

9 6dB Bandwidth Measurement

Test Requirement : FCC CFR47 Part 15 Section 15.247
 Test Method : ANSI C63.10:2013,KDB 558074 D01 DTS MEAS GUIDANCE V03R03
 Test Limit : Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
 Test Mode : Refer to section 3.3

9.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: WIFI, RBW = 100kHz, VBW = 300kHz peak detector is used

9.2 Test Result

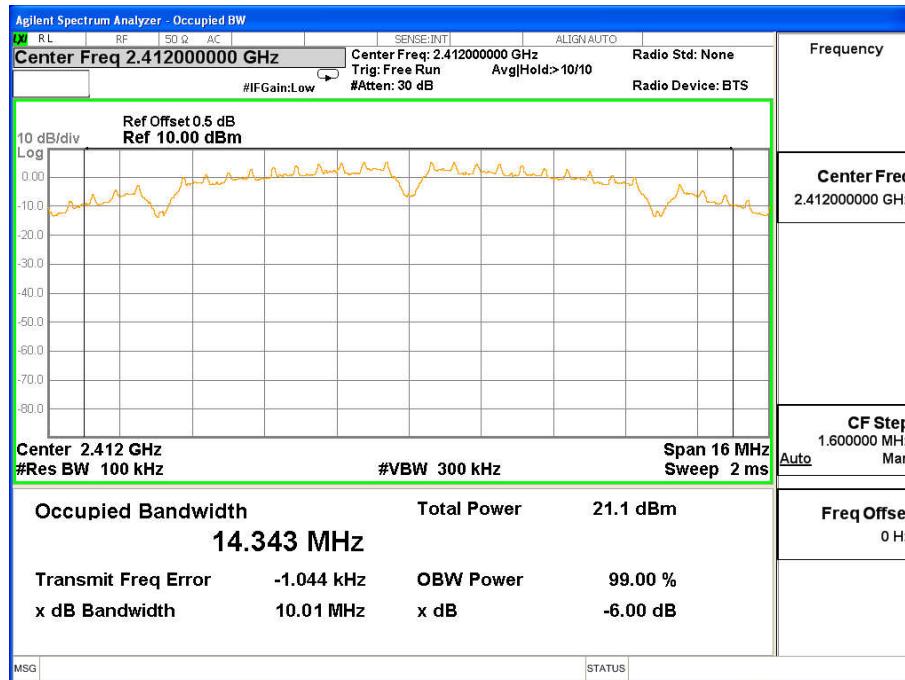
Modulation	Bandwidth(MHz)			Limit
	Low Channel	Middle Channel	High Channel	
802.11b	10.01	10.03	10.01	≥500kHz
802.11g	15.14	16.48	16.44	≥500kHz
802.11n-HT20	16.28	15.52	17.67	≥500kHz



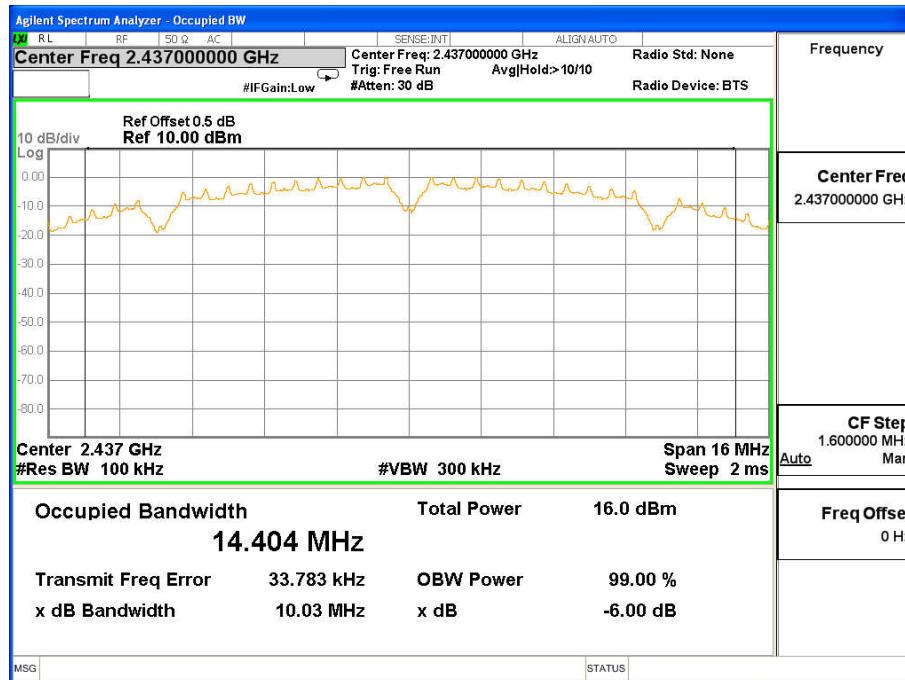
PRECISE TESTING

Report No.: PTCDQ021612109E-FC01

802.11b Low Channel



802.11b Middle Channel

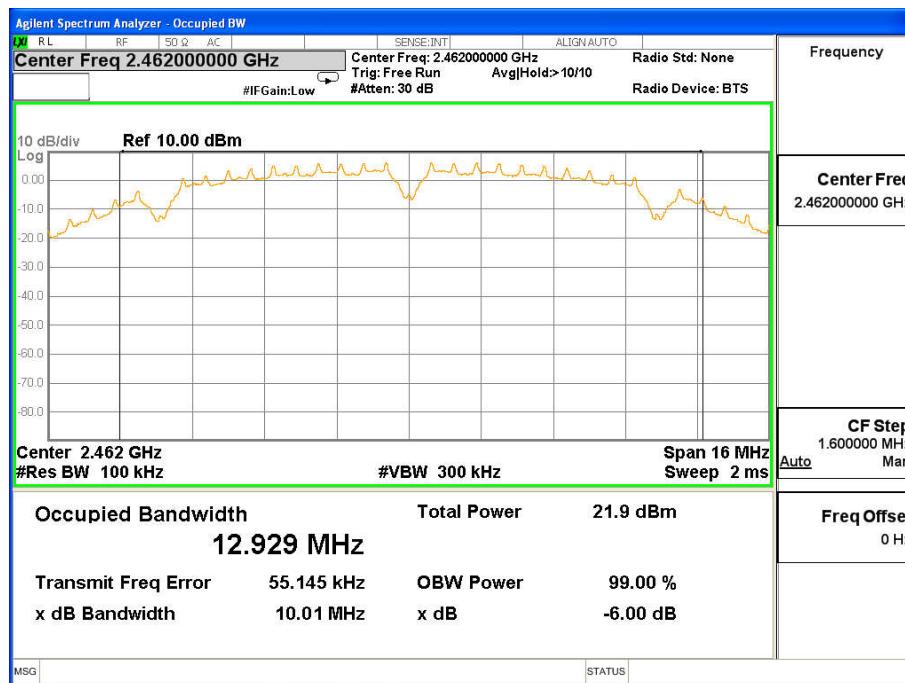




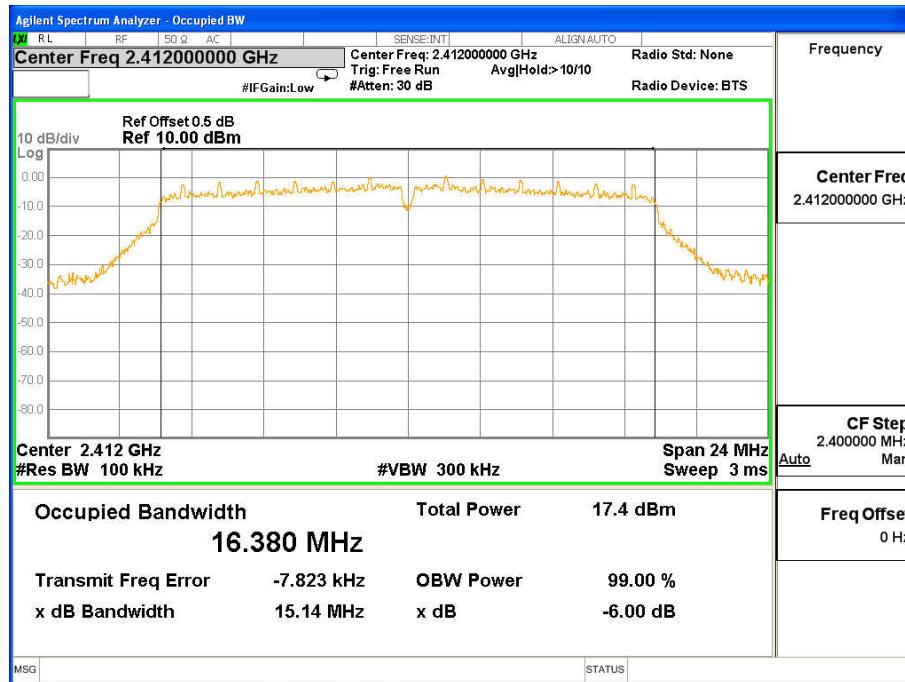
PRECISE TESTING

Report No.: PTCDQ021612109E-FC01

802.11b High Channel



802.11g Low Channel

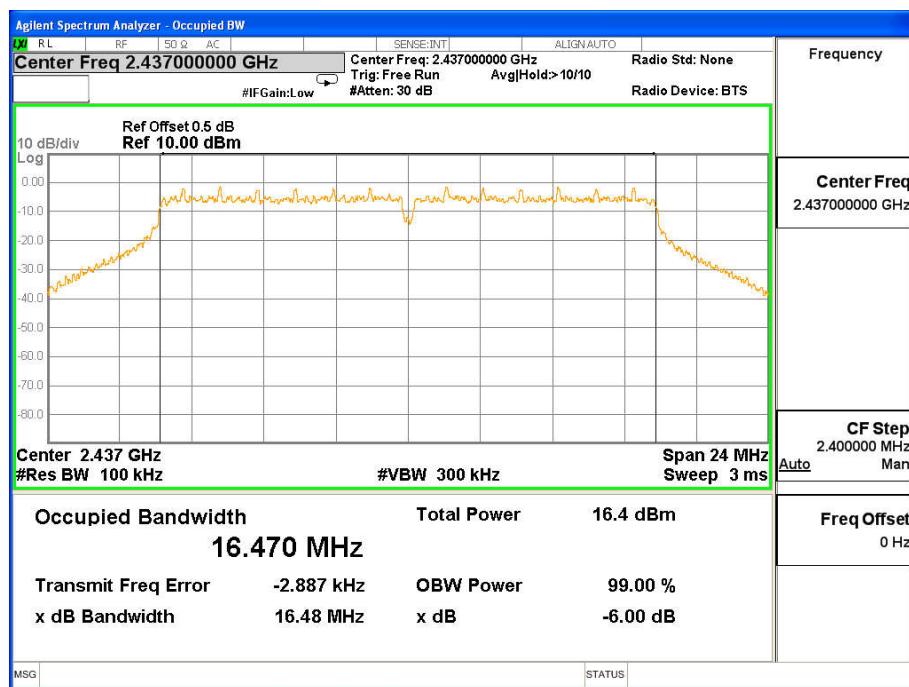




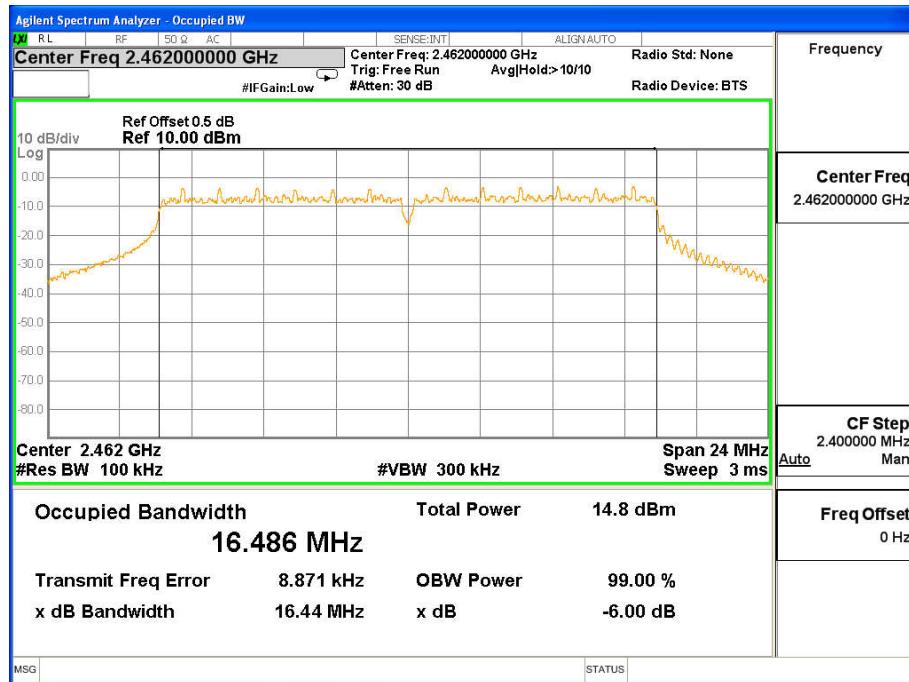
PRECISE TESTING

Report No.: PTCDQ021612109E-FC01

802.11g Middle Channel



802.11g High Channel

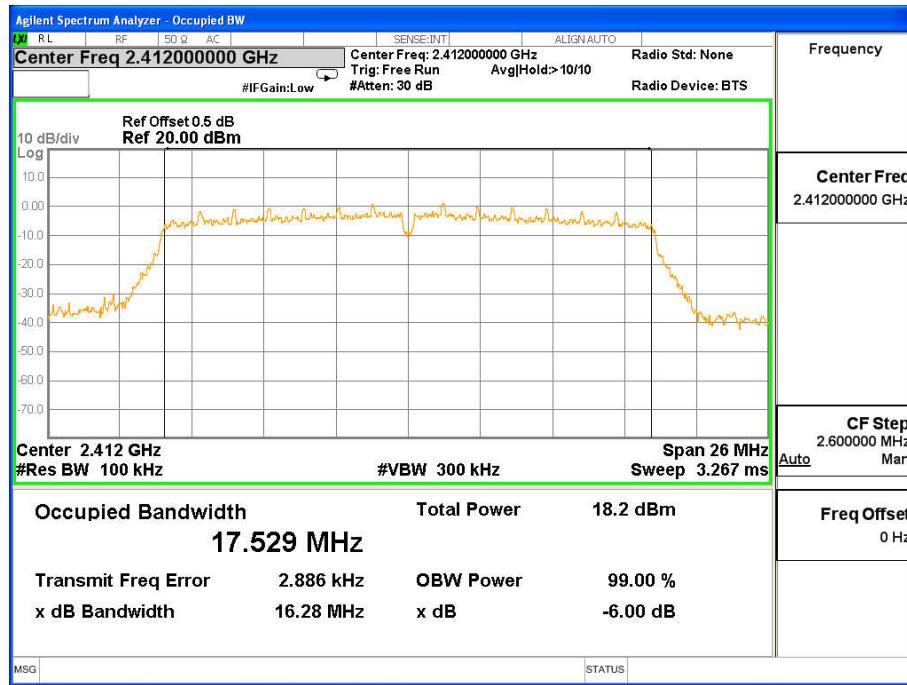




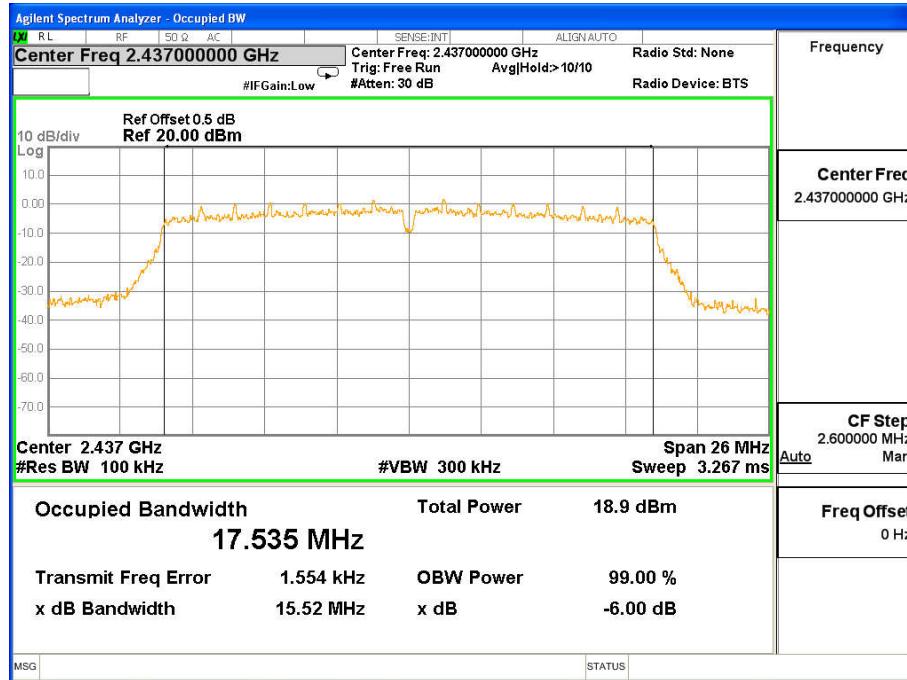
PRECISE TESTING

Report No.: PTCDQ021612109E-FC01

802.11n-HT20 Low Channel



802.11n-HT20 Middle Channel

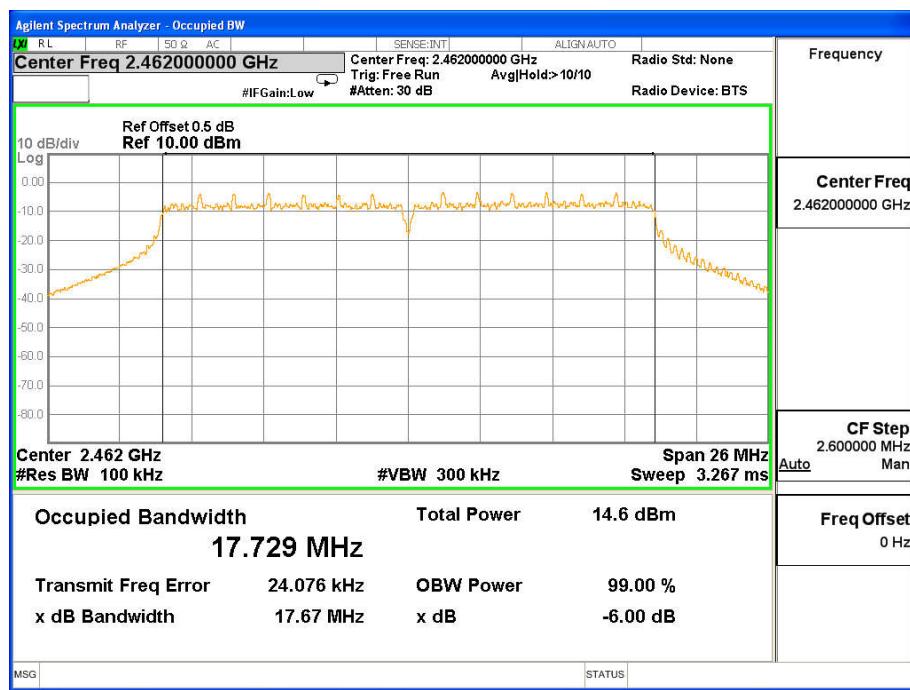




PRECISE TESTING

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802.11n-HT20 High Channel



10 Maximum Peak Output Power

Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2013,KDB 558074 D01 DTS MEAS GUIDANCE V03R03
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.
Test Mode	:	Refer to section 3.3

10.1 Test Procedure

KDB 558074 D01 DTS Meas Guidance v03r03

The maximum peak conducted output power 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 utilize a fast-responding diode detector.





10.2 Test Result

Modulation	Maximum Peak Output Power (dBm)			Limit
	Low Channel	Middle Channel	High Channel	
802.11b	5.91	5.77	5.81	1W(30dBm)
802.11g	5.57	5.66	5.71	1W(30dBm)
802.11n-HT20	4.76	4.49	4.93	1W(30dBm)

11 Power Spectral density

Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2013,KDB 558074 D01 DTS MEAS GUIDANCE V03R03
Test Limit	:	Regulation 15.247(f)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.
Test Mode	:	Refer to section 3.3

11.1 Test Procedure

KDB 558074 D01 DTS Meas Guidance V03R05

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna portto the spectrum.
2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz , Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

11.2 Test Result

Modulation	Power Spectral density (dBm/3kHz)			Limit
	Low Channel	Middle Channel	High Channel	
802.11b	-8.435	-9.734	-8.156	8dBm/3kHz
802.11g	-15.016	-16.496	-15.887	8dBm/3kHz
802.11n-HT20	-18.438	-16.903	-17.178	8dBm/3kHz



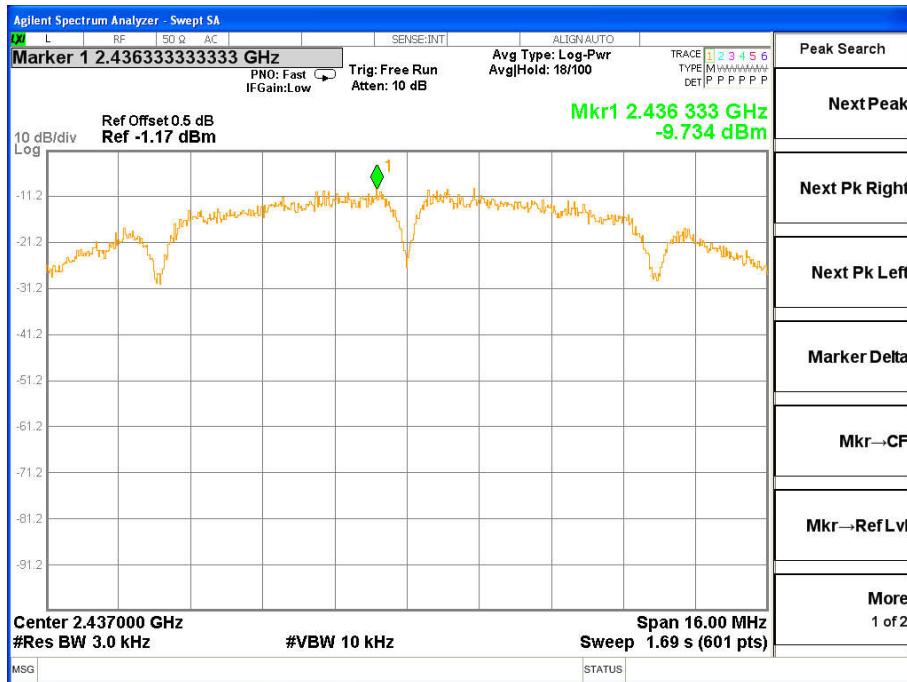
PRECISE TESTING

Report No.: PTCDQ021612109E-FC01

802.11b Low Channel



802.11b Middle Channel

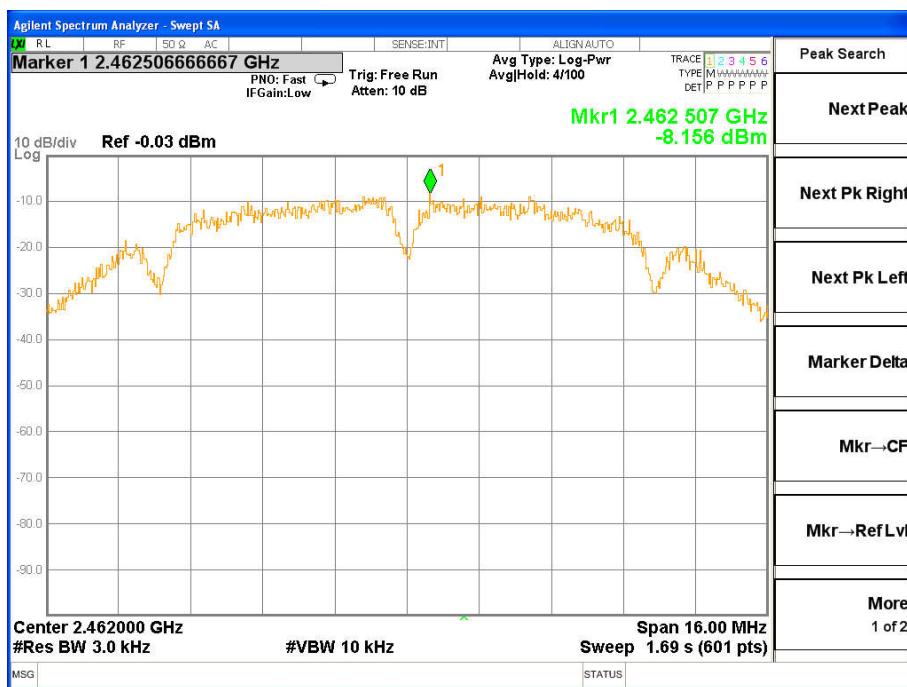




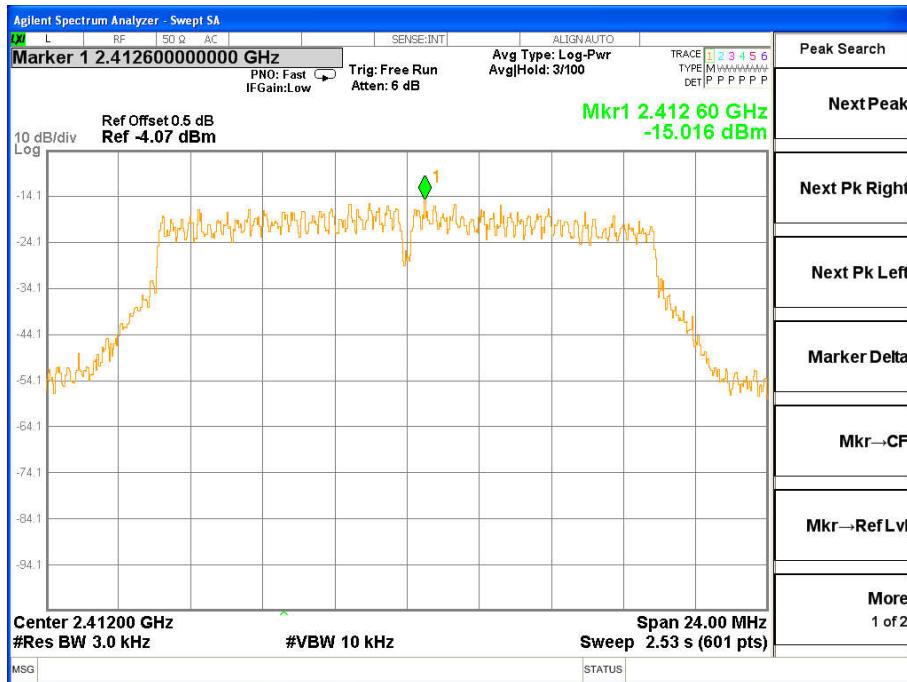
PRECISE TESTING

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802.11b High Channel



802.11g Low Channel

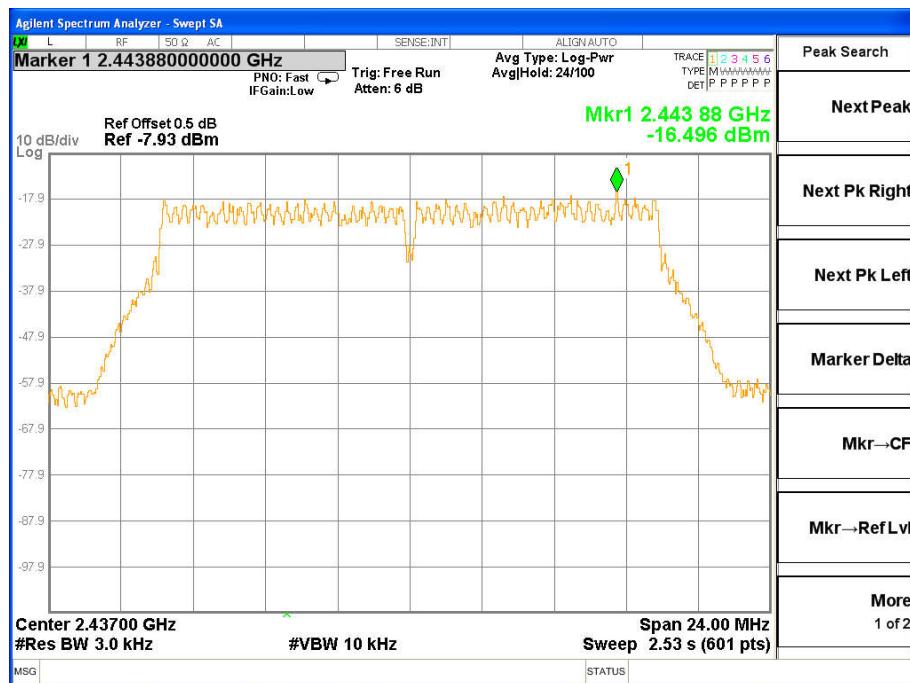




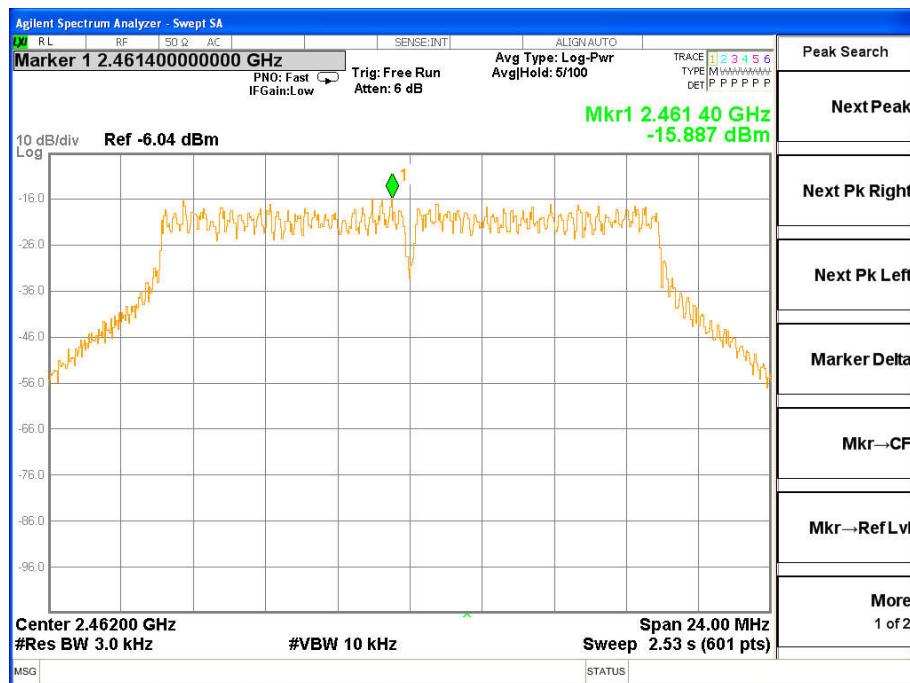
PRECISE TESTING

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802.11g Middle Channel



802.11g High Channel





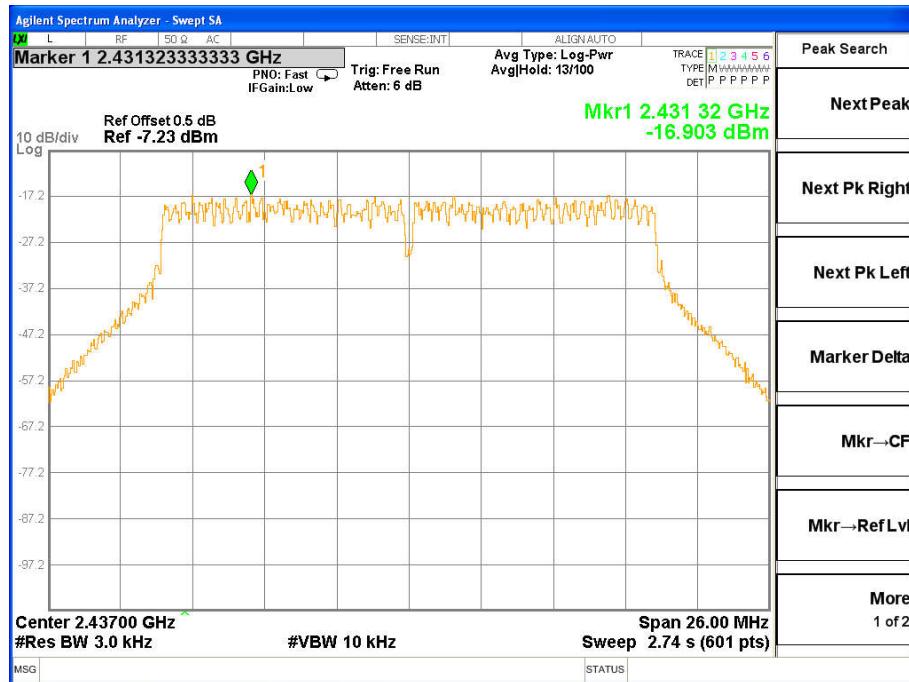
PRECISE TESTING

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802.11n-HT20 Low Channel



802.11n-HT20 Middle Channel

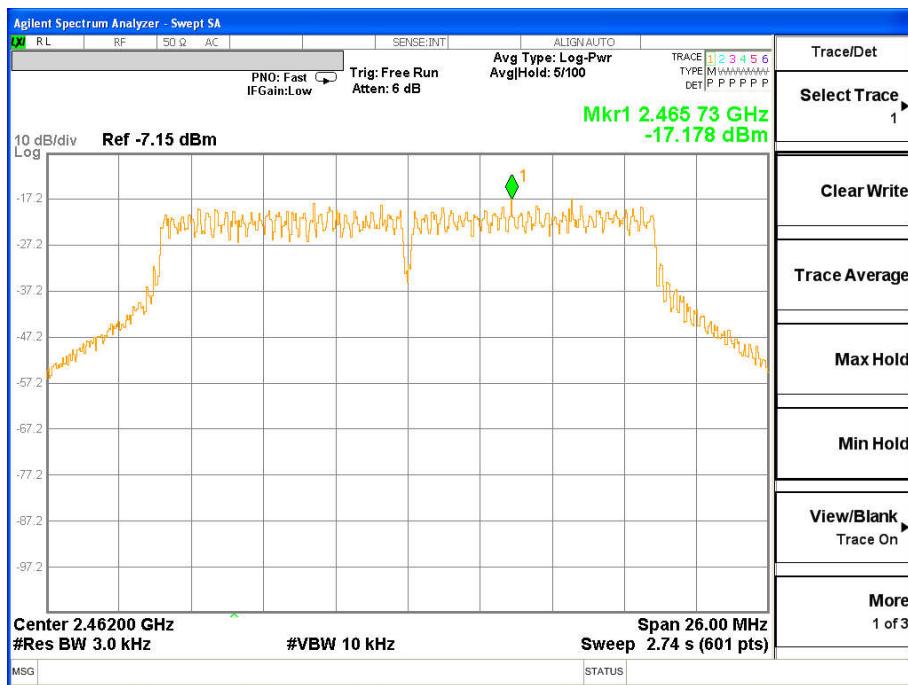




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802.11n-HT20 High Channel

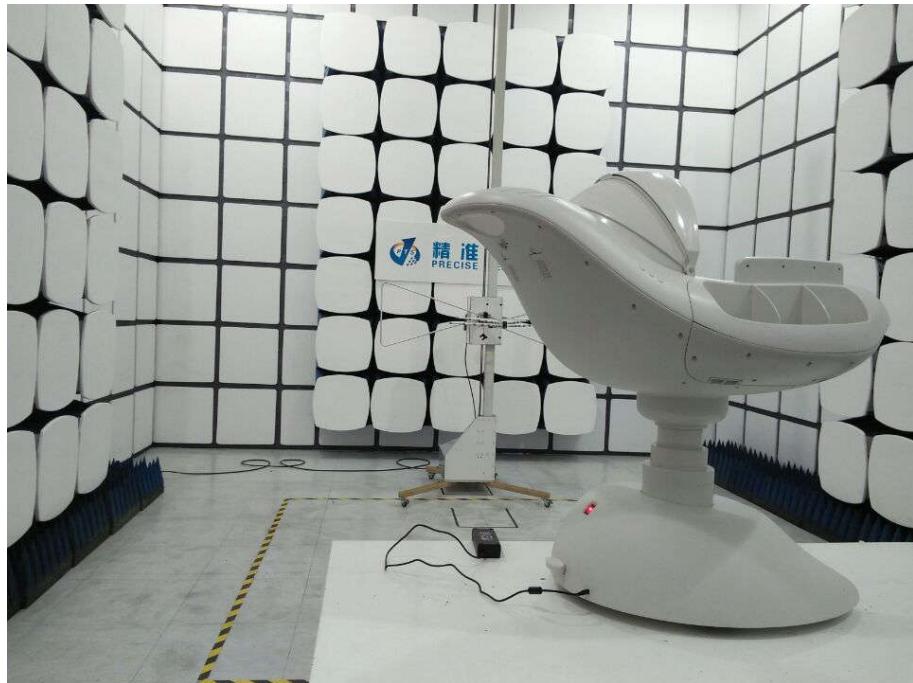


12 Antenna Requirement

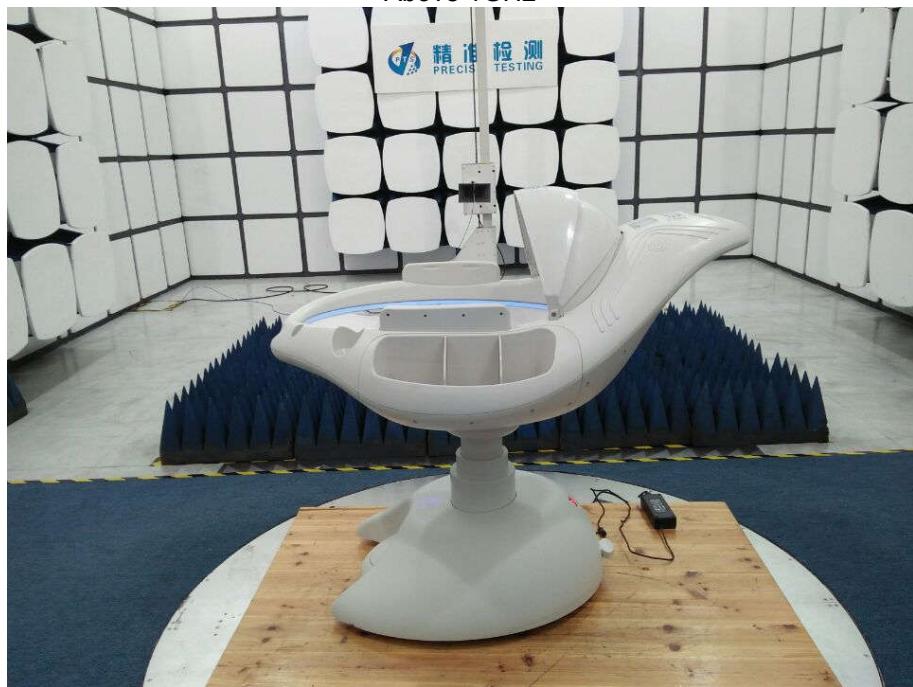
According to the FCC part15.203, a transmitter can only be sold or operated with antennas with which it was approved. This product has anPCB printed antenna, it meet the requirement of this section.

13 Test Setup

Radiated Spurious Emissions
From 30MHz-1000MHz



Above 1GHz





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Conducted Emissions



14 EUT Photos

External Photos





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PRECISE TESTING

Report No.: PTCDQ021612109E-FC01

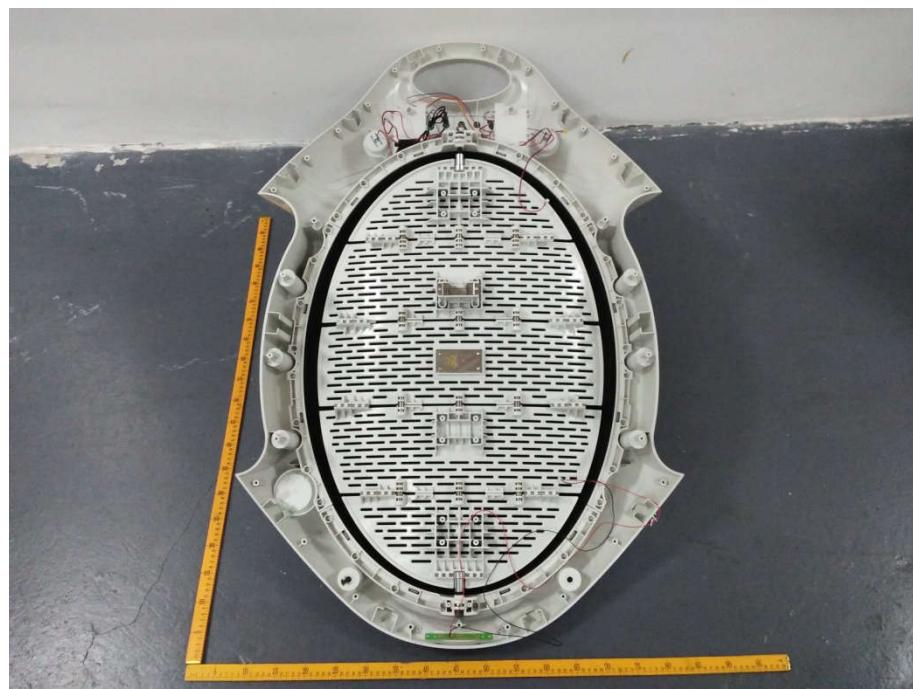




PRECISE TESTING

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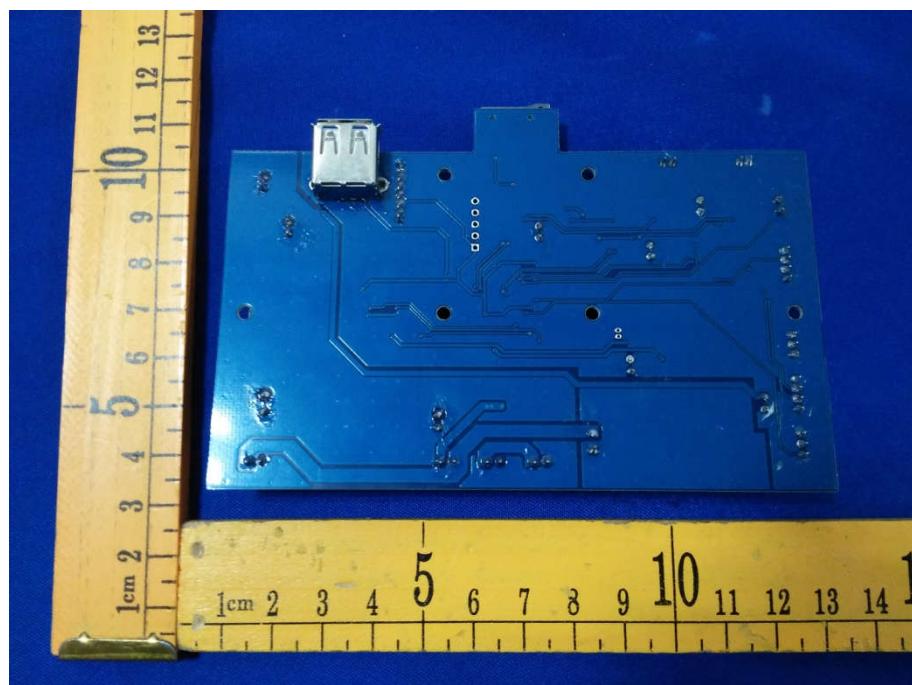
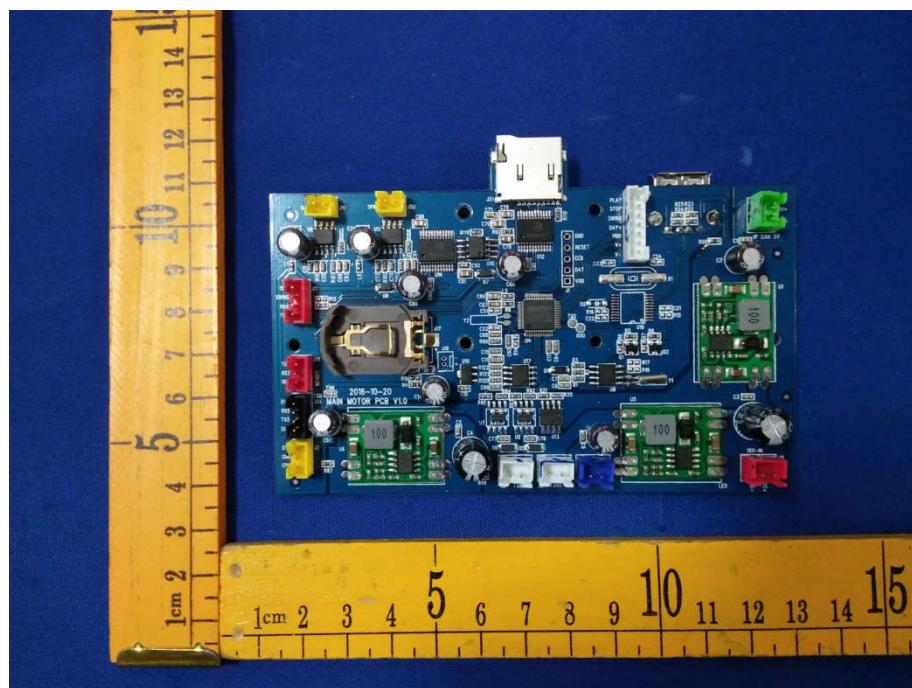
Internal Photos





PRECISE TESTING

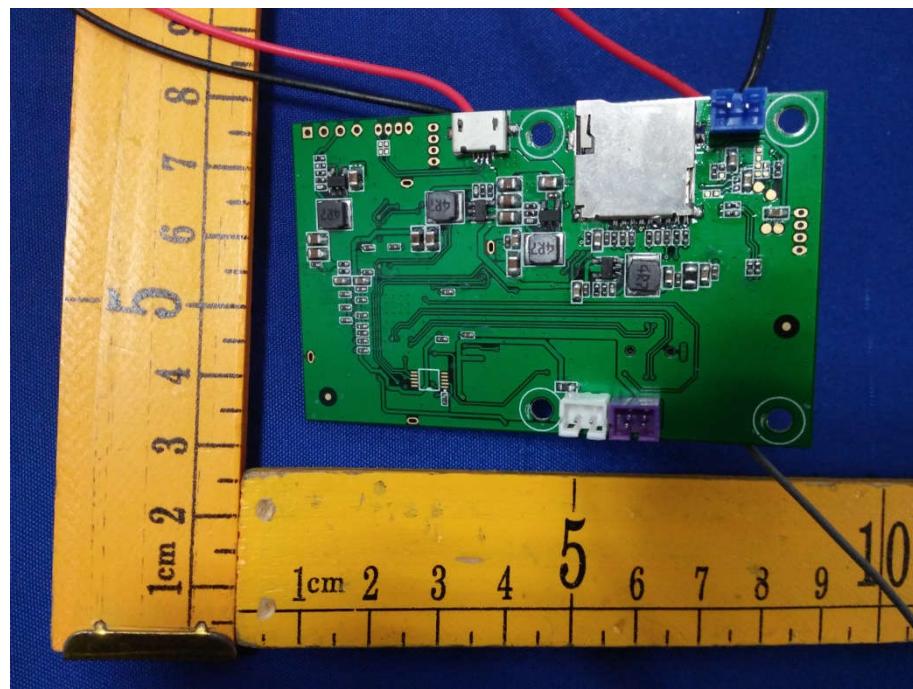
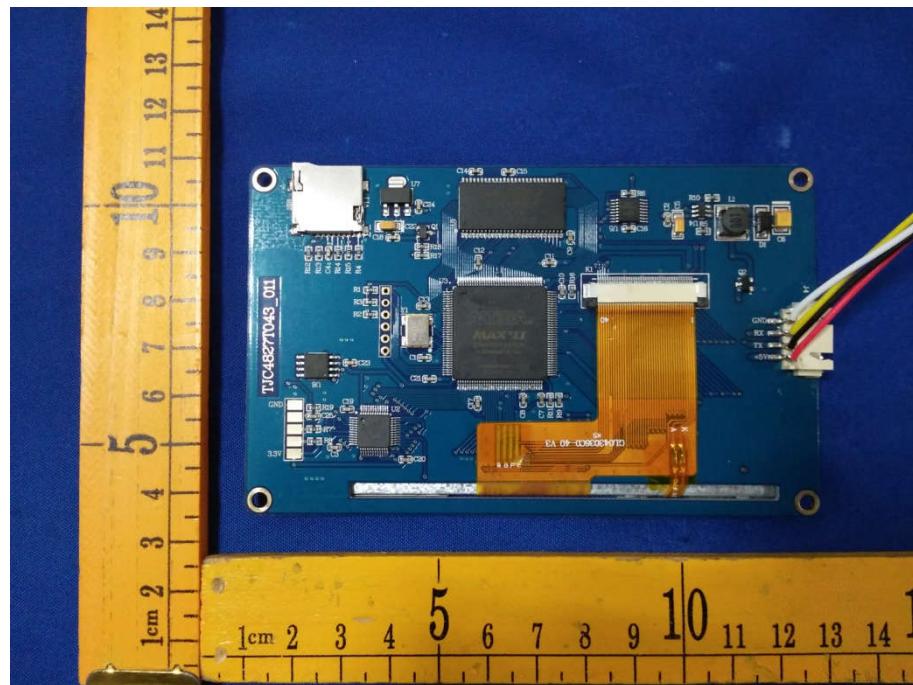
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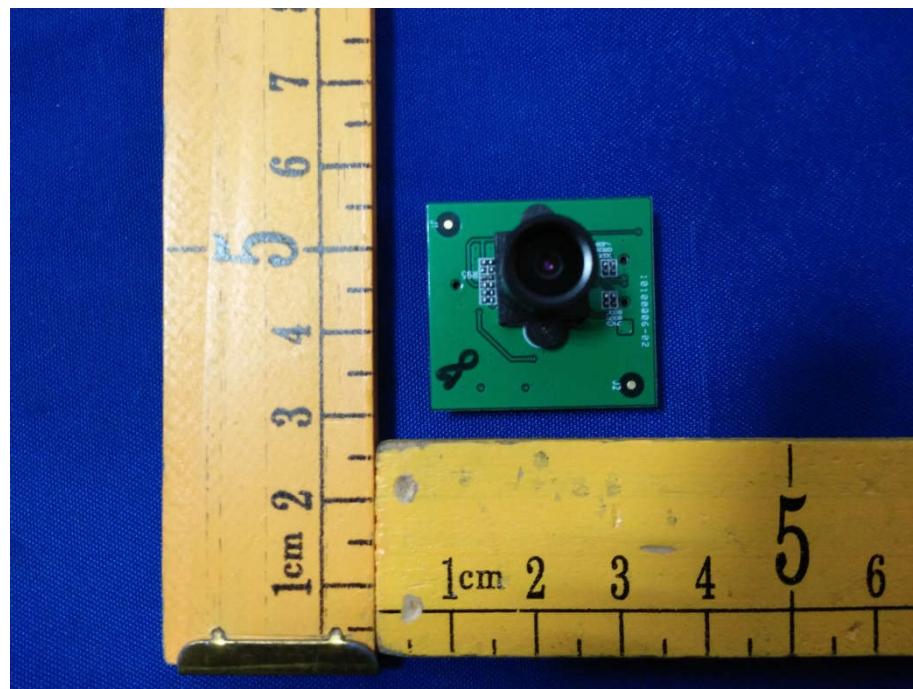
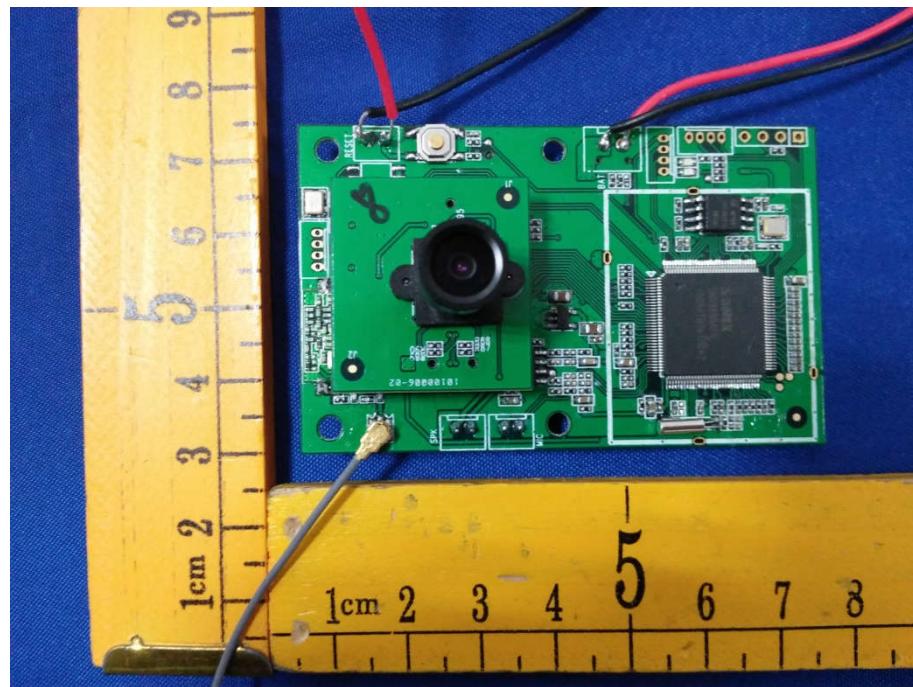
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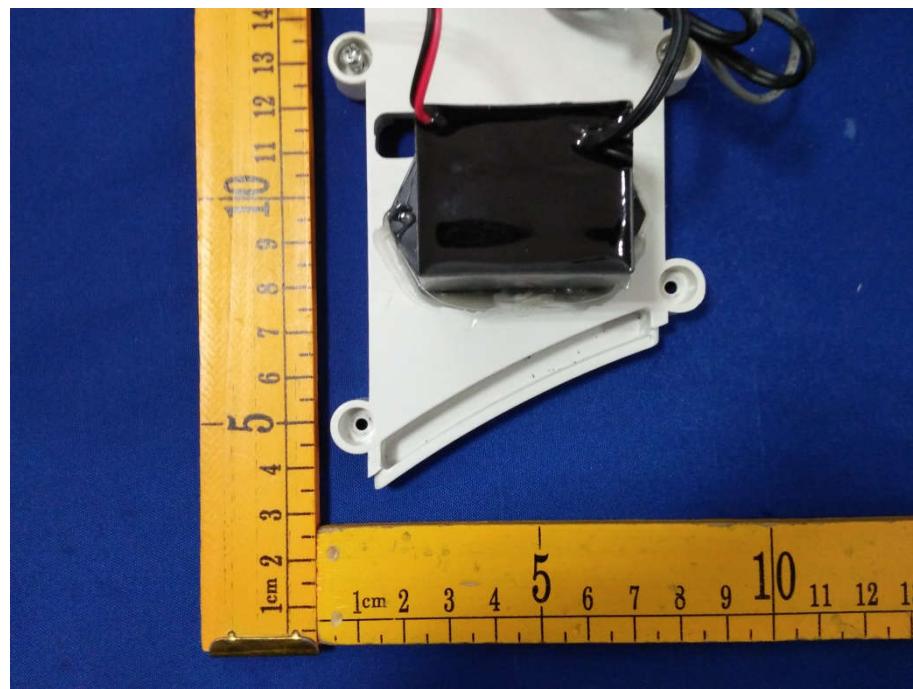
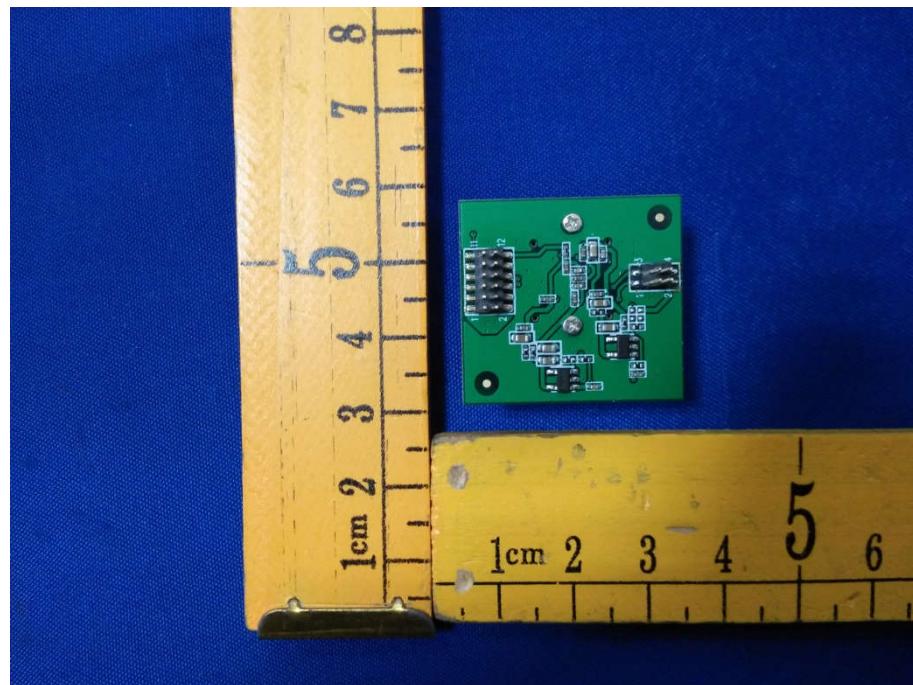
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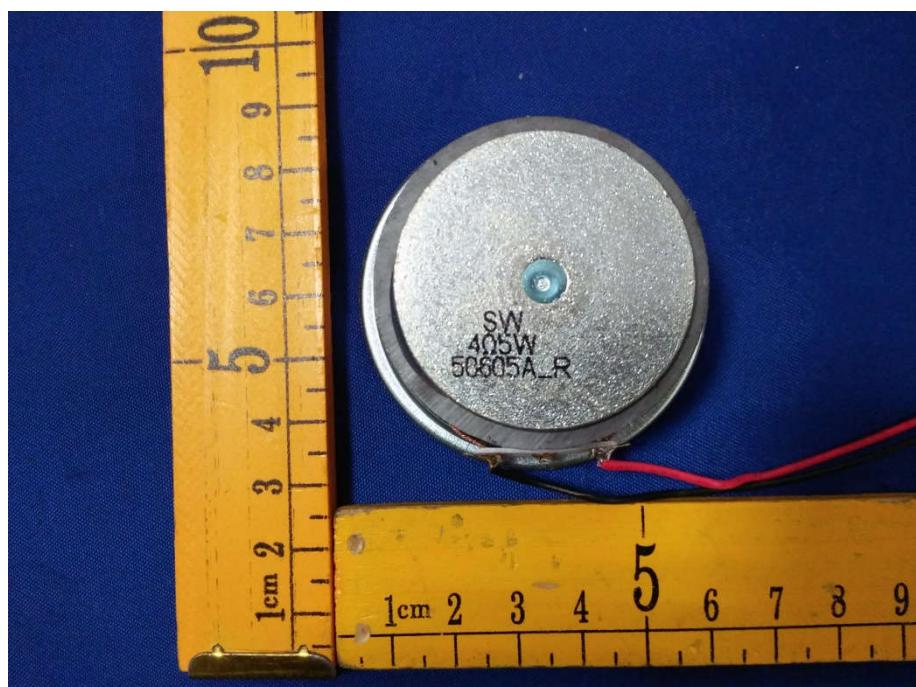
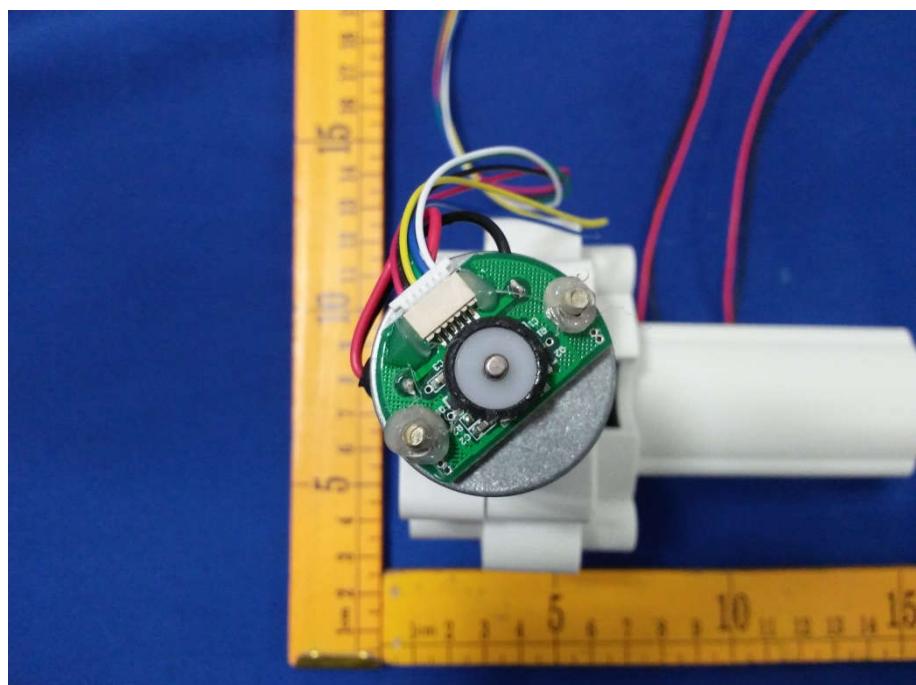
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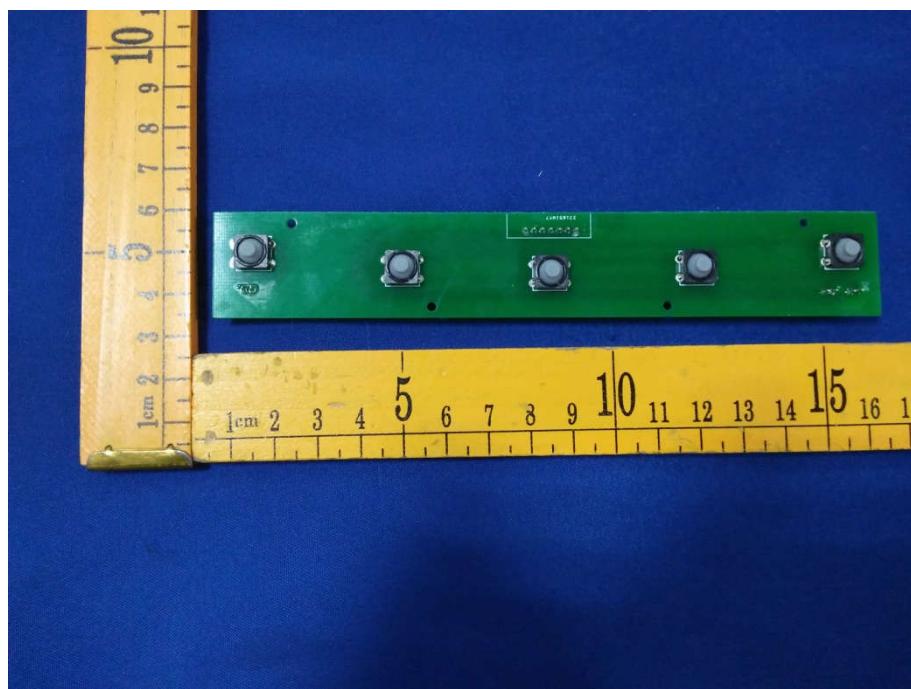
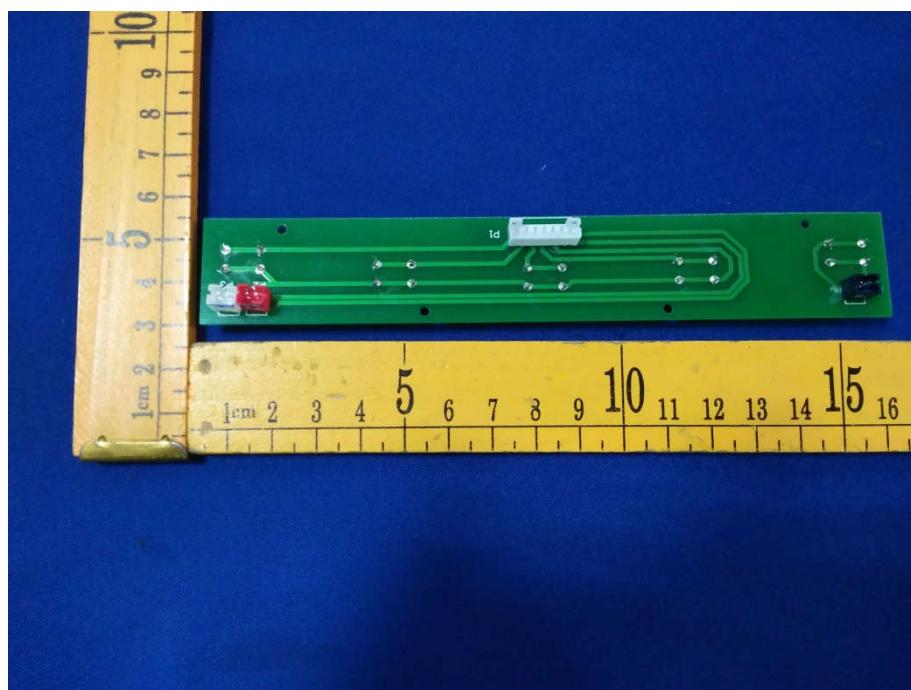
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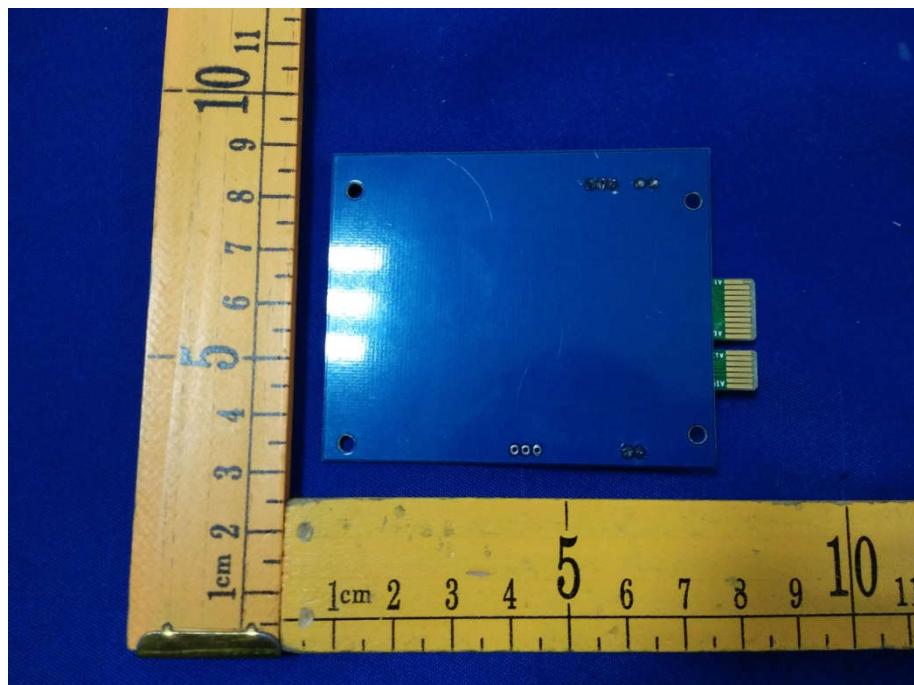
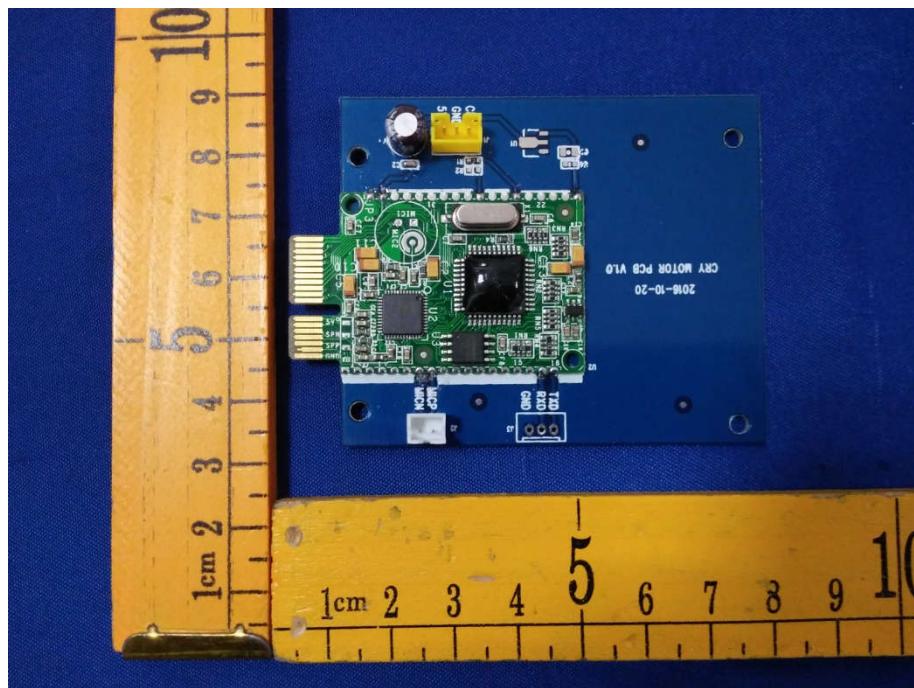
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