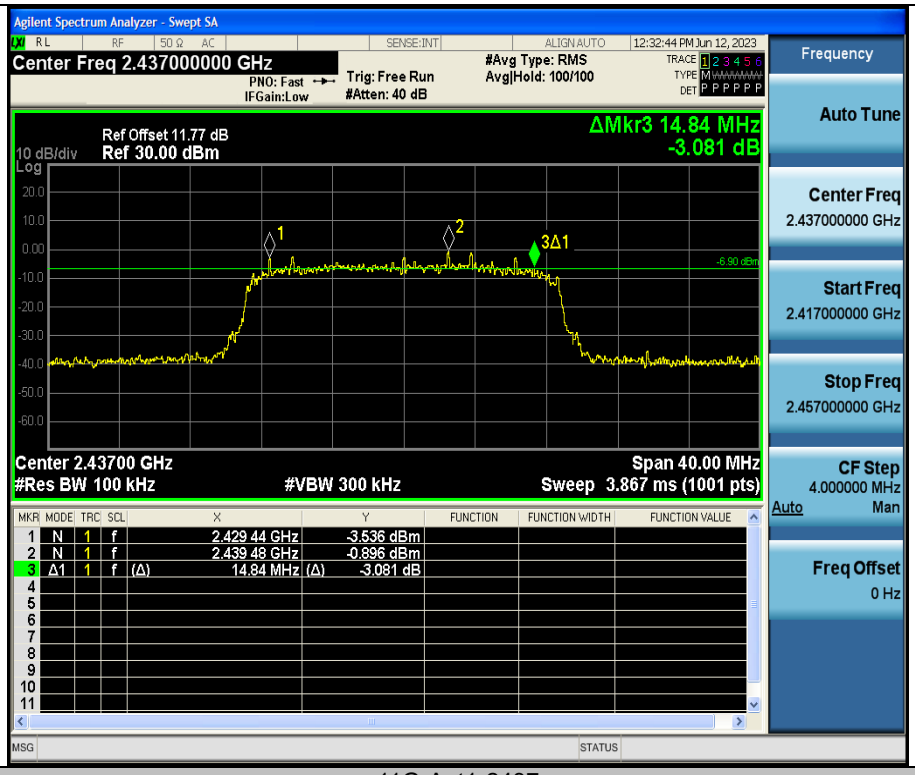
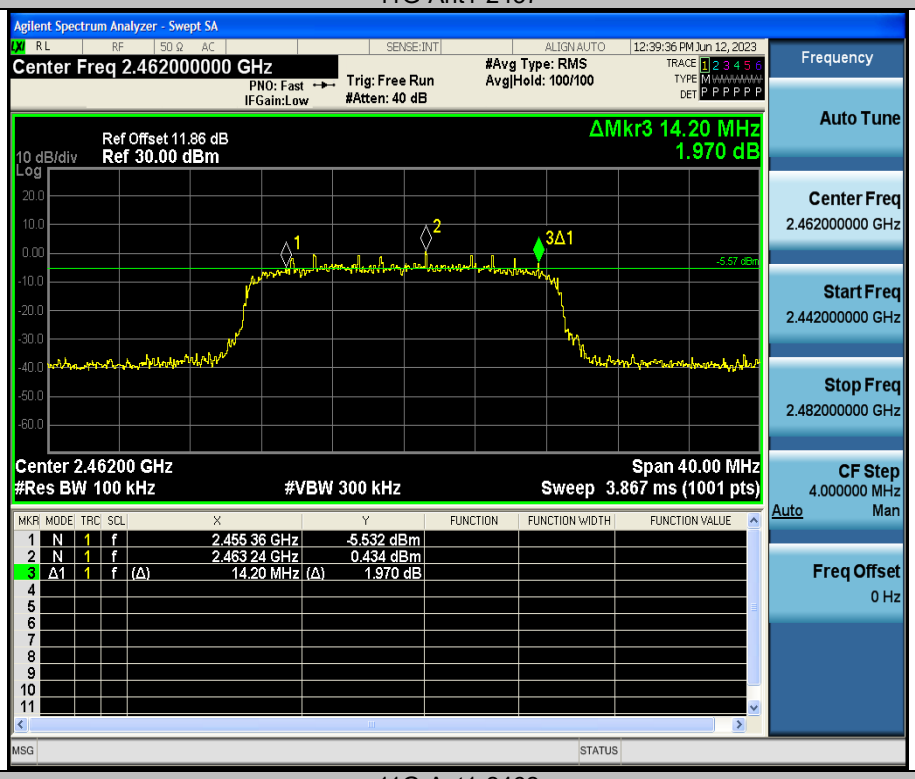
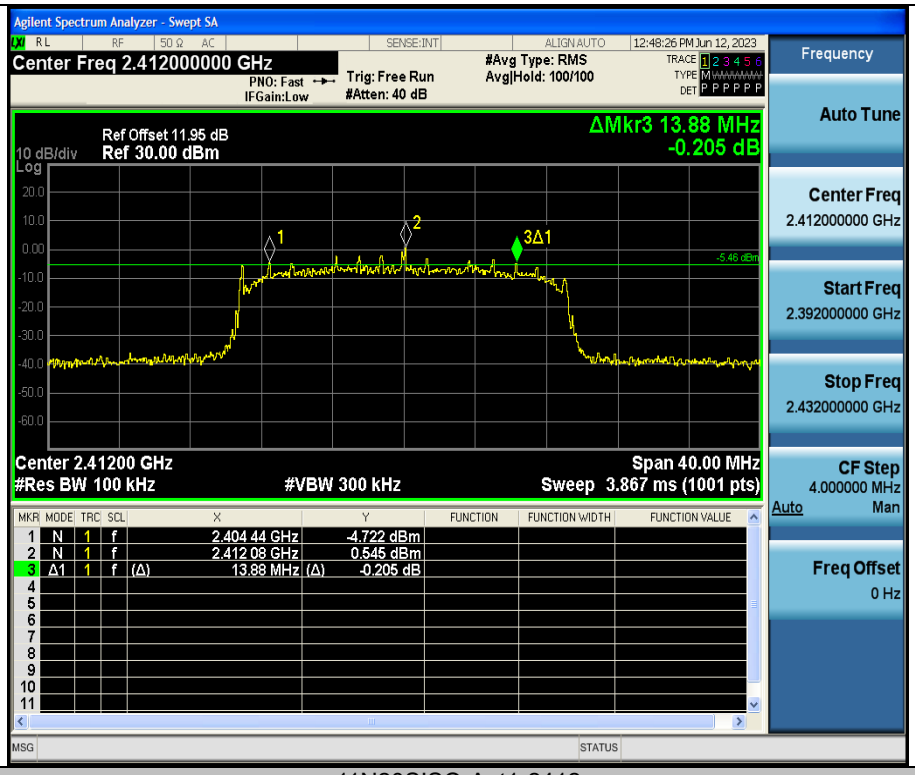


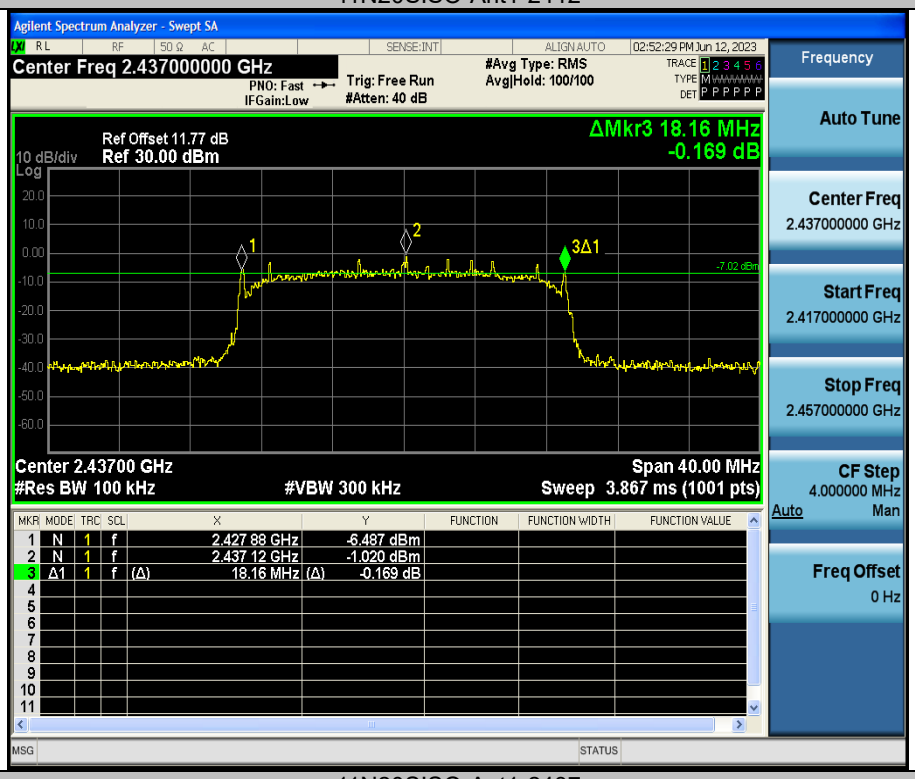
11G-Ant1-2437



11G-Ant1-2462



11N20SISO-Ant1-2412



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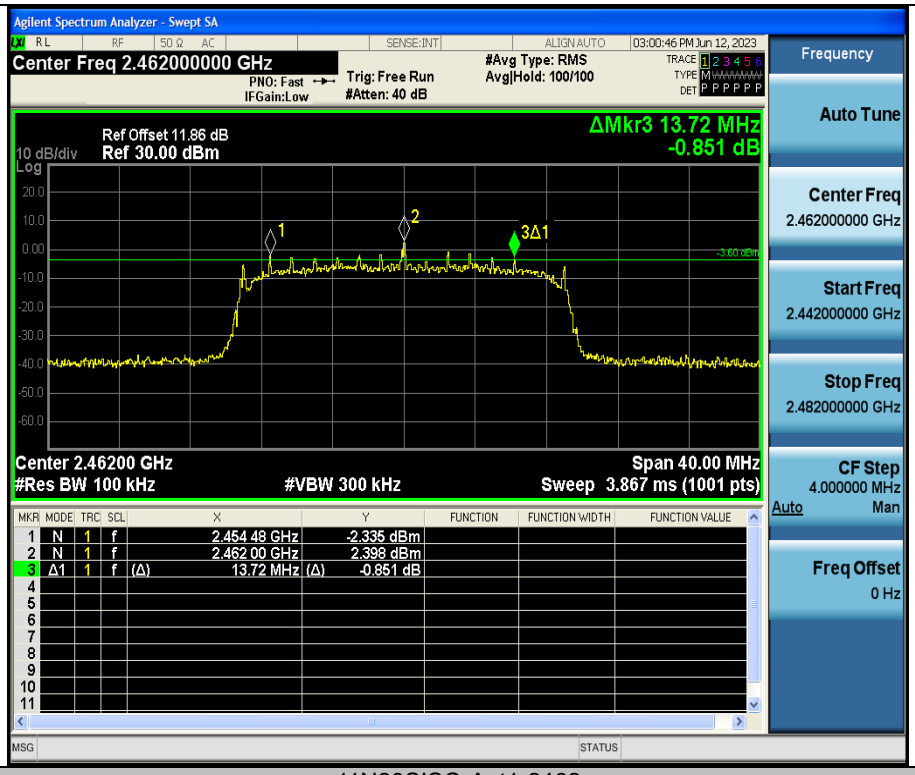


11N20SISO-Ant1-2462

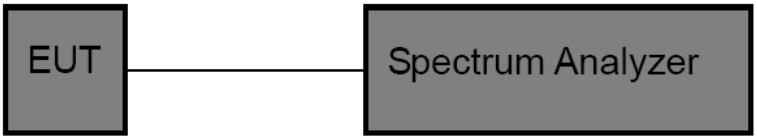
10 Maximum conducted output power

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.

10.1Test Procedure

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 D01 15.247 Meas Guidance v05 section 8.3.1.2.
2. The RF output of EUT Connect the antenna port(s) to the spectrum analyzer input. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

10.2Test Setup

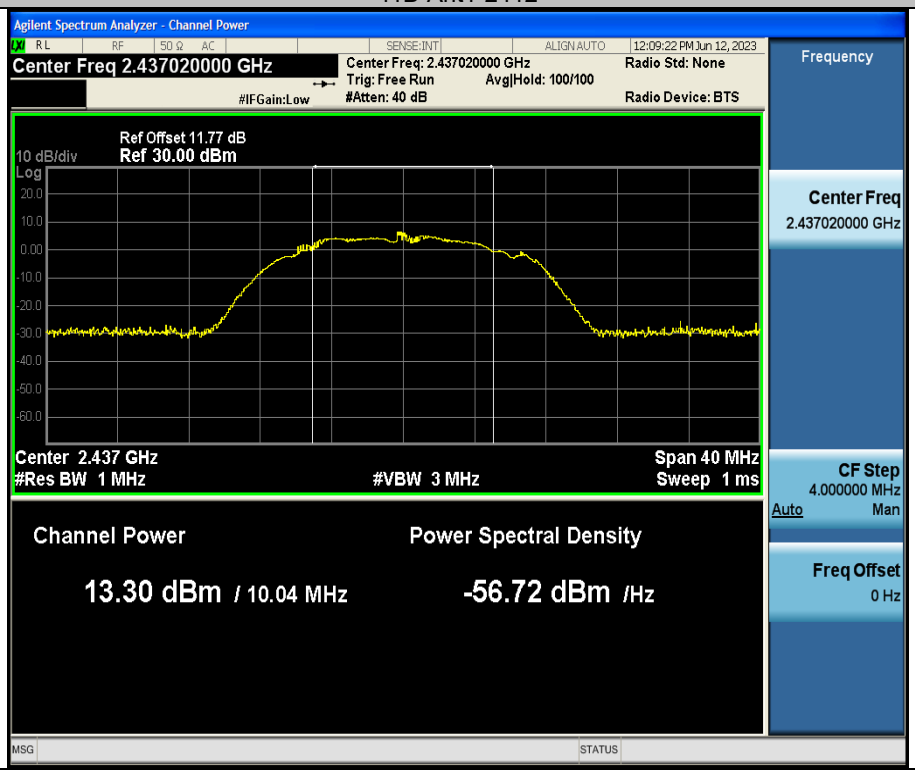


10.3Test Result

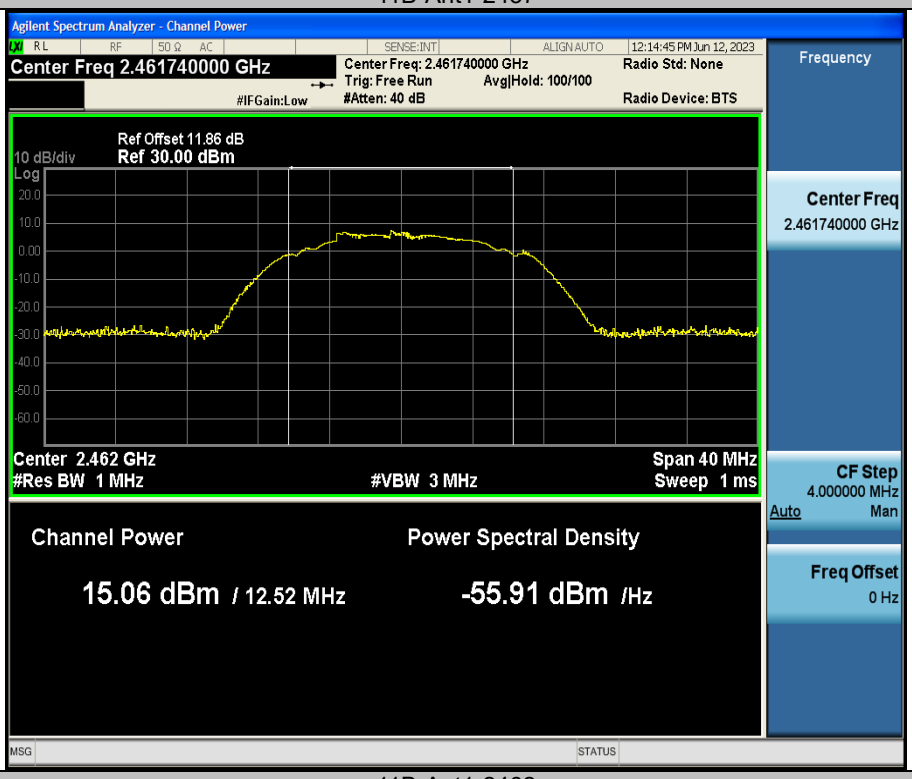
Test Mode	Antenna	Frequency[MHz]	Peak power [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	14.58	14.58	≤30.00	PASS
11B	Ant1	2437	13.30	13.30	≤30.00	PASS
11B	Ant1	2462	15.06	15.06	≤30.00	PASS
11G	Ant1	2412	16.28	16.28	≤30.00	PASS
11G	Ant1	2437	15.96	15.96	≤30.00	PASS
11G	Ant1	2462	16.83	16.83	≤30.00	PASS
11N20SISO	Ant1	2412	14.86	14.86	≤30.00	PASS
11N20SISO	Ant1	2437	15.63	15.63	≤30.00	PASS
11N20SISO	Ant1	2462	15.69	15.69	≤30.00	PASS

Test Graphs:

11B-Ant1-2412

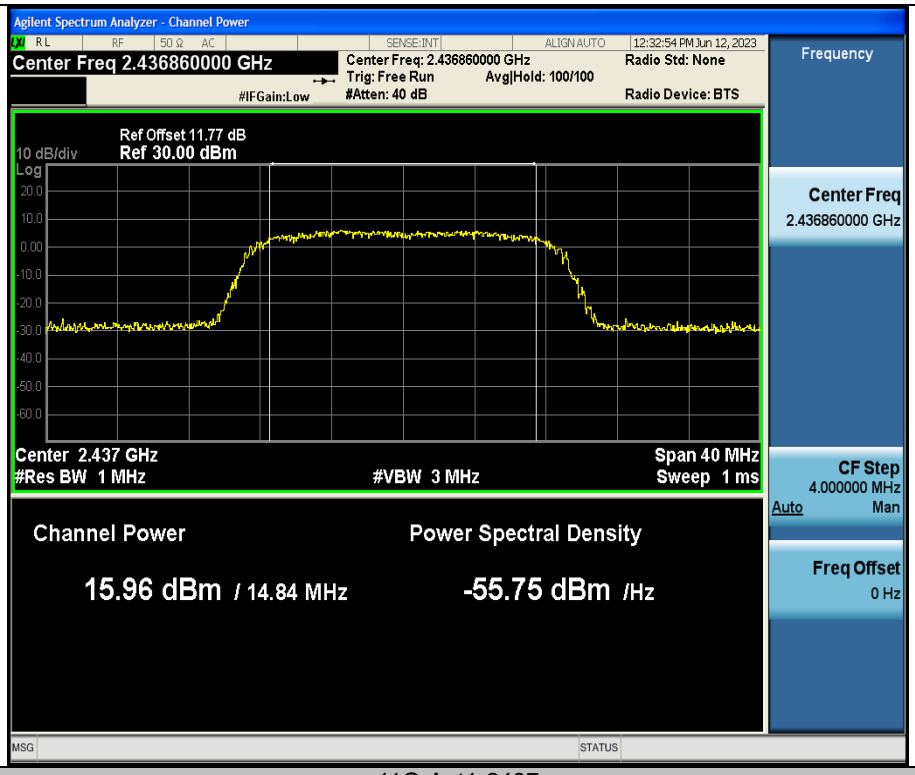


11B-Ant1-2437



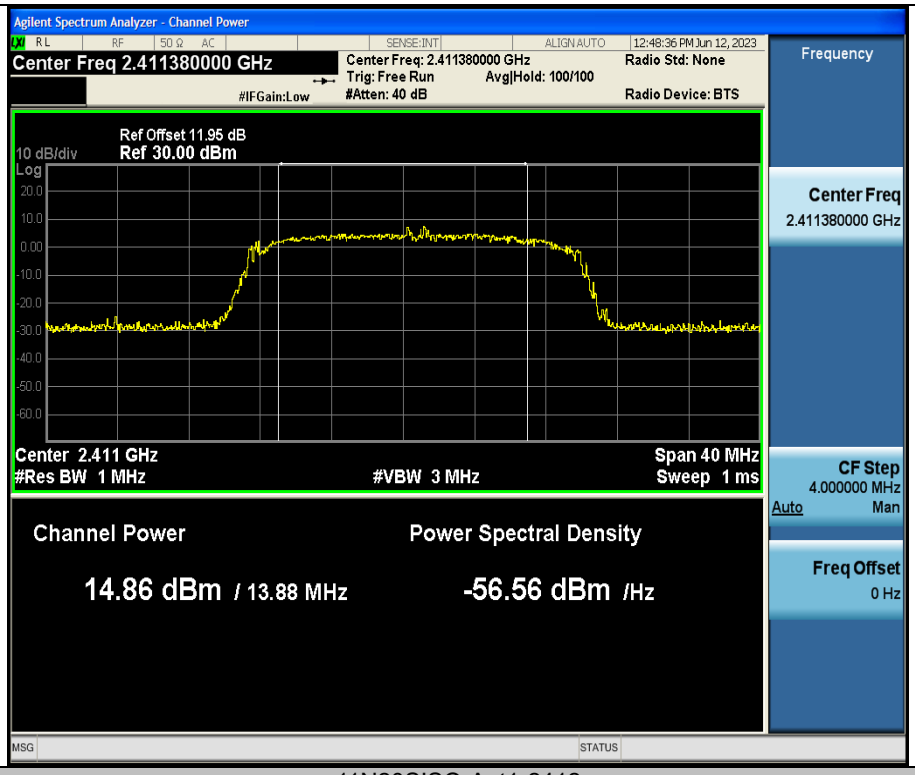
11B-Ant1-2462

11G-Ant1-2412



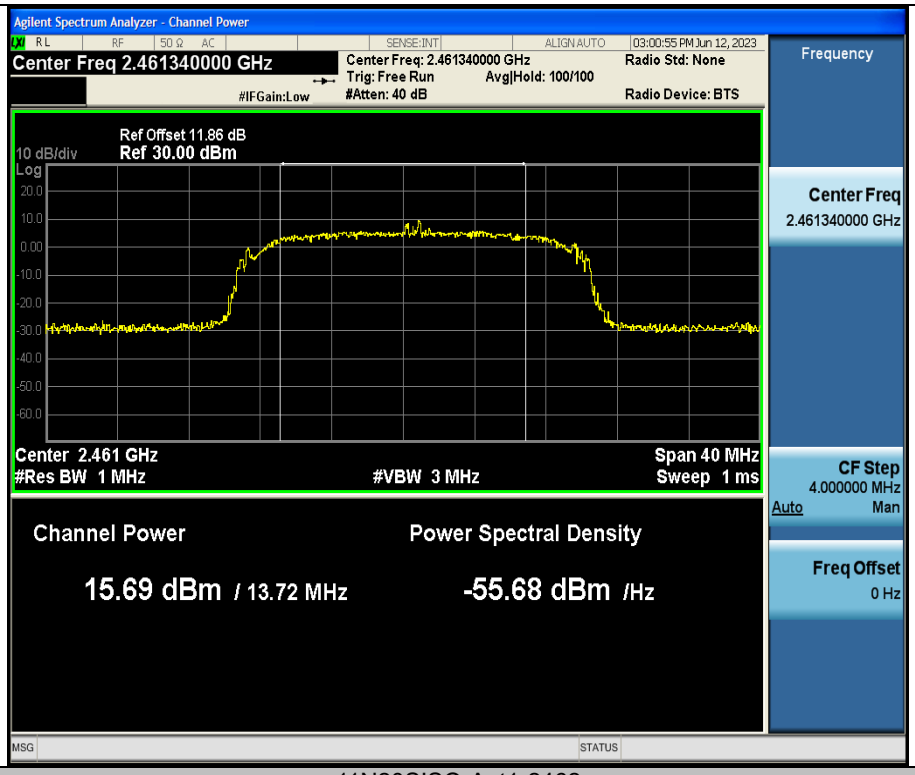
11G-Ant1-2437

11G-Ant1-2462



11N20SISO-Ant1-2412

11N20SISO-Ant1-2437



11N20SISO-Ant1-2462

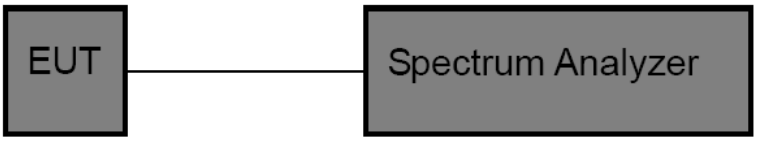
11 Power Spectral density

Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2013
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.

11.1Test Procedure

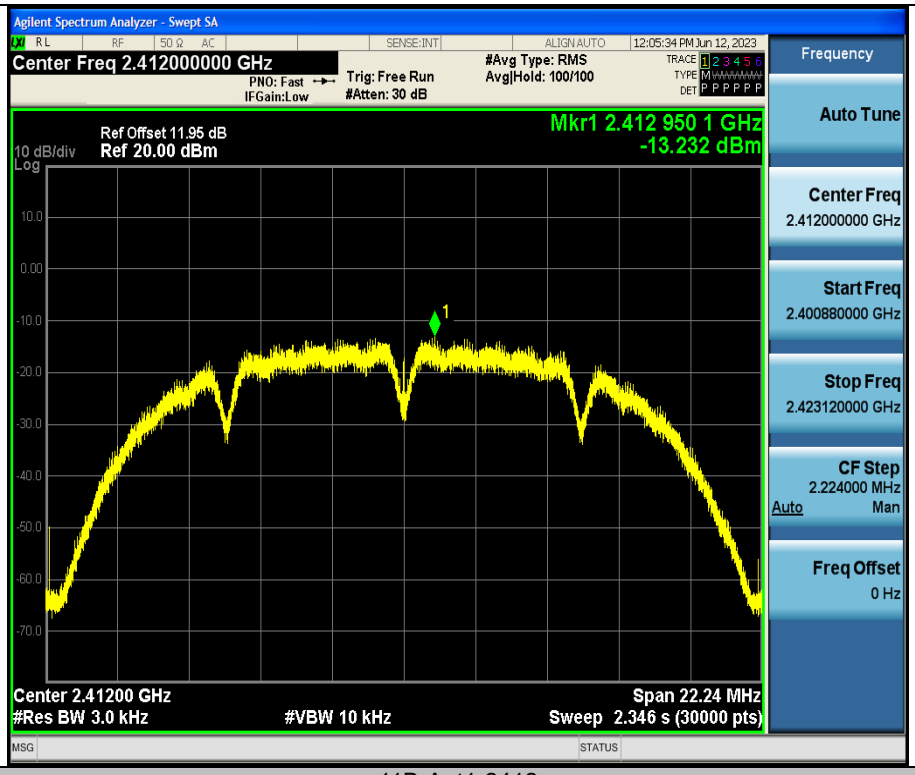
1. Connect the antenna port(s) to the spectrum analyzer input.
2. Configure the spectrum analyzer as shown below:
   Center frequency=DTS channel center frequency
   Span = 1.5 times the DTS bandwidth
   RBW = 3KHz, VBW = 10KHz
   Sweep time = auto couple
   Detector = peak
   Trace mode =max hold
3. 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.

11.2Test Setup

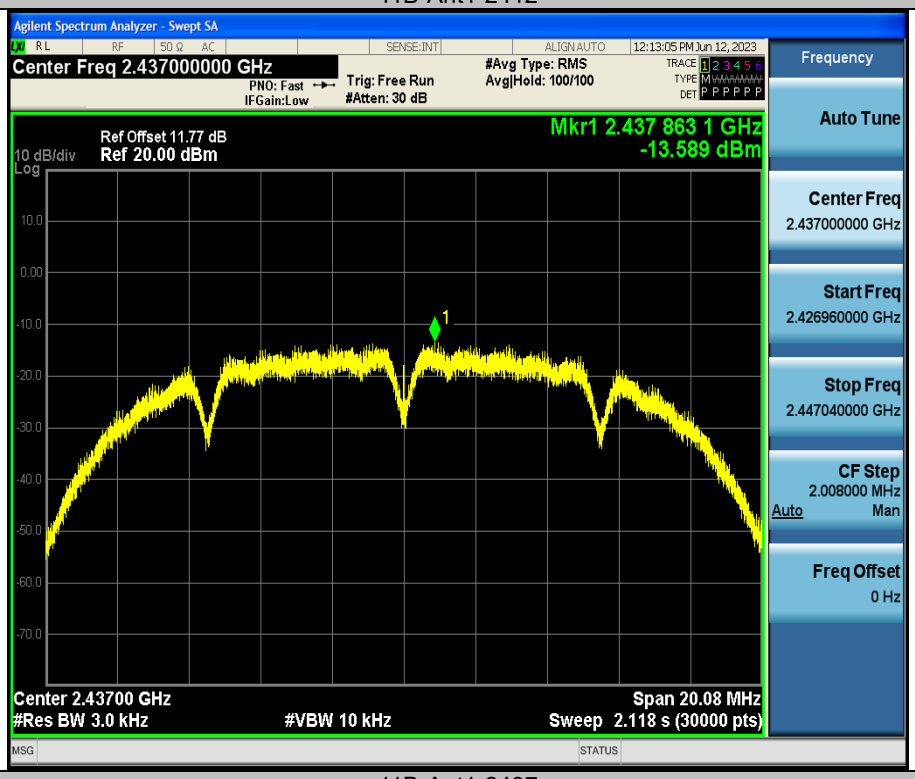


11.3Test Result

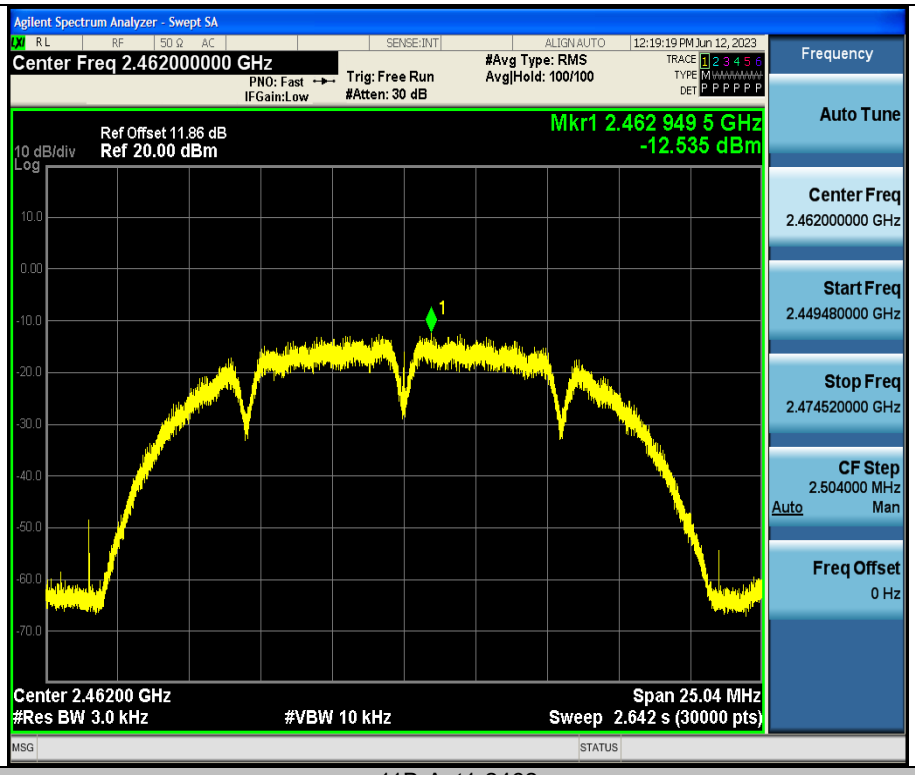
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.23	≤8.00	PASS
11B	Ant1	2437	-13.59	≤8.00	PASS
11B	Ant1	2462	-12.54	≤8.00	PASS
11G	Ant1	2412	-15.18	≤8.00	PASS
11G	Ant1	2437	-15.13	≤8.00	PASS
11G	Ant1	2462	-14.12	≤8.00	PASS
11N20SISO	Ant1	2412	-15.9	≤8.00	PASS
11N20SISO	Ant1	2437	-15.97	≤8.00	PASS
11N20SISO	Ant1	2462	-15.15	≤8.00	PASS



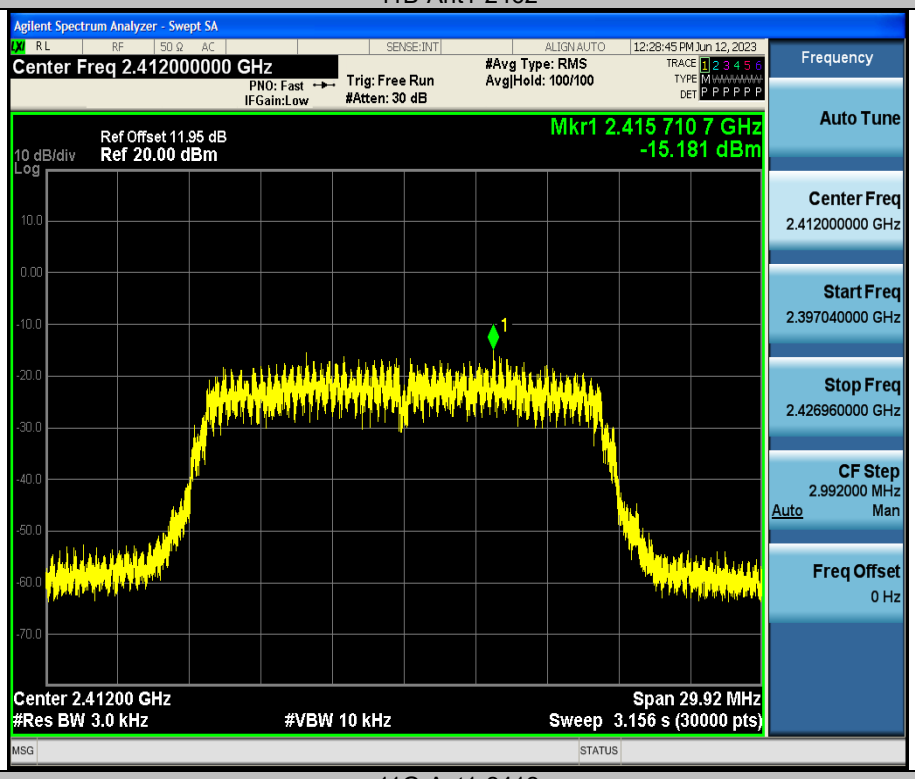
11B-Ant1-2412



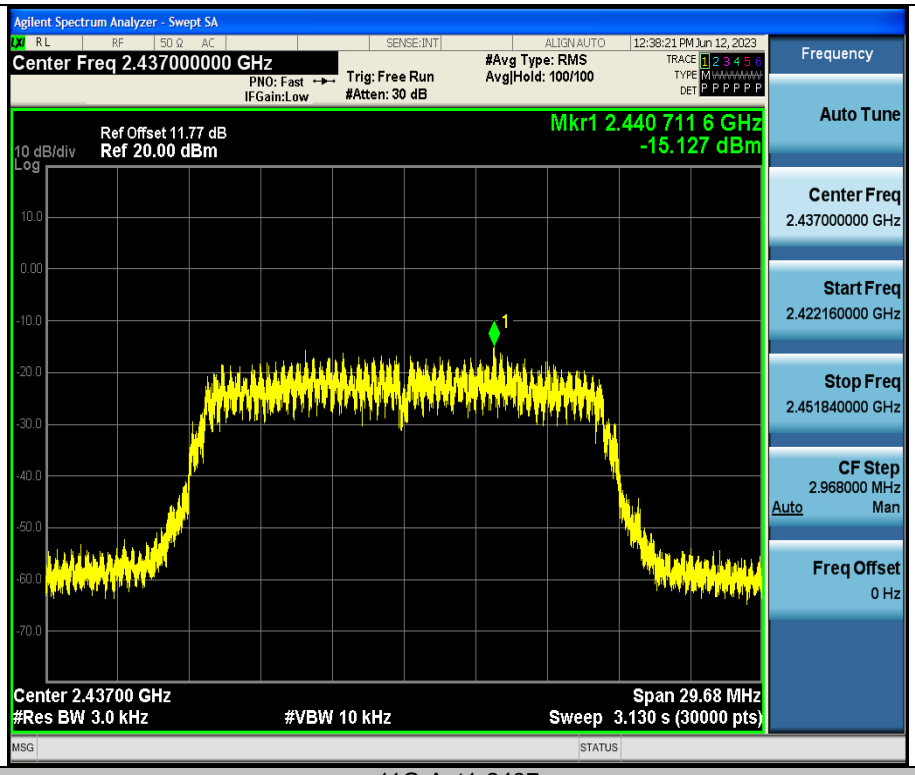
11B-Ant1-2437



11B-Ant1-2462



11G-Ant1-2412



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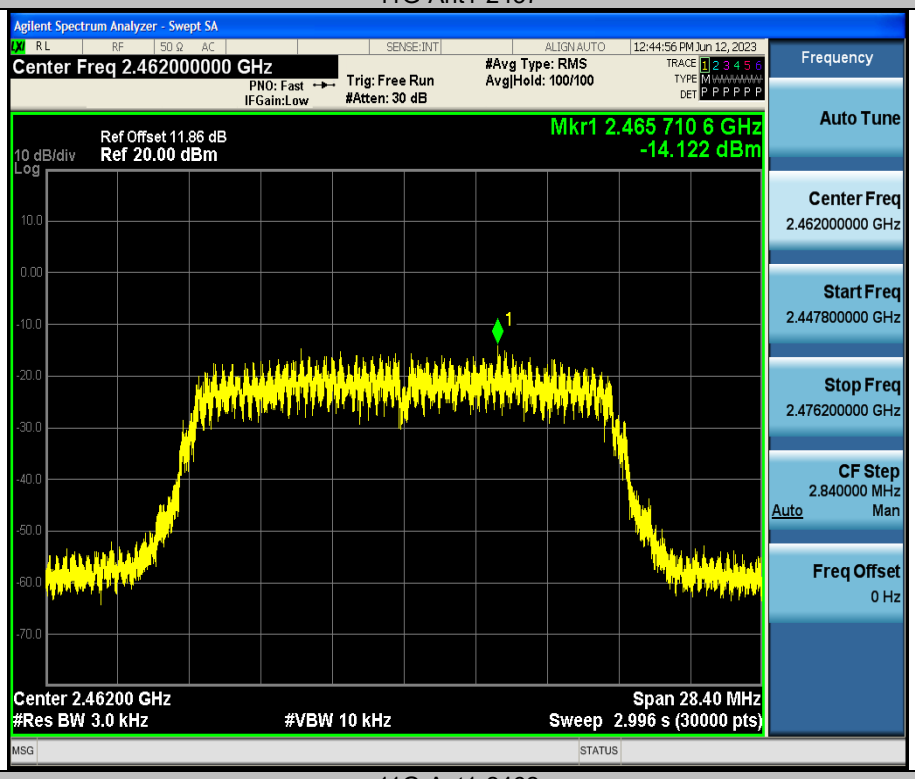
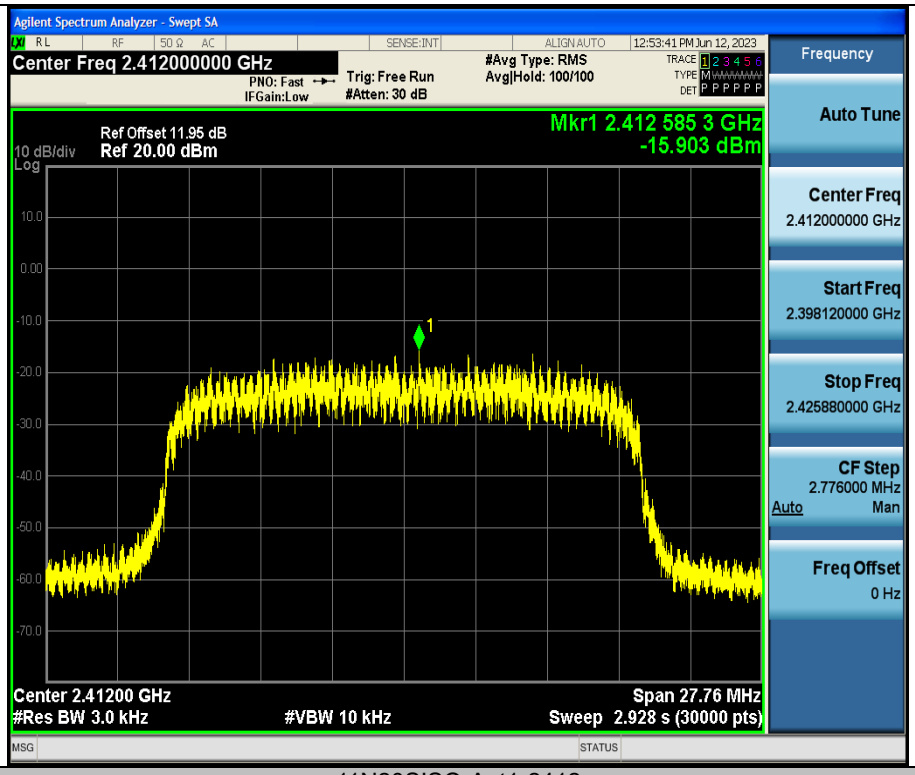
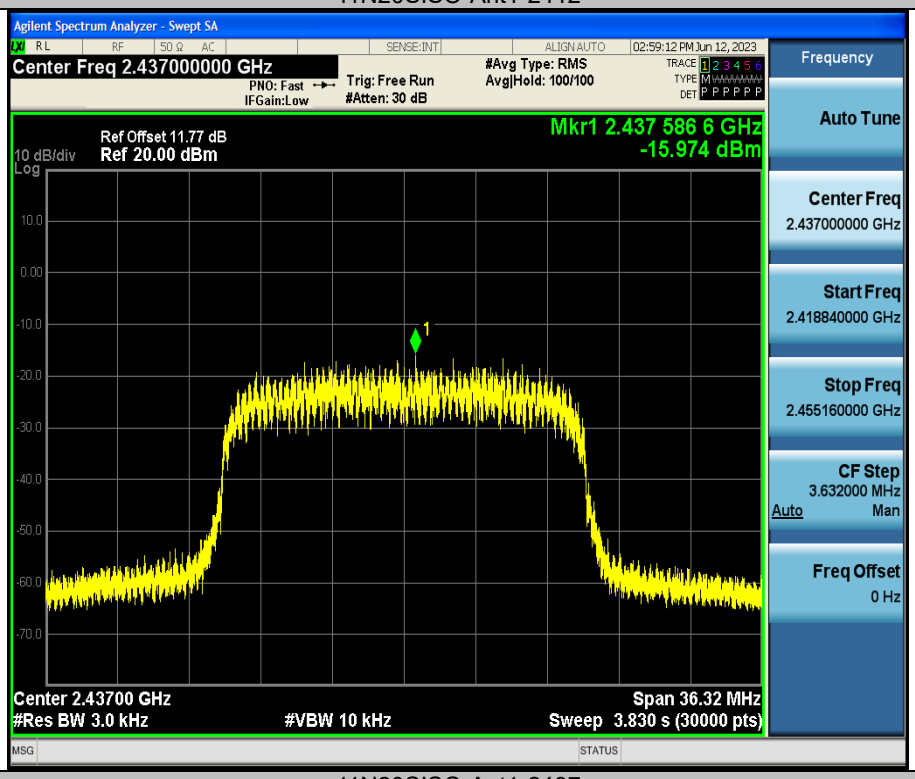


11G-Ant1-2462



11N20SISO-Ant1-2412



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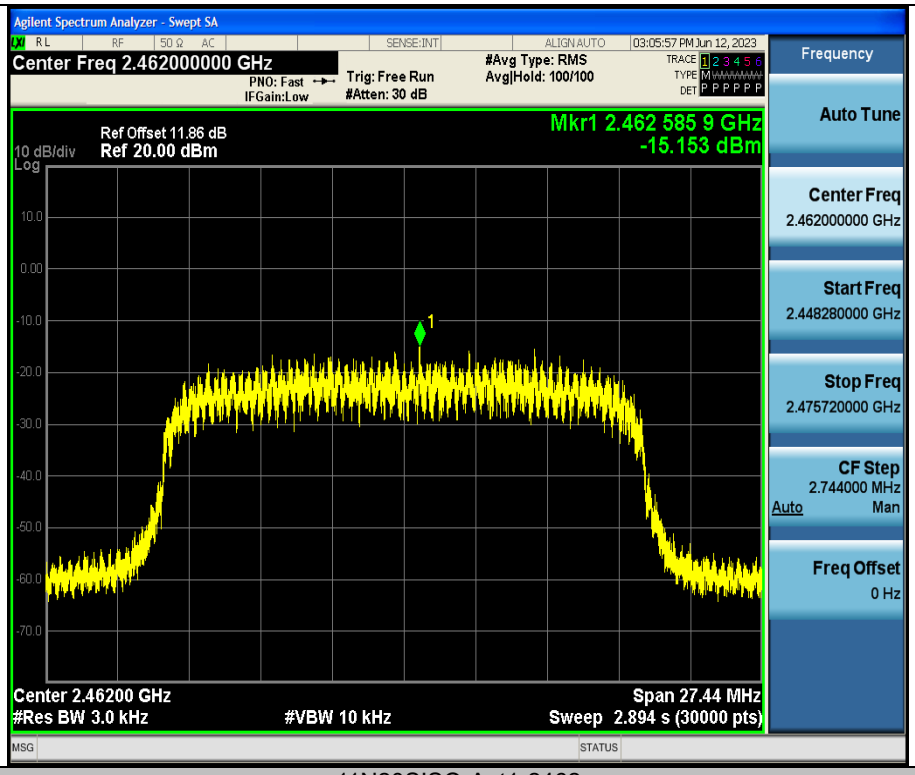


11N20SISO-Ant1-2462

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.

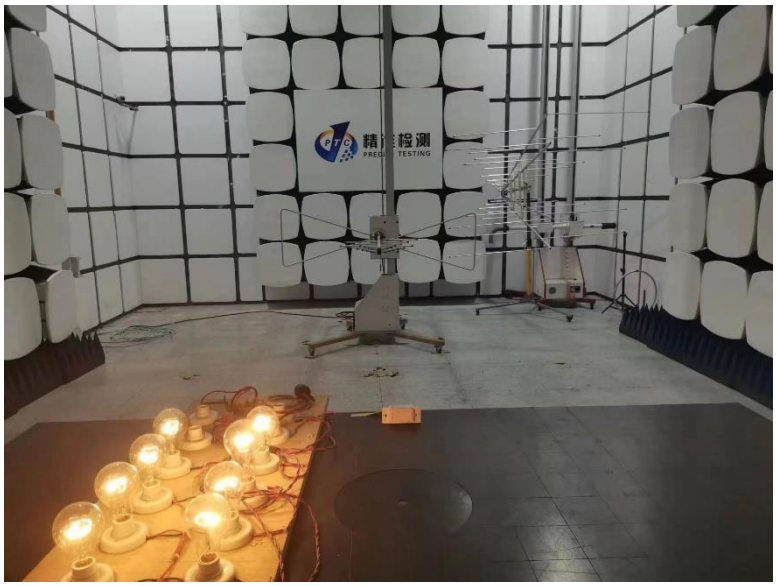
12.2 Result

The EUT'S antenna, permanent attached antenna,is PCB Antenna. The antenna's gain is 2.72 dBi and meets the requirement.

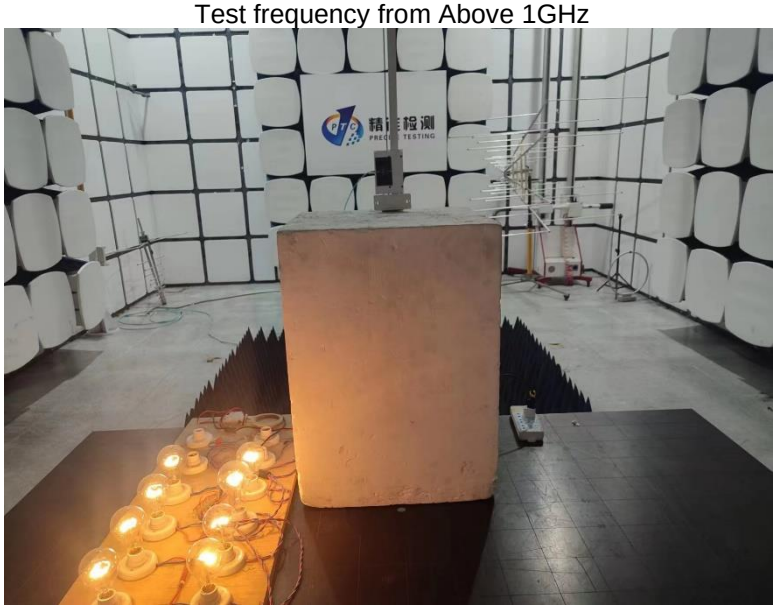
13 Test Setup

Conducted Emissions

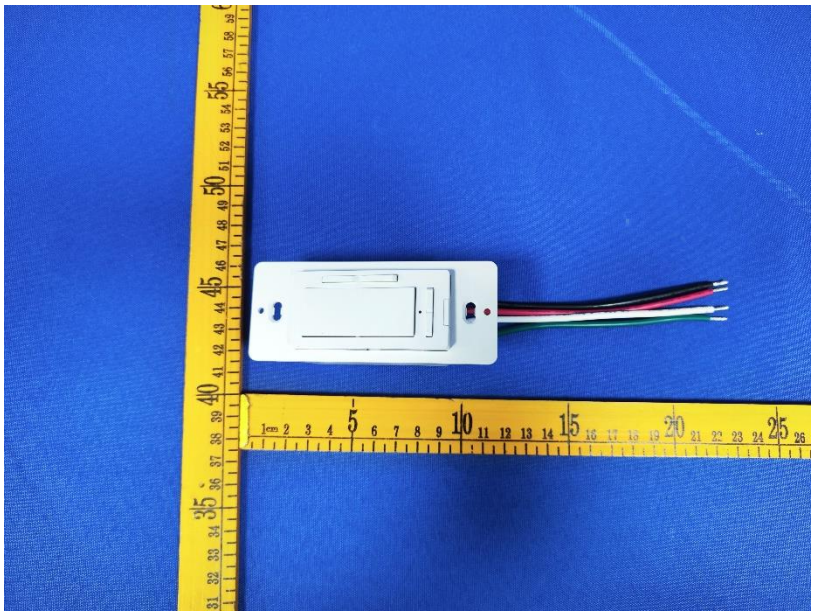
Radiated Spurious Emissions
From 30MHz-1000MHz

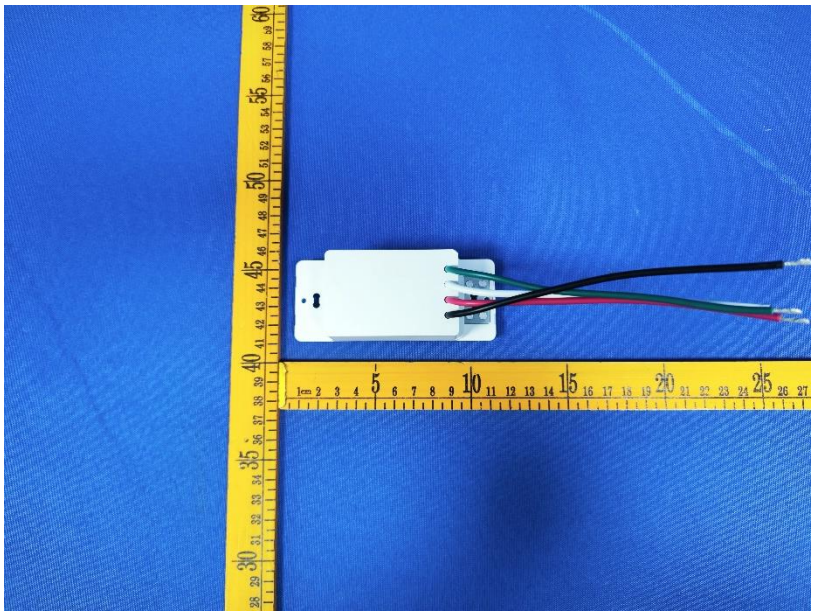


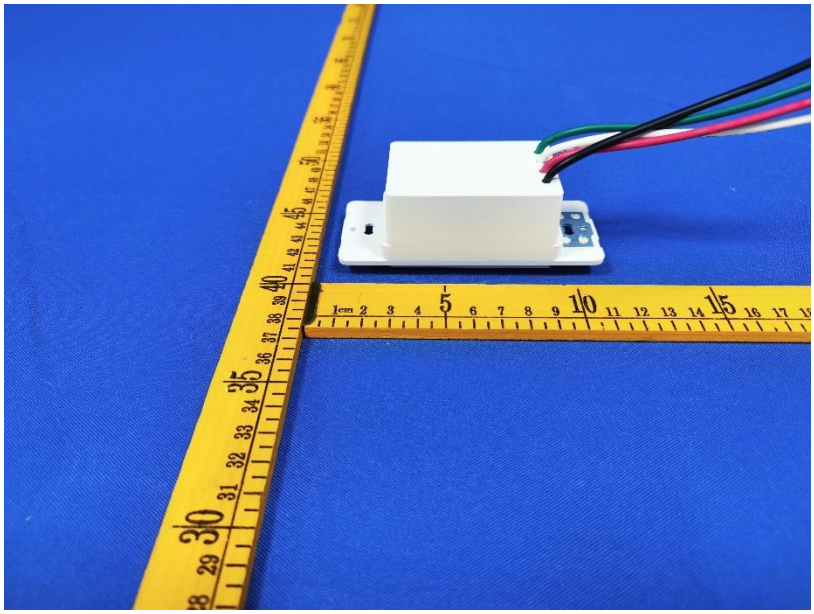
Test frequency from Above 1GHz

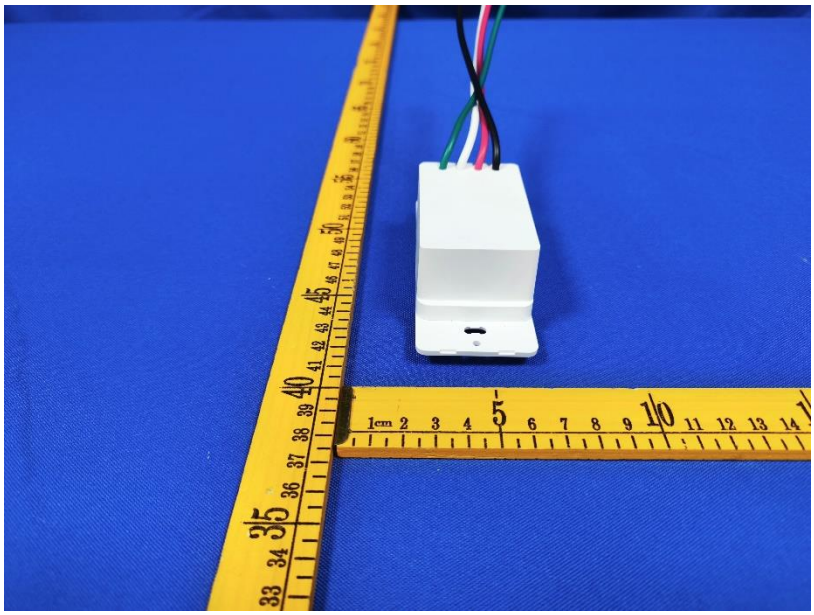


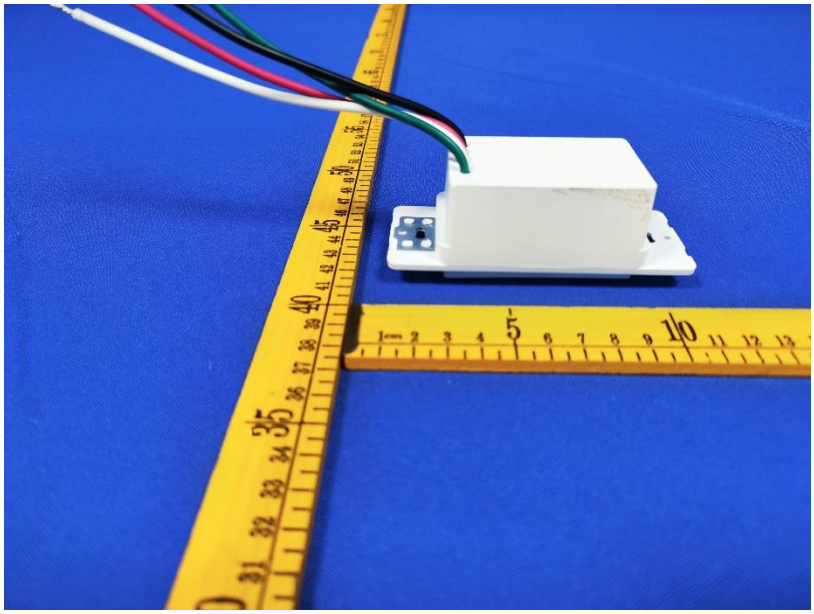
14 EUT PHOTOS

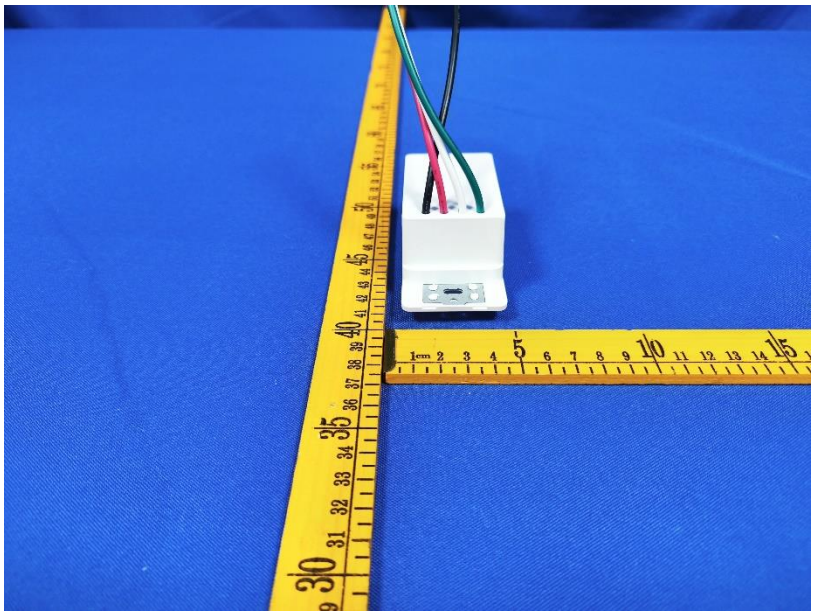


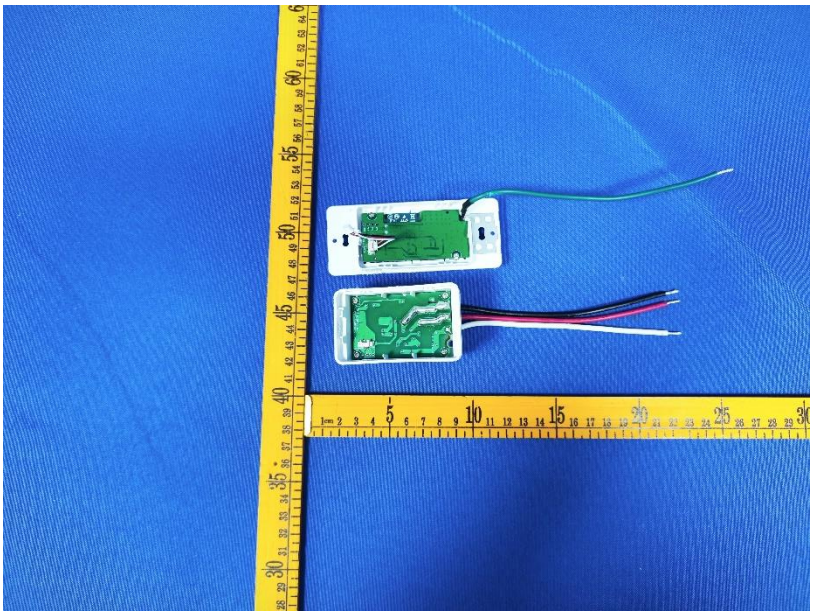


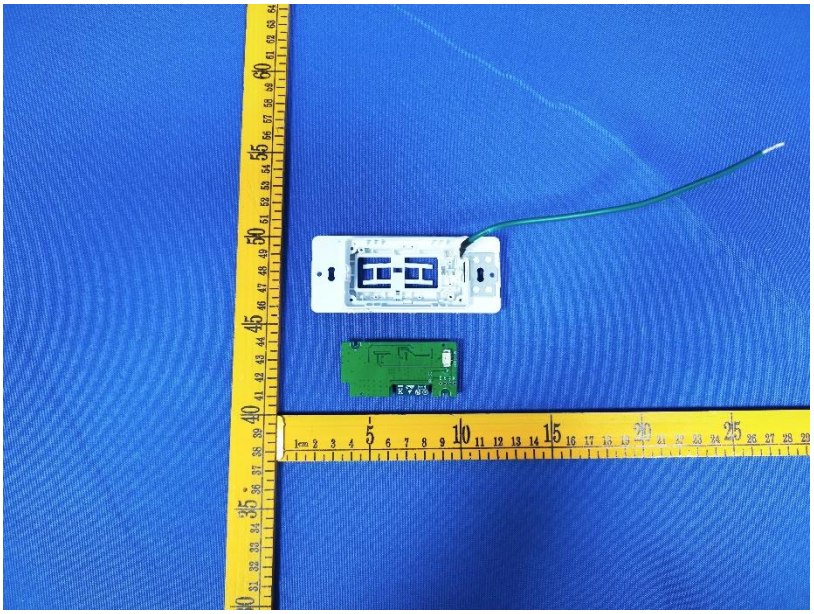


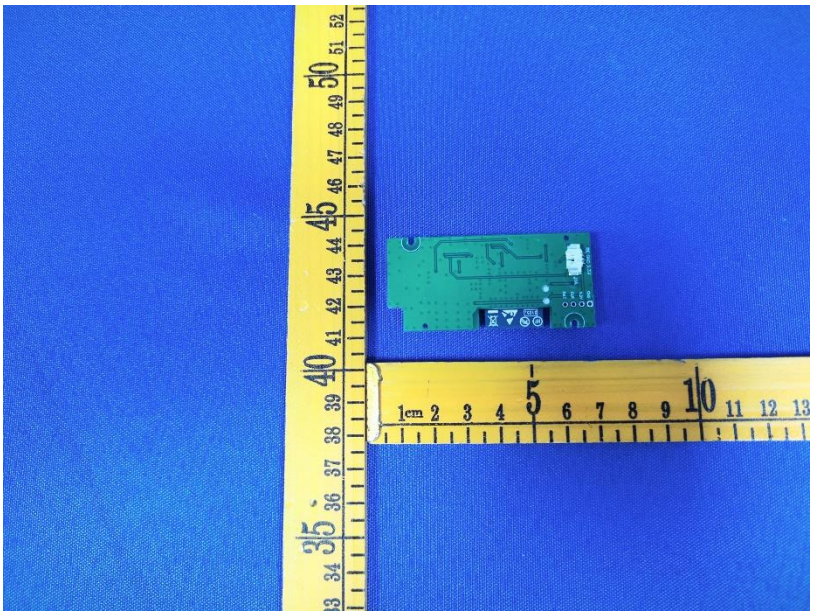


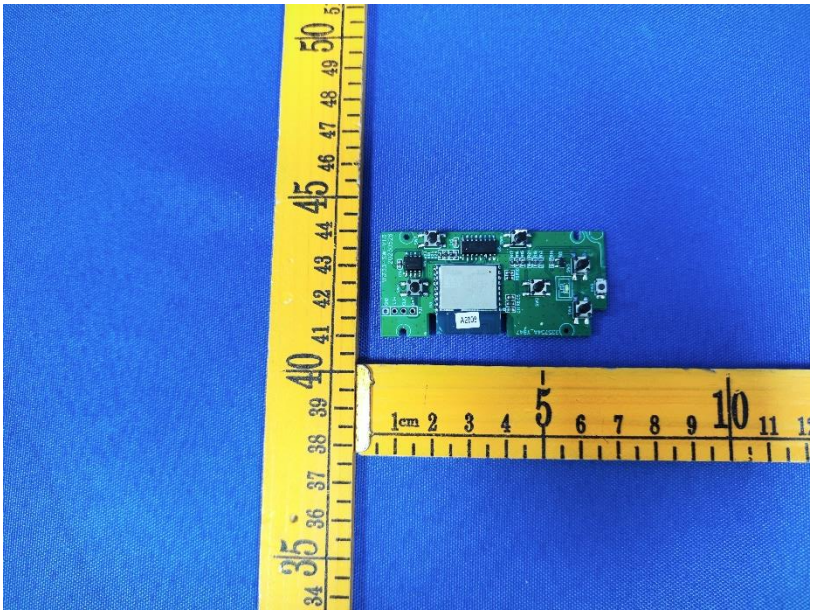


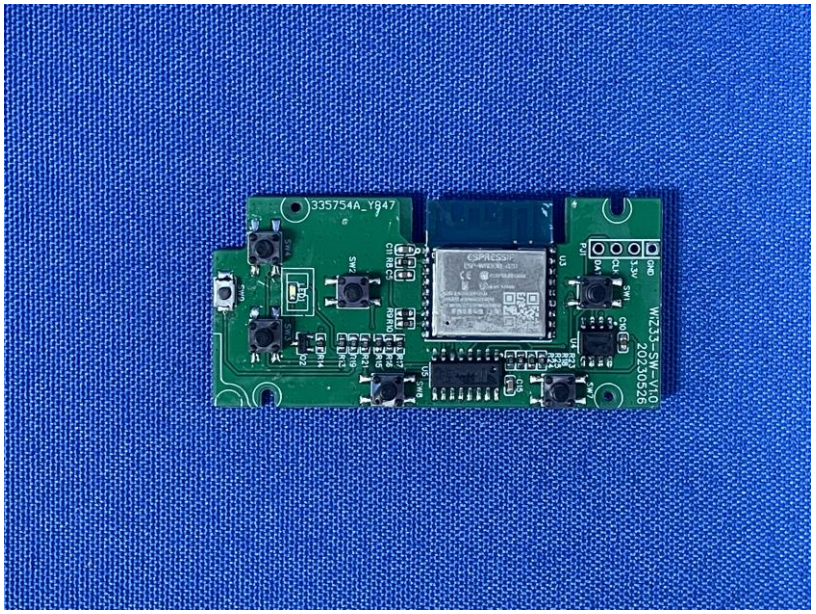








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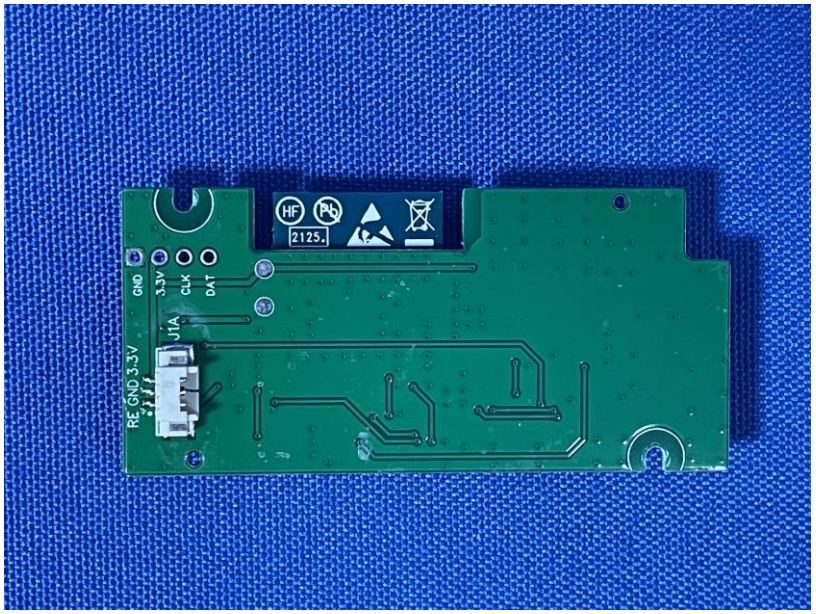
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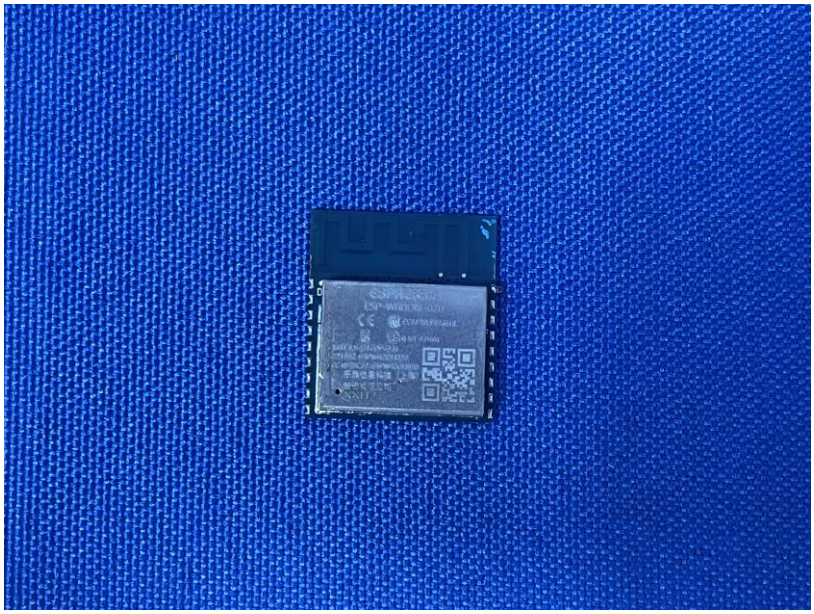
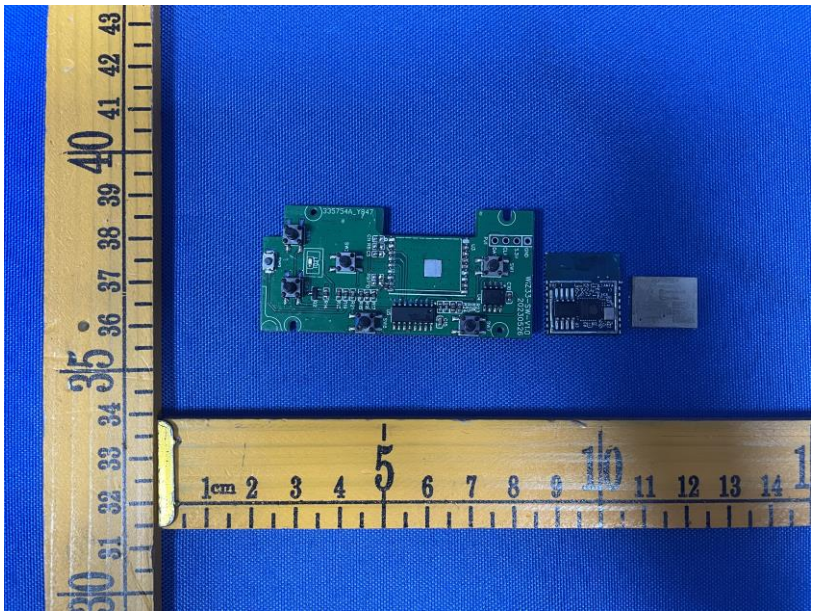
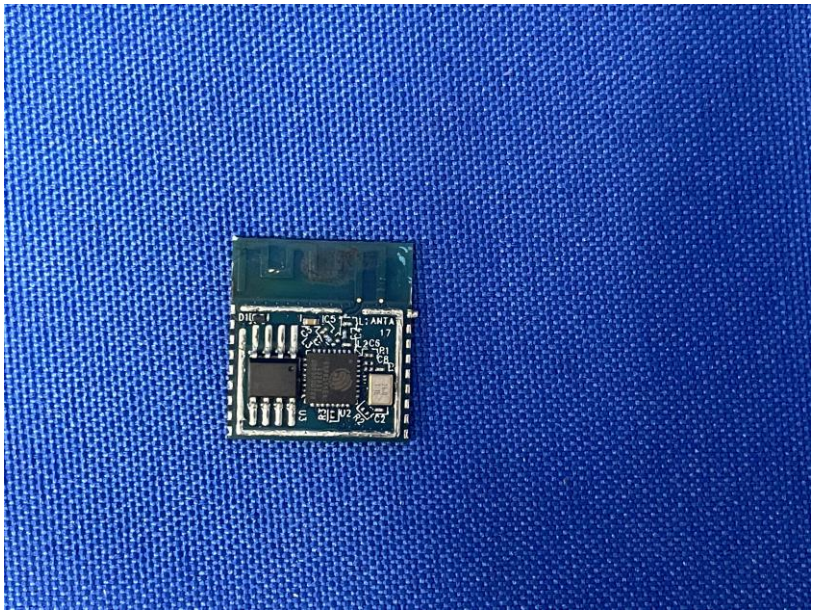
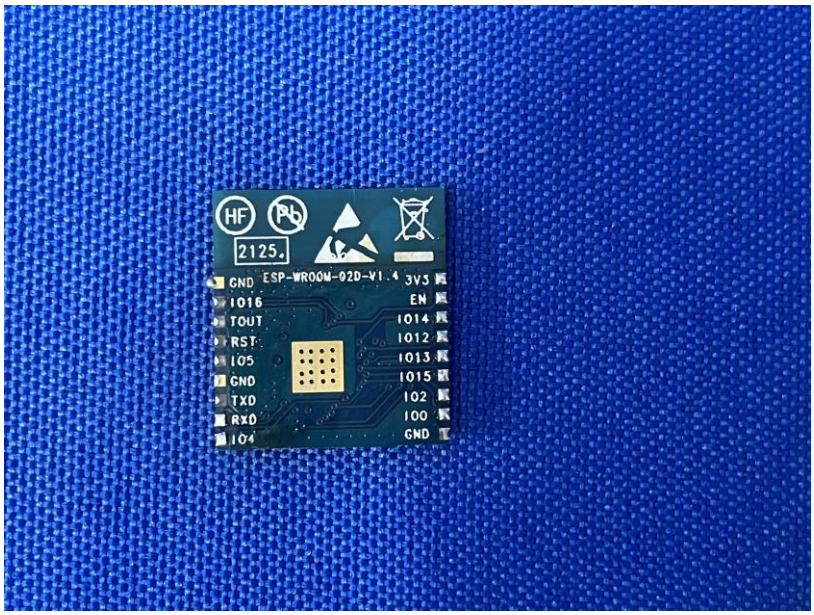
3.3V
CLK
DAT
J1A
RE GND 3.3V





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EN
TOUT
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RST
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IO5
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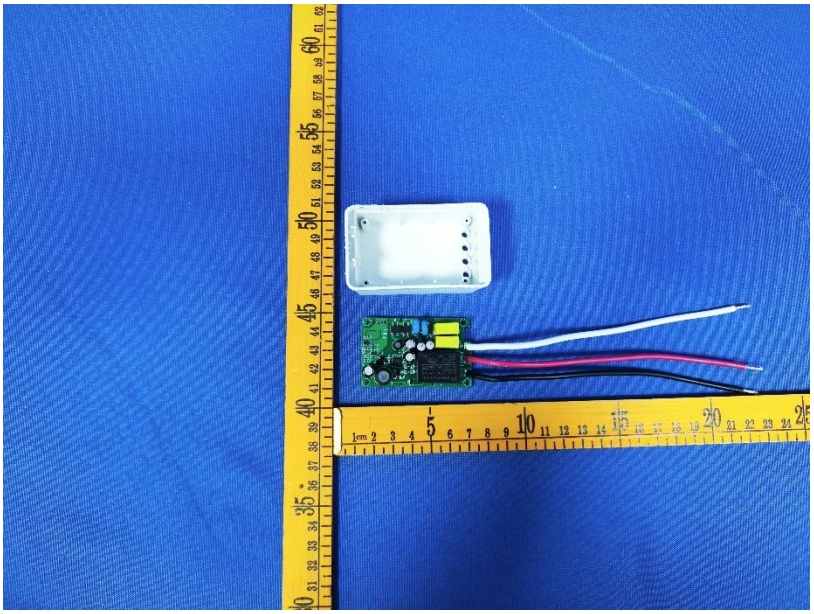
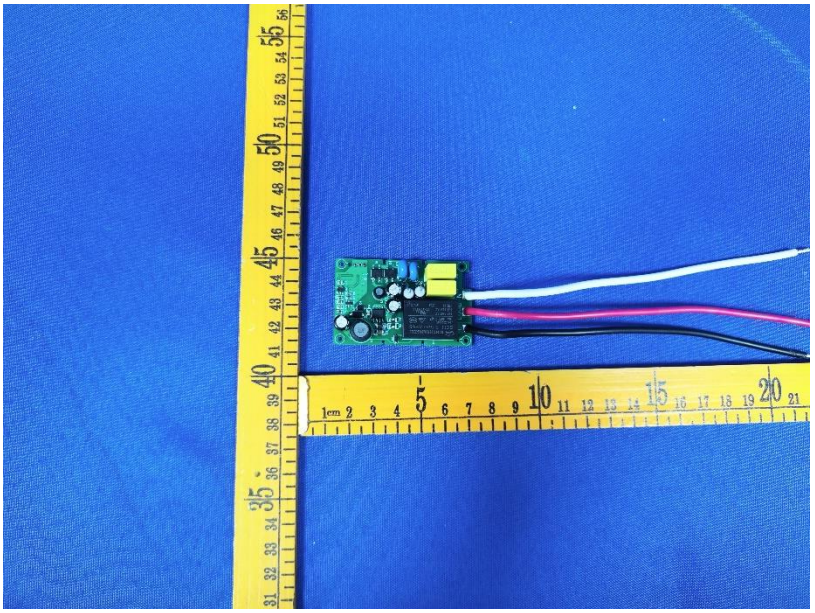
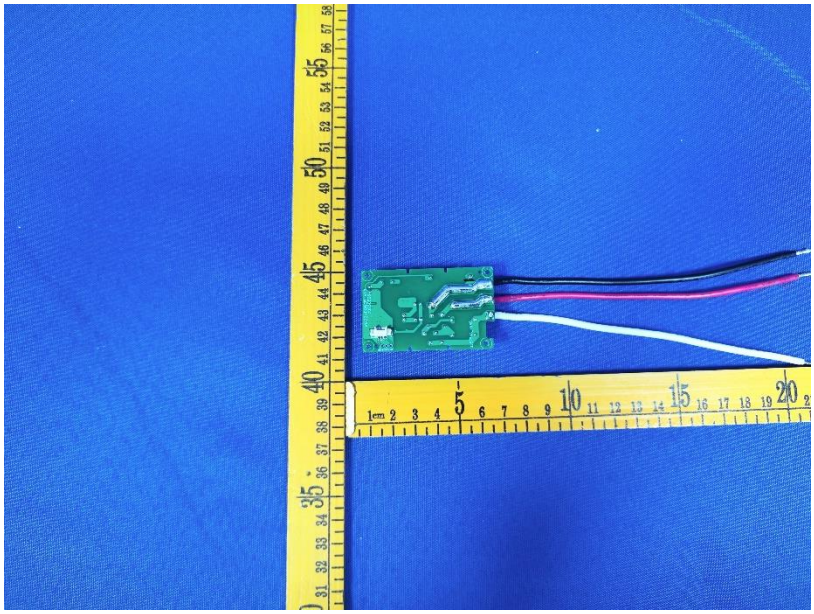
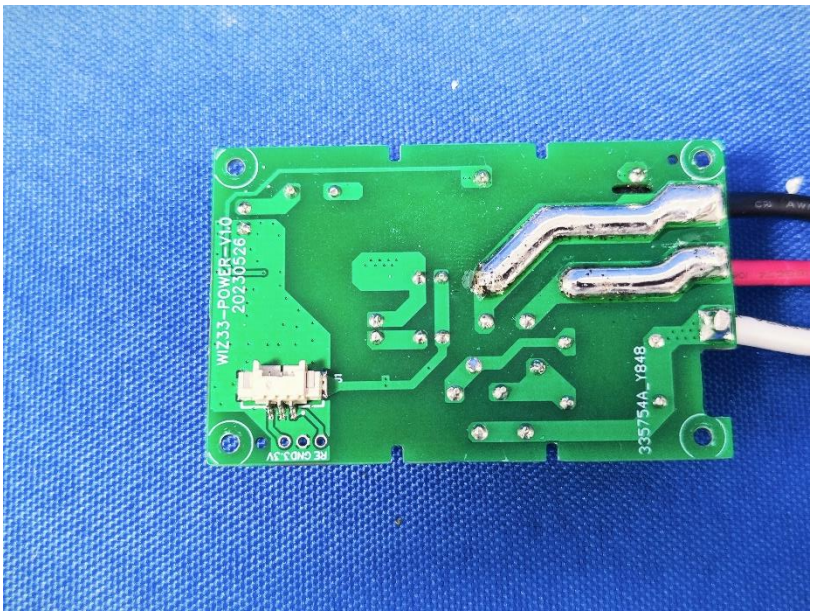
IO15
TXD
IO2
RXD
IO0
IO4
GND





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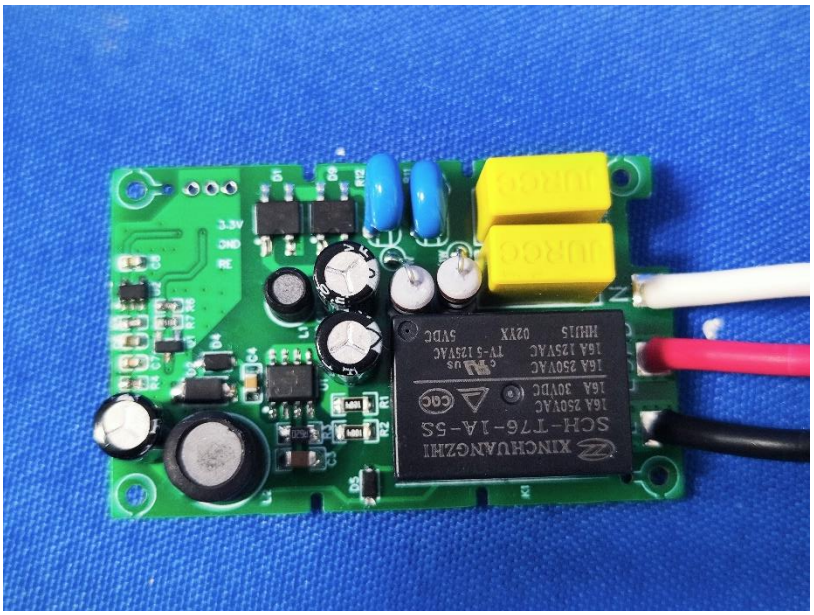

********THE END REPORT********