

## 10 Maximum conducted output power

Test Requirement : FCC CFR47 Part 15 Section 15.247

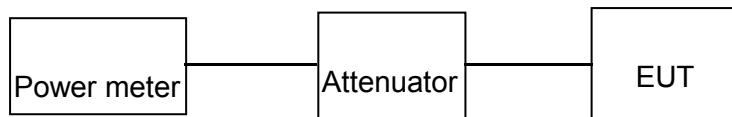
Test Method : ANSI C63.10:2013

Test Limit : Regulation 15.247 (b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power.

### 10.1 Test Procedure

1. According to ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter method. The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

### 10.2 Test Setup



### 10.3 Test Result

TestMode	Antenna	Frequency[MHz]	Set Power	Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	---	20.10	≤30.00	PASS
11B	Ant1	2437	---	20.12	≤30.00	PASS
11B	Ant1	2462	---	19.11	≤30.00	PASS
11G	Ant1	2412	---	14.60	≤30.00	PASS
11G	Ant1	2437	---	15.13	≤30.00	PASS
11G	Ant1	2462	---	15.36	≤30.00	PASS
11N20SISO	Ant1	2412	---	16.10	≤30.00	PASS
11N20SISO	Ant1	2437	---	15.96	≤30.00	PASS
11N20SISO	Ant1	2462	---	15.35	≤30.00	PASS
11N40SISO	Ant1	2422	---	16.32	≤30.00	PASS
11N40SISO	Ant1	2437	---	16.14	≤30.00	PASS
11N40SISO	Ant1	2452	---	15.64	≤30.00	PASS

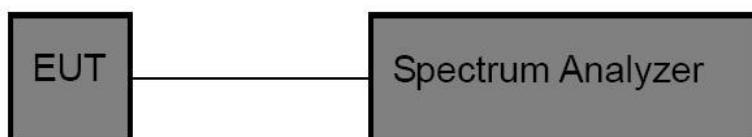
## 11 Power Spectral density

Test Requirement	: FCC CFR47 Part 15 Section 15.247
Test Method	: ANSI C63.10:2013
Test Limit	: Regulation 15.247(e) The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### 11.1 Test Procedure

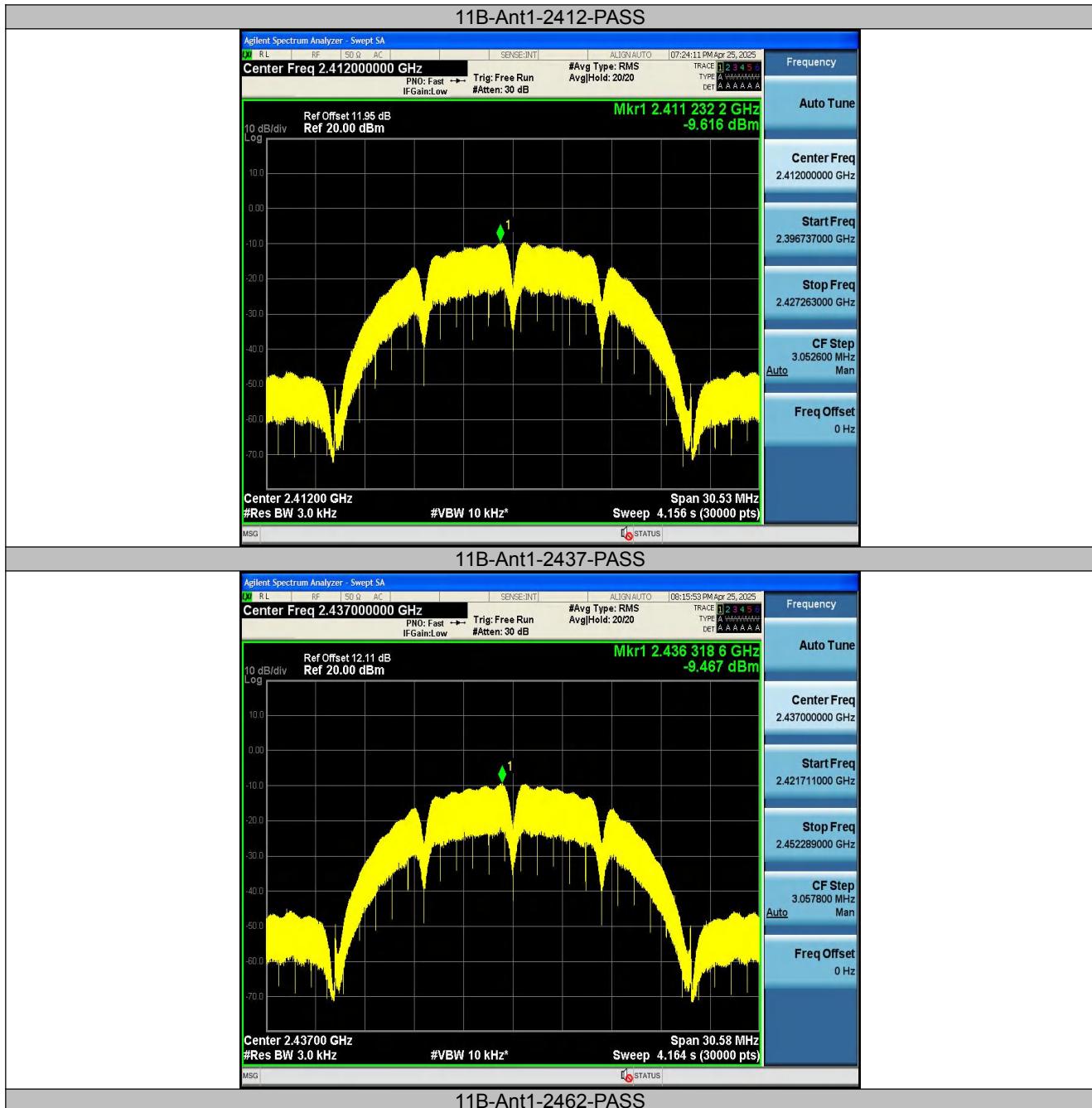
1. Connect the antenna port(s) to the spectrum analyzer input.
2. Configure the spectrum analyzer as shown below:  
Center frequency=DTS channel center frequency  
Span = 1.5 times the DTS bandwidth  
RBW = 3KHz, VBW = 10KHz  
Sweep time = auto couple  
Detector = peak  
Trace mode =max hold
3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
4. Use the peak marker function to determine the maximum amplitude level within the RBW.
5. If measured value exceeds limit, reduce RBW(no less than 3Khz) and repeat.

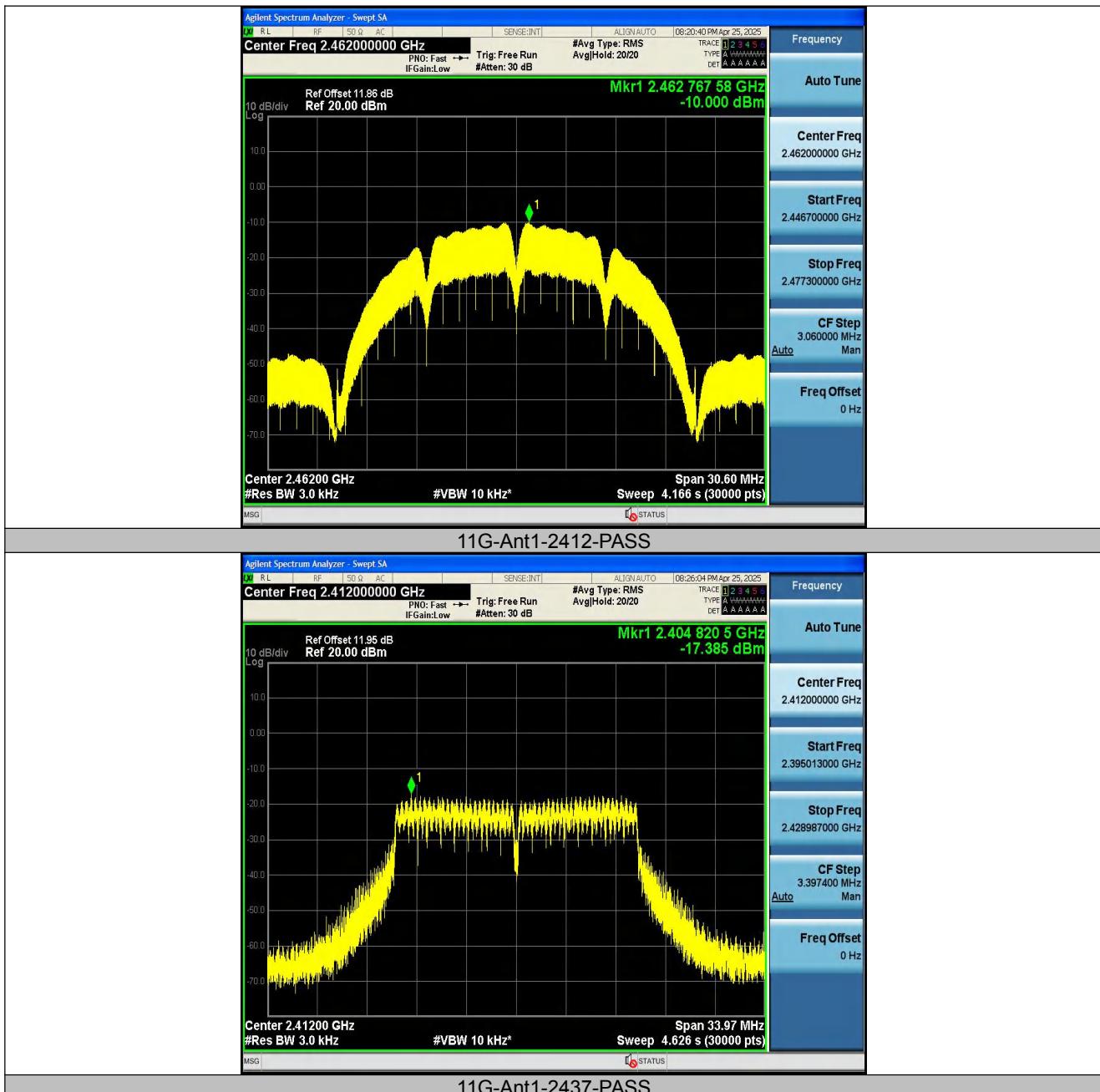
### 11.2 Test Setup

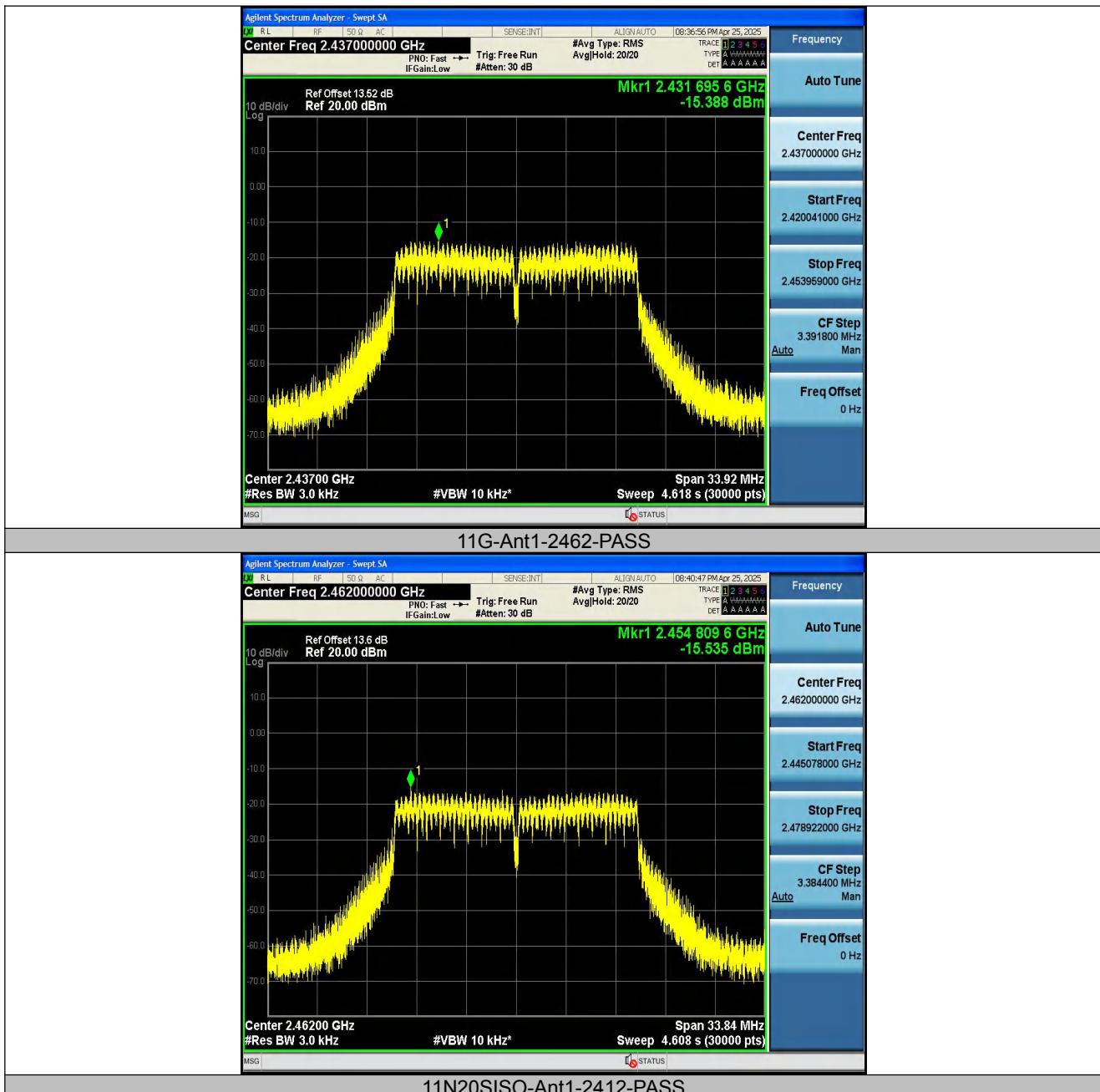


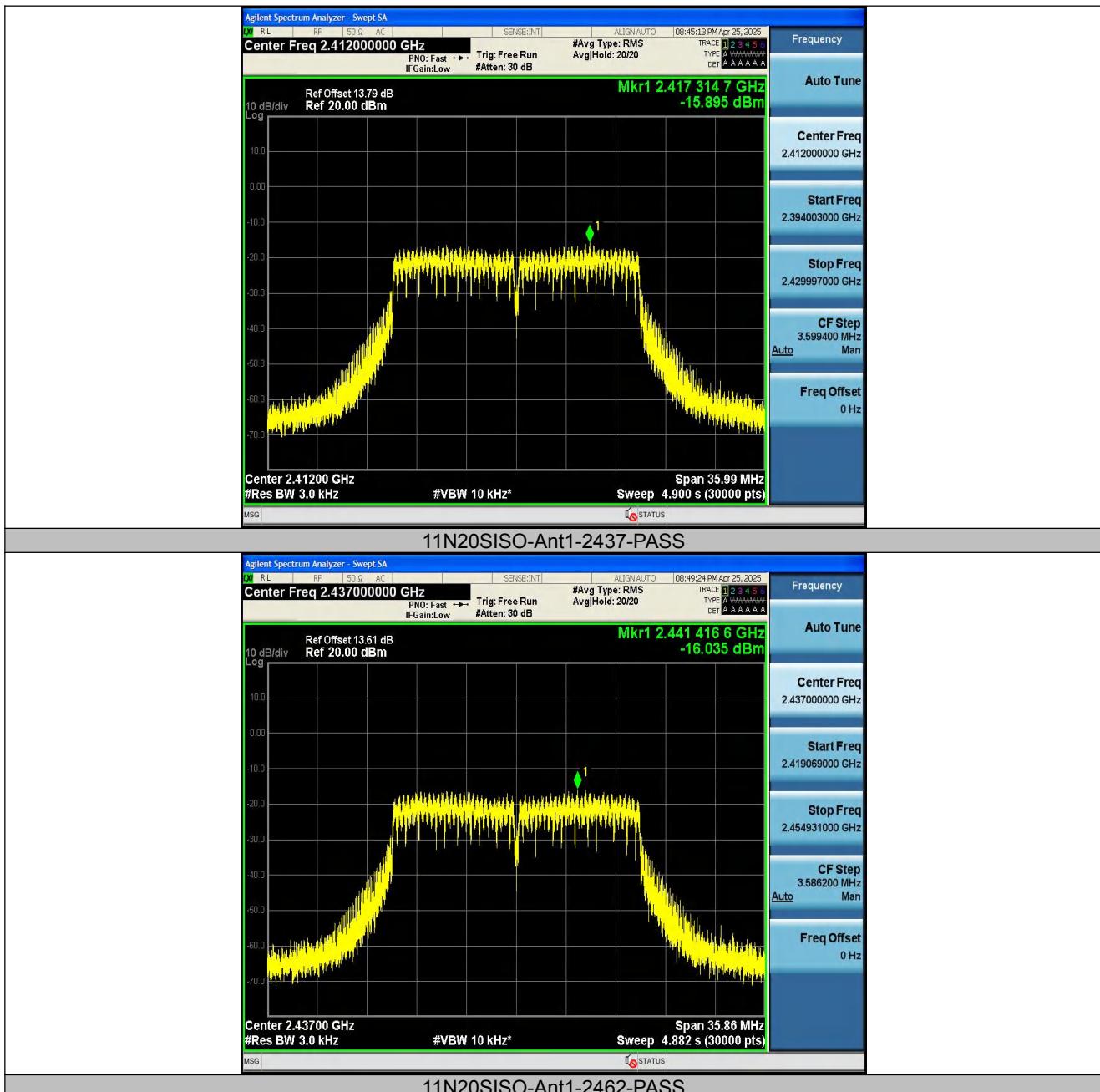
### 11.3 Test Result

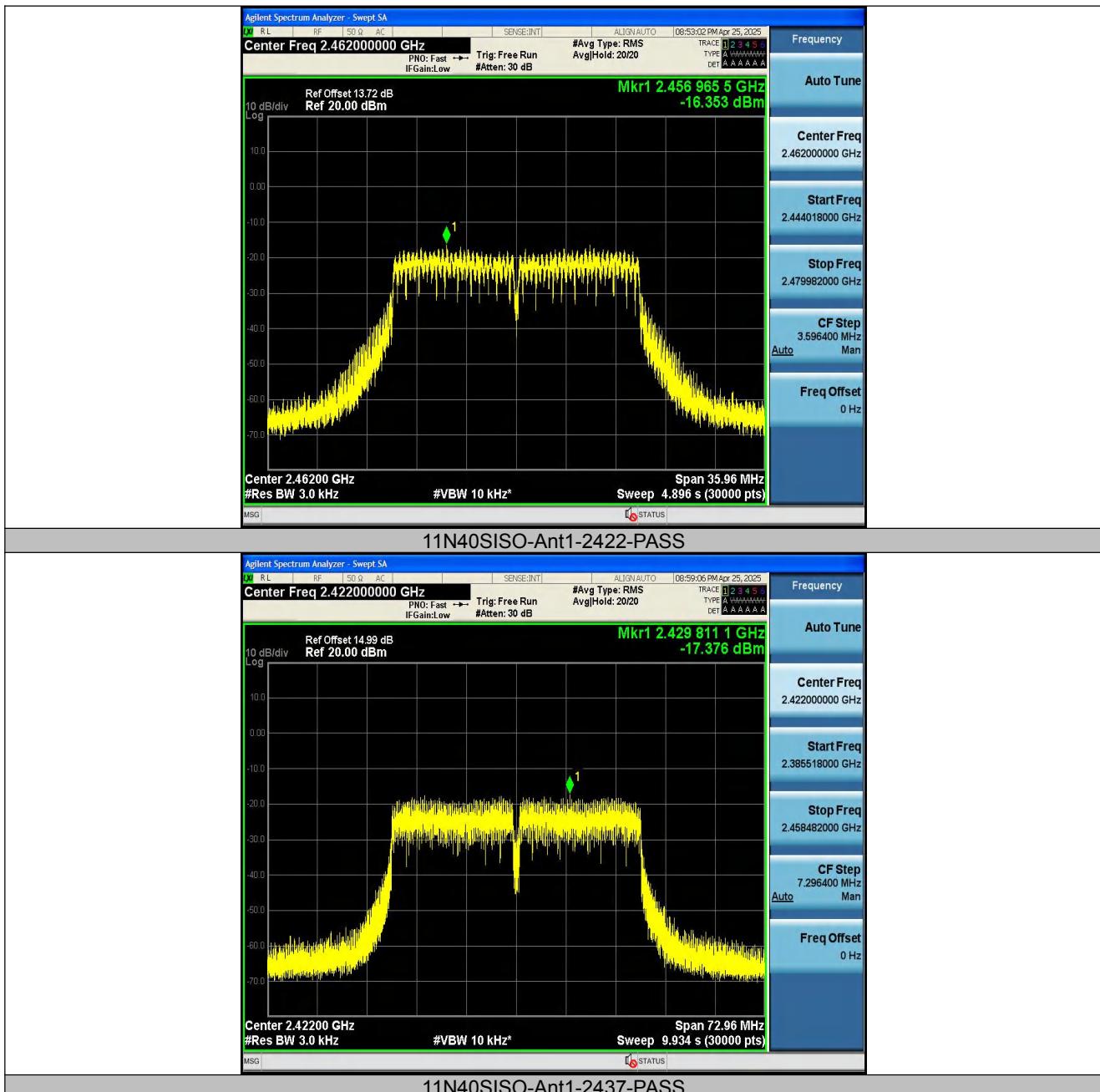
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-9.62	≤8.00	PASS
11B	Ant1	2437	-9.47	≤8.00	PASS
11B	Ant1	2462	-10	≤8.00	PASS
11G	Ant1	2412	-17.39	≤8.00	PASS
11G	Ant1	2437	-15.39	≤8.00	PASS
11G	Ant1	2462	-15.54	≤8.00	PASS
11N20SISO	Ant1	2412	-15.9	≤8.00	PASS
11N20SISO	Ant1	2437	-16.04	≤8.00	PASS
11N20SISO	Ant1	2462	-16.35	≤8.00	PASS
11N40SISO	Ant1	2422	-17.38	≤8.00	PASS
11N40SISO	Ant1	2437	-16.9	≤8.00	PASS
11N40SISO	Ant1	2452	-17.38	≤8.00	PASS

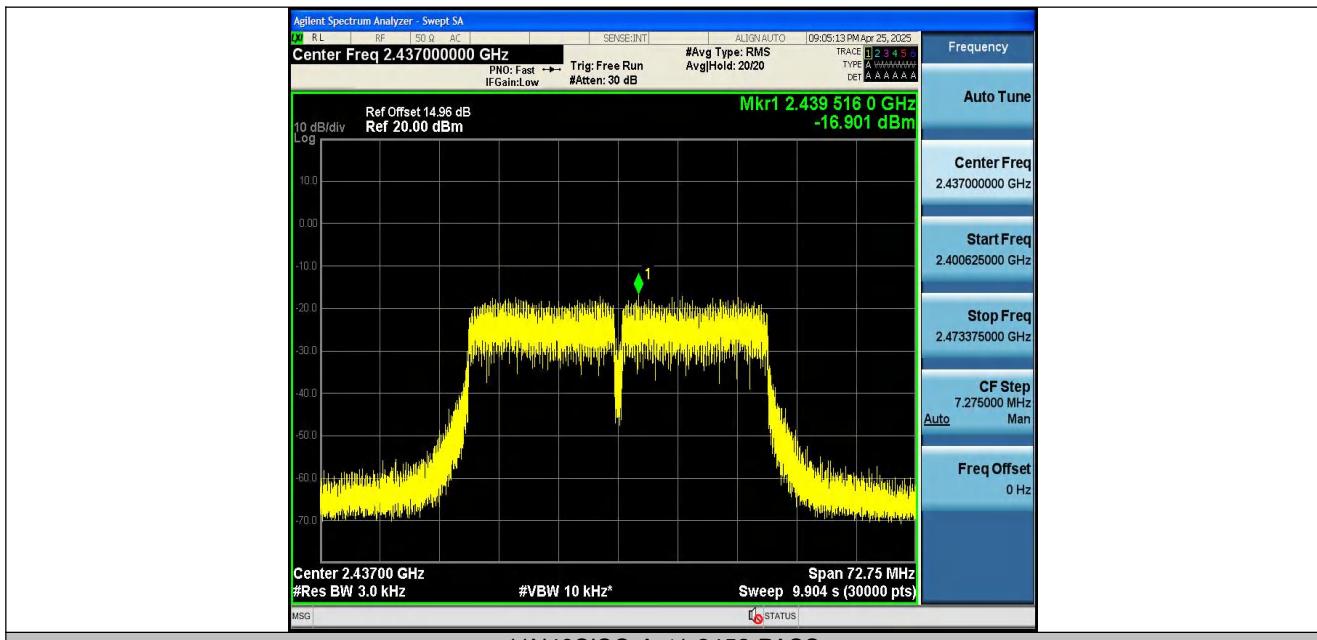
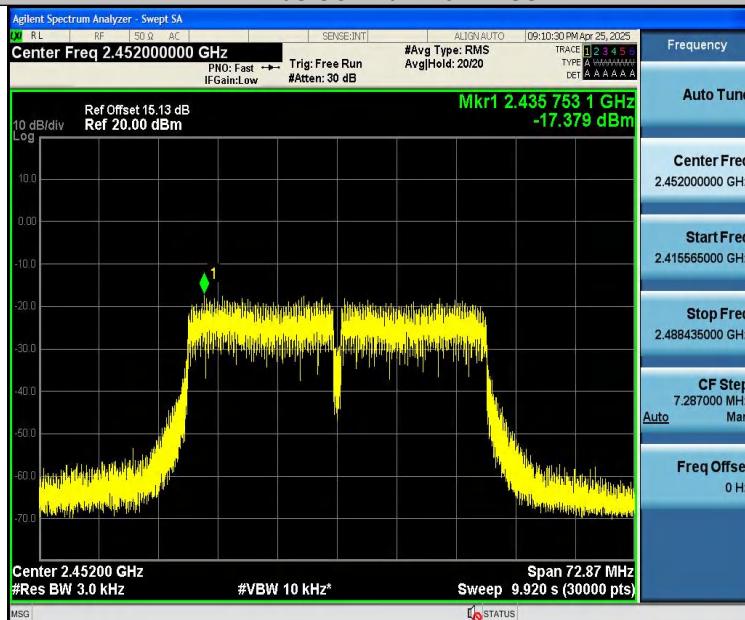
**Test Graphs:**











**11N40SISO-Ant1-2452-PASS**




## 12 Antenna Application

### 12.1 Antenna Requirement

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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### 12.2 Result

The EUT'S antenna, permanent attached antenna, is PIFA Antenna. The antenna's gain is 1.95 dBi and meets the requirement.

## 13 Test Setup

Conducted Emissions



Radiated Spurious Emissions  
From 30MHz-1000MHz



Test frequency from Above 1GHz

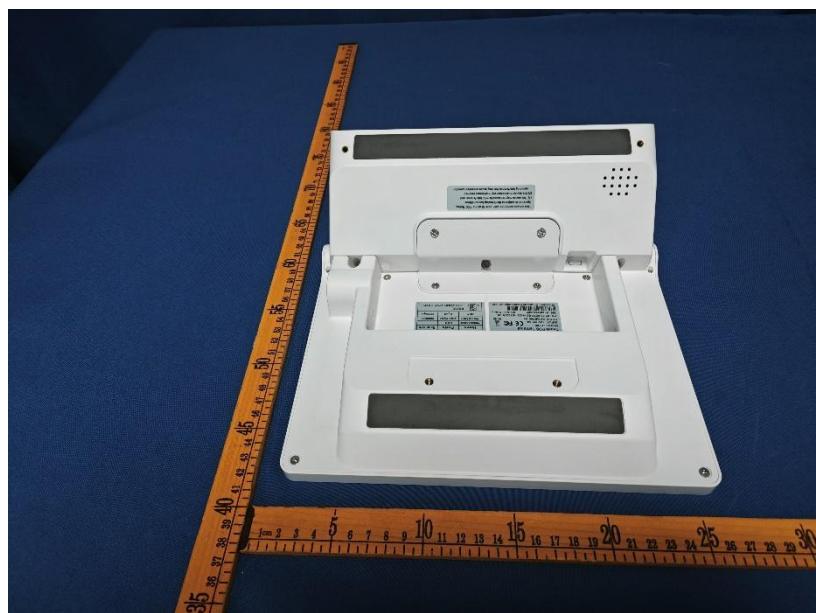
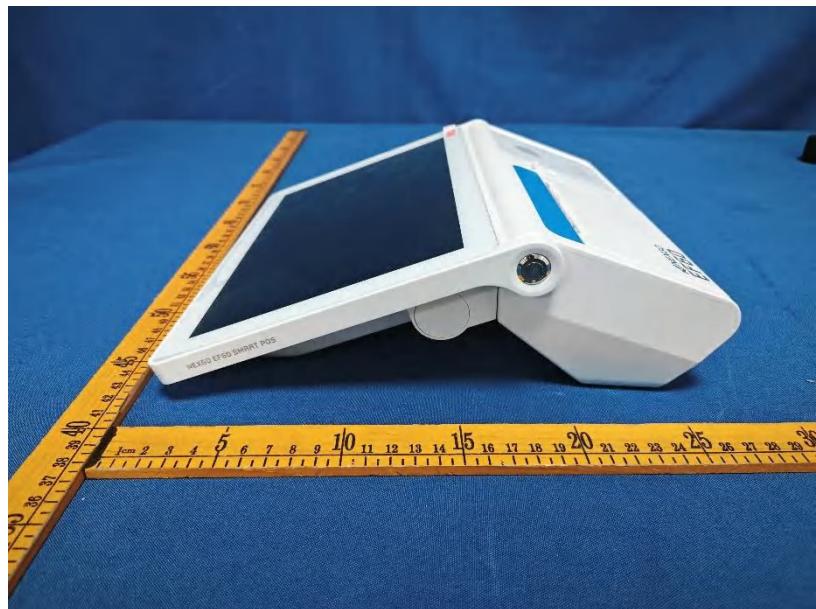


## 14 EUT PHOTOS

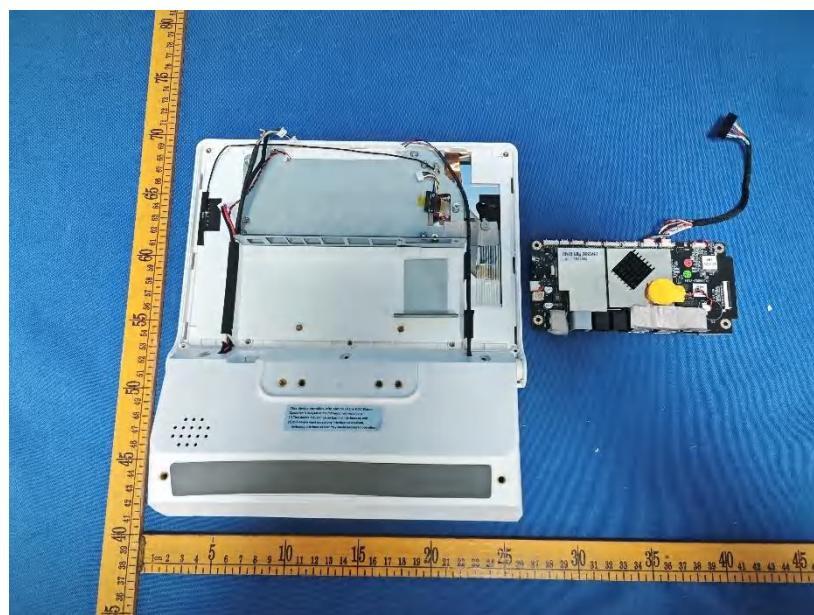
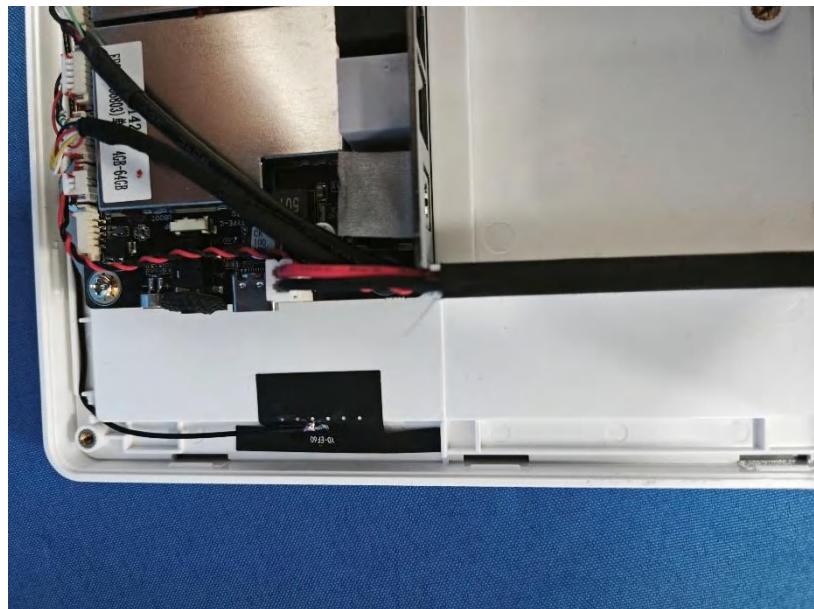


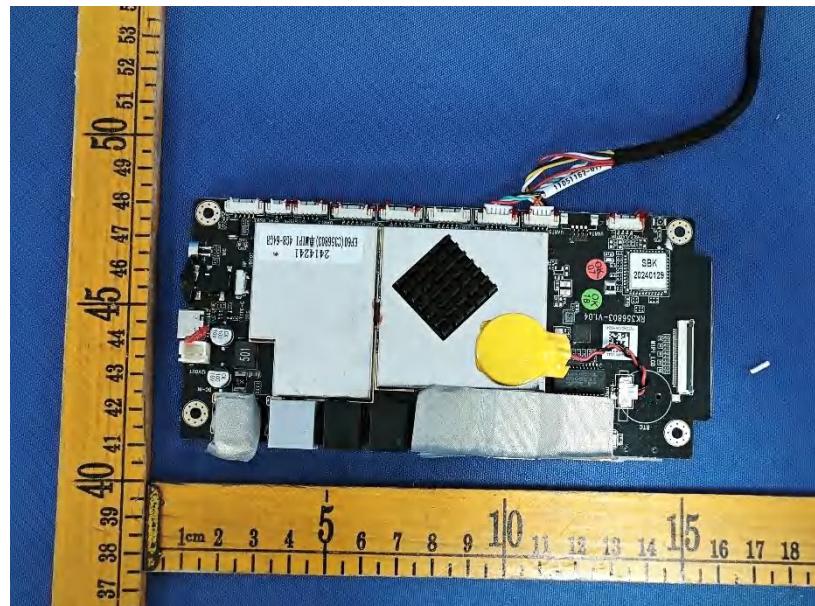


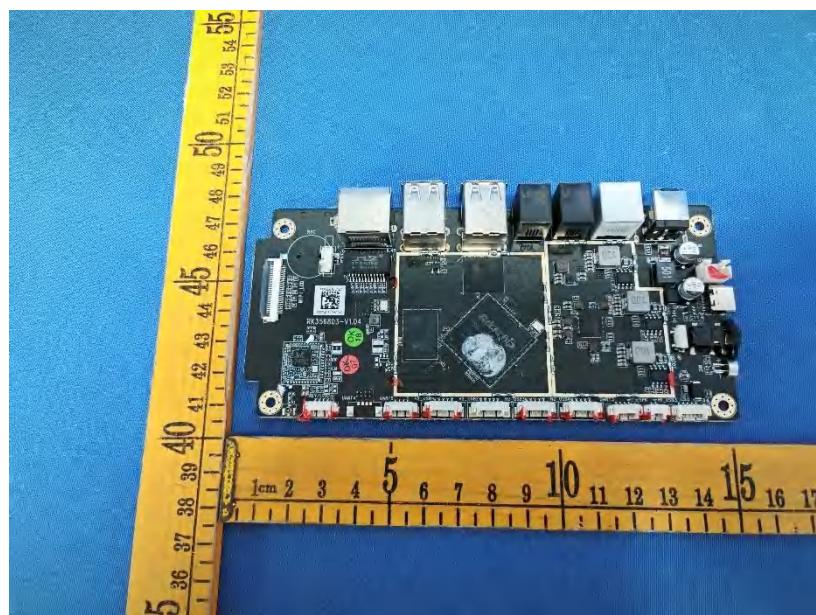
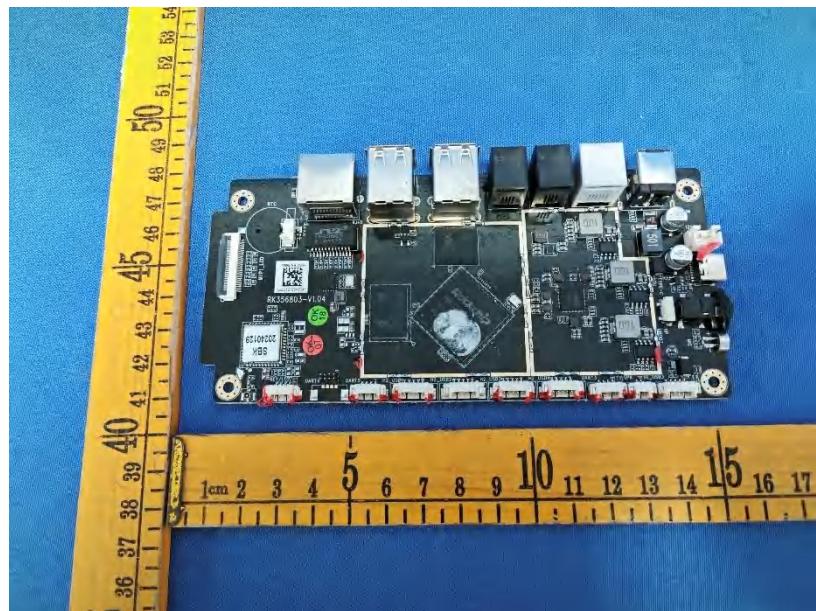


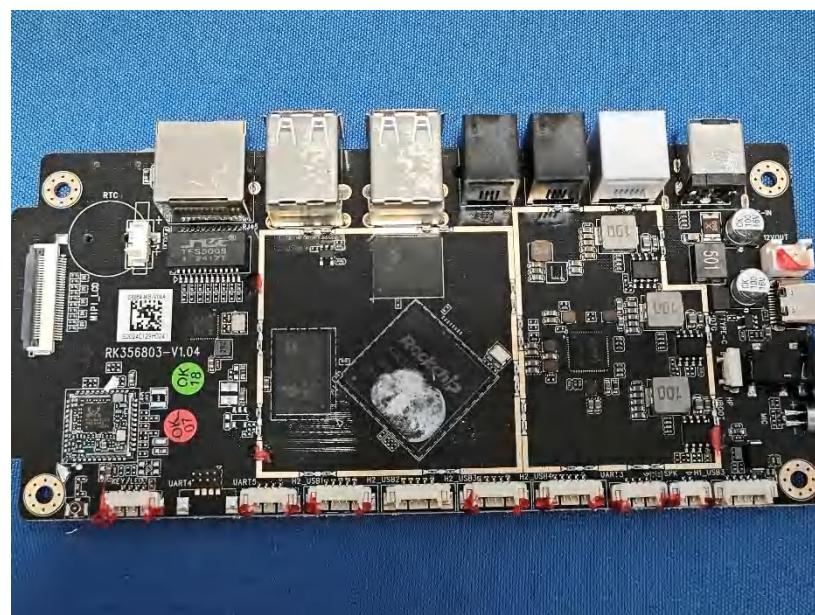
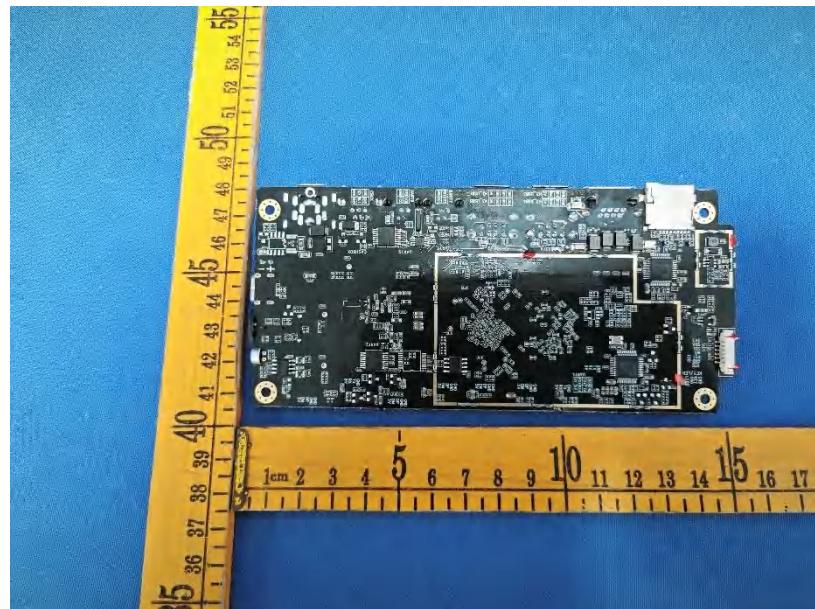


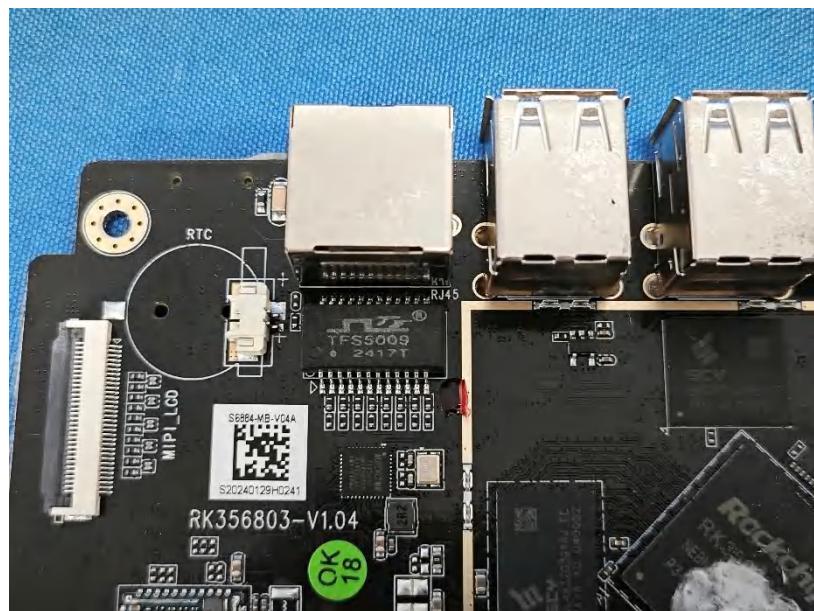
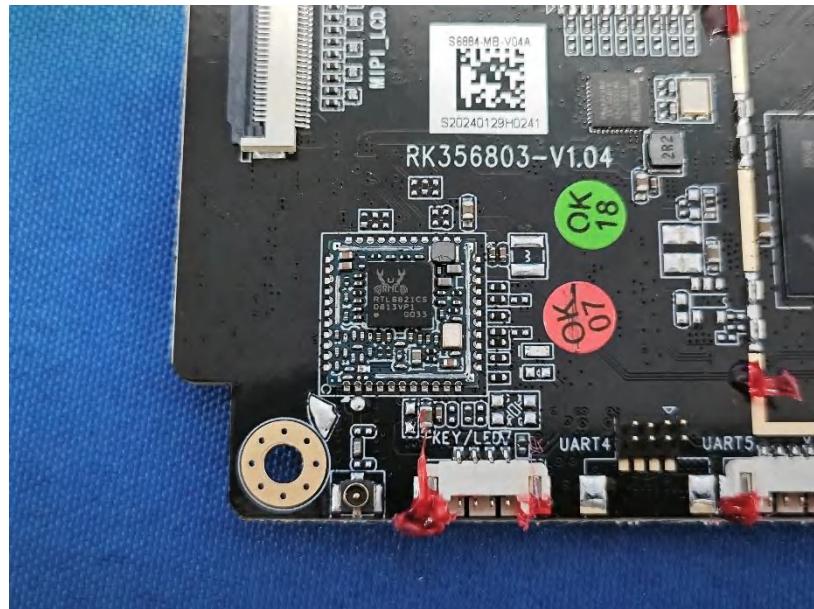


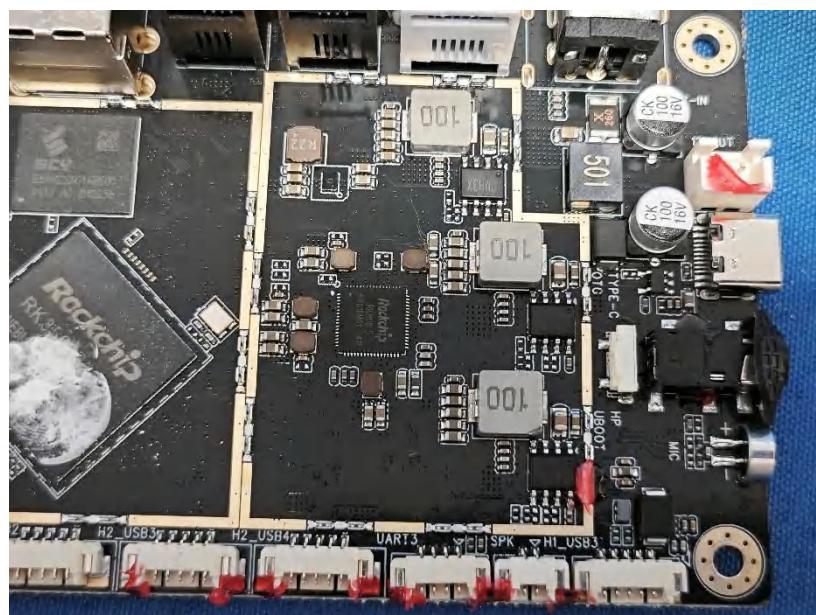
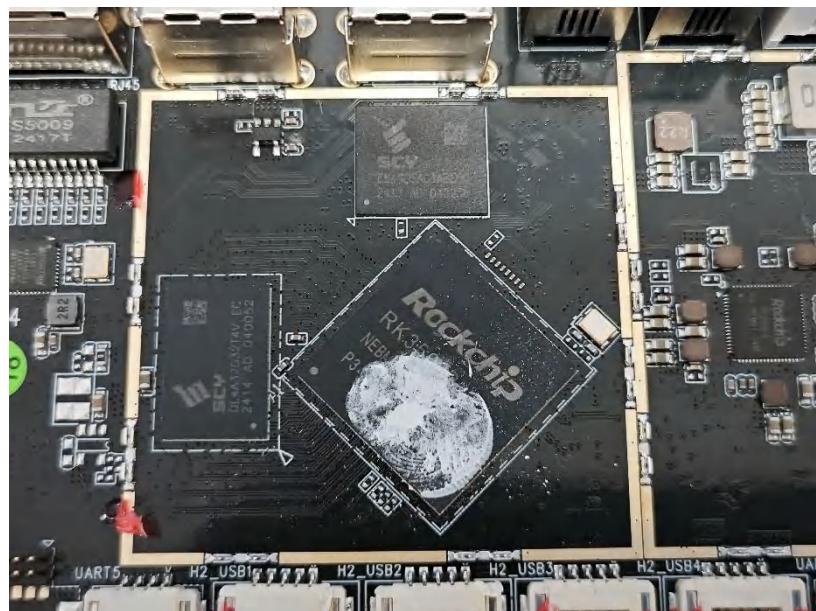


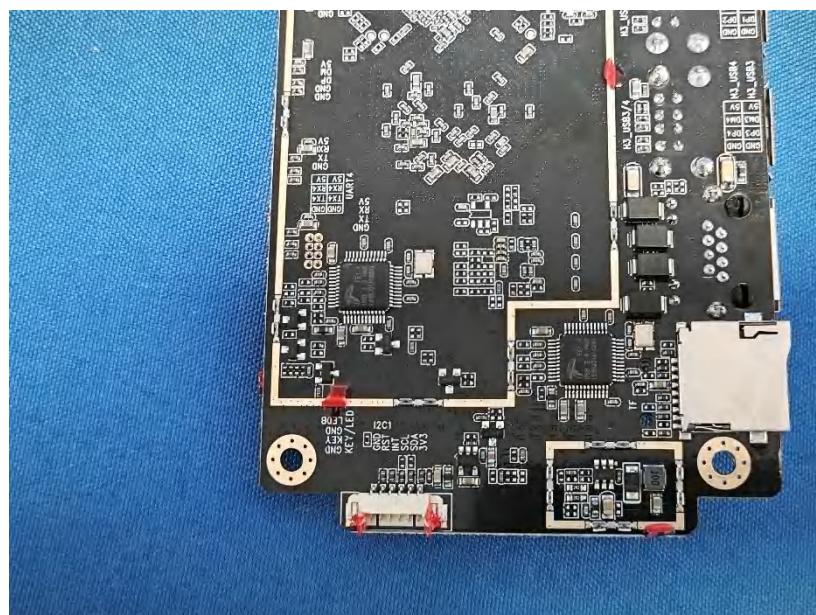
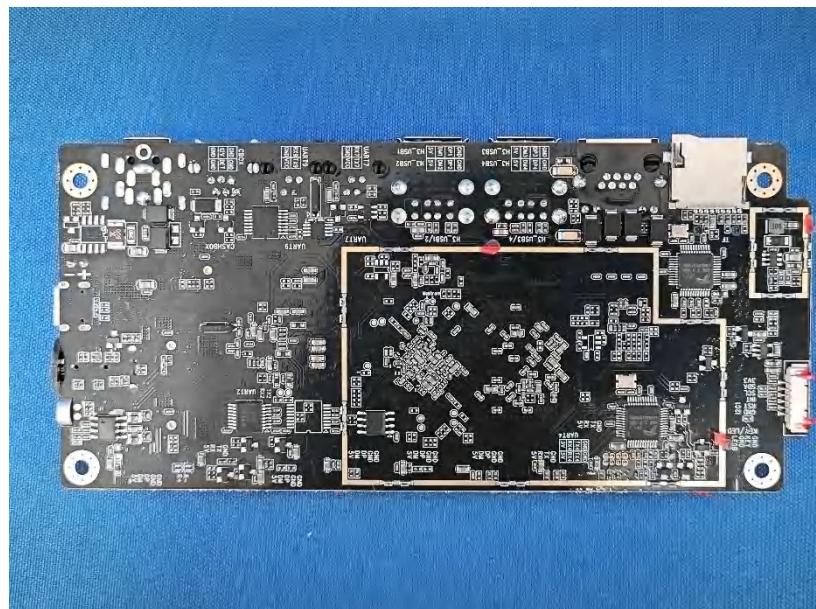






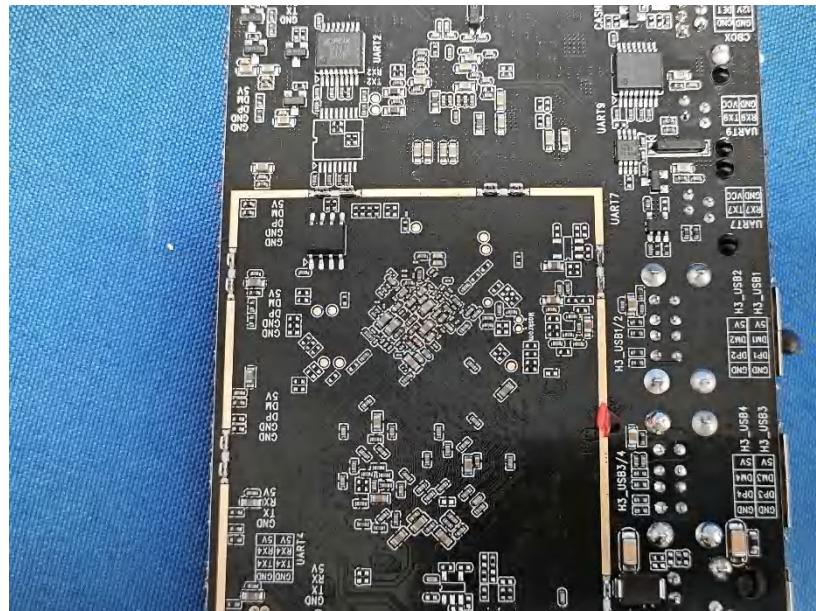


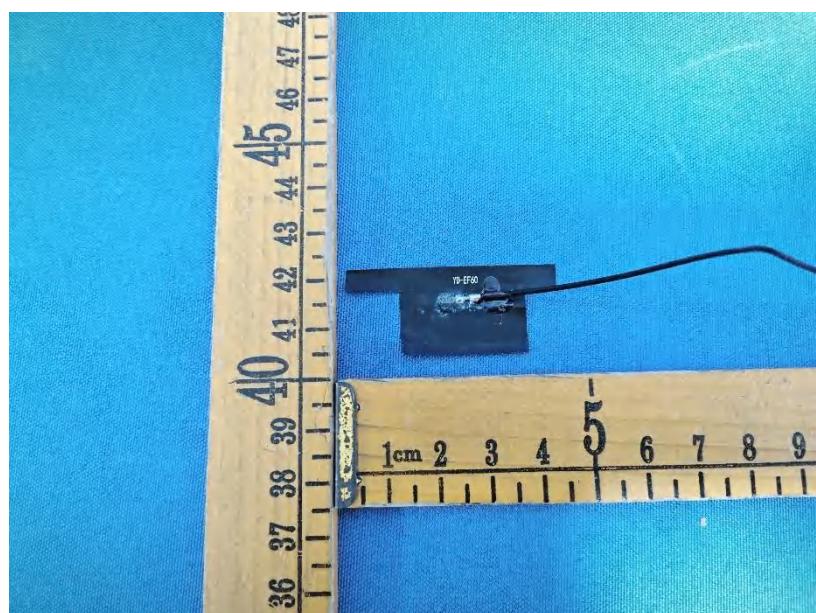


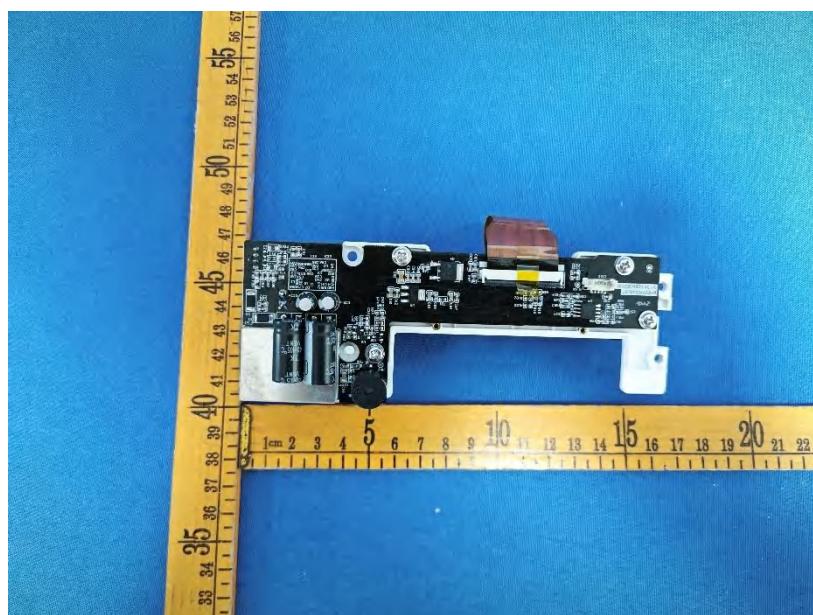


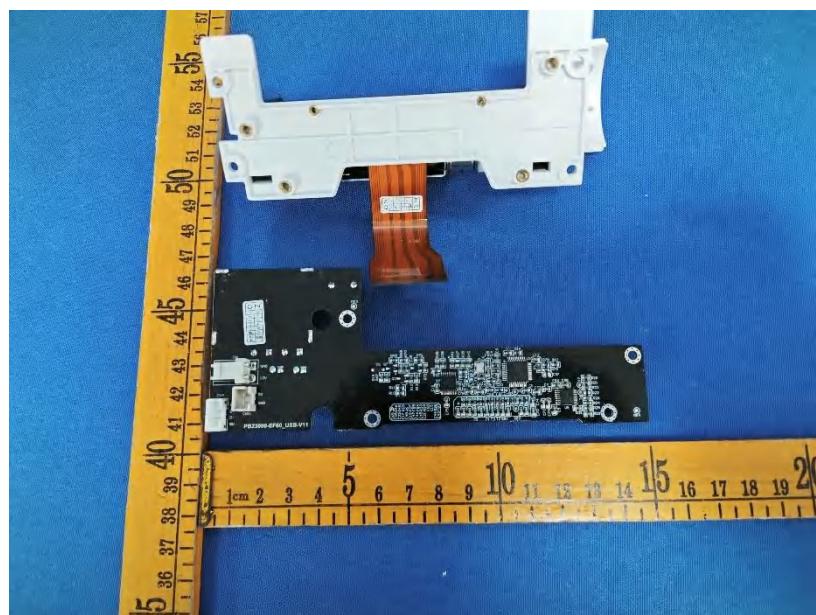
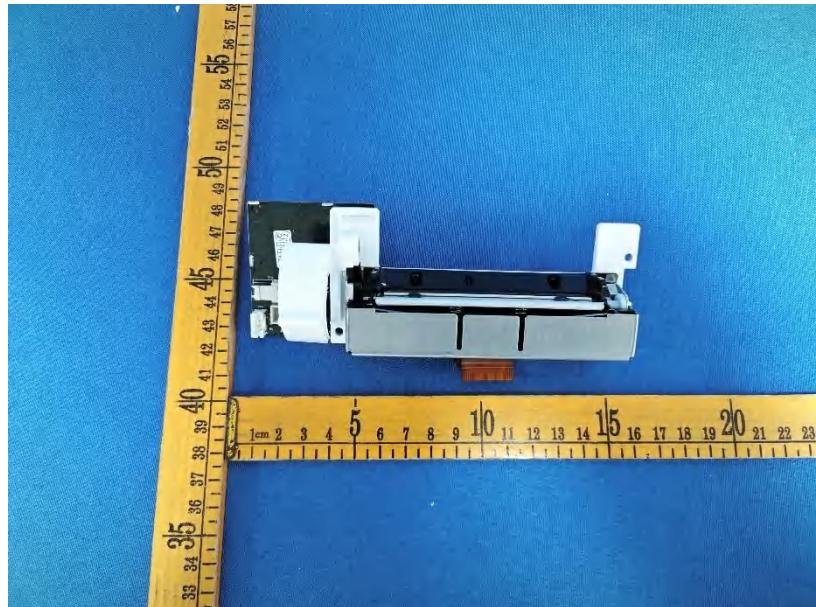


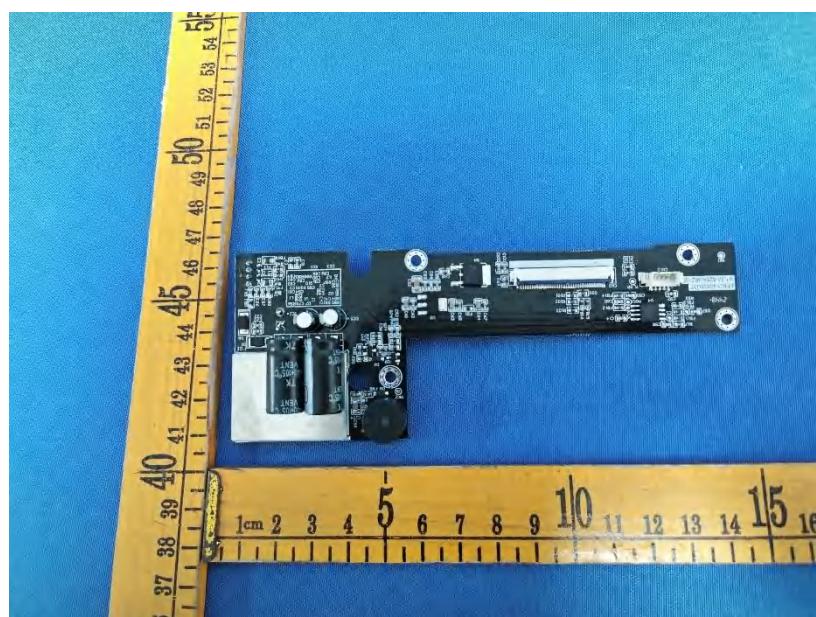
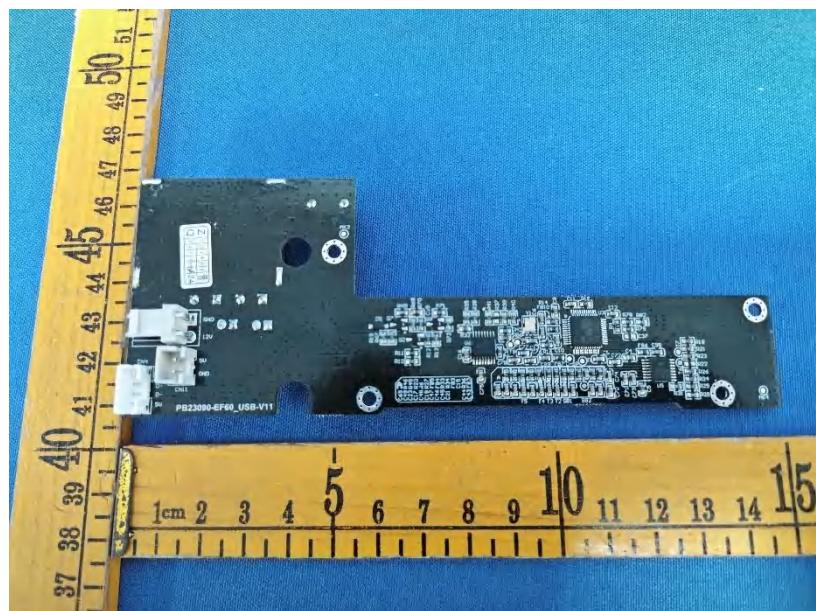
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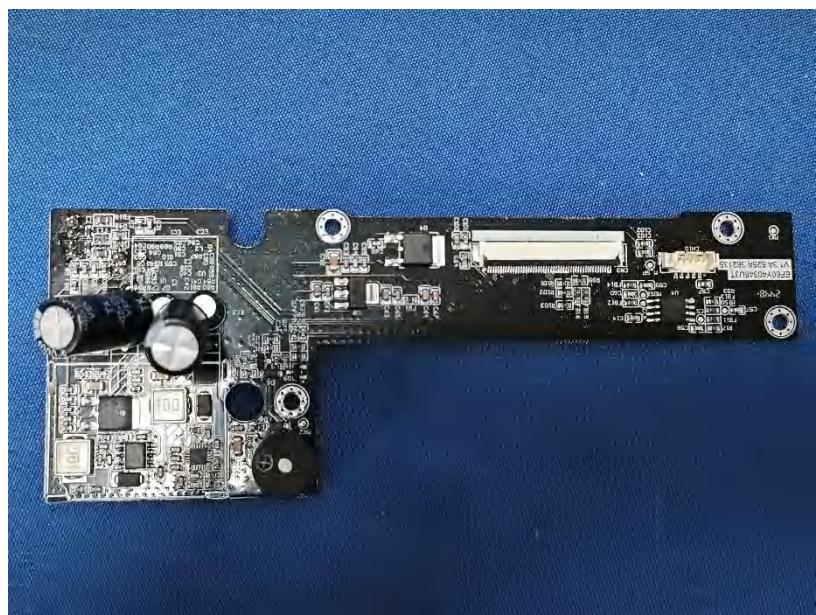
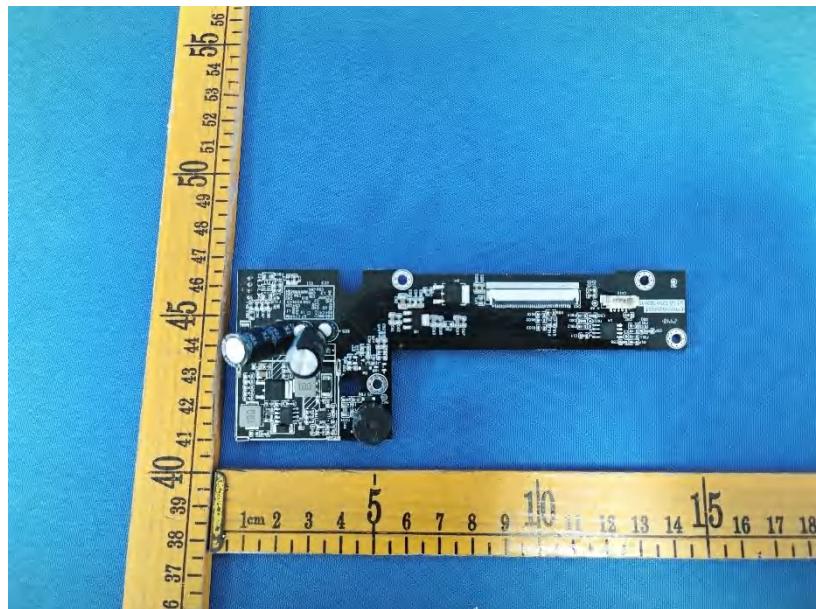




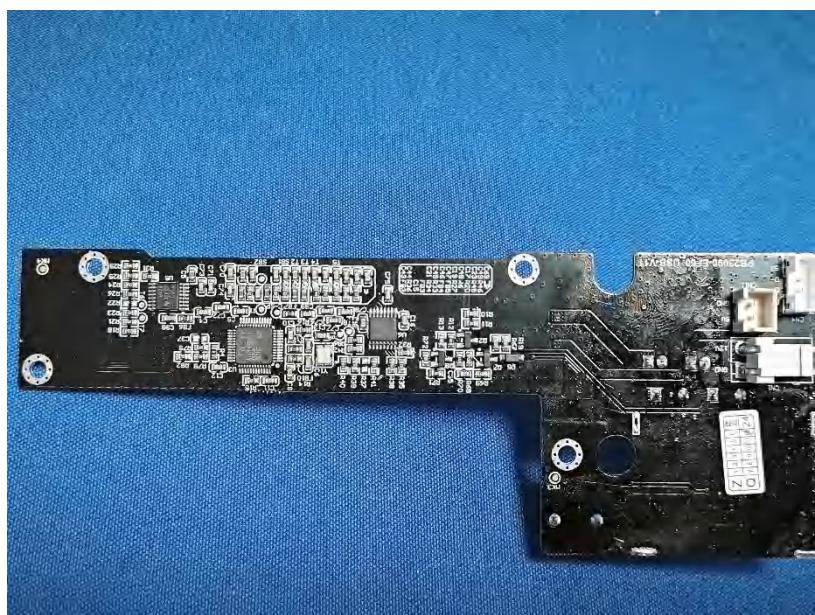
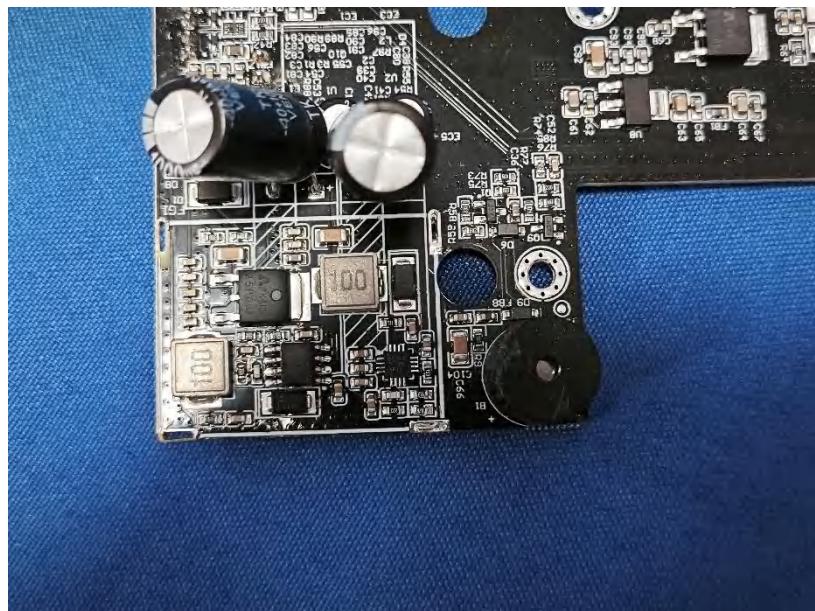






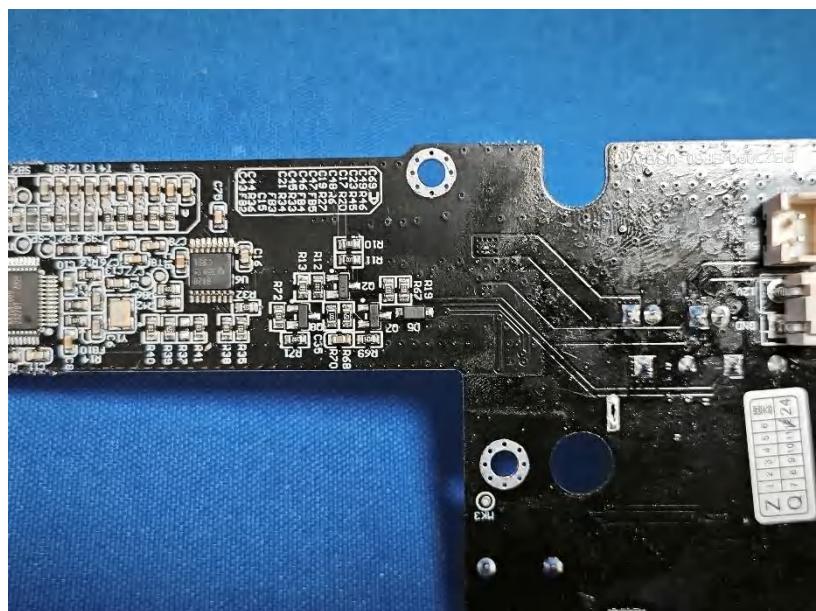
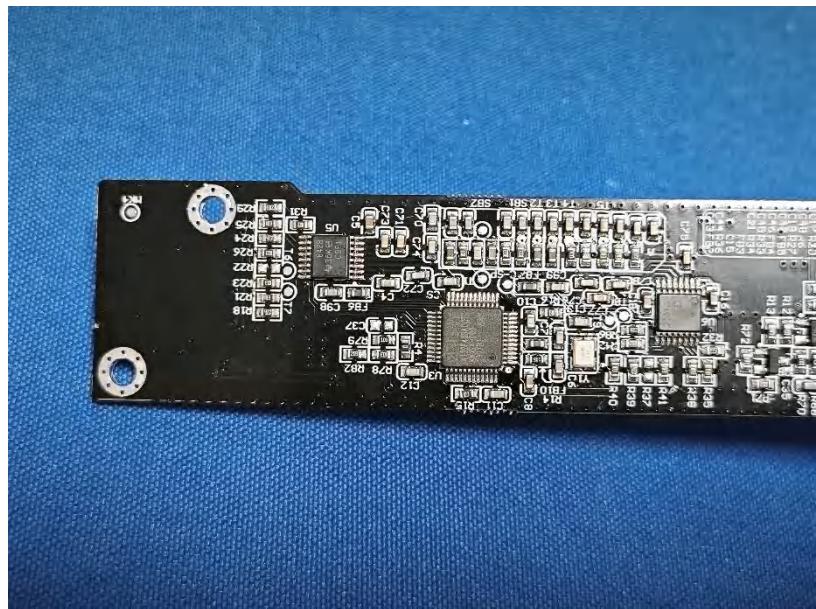


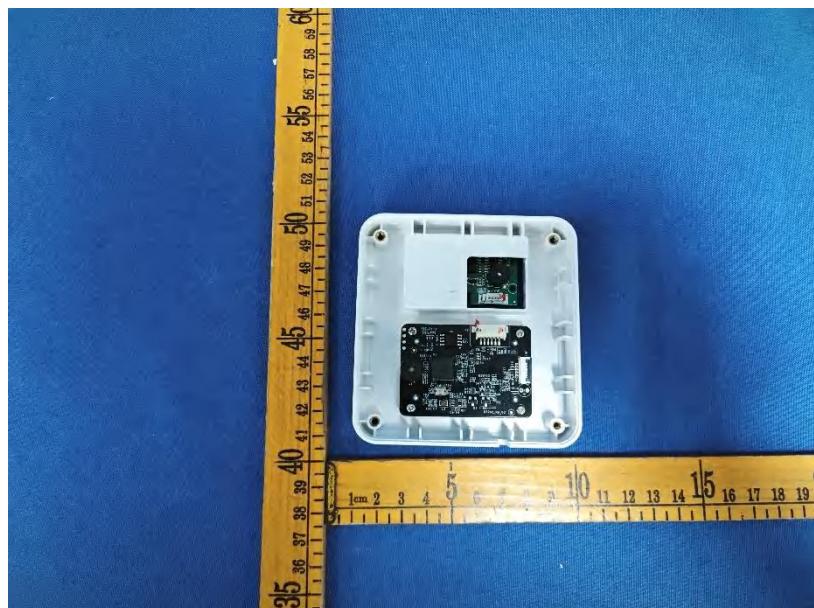


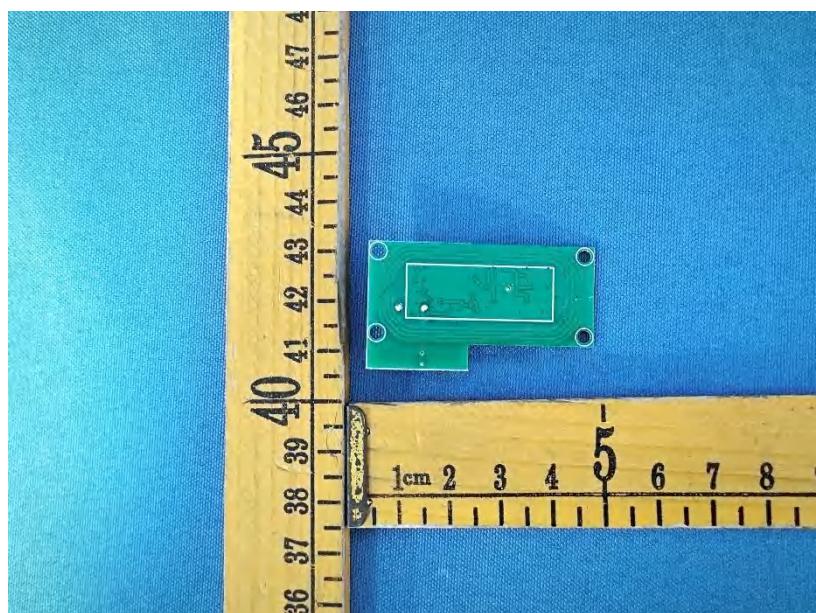


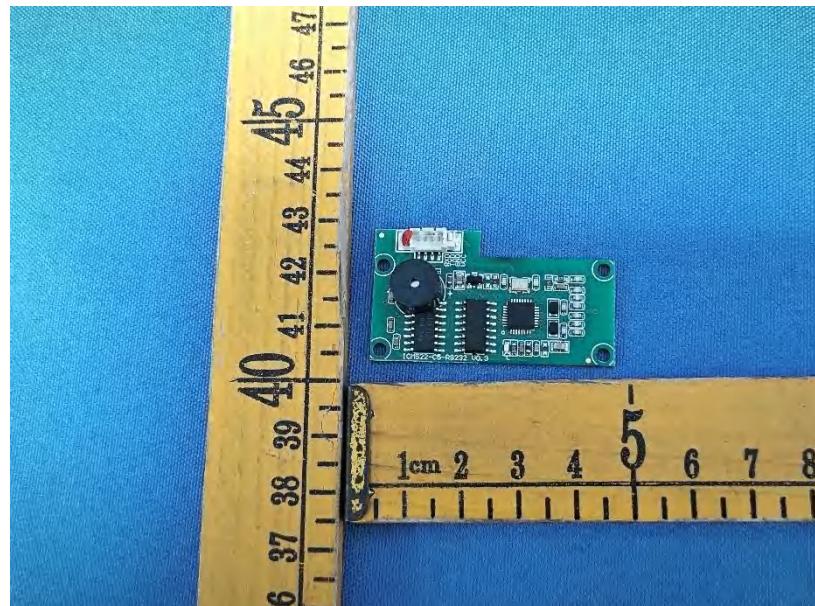


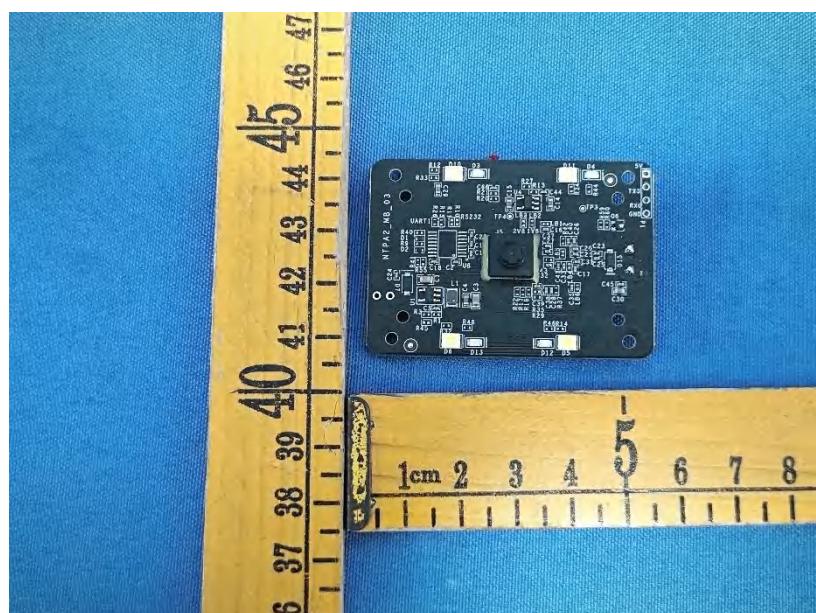
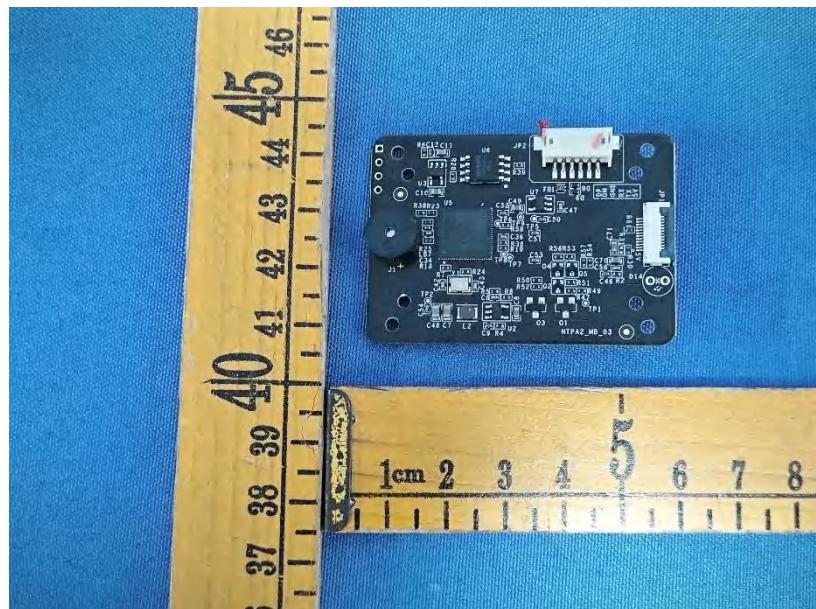
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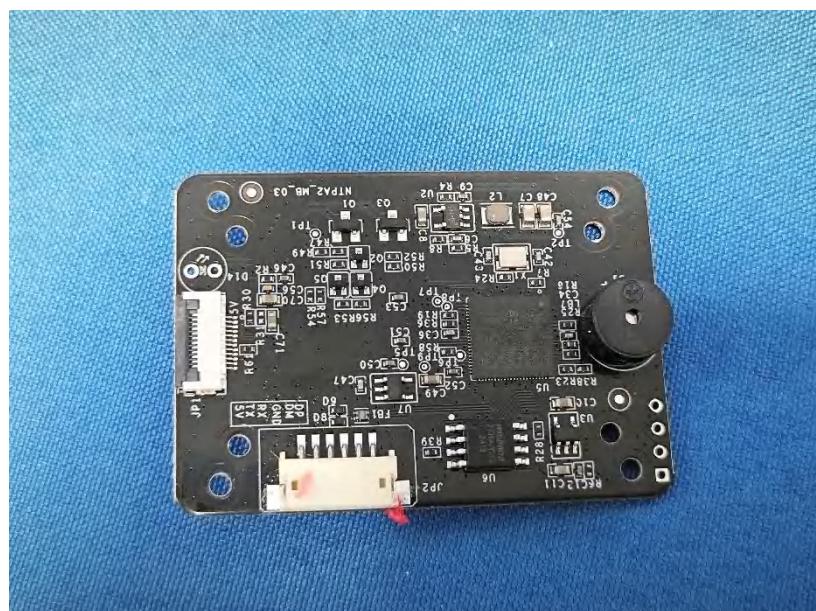








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