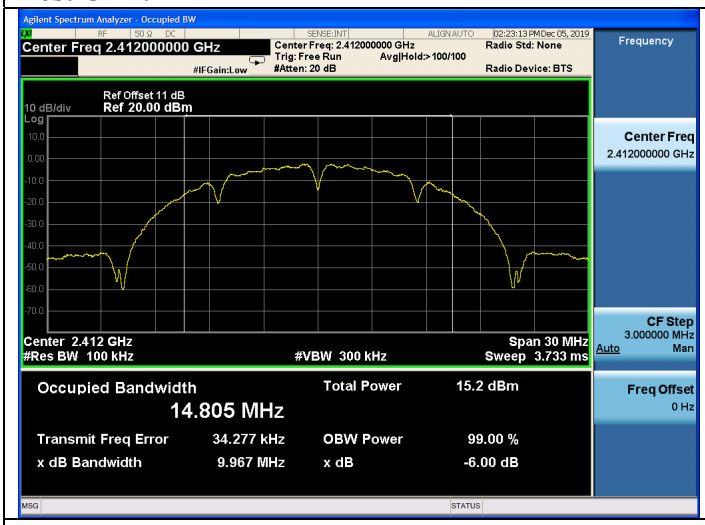
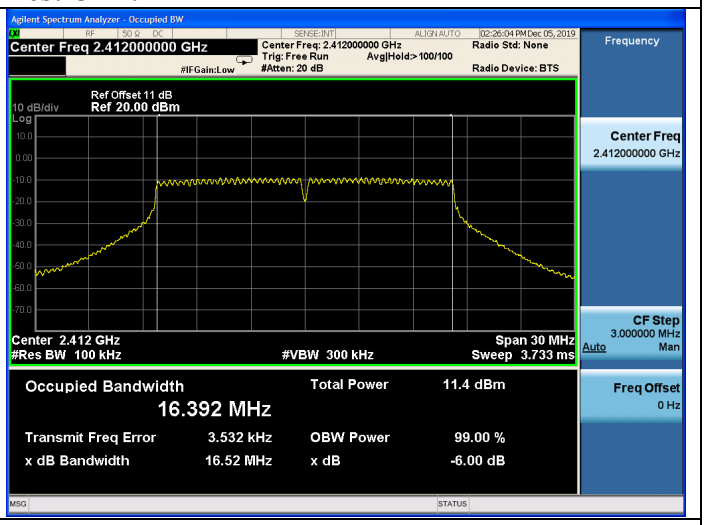
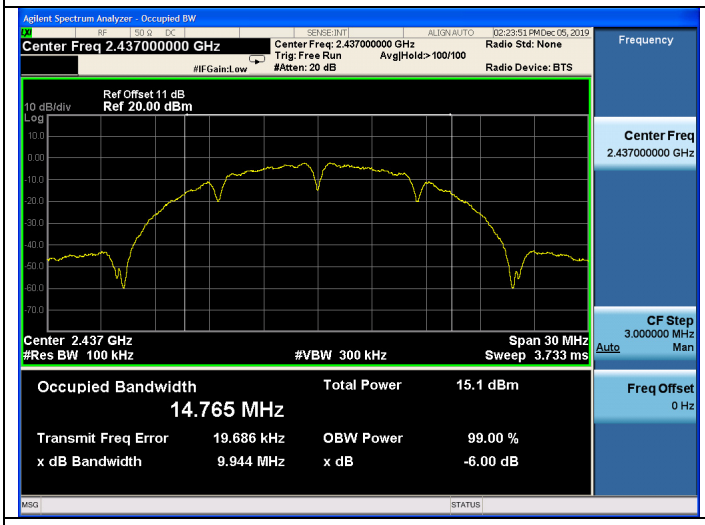
Test Mode: IEEE 802.11b
Test CH1: 2412MHz



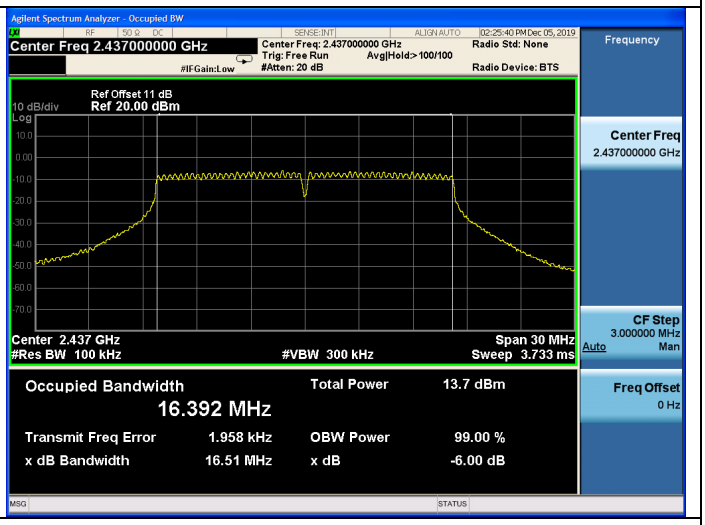
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



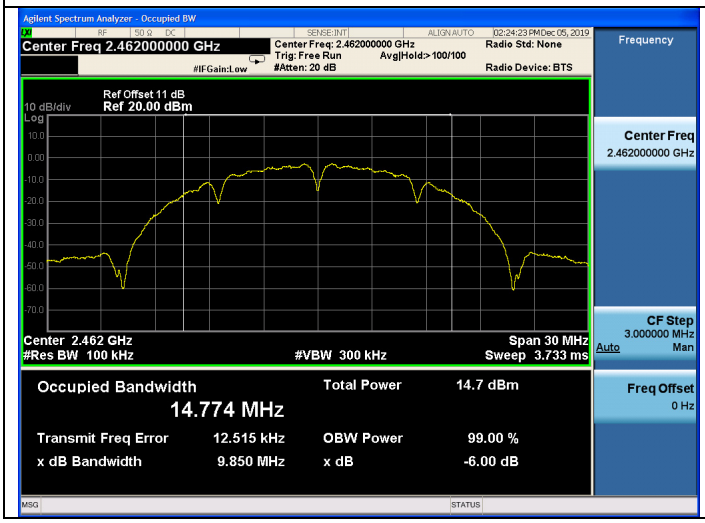
Test CH6: 2437MHz



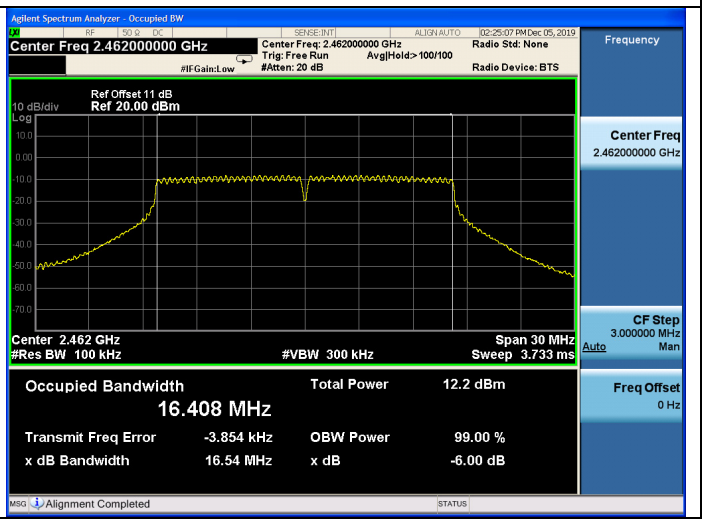
Test CH6: 2437MHz



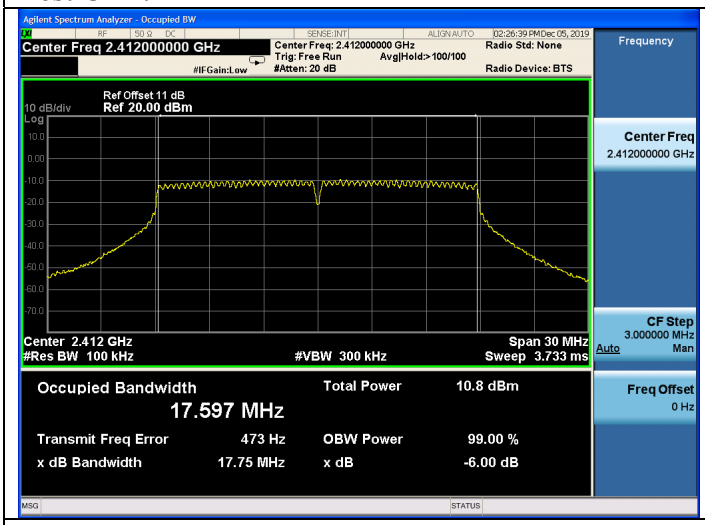
Test CH11: 2462MHz



Test CH11: 2462MHz

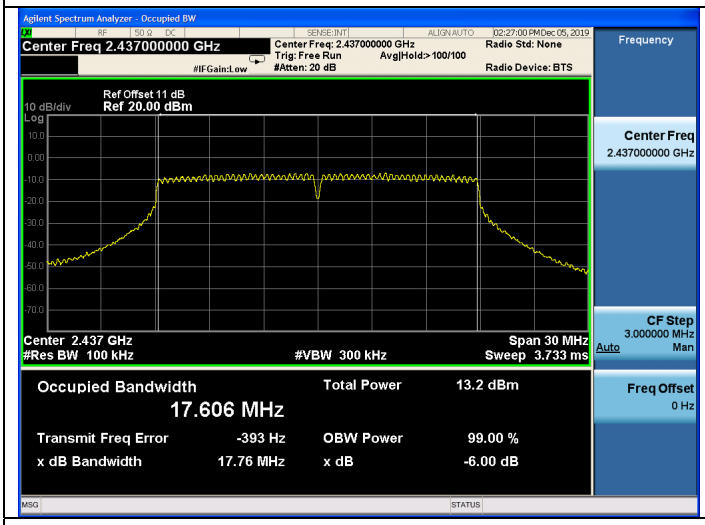


Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz

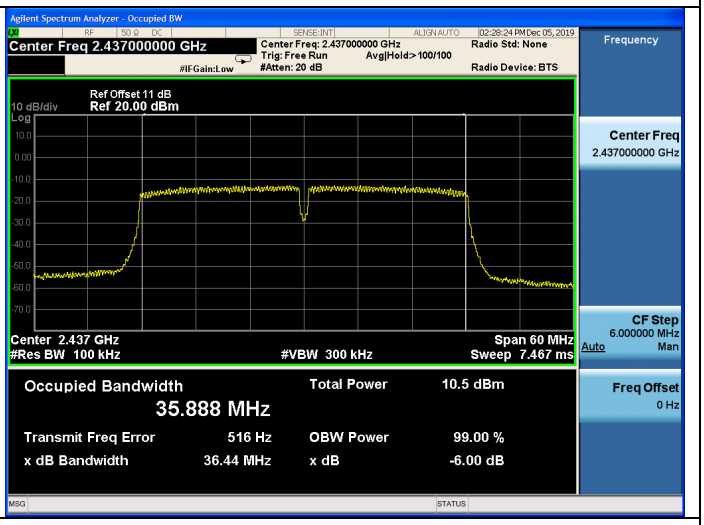


Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz

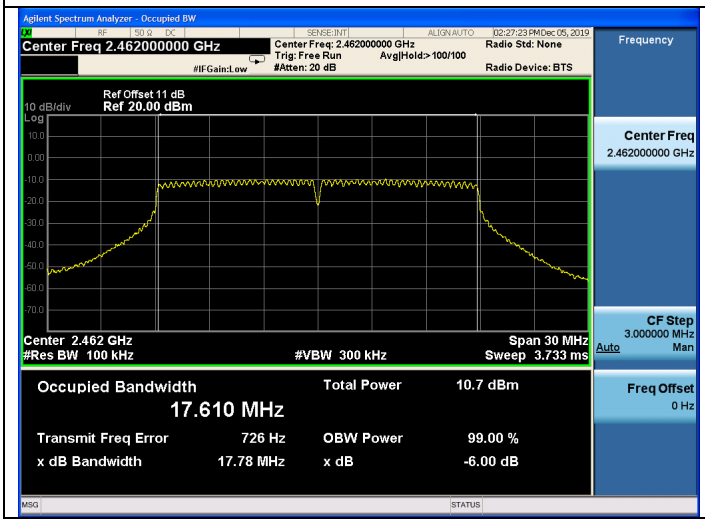
Test CH6: 2437MHz



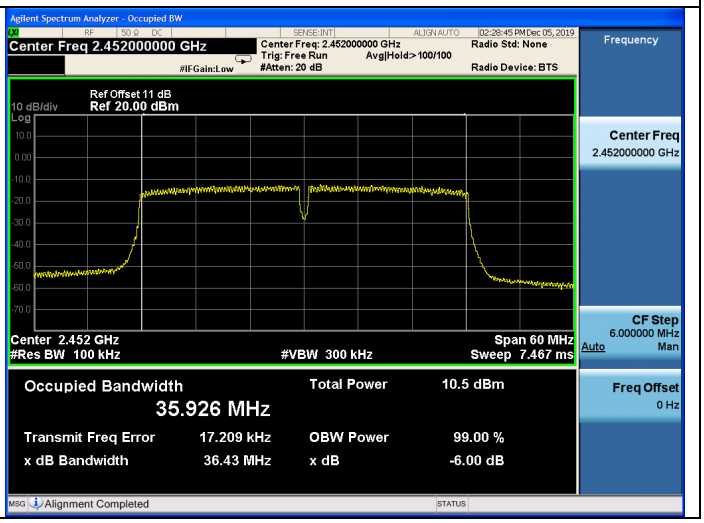
Test CH6: 2437MHz



Test CH11: 2462MHz



Test CH9: 2452MHz



8. OUTPUT POWER TEST

8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Jun.30,19	1 Year
2.	Power meter	HP	436A	2016A07891	Oct.13,19	1 Year
3.	Power sensor	Agilent	8482B	MY41090514	Oct.13,19	1 Year
4.	Attenuator	Agilent	8491B	MY39269201	Oct.13,19	1 Year
5.	RF Cable	EMCI	EMC102-KM-KM 3500	170702	May.13,19	1 Year

8.2.Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, The Peak output Power shall not exceed 1W(30dBm), 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. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level.

8.3.Test Procedure

1, Connected the EUT's antenna port to Spectrum Analyzer.

2, Use the test method descried in ANSI C63.10 clause 11.9.2.2.2:

1) Set span to at least 1.5 times the OBW.
2) Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
3) Set VBW ≥ [3 × RBW].
4) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.).
5) Sweep time = auto.
6) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
7) If transmit duty cycle < 98%, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at the maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle ≥ 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run.".
8) Trace average at least 100 traces in power averaging (rms) mode.
9) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

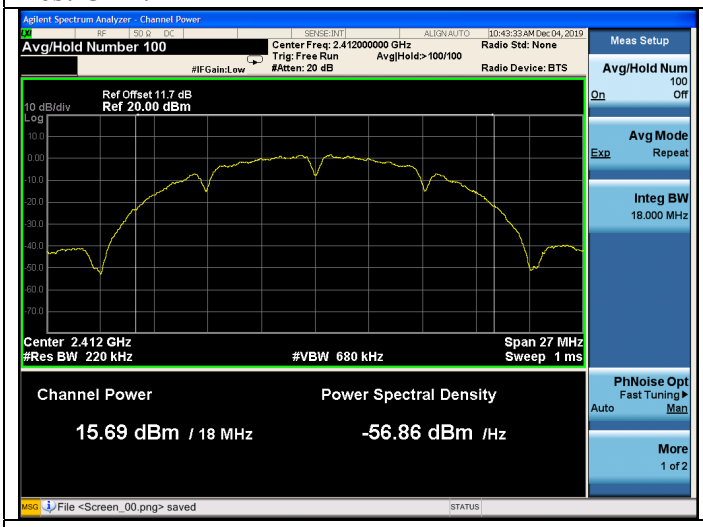
Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

8.4.Test Results

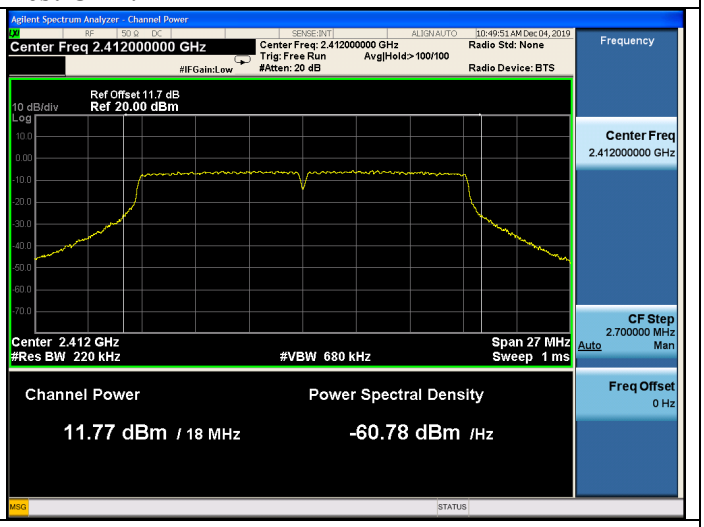
EUT: Smart Signboard		
M/N: IAD-18001		
Test date: 2019-12-04	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Allen	Test site: RF site	Temperature:22.8±0.6 ℃

Test Mode	CH	Output power (dBm)	Limit (dBm)
11b	CH1	15.69	30
	CH6	15.81	
	CH11	15.25	
11g	CH1	11.77	30
	CH6	13.56	
	CH11	11.80	
11n HT20	CH1	10.31	30
	CH6	13.09	
	CH11	10.80	
11n HT40	CH3	10.61	30
	CH6	10.32	
	CH9	10.44	
Conclusion：PASS			

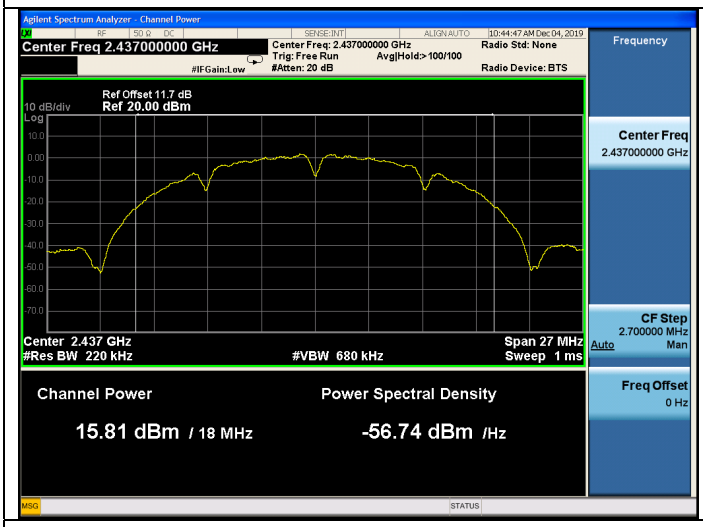
Test Mode: IEEE 802.11b
Test CH1: 2412MHz



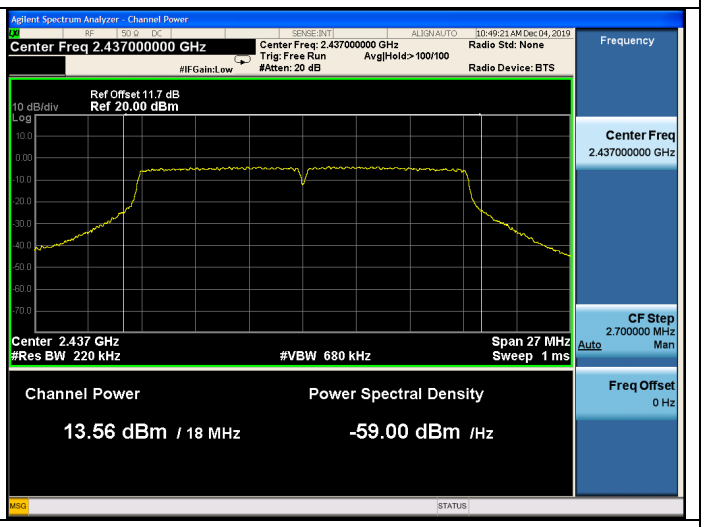
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



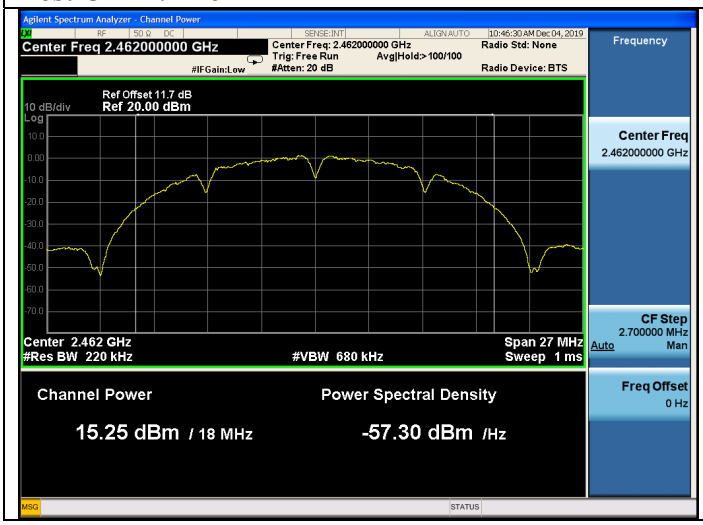
Test CH6: 2437MHz



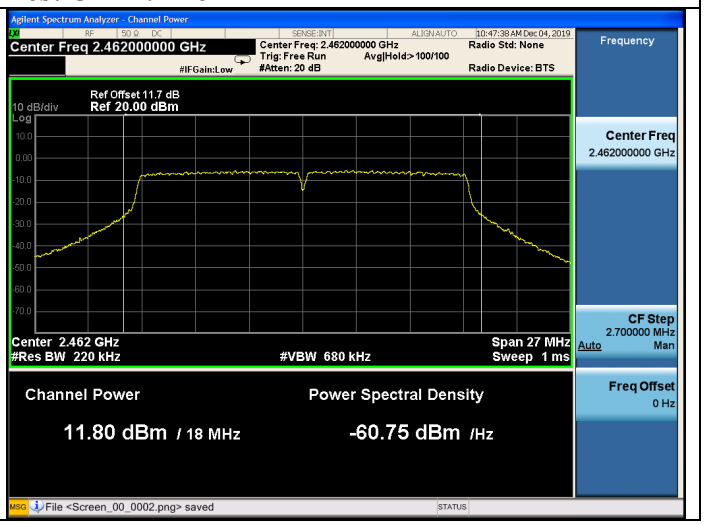
Test CH6: 2437MHz



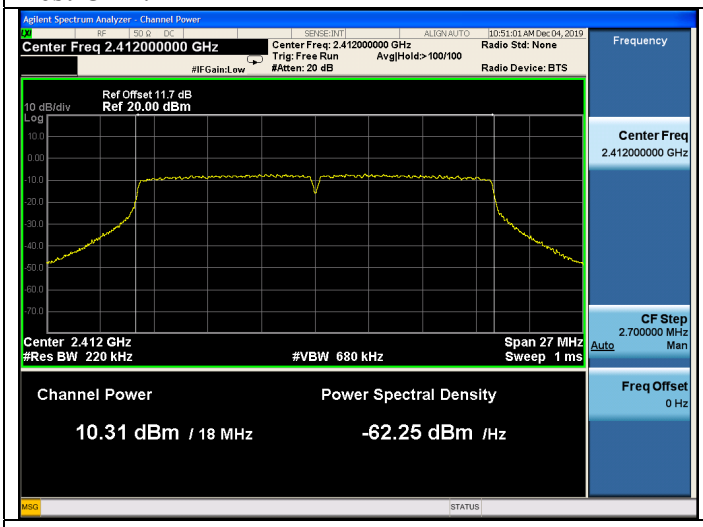
Test CH11: 2462MHz



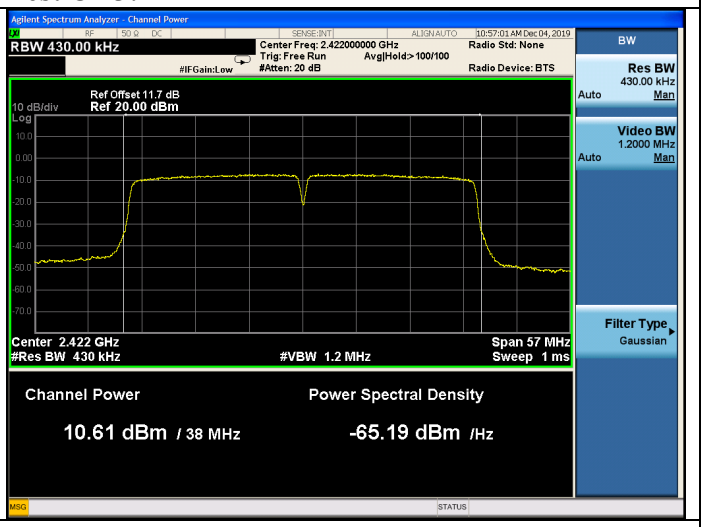
Test CH11: 2462MHz



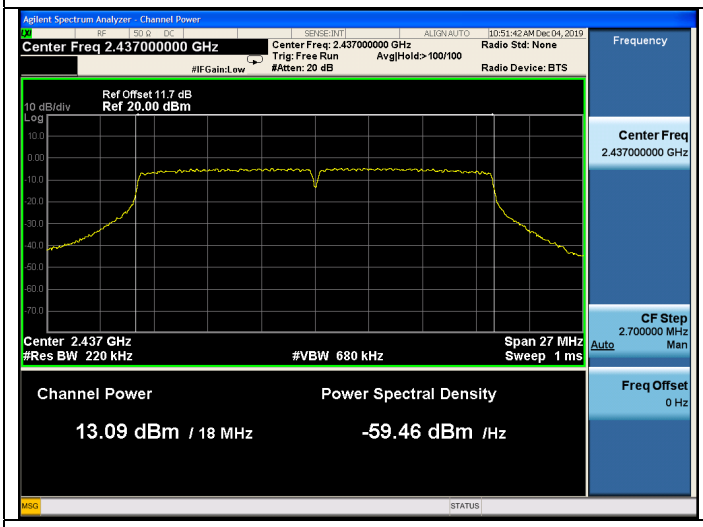
Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



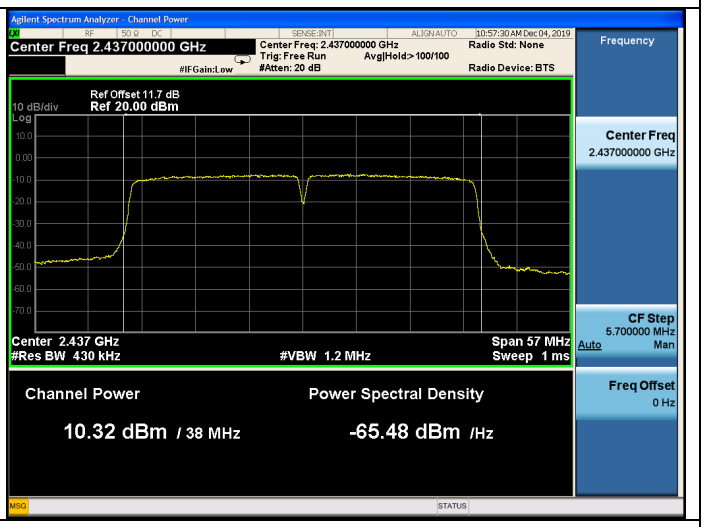
Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz



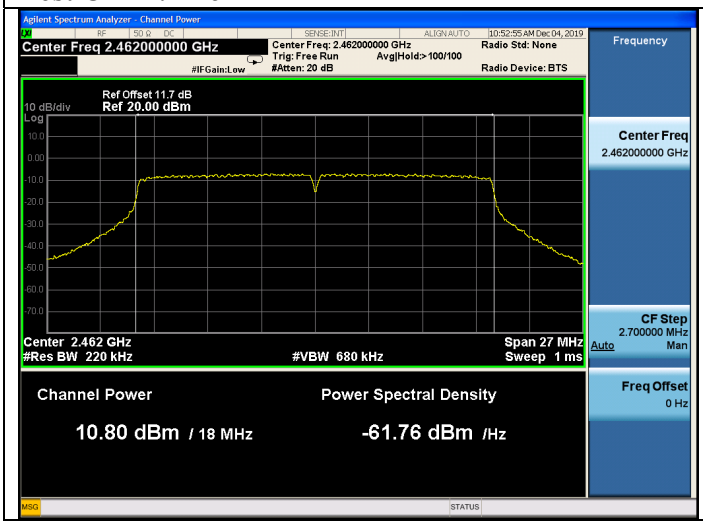
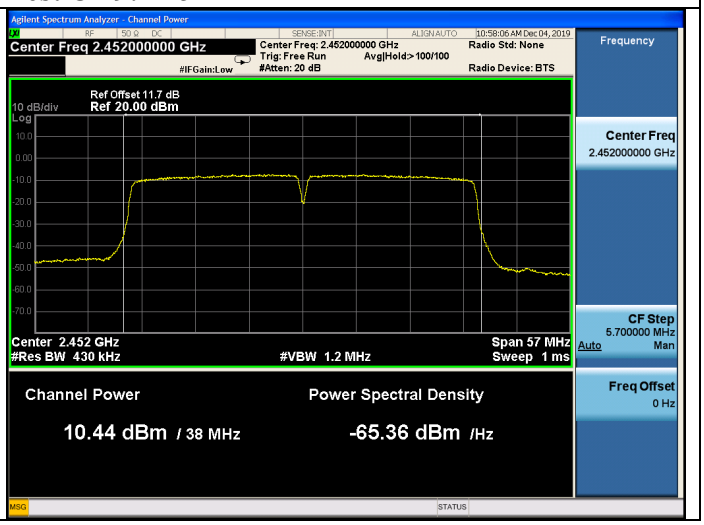
Test CH6: 2437MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



Test CH9: 2452MHz