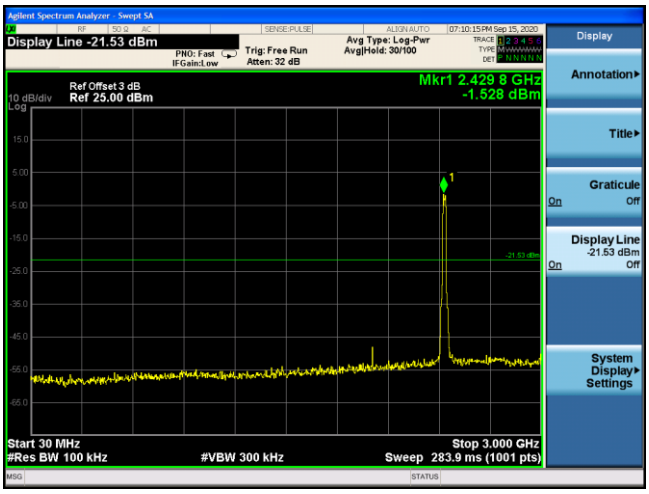
CH11

802.11n(HT20)

30MHz-3GHz

3GHz -25GHz

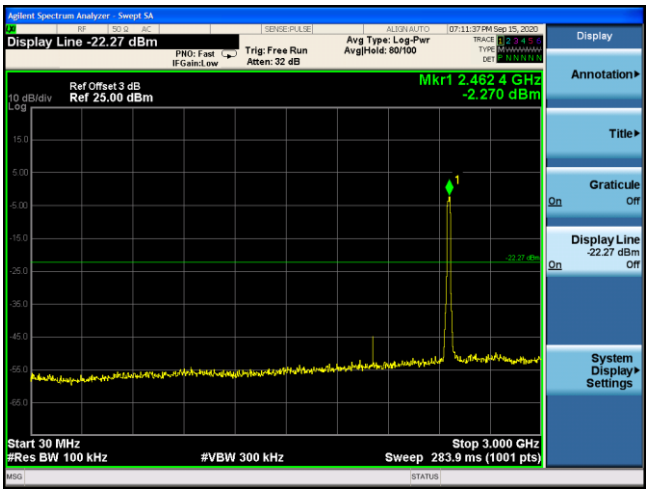
CH01



30MHz-3GHz

3GHz -25GHz

CH06



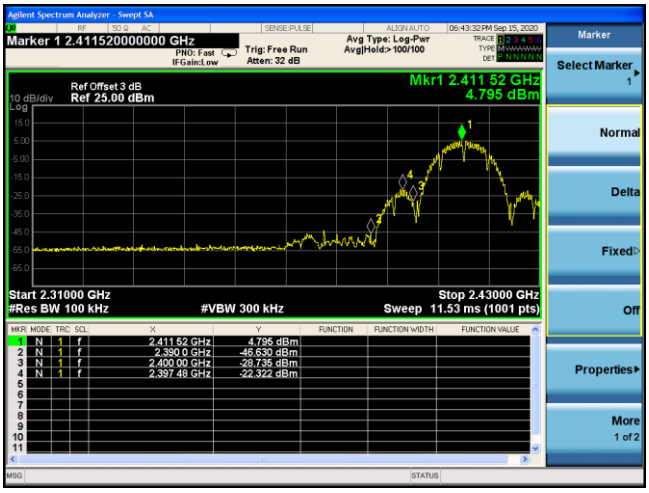
30MHz-3GHz

3GHz -25GHz

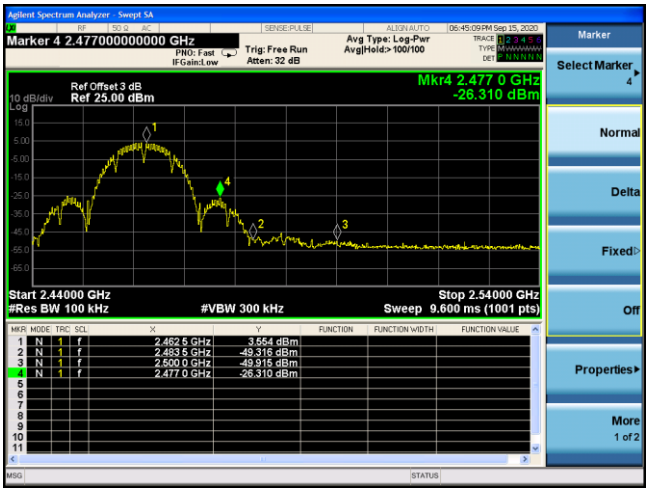
CH11

Band-edge Measurements for RF Conducted Emissions:

802.11b



Left bandedge



Right bandedge

802.11g

Left bandedge

Right bandedge

802.11n(HT20)

Left bandedge

Right bandedge

4.7 Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1) (I):

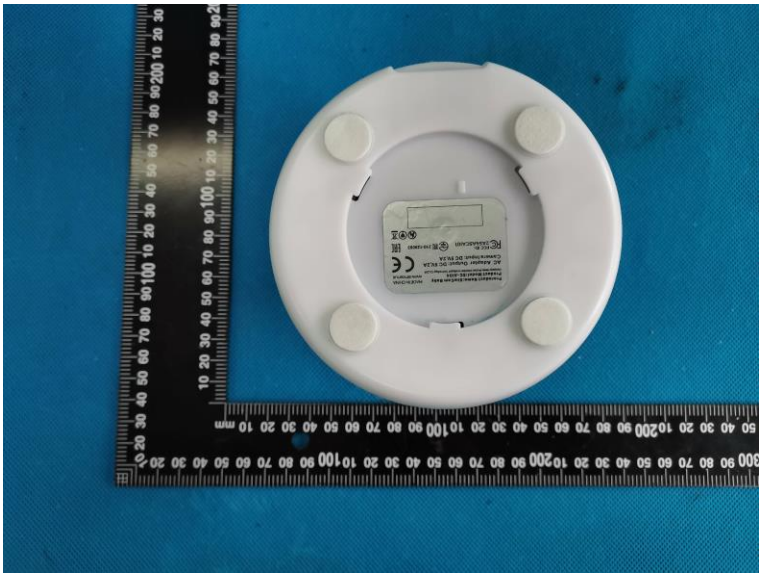
(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

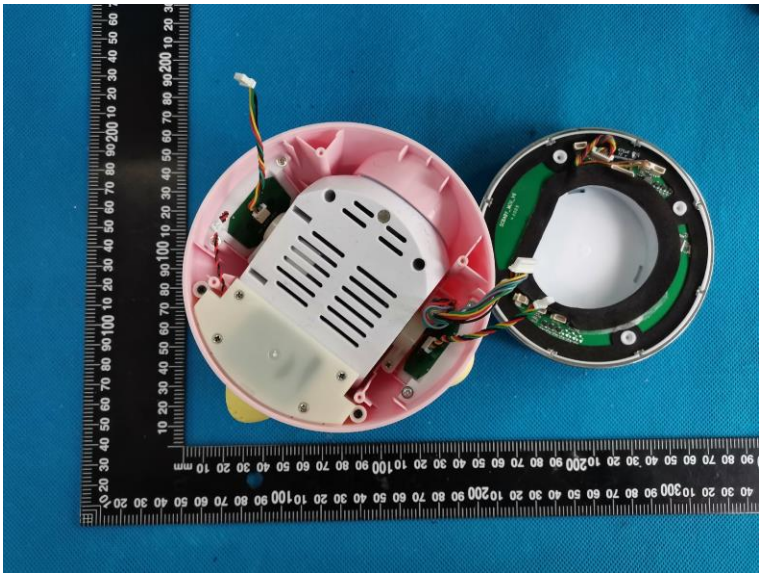
Test Result:

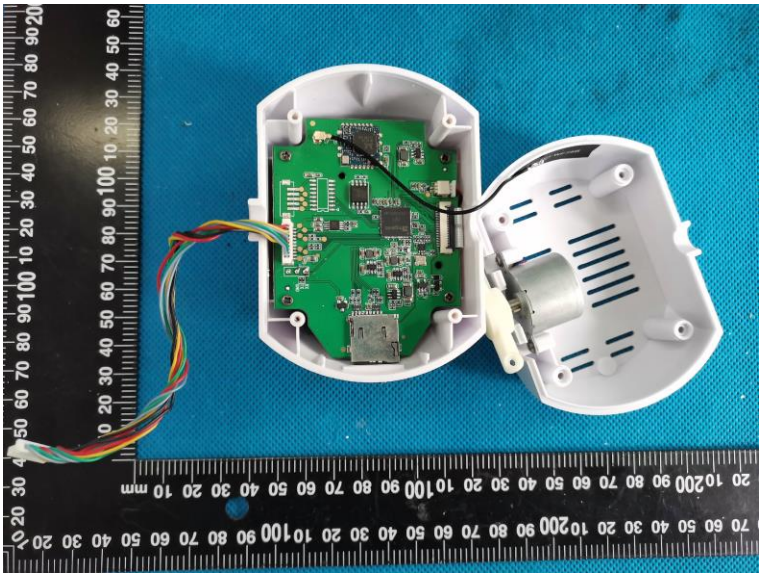
The maximum gain of antenna was 2.00 dBi for 2.4GHz WIFI.

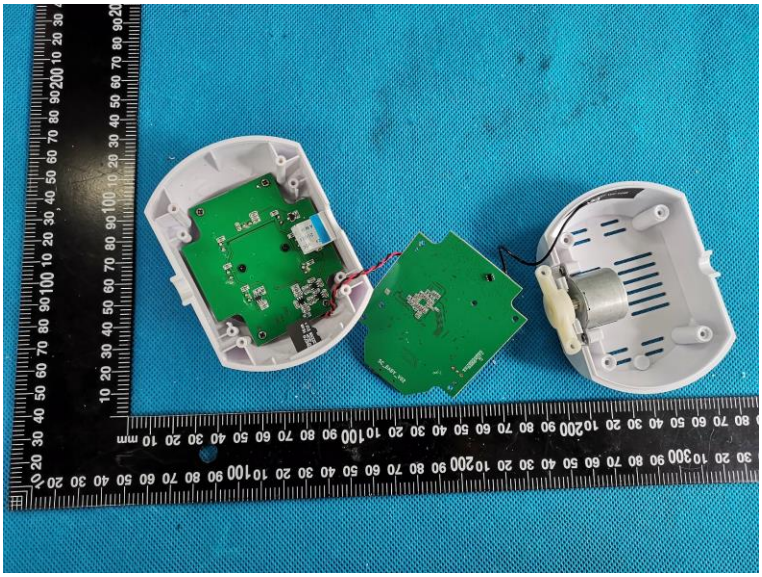
5 Test Setup Photos of the EUT

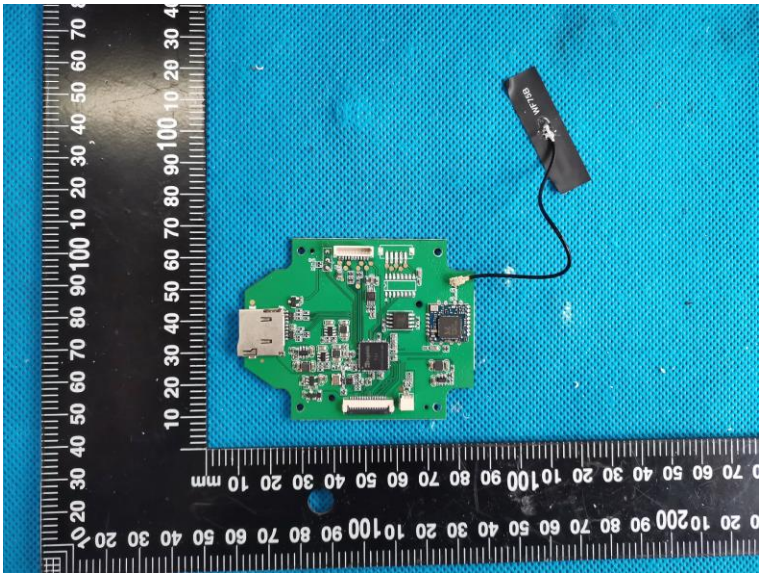
6 Photos of the EUT

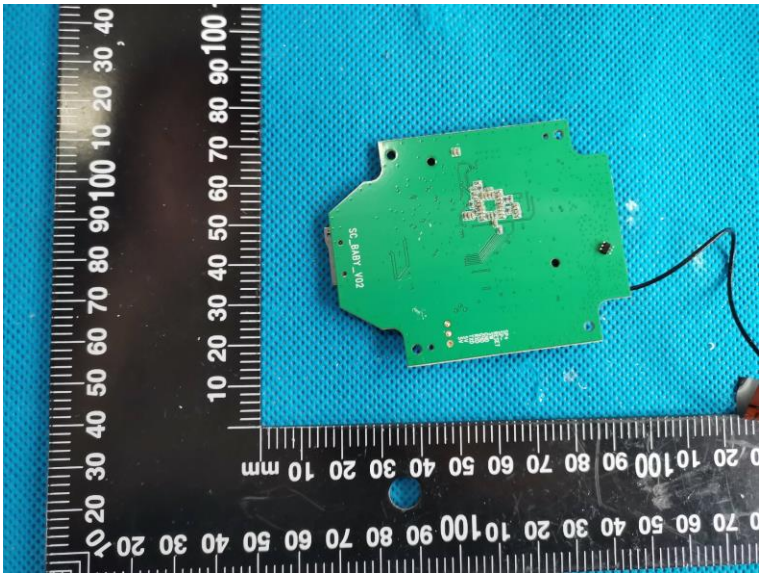


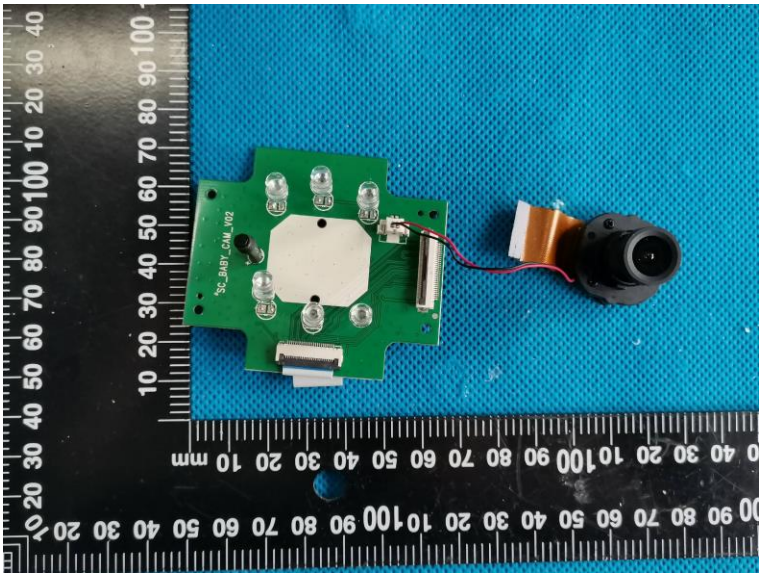








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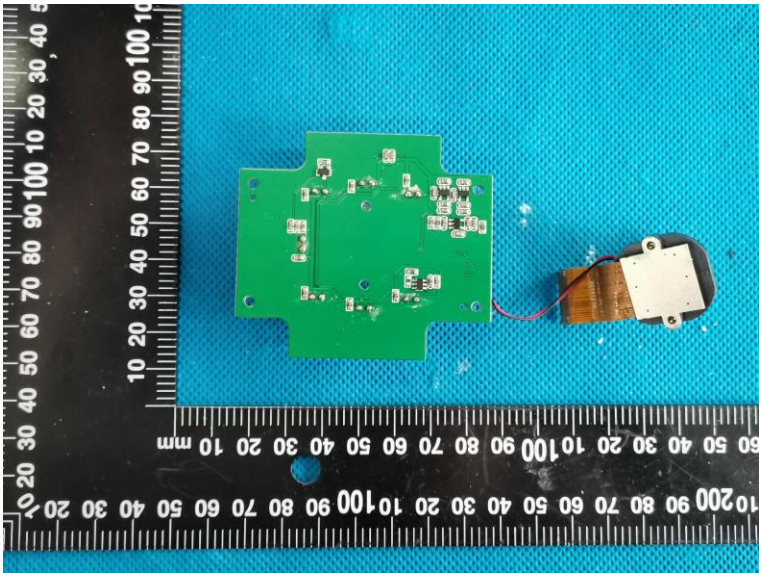
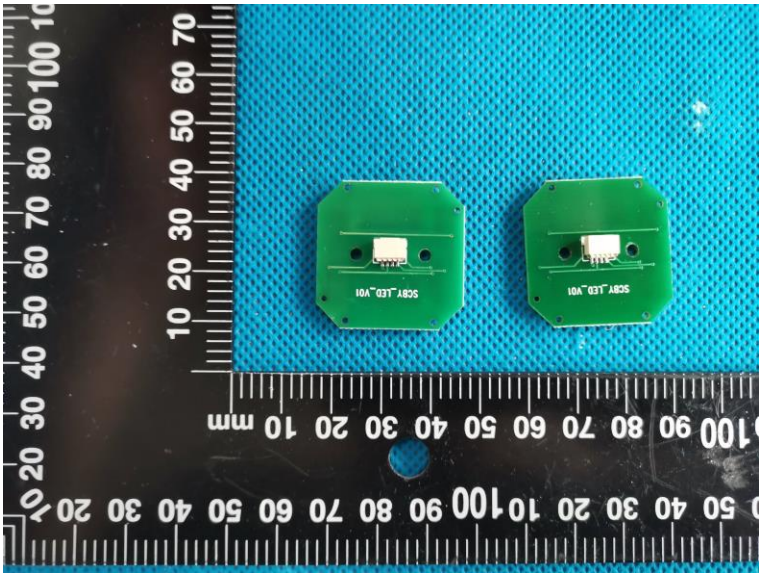
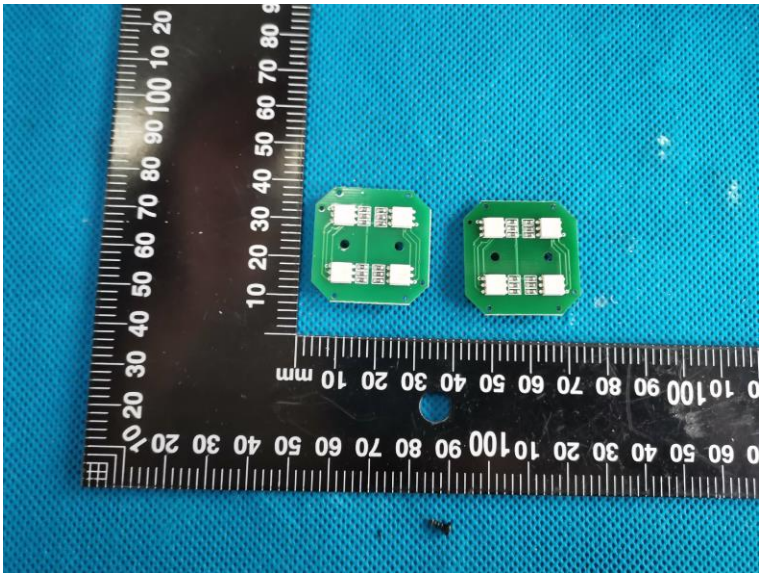
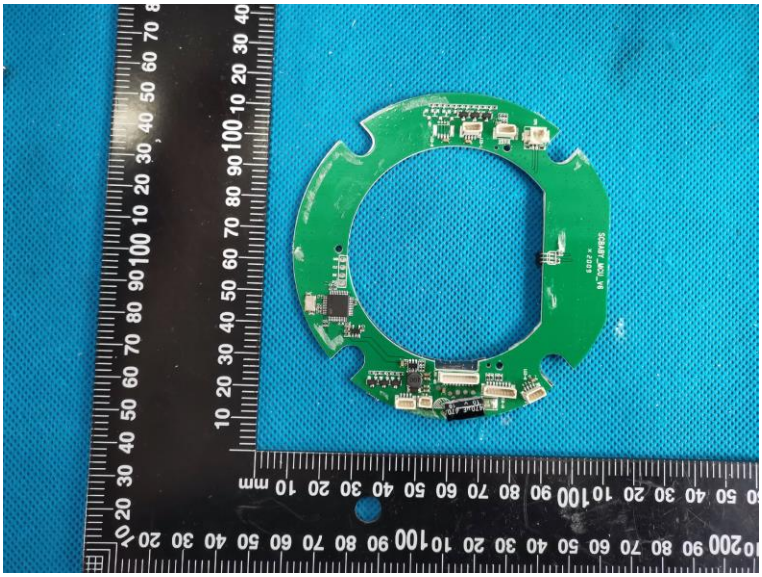
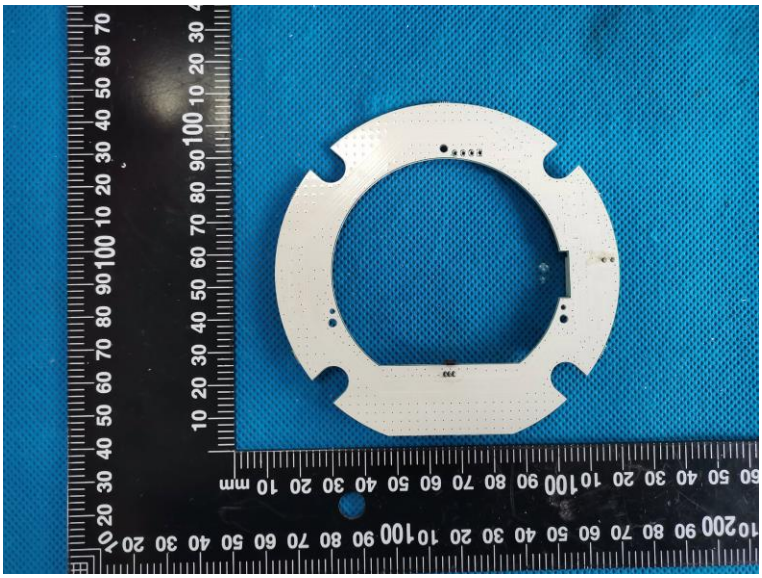
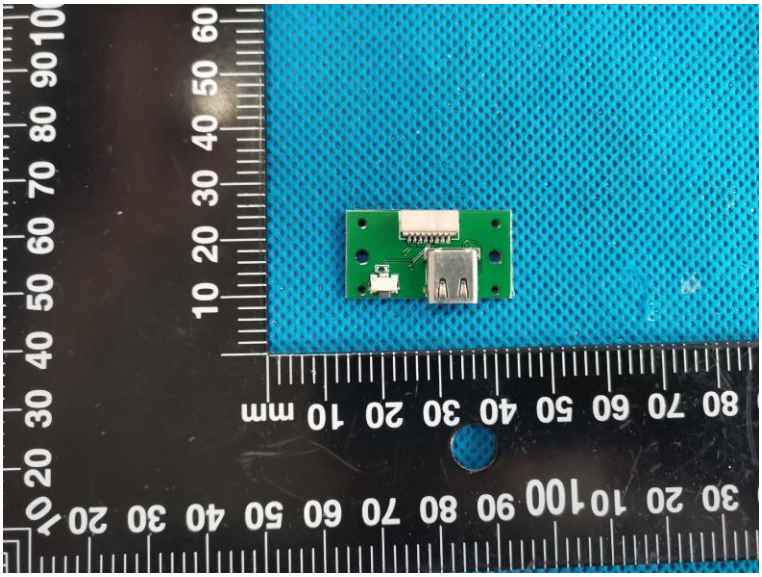


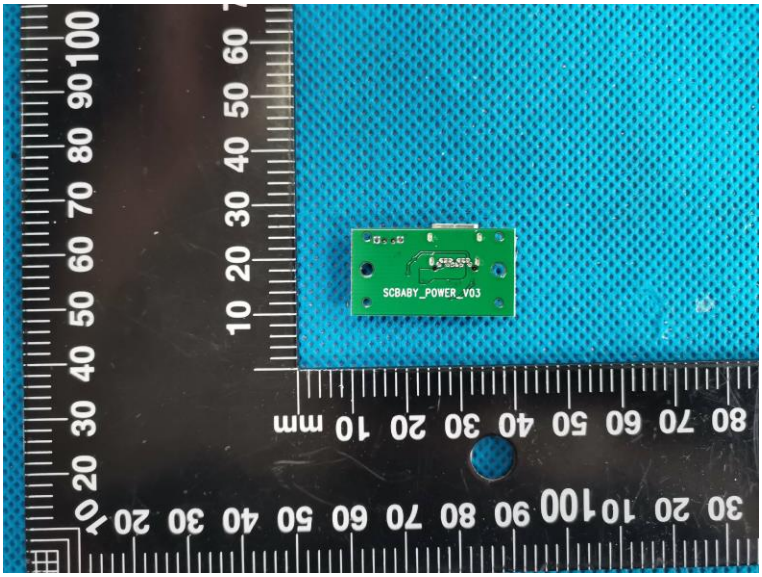

SCBY_LED_V01
SCBY_LED_V01











********** End of Report **********