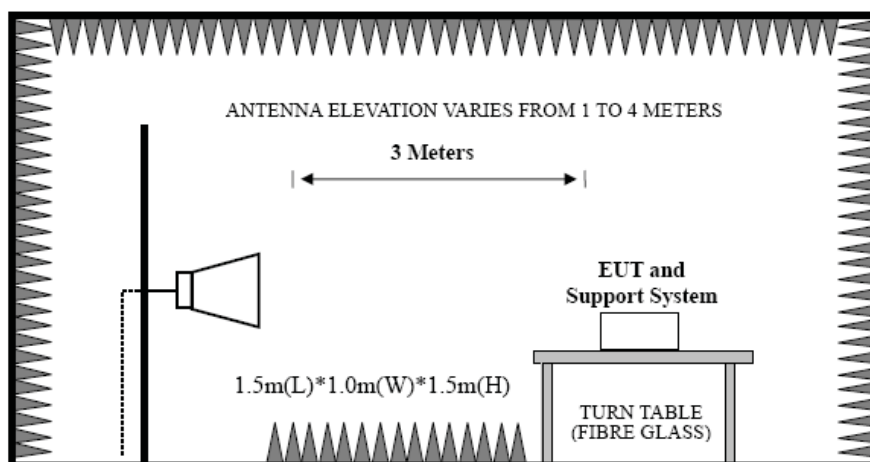


## 5 BAND EDGE COMPLIANCE TEST

### 5.1 Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits

### 5.2 Block Diagram of Test setup



### 5.3 Test Procedure

EUT was placed on a turn table, which is 1.5 m high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of emissions

Peak : RBW = 1MHz, VBW = 1MHz, Detector=PEAK detector, Sweep time = auto.

AV : RBW = 1MHz, VBW = 10Hz, Detector=PEAK detector, Sweep time = auto.

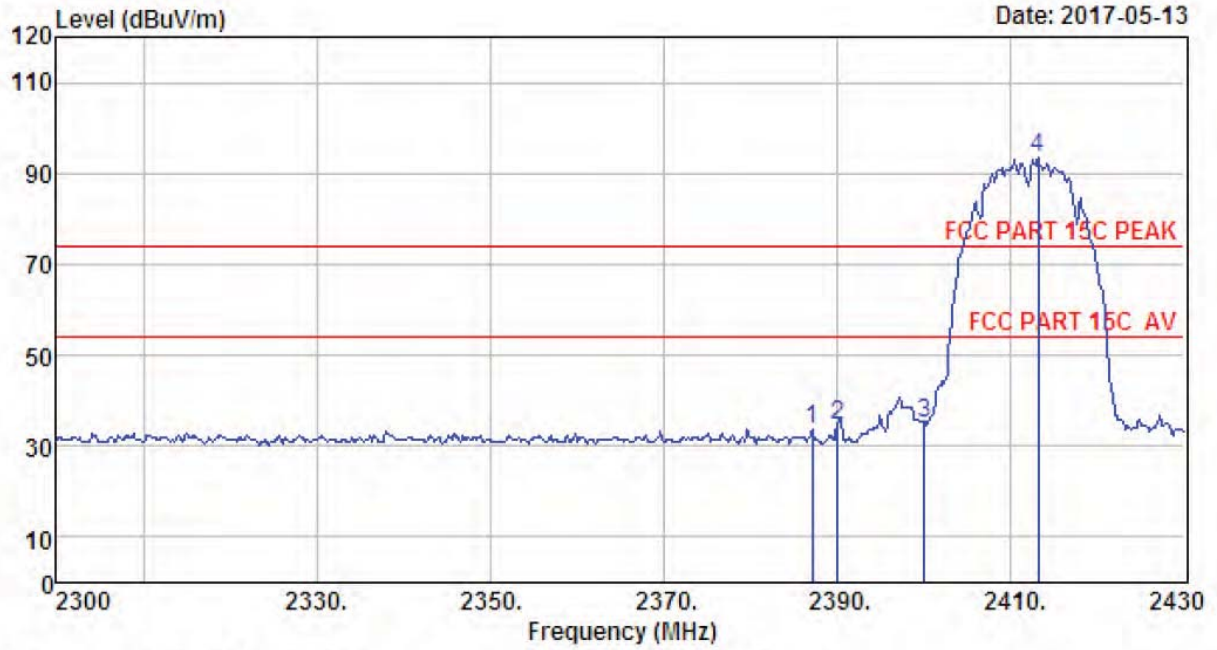
### 5.4 Test Result

Pass (The testing data was attached in the next pages.)

Note: 1、 For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

2、 The frequency 2412 MHz and 2462 MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

### 5.5 Test Data

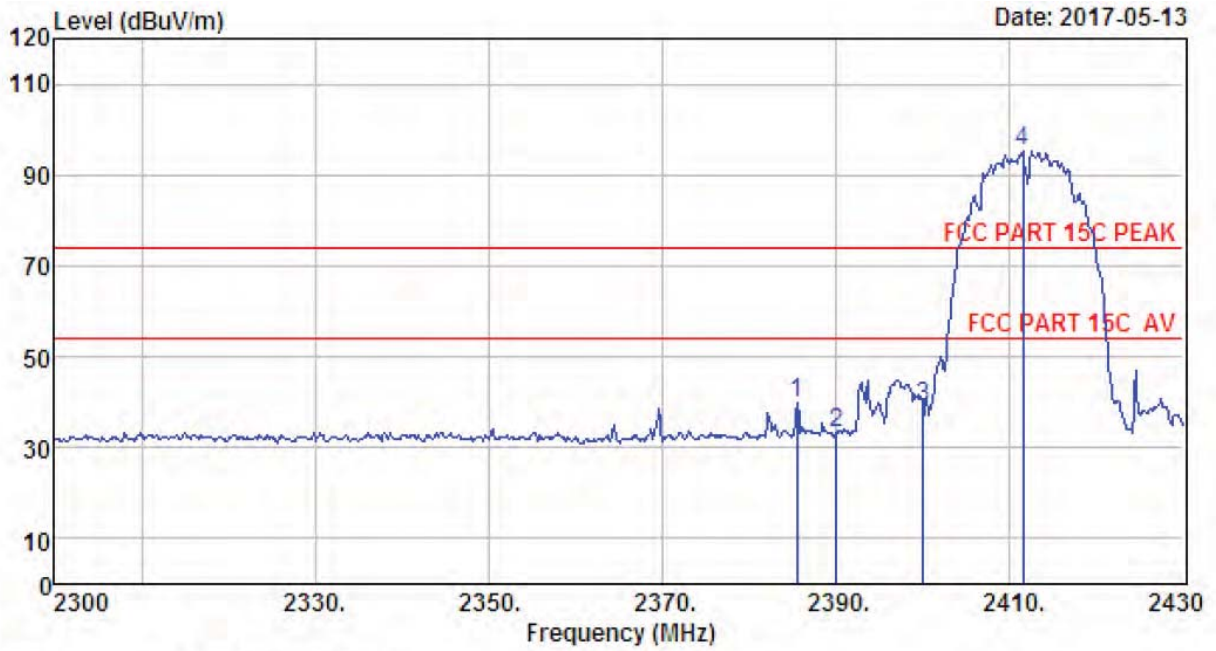


```

Site no.       : 1# 966 Chamber           Data no.  : 651
Dis. / Ant.   : 3m ANT 1-18G            Ant. pol. : HORIZONTAL
Limit         : FCC PART 15C PEAK
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Tony
EUT           : Audio Converter Box
Power         : DC 5V From Adapter Input AC 120V/60Hz
M/N          : BeoSound Core
Test Mode     : IEEE 802.11b CH1 2412TX
                Antenna a
    
```

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2387.10	27.64	6.62	34.62	34.17	33.81	74.00	40.19	Peak
2	2390.00	27.64	6.62	34.62	34.97	34.61	74.00	39.39	Peak
3	2400.00	27.61	6.62	34.64	35.25	34.84	74.00	39.16	Peak
4	2413.10	27.60	6.64	34.64	93.67	93.27	74.00	-19.27	Peak

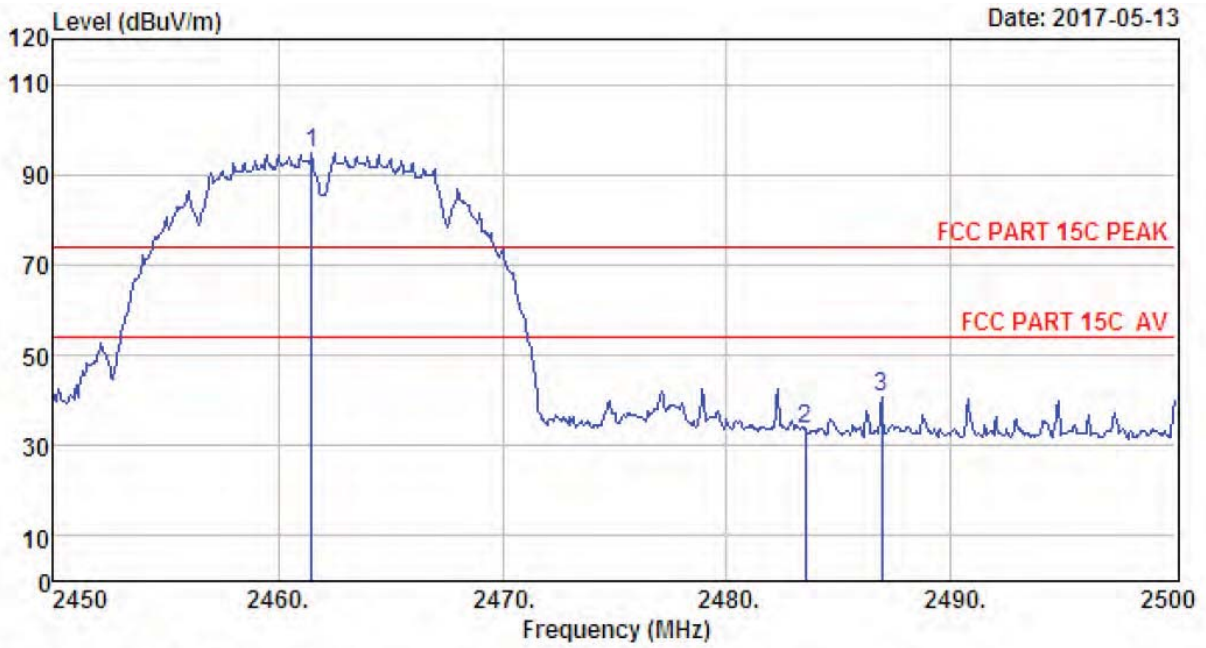
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 652  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11b CH1 2412TX  
             Antenna a

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2385.54	27.64	6.62	34.62	40.21	39.85	74.00	34.15	Peak
2	2390.00	27.64	6.62	34.62	33.40	33.04	74.00	40.96	Peak
3	2400.00	27.61	6.62	34.64	39.49	39.08	74.00	34.92	Peak
4	2411.54	27.60	6.64	34.64	95.45	95.05	74.00	-21.05	Peak

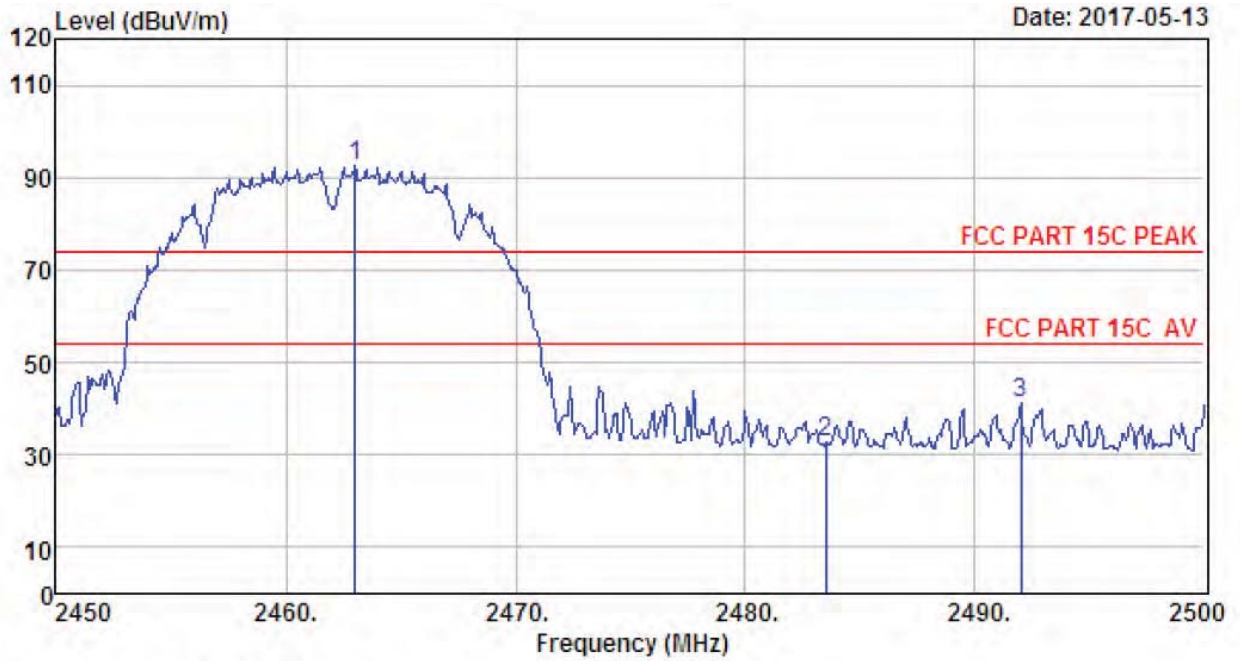
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 653  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11b CH11 2462TX  
 Antenna a

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.50	27.58	6.69	34.98	95.36	94.65	74.00	-20.65	Peak
2	2483.50	27.58	6.71	35.11	34.25	33.43	74.00	40.57	Peak
3	2486.90	27.58	6.71	35.11	41.38	40.56	74.00	33.44	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

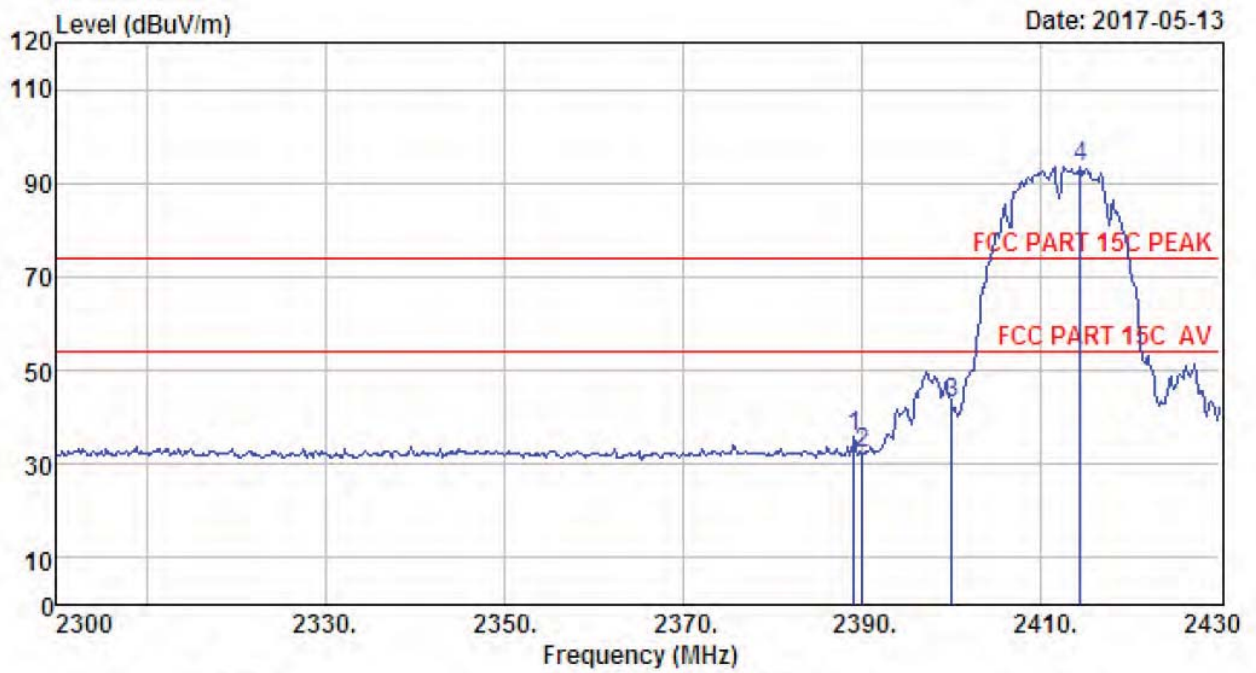


```

Site no.      : 1# 966 Chamber           Data no.   : 654
Dis. / Ant.  : 3m ANT 1-18G           Ant. pol.  : HORIZONTAL
Limit        : FCC PART 15C PEAK
Env. / Ins.  : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer     : Tony
EUT          : Audio Converter Box
Power        : DC 5V From Adapter Input AC 120V/60Hz
M/N         : BeoSound Core
Test Mode    : IEEE 802.11b CH11 2462TX
                Antenna a
    
```

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.00	27.58	6.69	34.98	93.09	92.38	74.00	-18.38	Peak
2	2483.50	27.58	6.71	35.11	33.70	32.88	74.00	41.12	Peak
3	2492.00	27.58	6.73	35.24	41.96	41.03	74.00	32.97	Peak

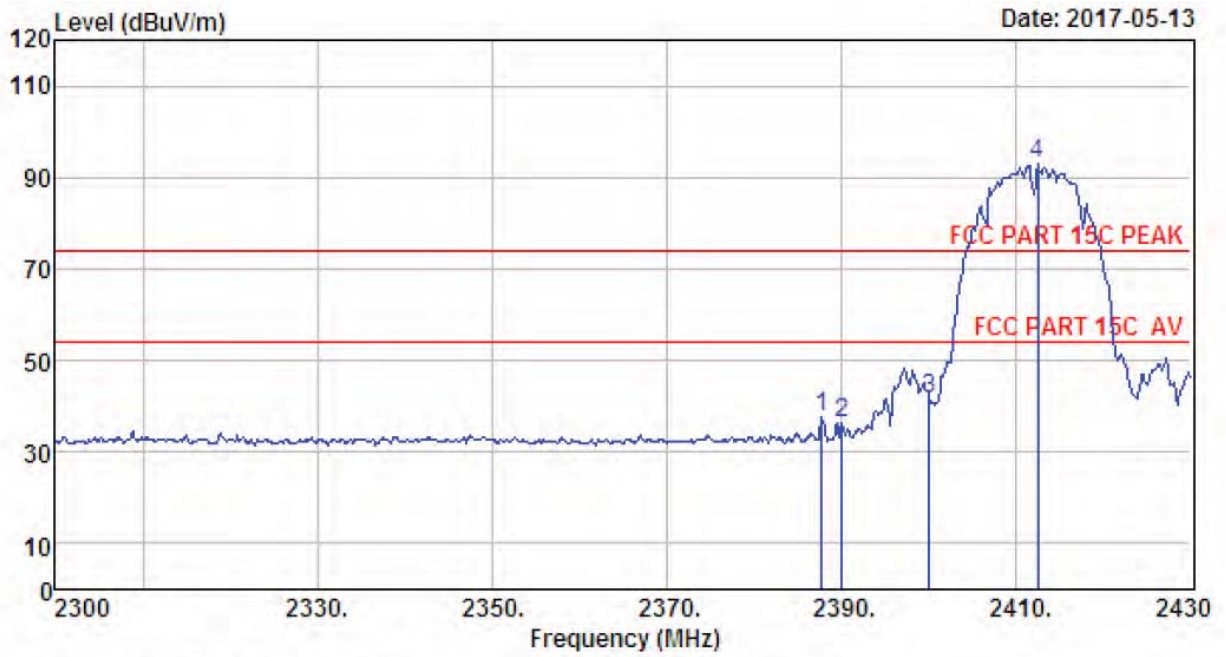
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 667  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11b CH1 2412TX  
 Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.05	27.64	6.62	34.62	36.03	35.67	74.00	38.33	Peak
2	2390.00	27.64	6.62	34.62	32.47	32.11	74.00	41.89	Peak
3	2400.00	27.61	6.62	34.64	43.40	42.99	74.00	31.01	Peak
4	2414.40	27.60	6.64	34.64	93.72	93.32	74.00	-19.32	Peak

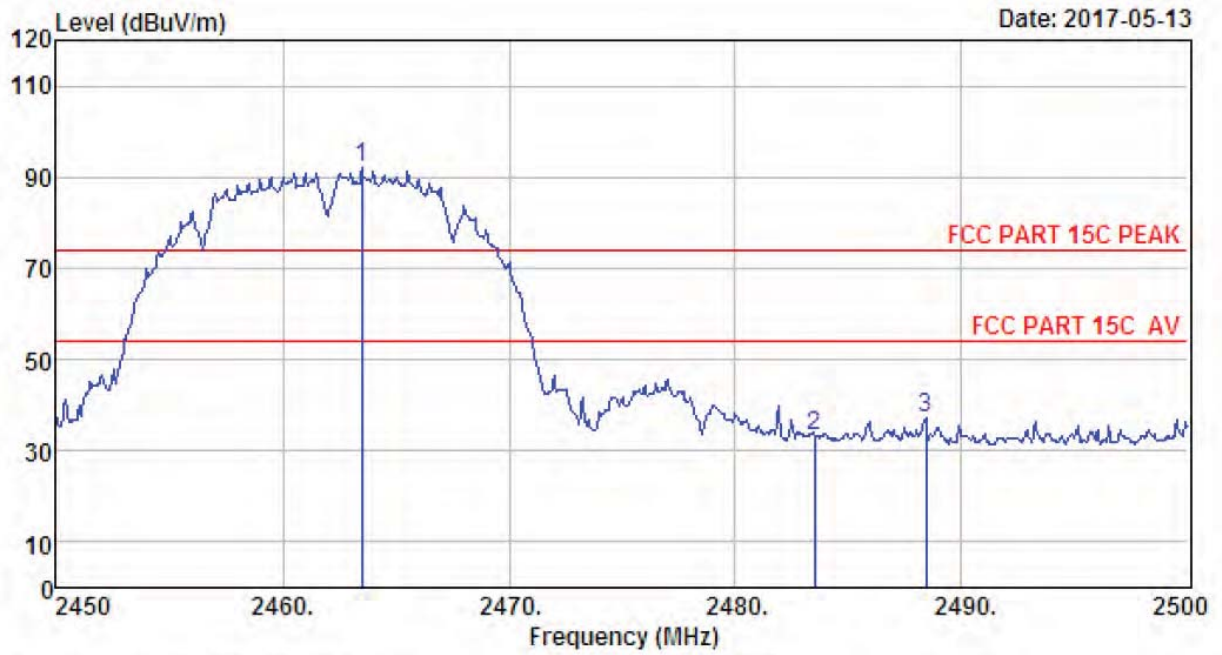
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 668  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11b CH1 2412TX  
               Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2387.75	27.64	6.62	34.62	38.17	37.81	74.00	36.19	Peak
2	2390.00	27.64	6.62	34.62	36.63	36.27	74.00	37.73	Peak
3	2400.00	27.61	6.62	34.64	42.22	41.81	74.00	32.19	Peak
4	2412.45	27.60	6.64	34.64	93.21	92.81	74.00	-18.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

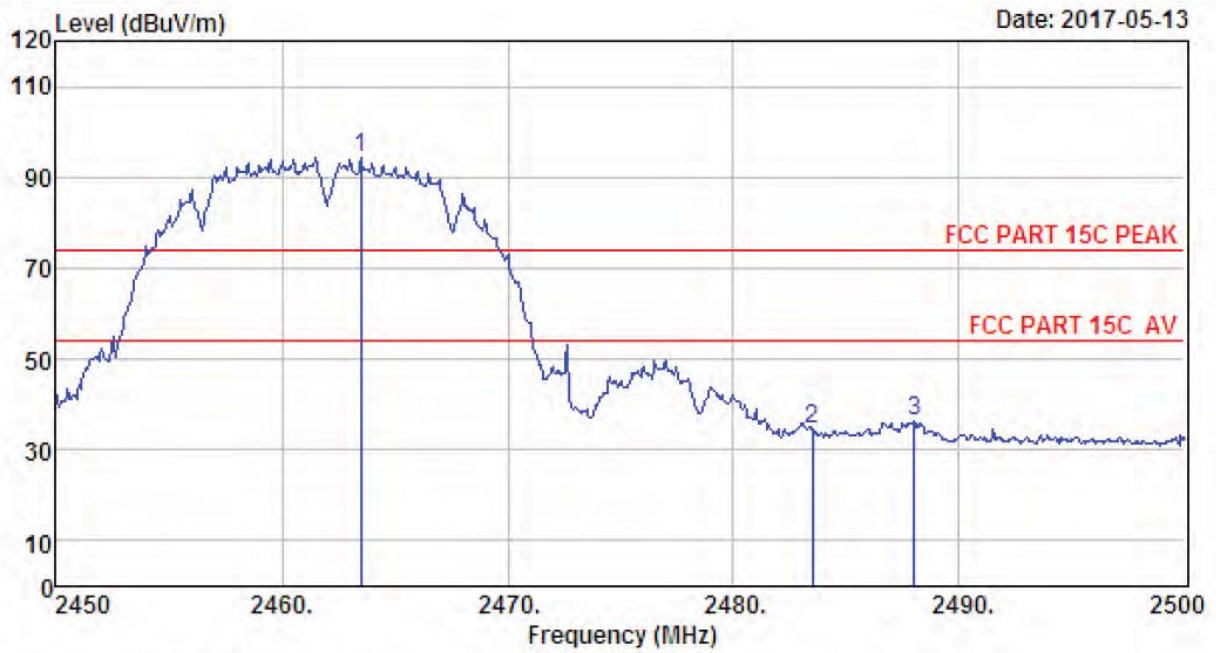


Site no. : 1# 966 Chamber Data no. : 669  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11b CH11 2462TX  
 Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.50	27.58	6.69	34.98	92.68	91.97	74.00	-17.97	Peak
2	2483.50	27.58	6.71	35.11	34.01	33.19	74.00	40.81	Peak
3	2488.40	27.58	6.73	35.11	38.15	37.35	74.00	36.65	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

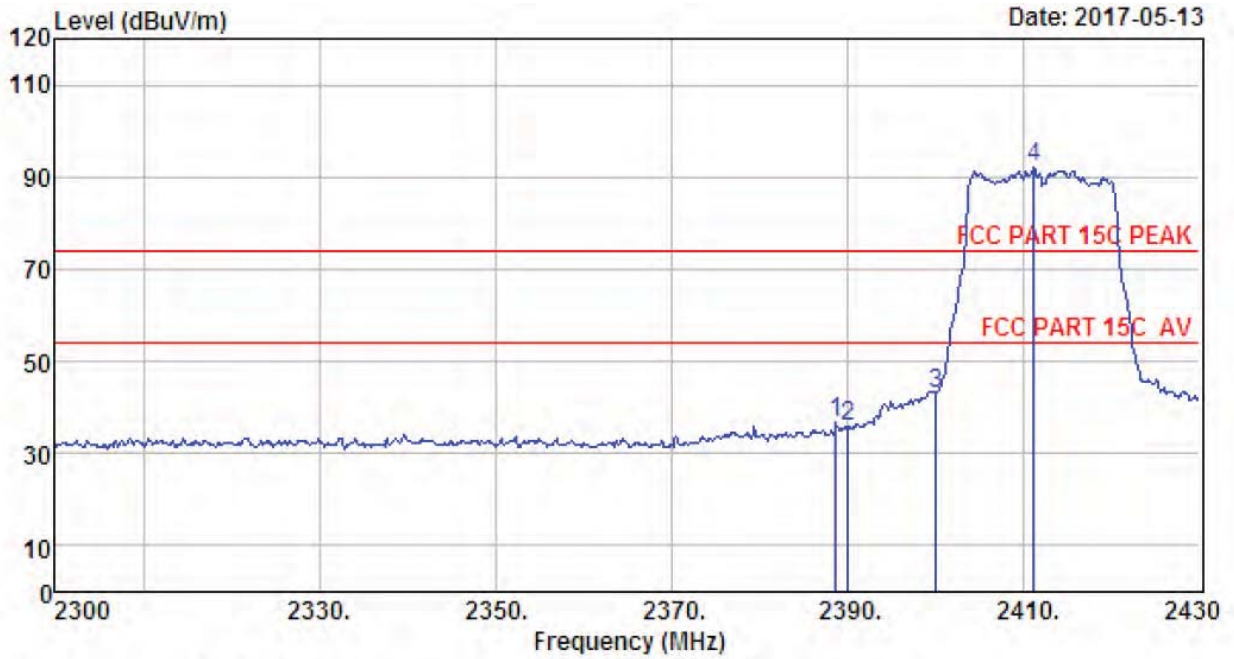




Site no. : 1# 966 Chamber Data no. : 670  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11b CH11 2462TX  
 Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2463.50	27.58	6.69	34.98	94.93	94.22	74.00	-20.22	Peak
2	2483.50	27.58	6.71	35.11	35.28	34.46	74.00	39.54	Peak
3	2488.00	27.58	6.73	35.11	37.26	36.46	74.00	37.54	Peak

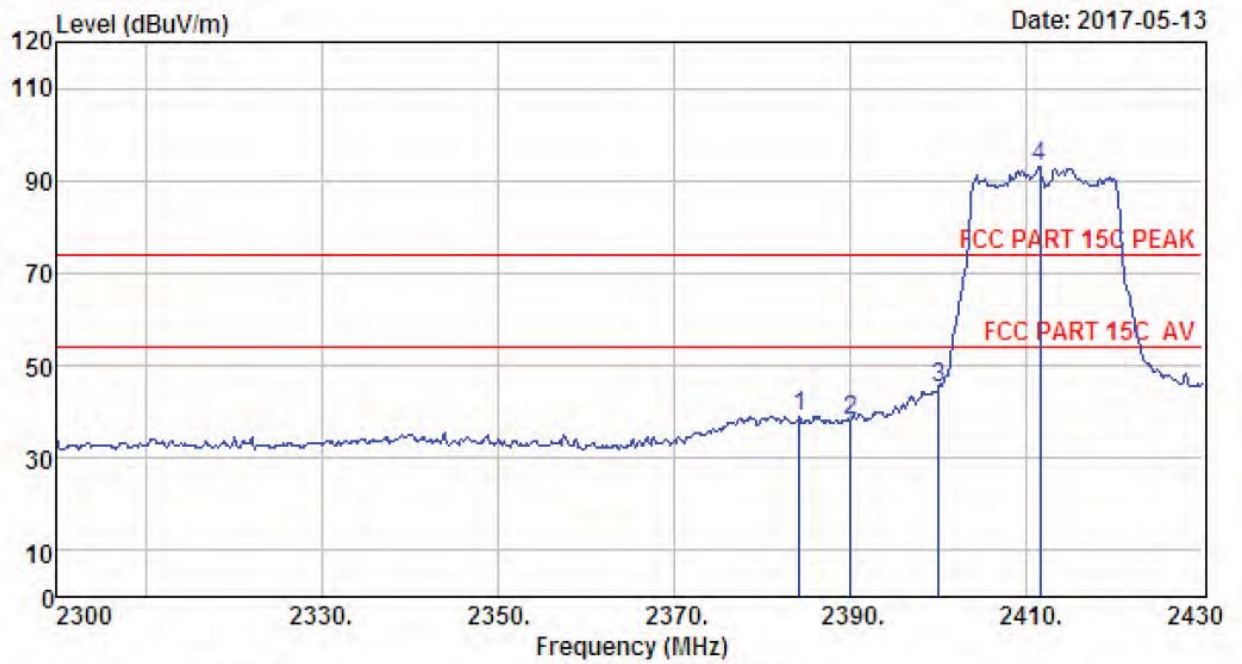
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 655  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH1 2412TX  
                   Antenna a

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.66	27.64	6.62	34.62	36.90	36.54	74.00	37.46	Peak
2	2390.00	27.64	6.62	34.62	36.15	35.79	74.00	38.21	Peak
3	2400.00	27.61	6.62	34.64	43.26	42.85	74.00	31.15	Peak
4	2411.15	27.60	6.64	34.64	92.65	92.25	74.00	-18.25	Peak

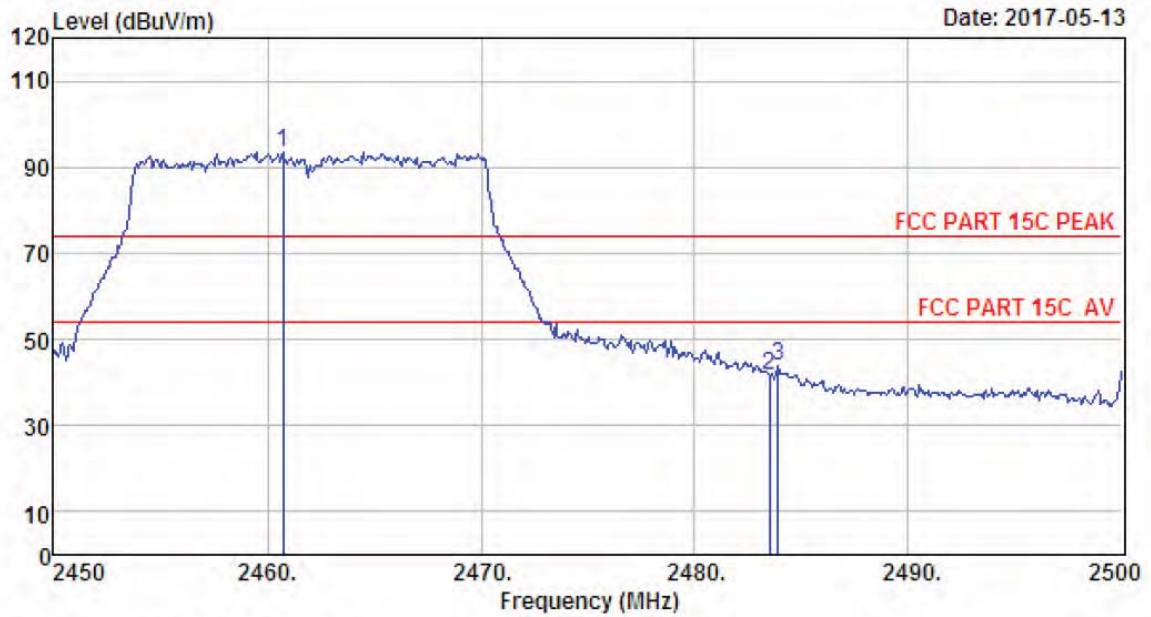
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 656  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH1 2412TX  
 Antenna a

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2384.24	27.64	6.60	34.62	39.51	39.13	74.00	34.87	Peak
2	2390.00	27.64	6.62	34.62	38.29	37.93	74.00	36.07	Peak
3	2400.00	27.61	6.62	34.64	45.60	45.19	74.00	28.81	Peak
4	2411.54	27.60	6.64	34.64	93.56	93.16	74.00	-19.16	Peak

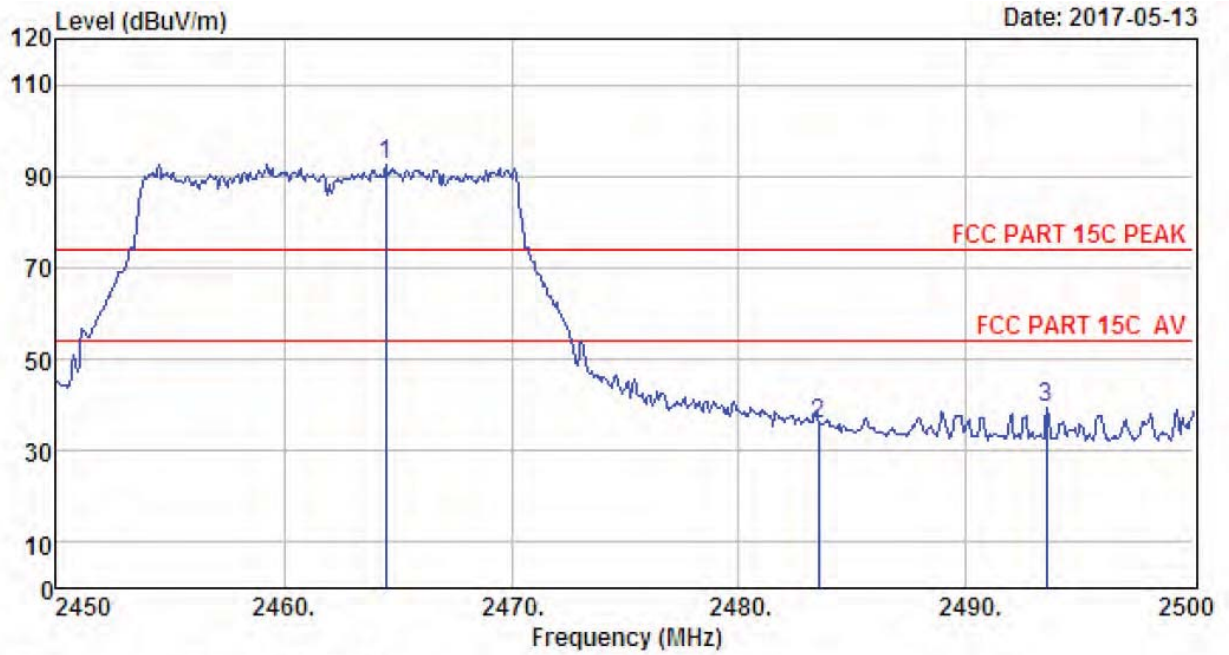
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 657  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH11 2462TX  
                   Antenna a

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2460.75	27.58	6.69	34.98	94.29	93.58	74.00	-19.58	Peak
2	2483.50	27.58	6.71	35.11	42.41	41.59	74.00	32.41	Peak
3	2483.90	27.58	6.71	35.11	44.88	44.06	74.00	29.94	Peak

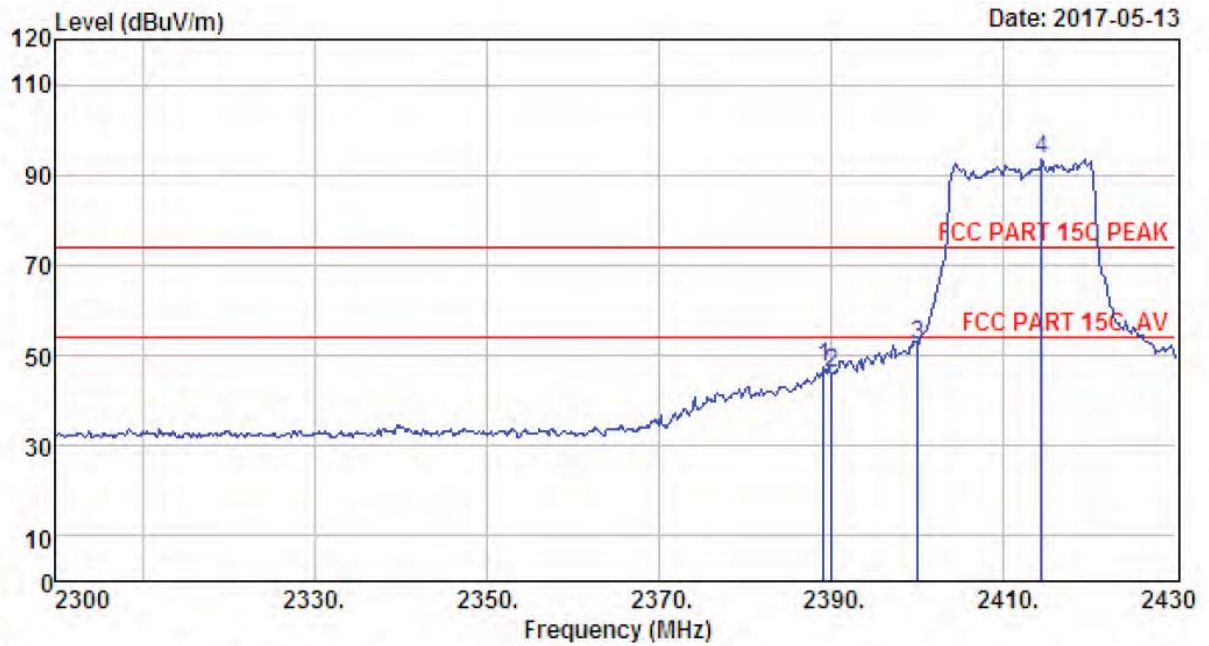
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 658  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH11 2462TX  
           Antenna a

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2464.50	27.58	6.69	34.98	93.24	92.53	74.00	-18.53	Peak
2	2483.50	27.58	6.71	35.11	36.52	35.70	74.00	38.30	Peak
3	2493.50	27.58	6.73	35.24	40.38	39.45	74.00	34.55	Peak

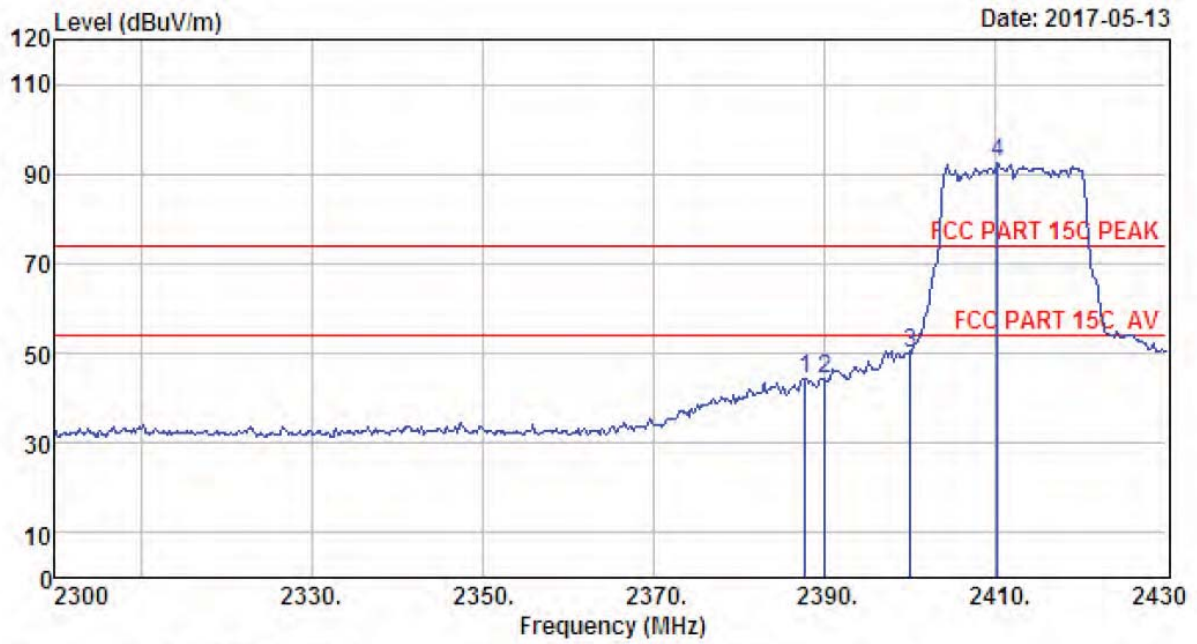
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 671  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH1 2412TX  
                   Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.05	27.64	6.62	34.62	47.79	47.43	74.00	26.57	Peak
2	2390.00	27.64	6.62	34.62	46.56	46.20	74.00	27.80	Peak
3	2400.00	27.61	6.62	34.64	52.81	52.40	74.00	21.60	Peak
4	2414.40	27.60	6.64	34.64	93.91	93.51	74.00	-19.51	Peak

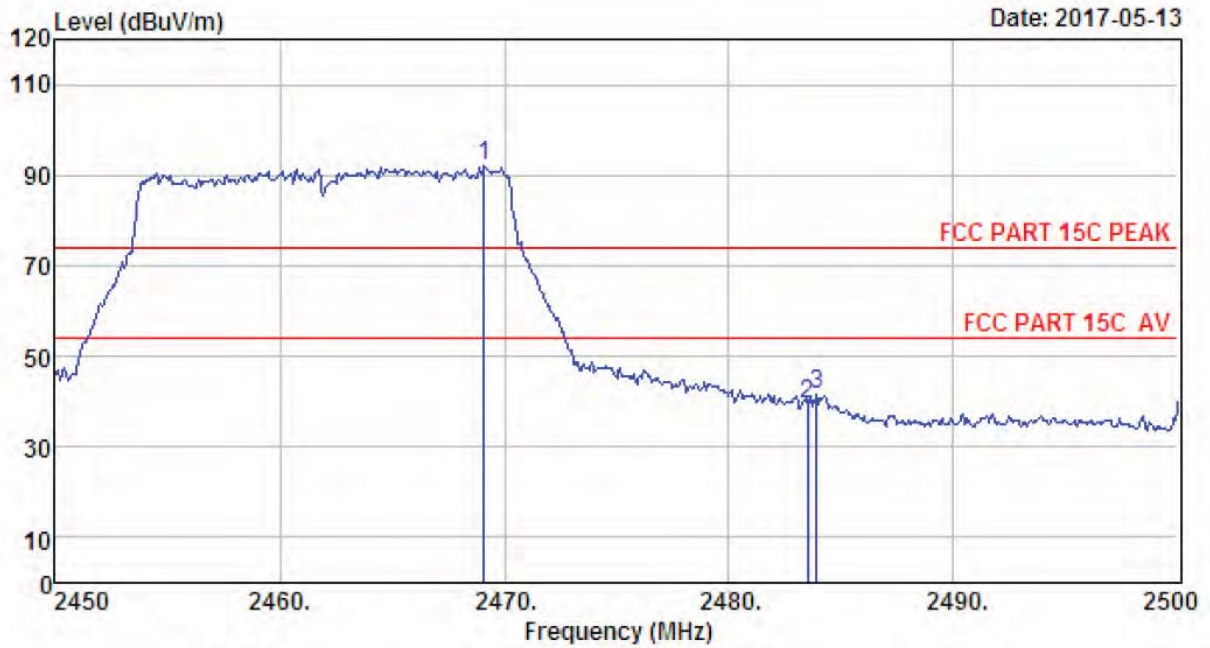
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 672  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH1 2412TX  
                   Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2387.75	27.64	6.62	34.62	44.81	44.45	74.00	29.55	Peak
2	2390.00	27.64	6.62	34.62	44.46	44.10	74.00	29.90	Peak
3	2400.00	27.61	6.62	34.64	50.57	50.16	74.00	23.84	Peak
4	2410.24	27.60	6.64	34.64	93.03	92.63	74.00	-18.63	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

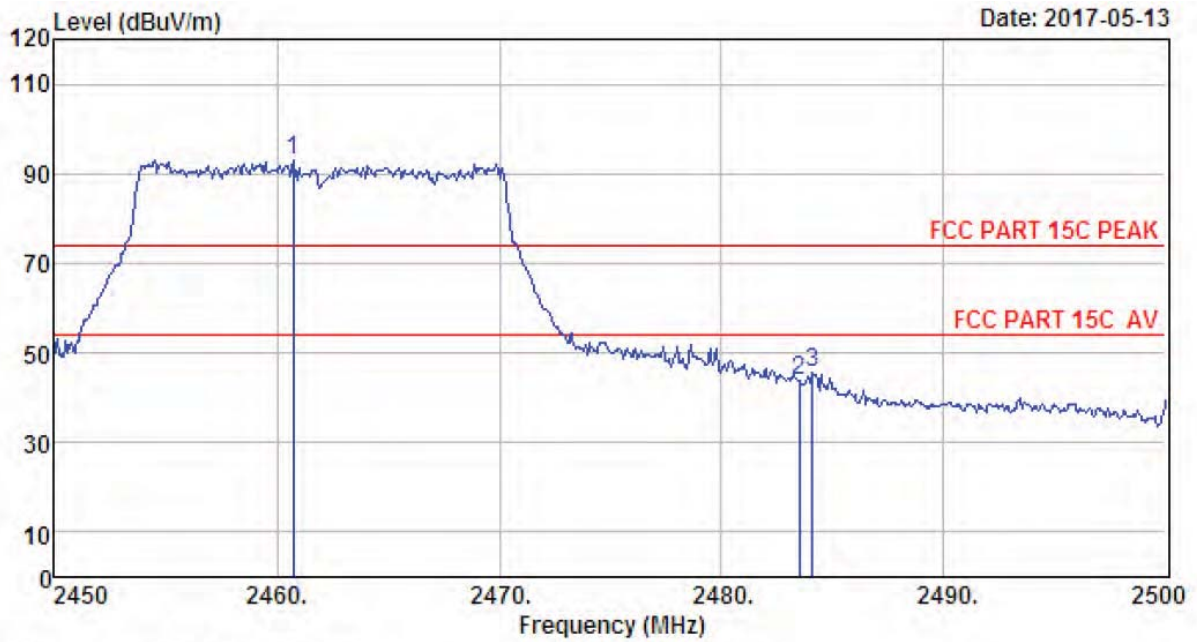


Site no. : 1# 966 Chamber Data no. : 673  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH11 2462TX  
 Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2469.10	27.58	6.69	34.98	92.73	92.02	74.00	-18.02	Peak
2	2483.50	27.58	6.71	35.11	40.37	39.55	74.00	34.45	Peak
3	2483.90	27.58	6.71	35.11	42.34	41.52	74.00	32.48	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

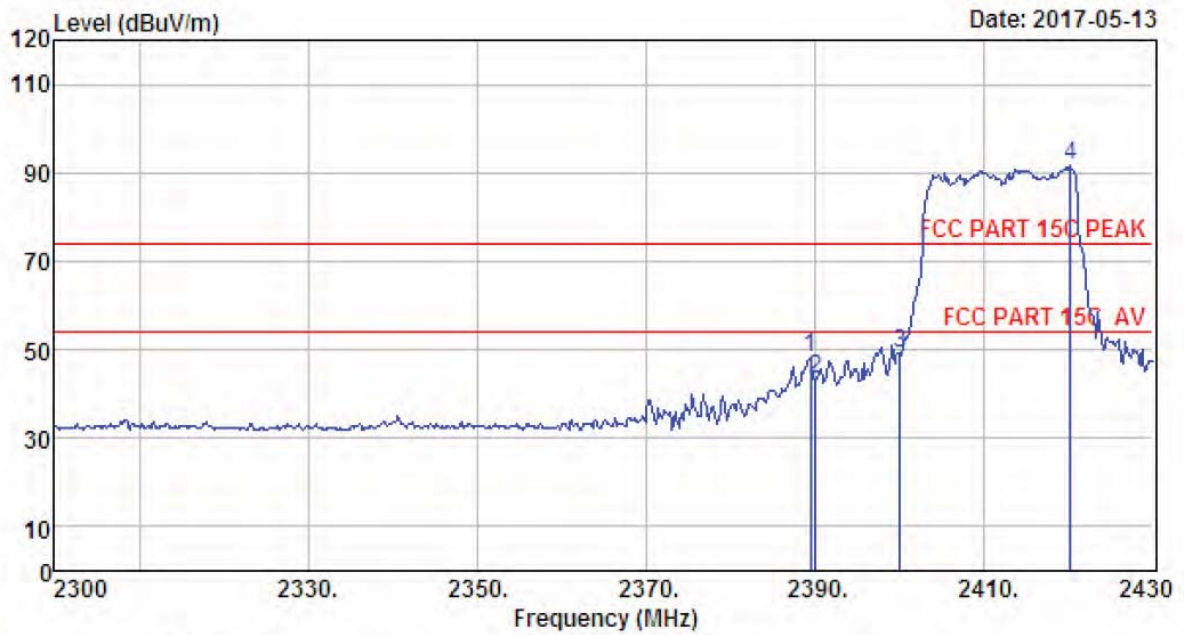




Site no. : 1# 966 Chamber Data no. : 674  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11g CH11 2462TX  
 Antenna b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.75	27.58	6.69	34.98	93.64	92.93	74.00	-18.93	Peak
2	2483.50	27.58	6.71	35.11	44.78	43.96	74.00	30.04	Peak
3	2484.10	27.58	6.71	35.11	46.30	45.48	74.00	28.52	Peak

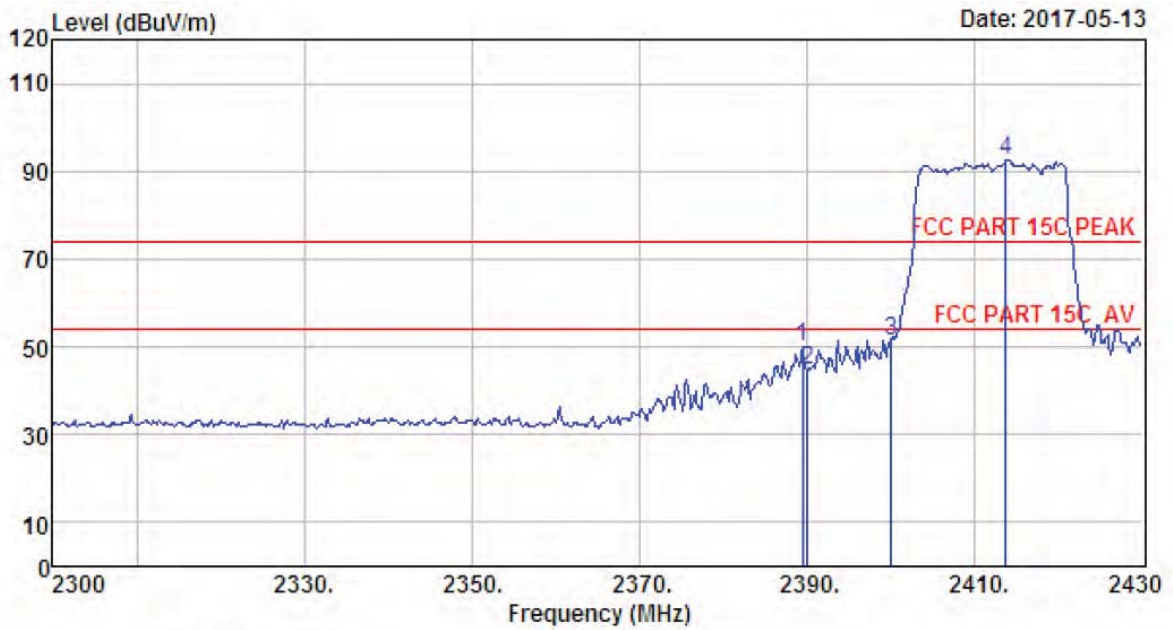
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 659  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HI20 CH1 2412TX  
                   Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.44	27.64	6.62	34.62	48.63	48.27	74.00	25.73	Peak
2	2390.00	27.64	6.62	34.62	43.58	43.22	74.00	30.78	Peak
3	2400.00	27.61	6.62	34.64	49.46	49.05	74.00	24.95	Peak
4	2420.25	27.60	6.66	34.74	91.96	91.48	74.00	-17.48	Peak

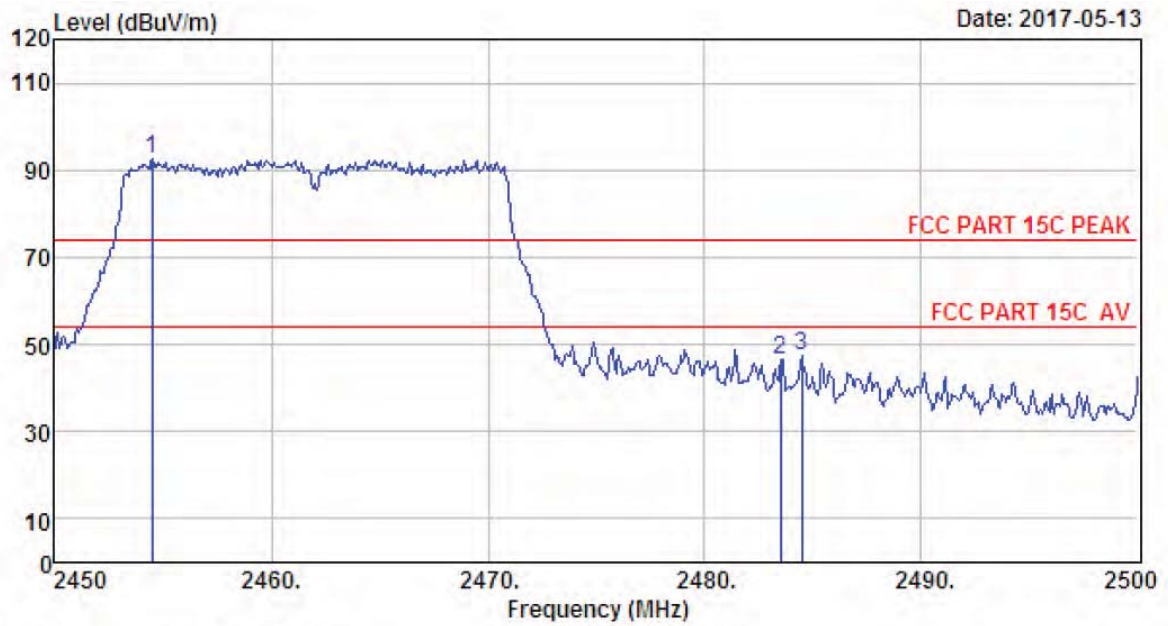
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 660  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HT20 CH1 2412TX  
                   Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2389.44	27.64	6.62	34.62	50.40	50.04	74.00	23.96	Peak
2	2390.00	27.64	6.62	34.62	45.14	44.78	74.00	29.22	Peak
3	2400.00	27.61	6.62	34.64	51.75	51.34	74.00	22.66	Peak
4	2413.75	27.60	6.64	34.64	92.89	92.49	74.00	-18.49	Peak

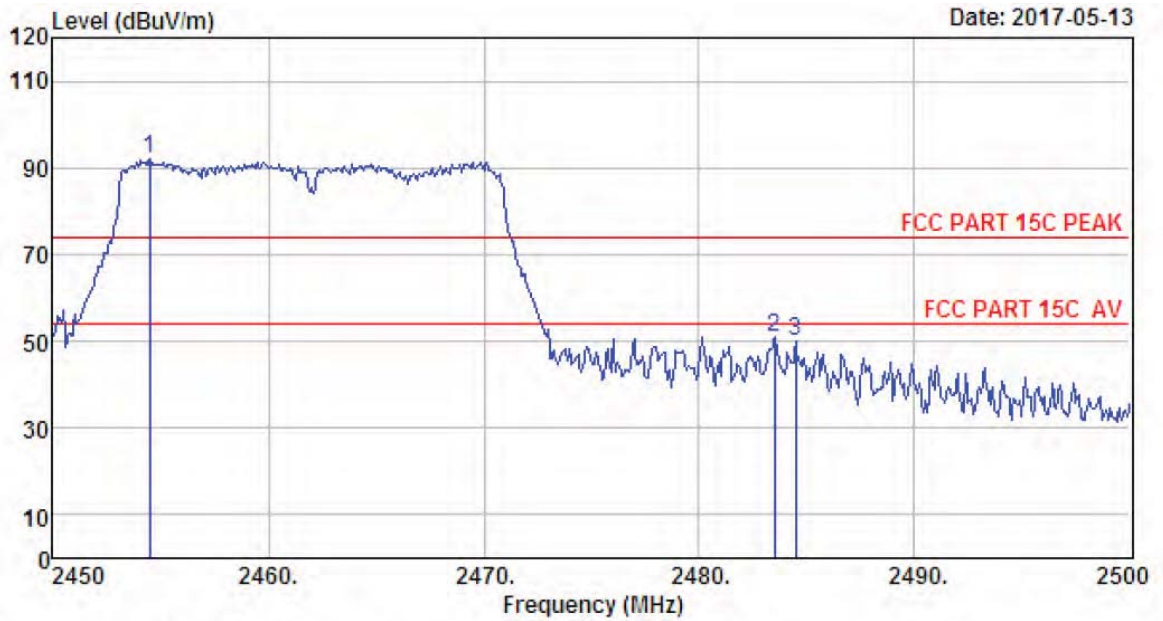
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 661  
 Dis. / Ant. : 3m ANTI 1-18G                      Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HT20 CH11 2462TX  
                     Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2454.50	27.59	6.69	34.98	93.42	92.72	74.00	-18.72	Peak
2	2483.50	27.58	6.71	35.11	47.52	46.70	74.00	27.30	Peak
3	2484.50	27.58	6.71	35.11	48.42	47.60	74.00	26.40	Peak

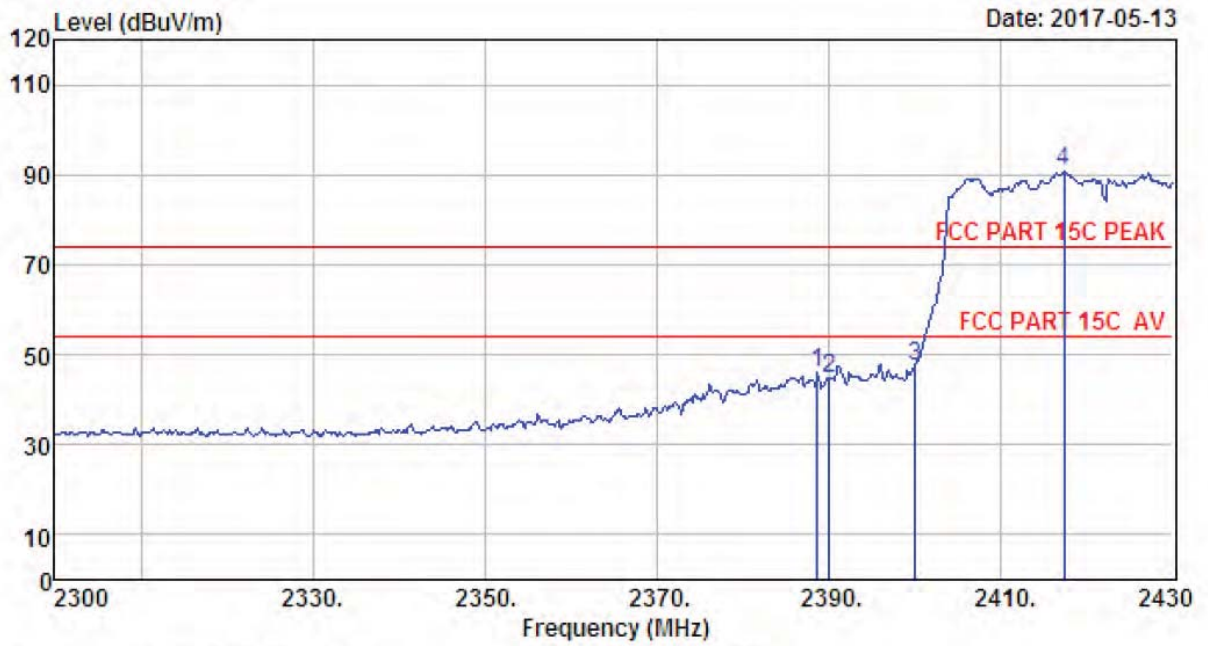
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber                      Data no. : 662  
 Dis. / Ant. : 3m ANI 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HT20 CH11 2462TX  
                   Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2454.50	27.59	6.69	34.98	92.68	91.98	74.00	-17.98	Peak
2	2483.50	27.58	6.71	35.11	51.96	51.14	74.00	22.86	Peak
3	2484.50	27.58	6.71	35.11	50.70	49.88	74.00	24.12	Peak

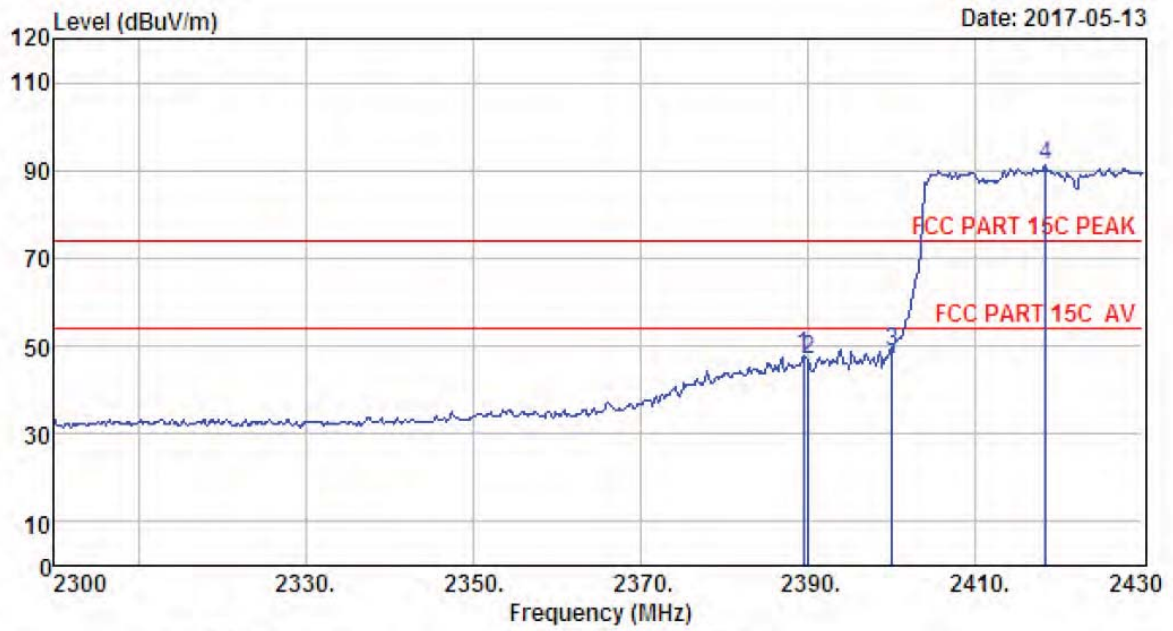
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 663  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HT40 CH3 2422TX  
 Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.66	27.64	6.62	34.62	46.21	45.85	74.00	28.15	Peak
2	2390.00	27.64	6.62	34.62	45.10	44.74	74.00	29.26	Peak
3	2400.00	27.61	6.62	34.64	47.66	47.25	74.00	26.75	Peak
4	2417.26	27.60	6.64	34.74	91.27	90.77	74.00	-16.77	Peak

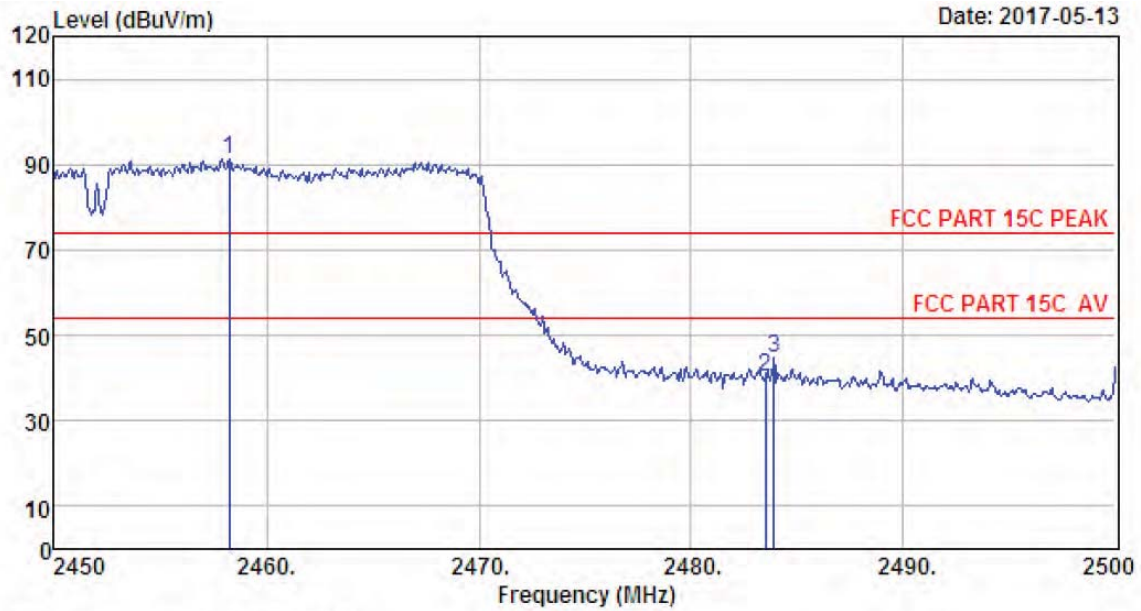
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 1# 966 Chamber Data no. : 664  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HT40 CH3 2422TX  
 Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.44	27.64	6.62	34.62	48.08	47.72	74.00	26.28	Peak
2	2390.00	27.64	6.62	34.62	47.21	46.85	74.00	27.15	Peak
3	2400.00	27.61	6.62	34.64	49.07	48.66	74.00	25.34	Peak
4	2418.30	27.60	6.64	34.74	91.51	91.01	74.00	-17.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

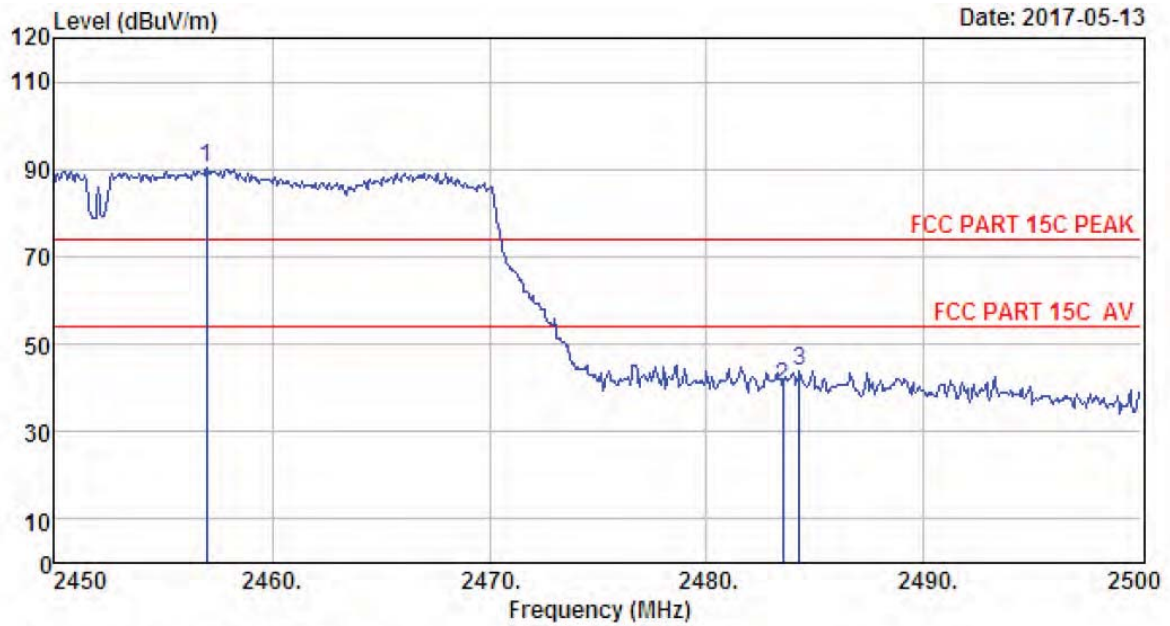


Site no. : 1# 966 Chamber Data no. : 665  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HI40 CH9 2452IX  
 Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limite (dBuV/m)	Margin (dB)	Remark
1	2458.25	27.59	6.69	34.98	91.92	91.22	74.00	-17.22	Peak
2	2483.50	27.58	6.71	35.11	40.94	40.12	74.00	33.88	Peak
3	2483.90	27.58	6.71	35.11	45.63	44.81	74.00	29.19	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.





Site no. : 1# 966 Chamber                      Data no. : 666  
 Dis. / Ant. : 3m ANT 1-18G                      Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Audio Converter Box  
 Power : DC 5V From Adapter Input AC 120V/60Hz  
 M/N : BeoSound Core  
 Test Mode : IEEE 802.11n HT40 CH9 2452TX  
                   Antenna a+b

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2457.00	27.59	6.69	34.98	90.96	90.26	74.00	-16.26	Peak
2	2483.50	27.58	6.71	35.11	41.13	40.31	74.00	33.69	Peak
3	2484.25	27.58	6.71	35.11	44.47	43.65	74.00	30.35	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## 6 6dB & 20dB Bandwidth Test

### 6.1 Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

### 6.2 Test Procedure for 6dB

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2, Follow the test procedure as described in KDB 558074
  - (1). Set resolution bandwidth (RBW) = 100 kHz.
  - (2). Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
  - (3). Detector = Peak.
  - (4). Trace mode = max hold.
  - (5). Sweep = auto couple.
  - (6). Allow the trace to stabilize.
  - (7). Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### 6.3 Test Procedure for 20dB

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2, Follow the test procedure as described in C63.10
  - (1). The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
  - (2). The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.
  - (3). Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (OBW/RBW)]$  below the reference level. Specific guidance is given in 4.1.5.2.
  - (4). Steps a) through c) might require iteration to adjust within the specified tolerances.
  - (5). The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.
  - (6). Set detection mode to peak and trace mode to max hold.
  - (7). Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
  - (8). Determine the “-xx dB down amplitude” using  $[(\text{reference value}) - xx]$ . Alternatively, this calculation may be made by using the marker-delta function of the instrument.
  - (9). If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).
  - (10). Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “\_xx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value,

then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “\_xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.

(11). The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

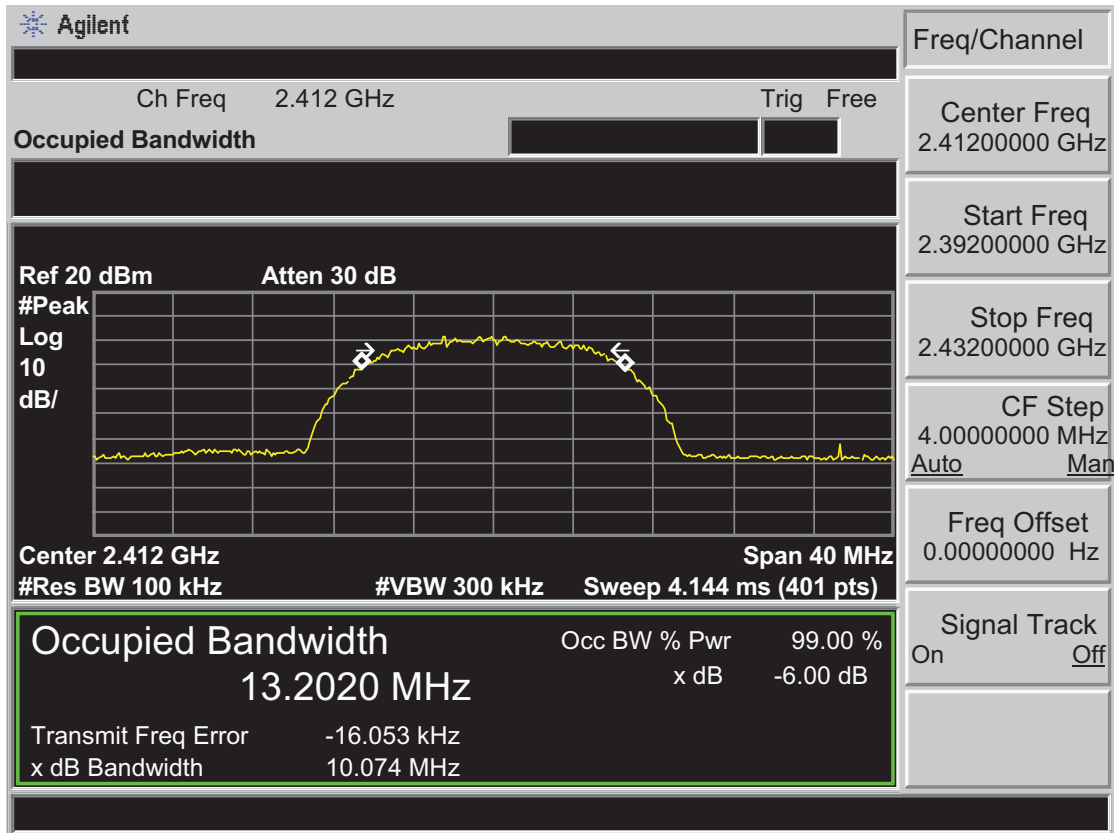
6.4 Test Result

EUT: Audio Converter Box				
M/N: BeoSound Core				
Test date: 2017-06-26		Tested by: Tony.Tang		Test site: RF Site
Test Mode	CH	6dB bandwidth (MHz)	20dB bandwidth (MHz)	Limit (KHz)
Antenna 0				
IEEE 802.11 b	CH1	10.074	15.318	>500
	CH6	10.026	15.255	>500
	CH11	9.969	15.235	>500
IEEE 802.11 g	CH1	16.632	18.429	>500
	CH6	16.628	18.531	>500
	CH11	16.653	18.313	>500
IEEE 802.11 n HT 20	CH1	17.787	19.234	>500
	CH6	17.866	19.269	>500
	CH11	17.825	19.388	>500
IEEE 802.11 n HT 40	CH1	36.539	39.997	>500
	CH4	36.537	39.934	>500
	CH7	36.407	39.865	>500
Antenna 1				
IEEE 802.11 b	CH1	9.746	15.022	>500
	CH6	9.983	15.011	>500
	CH11	9.730	14.975	>500
IEEE 802.11 g	CH1	16.604	18.516	>500
	CH6	16.652	18.398	>500
	CH11	16.612	18.538	>500
IEEE 802.11 n HT 20	CH1	17.810	19.241	>500
	CH6	17.855	19.270	>500
	CH11	17.812	19.265	>500
IEEE 802.11 n HT 40	CH1	36.506	39.772	>500
	CH4	36.530	39.859	>500
	CH7	36.527	39.874	>500
Conclusion : PASS				

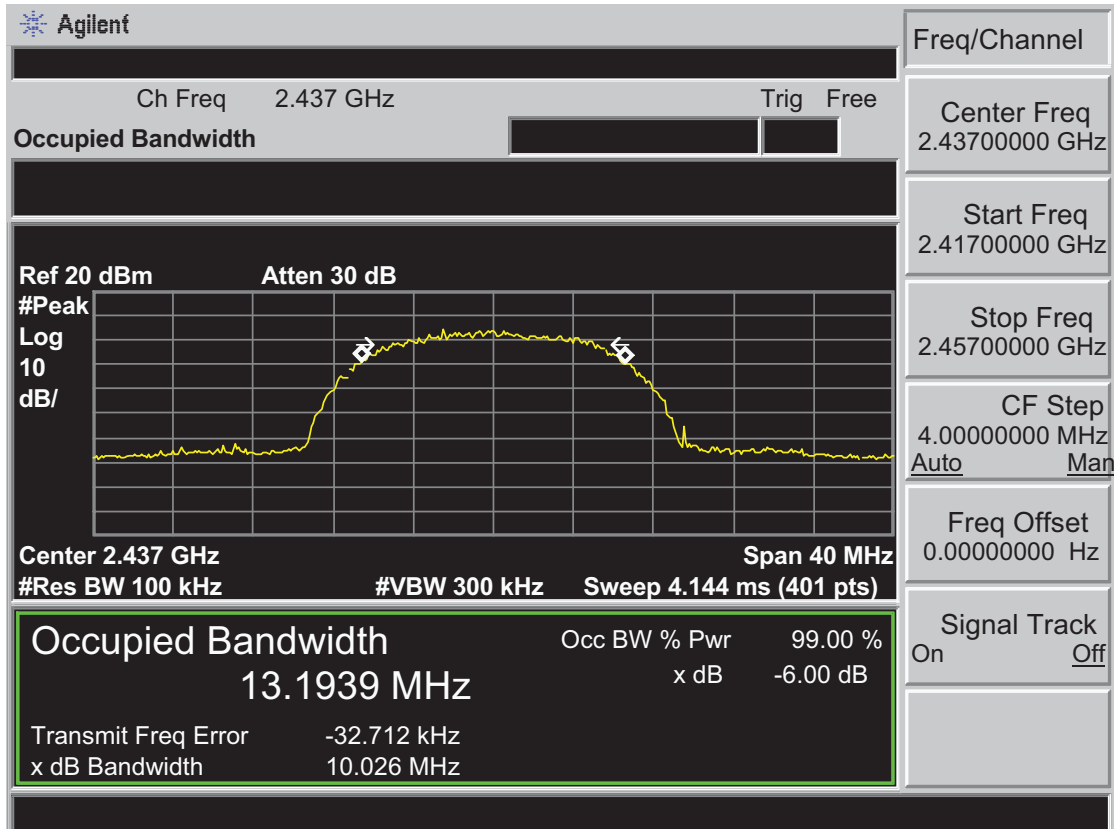
### 6.5 6dB Test Data

Antenna 0

Test Mode: IEEE 802.11b 2412MHz



Test Mode: IEEE 802.11b 2437MHz



Test Mode: IEEE 802.11b 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz  
**Occupied Bandwidth**

Trig Free

Center Freq  
 2.46200000 GHz

Ref 20 dBm  
 #Peak  
 Log  
 10  
 dB/

Atten 30 dB

Start Freq  
 2.44200000 GHz

Center 2.462 GHz  
 #Res BW 100 kHz

#VBW 300 kHz

Sweep 4.144 ms (401 pts)

Stop Freq  
 2.48200000 GHz

Span 40 MHz

CF Step  
 4.00000000 MHz  
 Auto Man

**Occupied Bandwidth**  
 13.1792 MHz

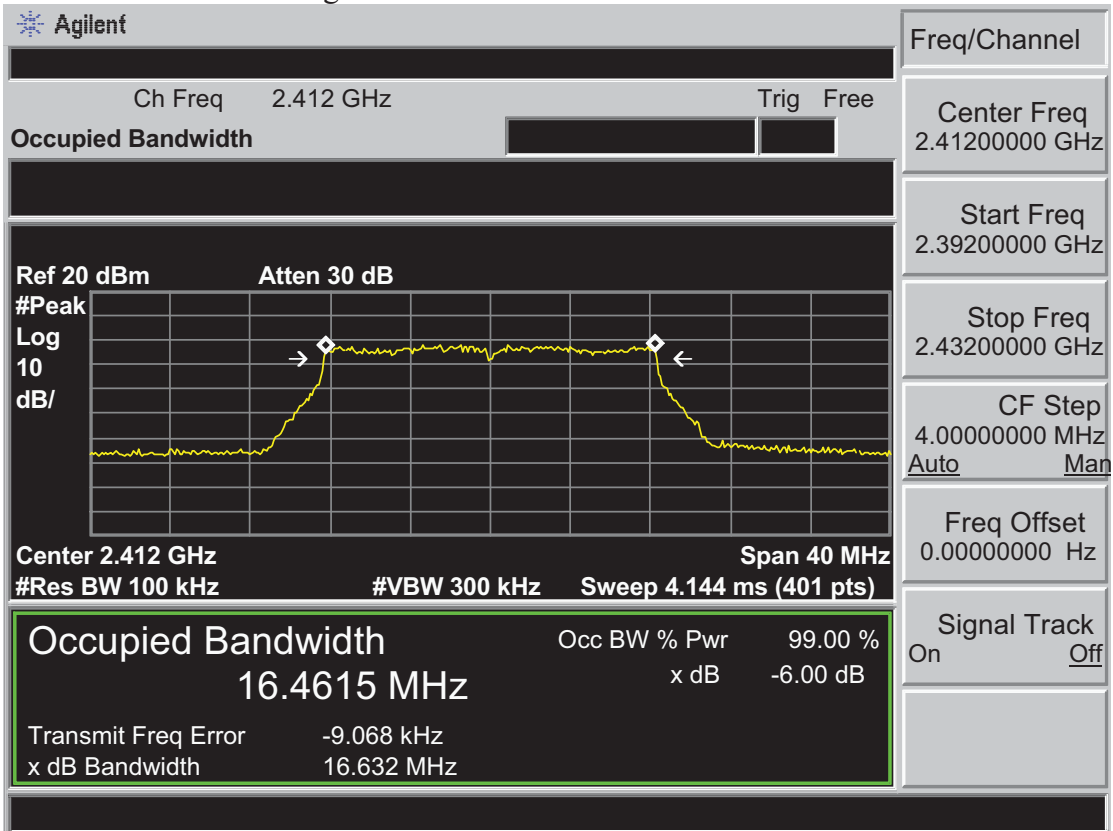
Occ BW % Pwr  
 99.00 %  
 x dB -6.00 dB

Freq Offset  
 0.00000000 Hz

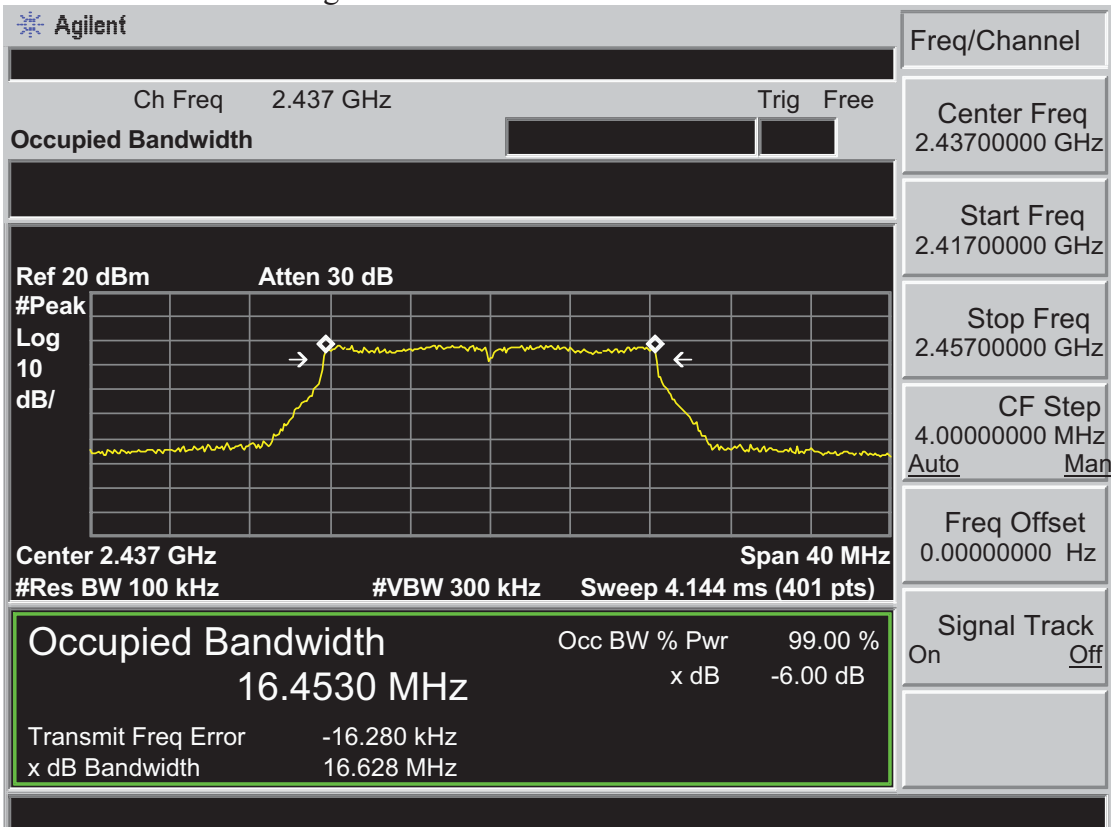
Transmit Freq Error  
 -46.026 kHz  
 x dB Bandwidth  
 9.969 MHz

Signal Track  
 On Off

Test Mode: IEEE 802.11g 2412MHz



Test Mode: IEEE 802.11g 2437MHz



Test Mode: IEEE 802.11g 2462MHz

**Agilent**

Ch Freq 2.462 GHz Trig Free

**Occupied Bandwidth**

Ref 20 dBm Atten 30 dB

Center 2.462 GHz Span 40 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4.144 ms (401 pts)

**Occupied Bandwidth** 16.4787 MHz

Transmit Freq Error -20.194 kHz

x dB Bandwidth 16.653 MHz

Freq/Channel

Center Freq 2.46200000 GHz

Start Freq 2.44200000 GHz

Stop Freq 2.48200000 GHz

CF Step 4.00000000 MHz

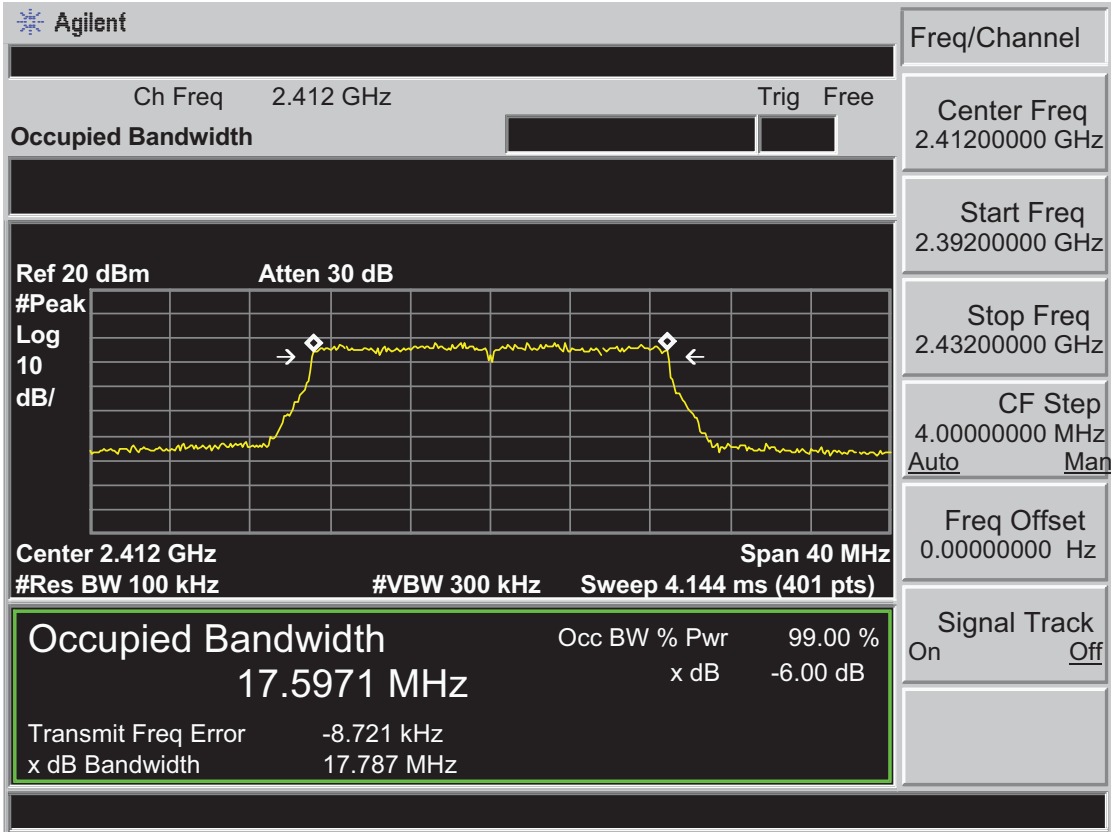
Auto Man

Freq Offset 0.00000000 Hz

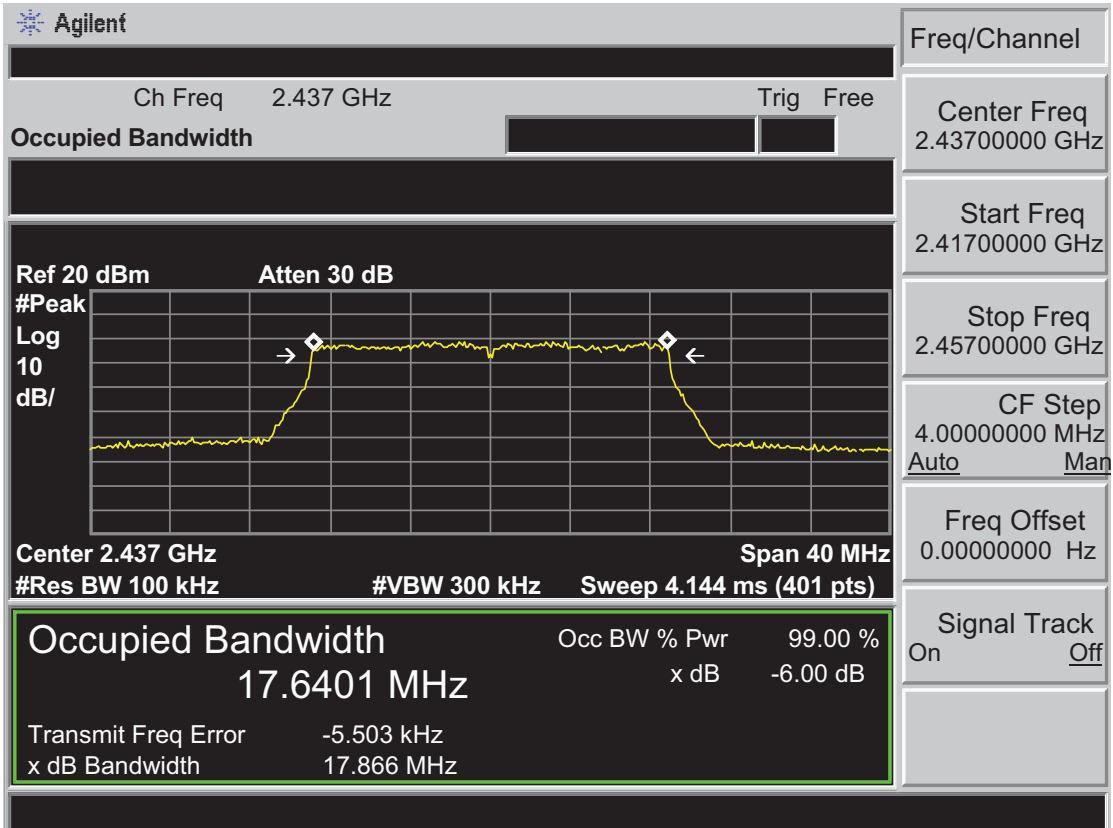
Signal Track On Off



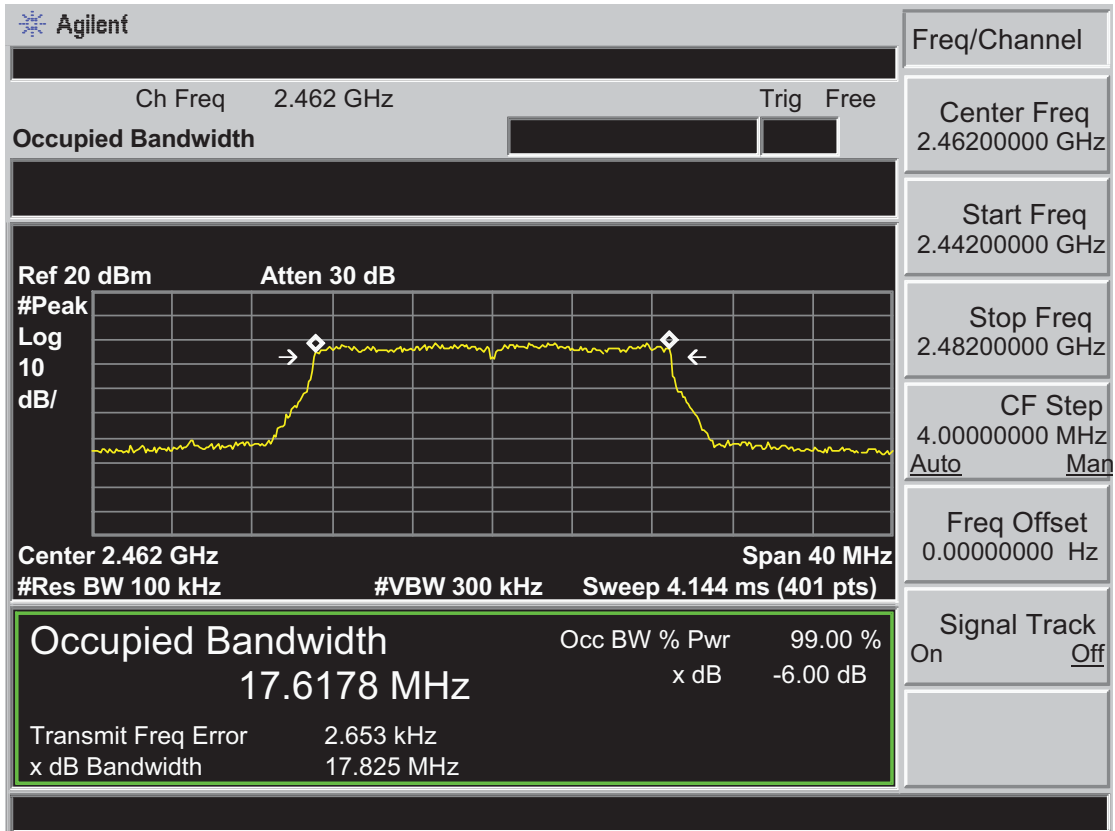
Test Mode: IEEE 802.11n HT20 2412MHz



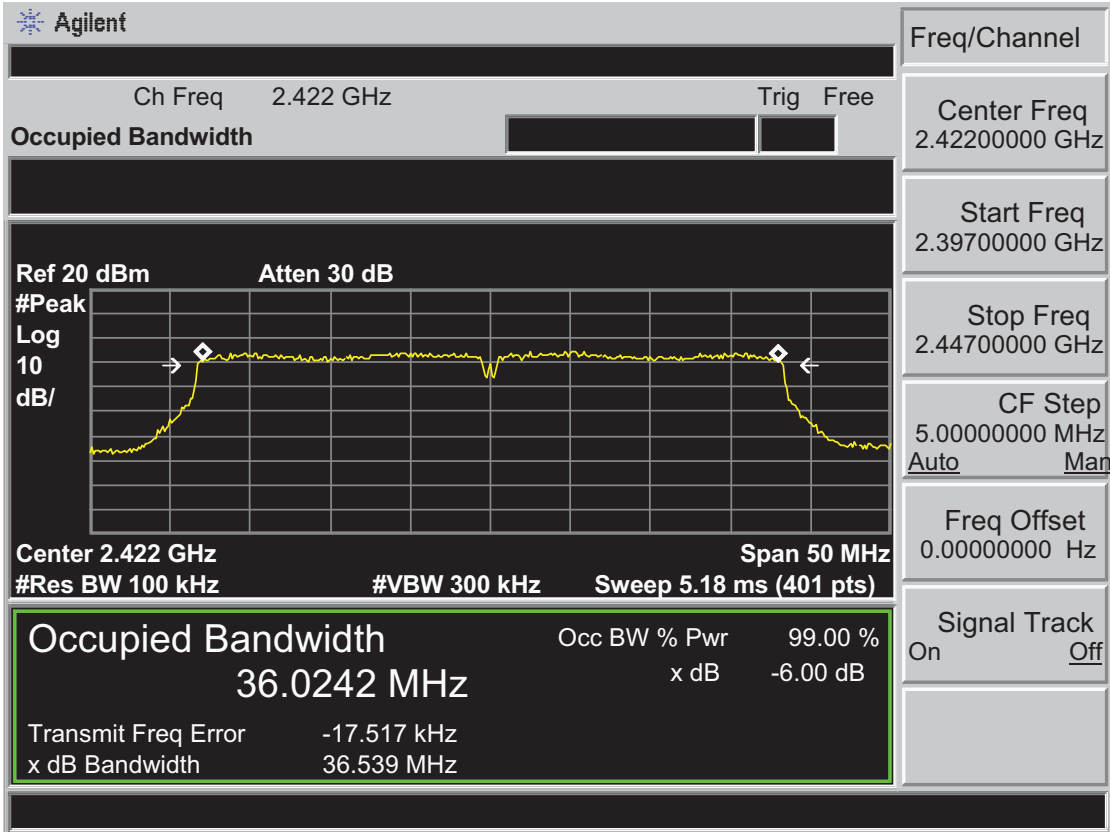
Test Mode: IEEE 802.11n HT20 2437MHz



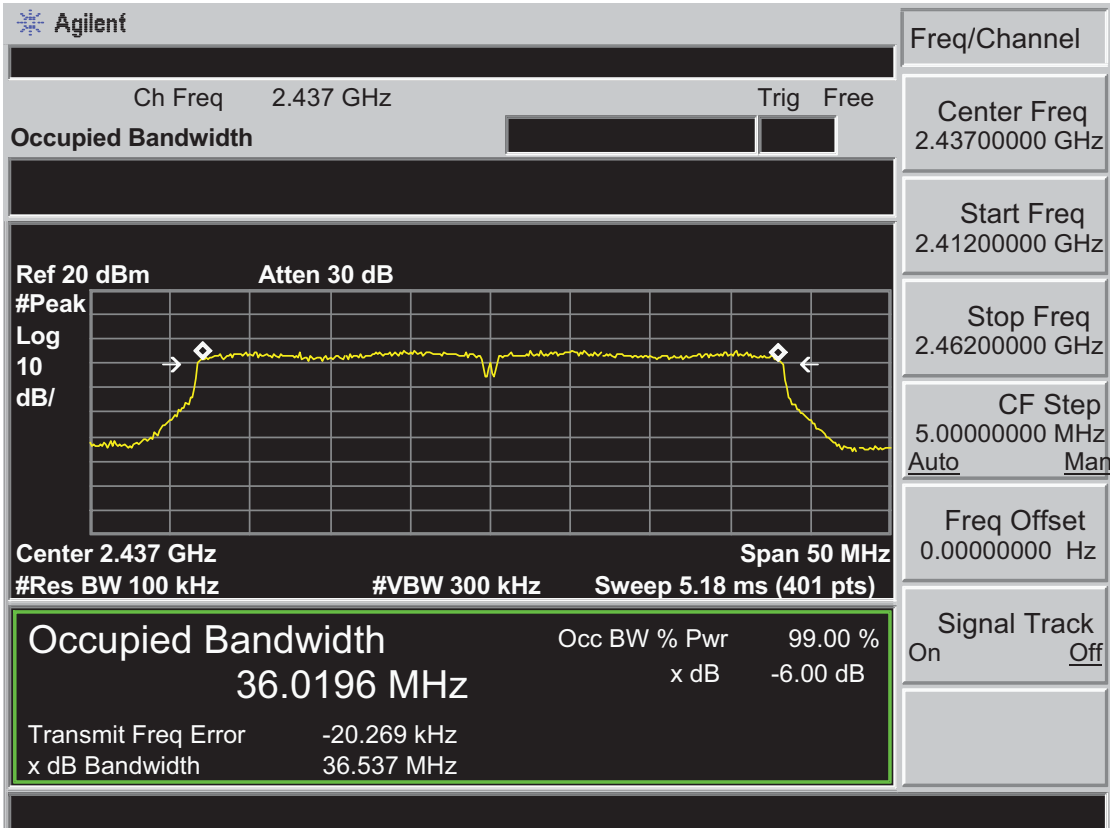
Test Mode: IEEE 802.11n HT20 2462MHz



Test Mode: IEEE 802.11n HT40 2422MHz



Test Mode: IEEE 802.11n HT40 2437MHz



Test Mode: IEEE 802.11n HT40 2452MHz

Agilent

Freq/Channel	
Center Freq	2.45200000 GHz
Start Freq	2.42700000 GHz
Stop Freq	2.47700000 GHz
CF Step	5.00000000 MHz
Auto	Man
Freq Offset	0.00000000 Hz
Signal Track	On <u>Off</u>

Ch Freq	2.452 GHz	Trig	Free
<b>Occupied Bandwidth</b>			

Ref 20 dBm      Atten 30 dB

#Peak  
Log  
10  
dB/

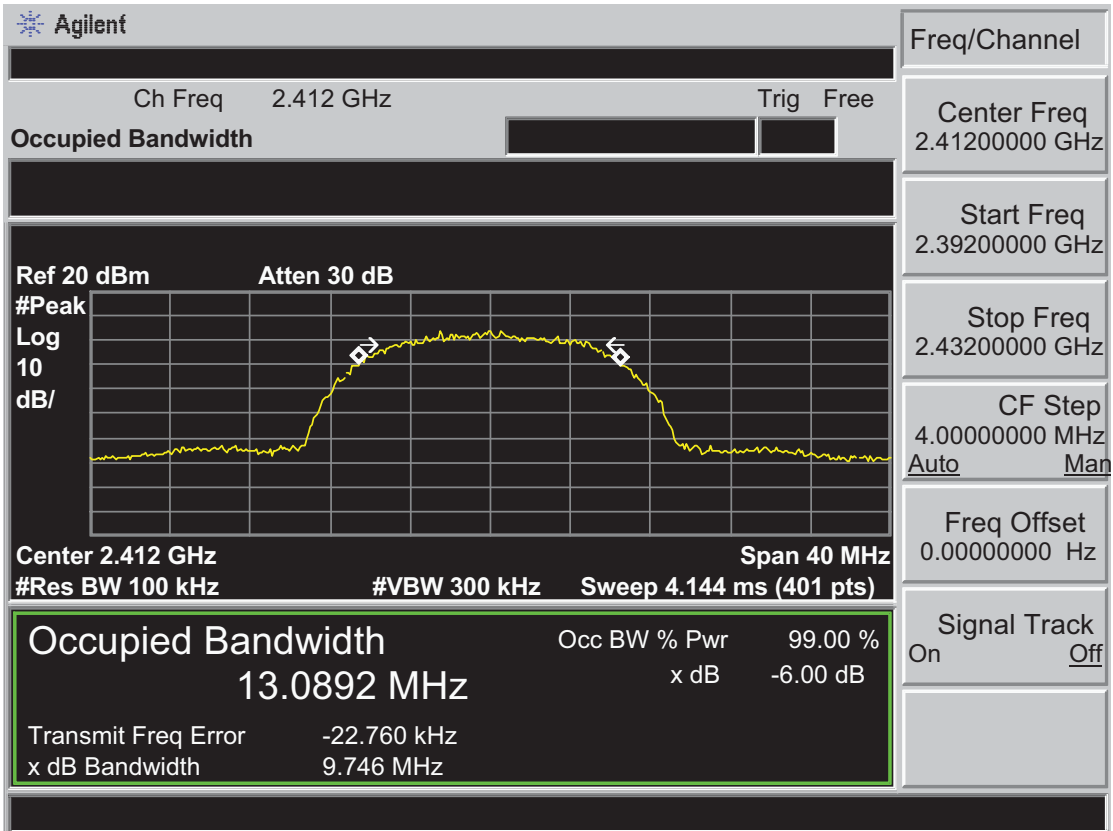
Center 2.452 GHz      Span 50 MHz

#Res BW 100 kHz      #VBW 300 kHz      Sweep 5.18 ms (401 pts)

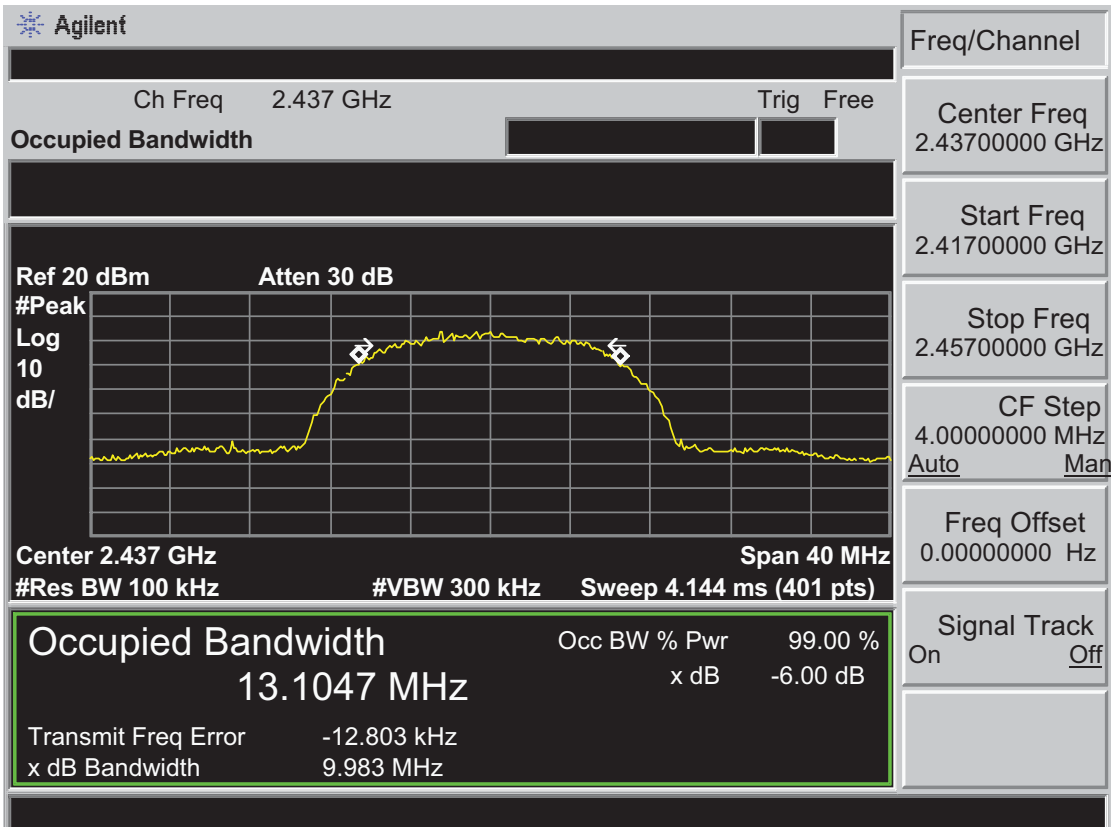
Occupied Bandwidth	Occ BW % Pwr	99.00 %
36.0192 MHz	x dB	-6.00 dB
Transmit Freq Error	-21.775 kHz	
x dB Bandwidth	36.407 MHz	

Antenna 1

Test Mode: IEEE 802.11b 2412MHz



Test Mode: IEEE 802.11b 2437MHz



Test Mode: IEEE 802.11b 2462MHz

**Agilent**

Ch Freq 2.462 GHz Trig Free

**Occupied Bandwidth**

Ref 20 dBm Atten 30 dB

Center 2.462 GHz Span 40 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4.144 ms (401 pts)

Freq/Channel

Center Freq 2.46200000 GHz

Start Freq 2.44200000 GHz

Stop Freq 2.48200000 GHz

CF Step 4.00000000 MHz  
Auto Man

Freq Offset 0.00000000 Hz

Signal Track On Off

**Occupied Bandwidth** Occ BW % Pwr 99.00 %

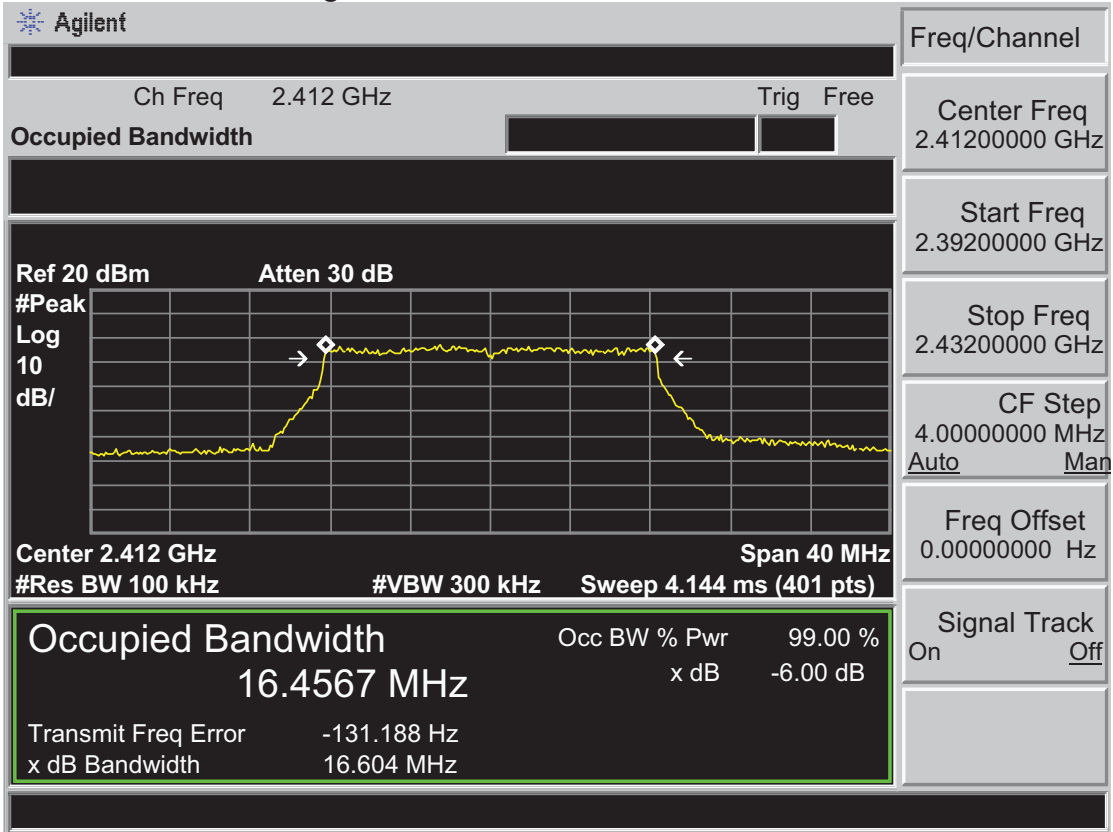
13.1149 MHz

x dB -6.00 dB

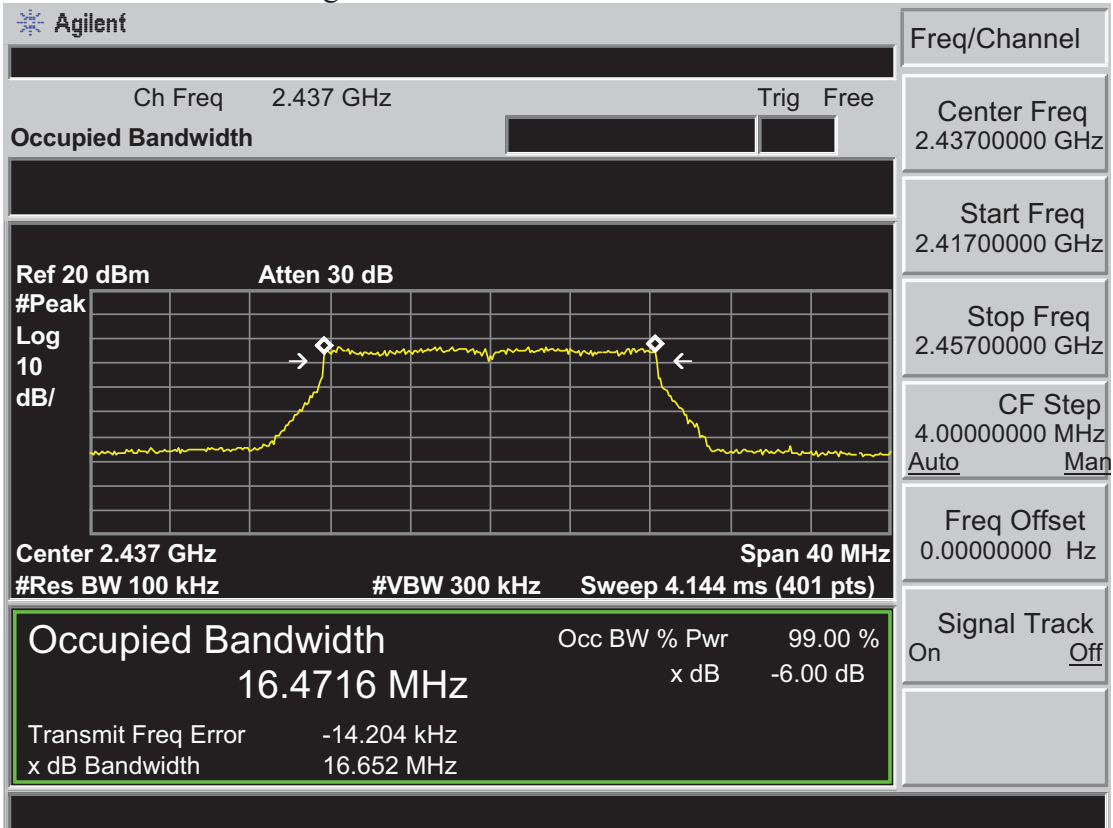
Transmit Freq Error -13.076 kHz

x dB Bandwidth 9.730 MHz

Test Mode: IEEE 802.11g 2412MHz



Test Mode: IEEE 802.11g 2437MHz



Test Mode: IEEE 802.11g 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz  
**Occupied Bandwidth**

Trig Free

Ref 20 dBm      Atten 30 dB

#Peak  
Log  
10  
dB/

Center Freq  
2.46200000 GHz

Start Freq  
2.44200000 GHz

Stop Freq  
2.48200000 GHz

CF Step  
4.00000000 MHz  
Auto      Man

Freq Offset  
0.00000000 Hz

Signal Track  
On      Off

Center 2.462 GHz

Span 40 MHz

#Res BW 100 kHz

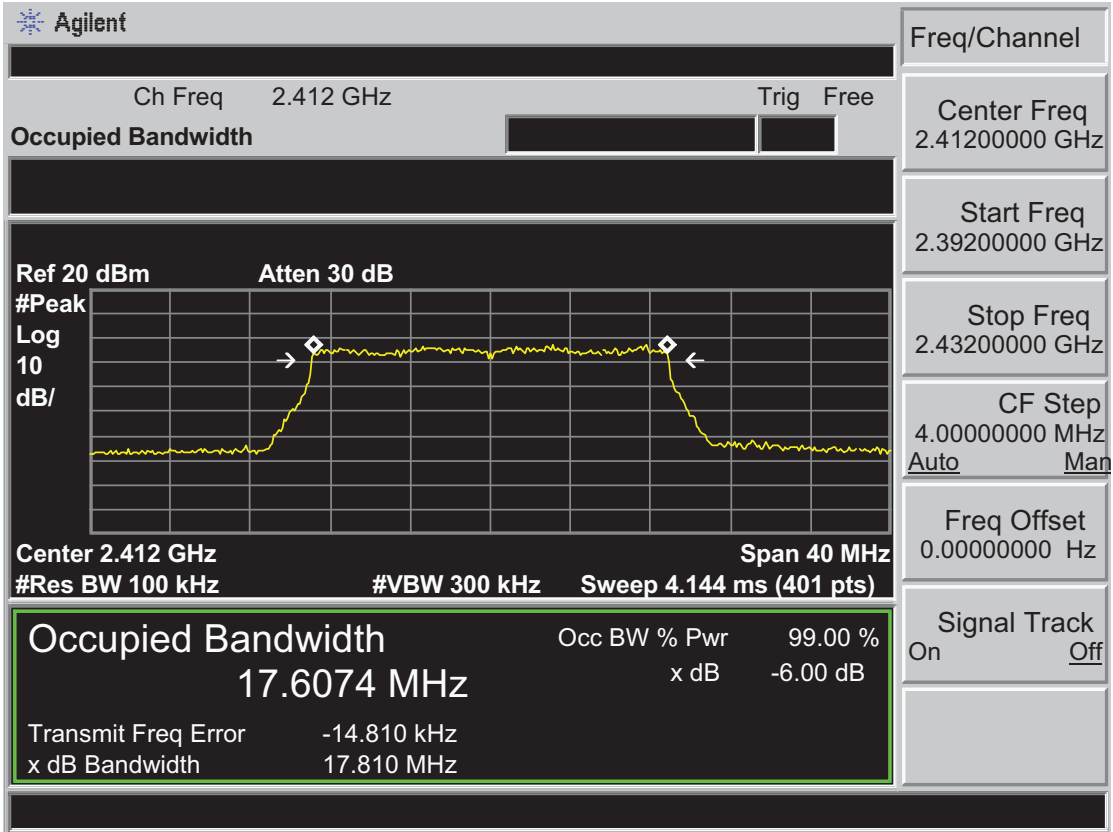
#VBW 300 kHz

Sweep 4.144 ms (401 pts)

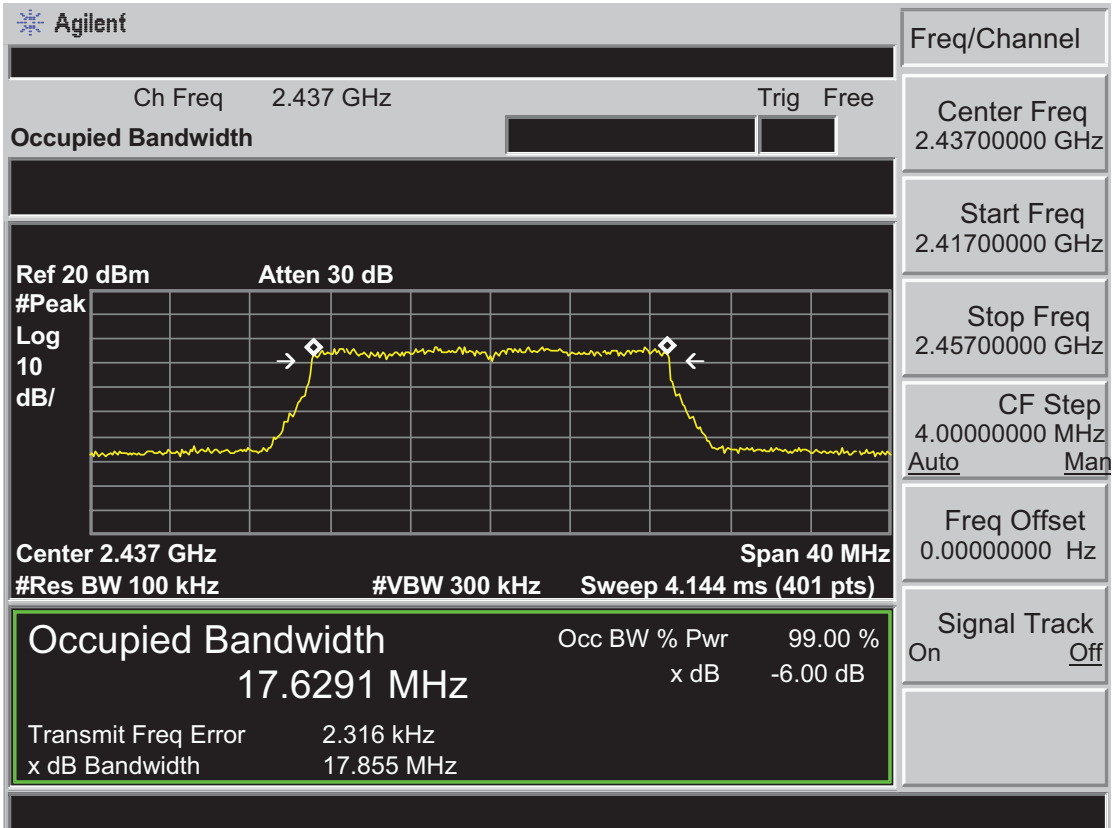
Occupied Bandwidth	Occ BW % Pwr	99.00 %
16.4636 MHz	x dB	-6.00 dB
Transmit Freq Error	-22.018 kHz	
x dB Bandwidth	16.612 MHz	



Test Mode: IEEE 802.11n HT20 2412MHz



Test Mode: IEEE 802.11n HT20 2437MHz



Test Mode: IEEE 802.11n HT20 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz  
**Occupied Bandwidth**

Trig Free

Ref 20 dBm      Atten 30 dB

Center 2.462 GHz      Span 40 MHz  
 #Res BW 100 kHz      #VBW 300 kHz      Sweep 4.144 ms (401 pts)

Center Freq  
2.46200000 GHz

Occupied Bandwidth

17.6134 MHz

Transmit Freq Error      -11.771 kHz  
 x dB Bandwidth      17.812 MHz

Start Freq  
2.44200000 GHz

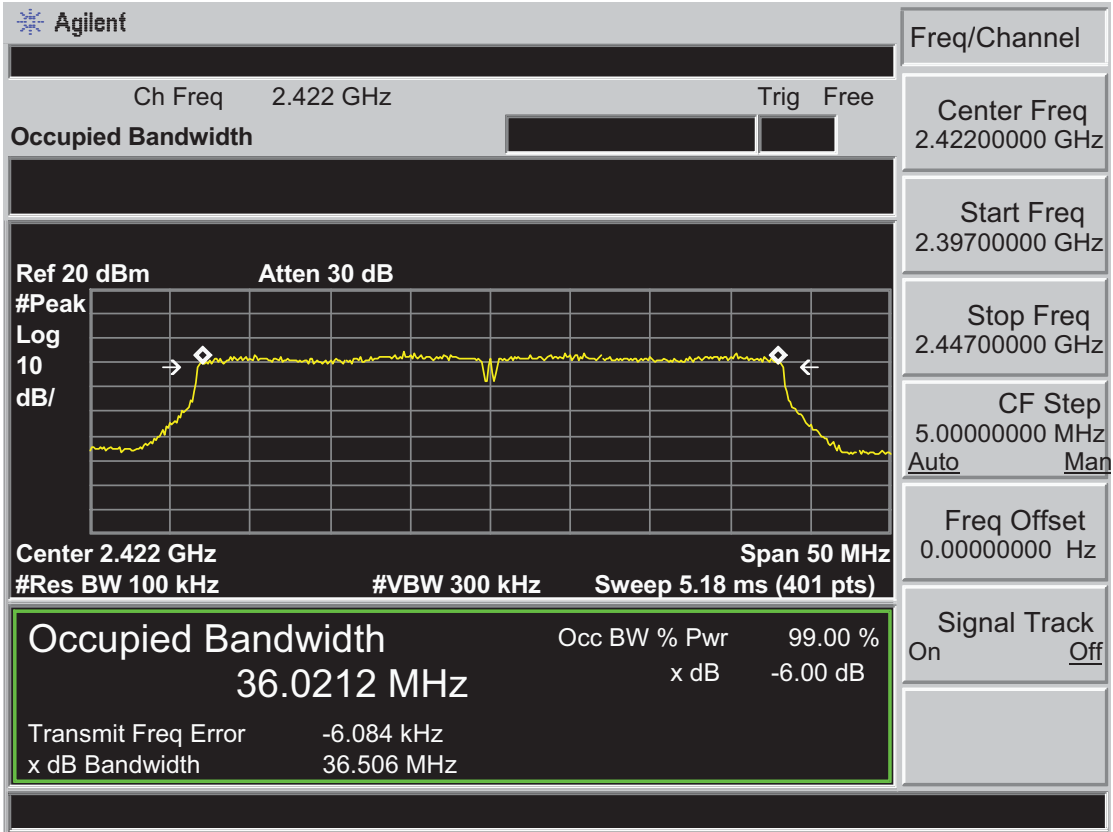
Stop Freq  
2.48200000 GHz

CF Step  
4.00000000 MHz  
 Auto      Man

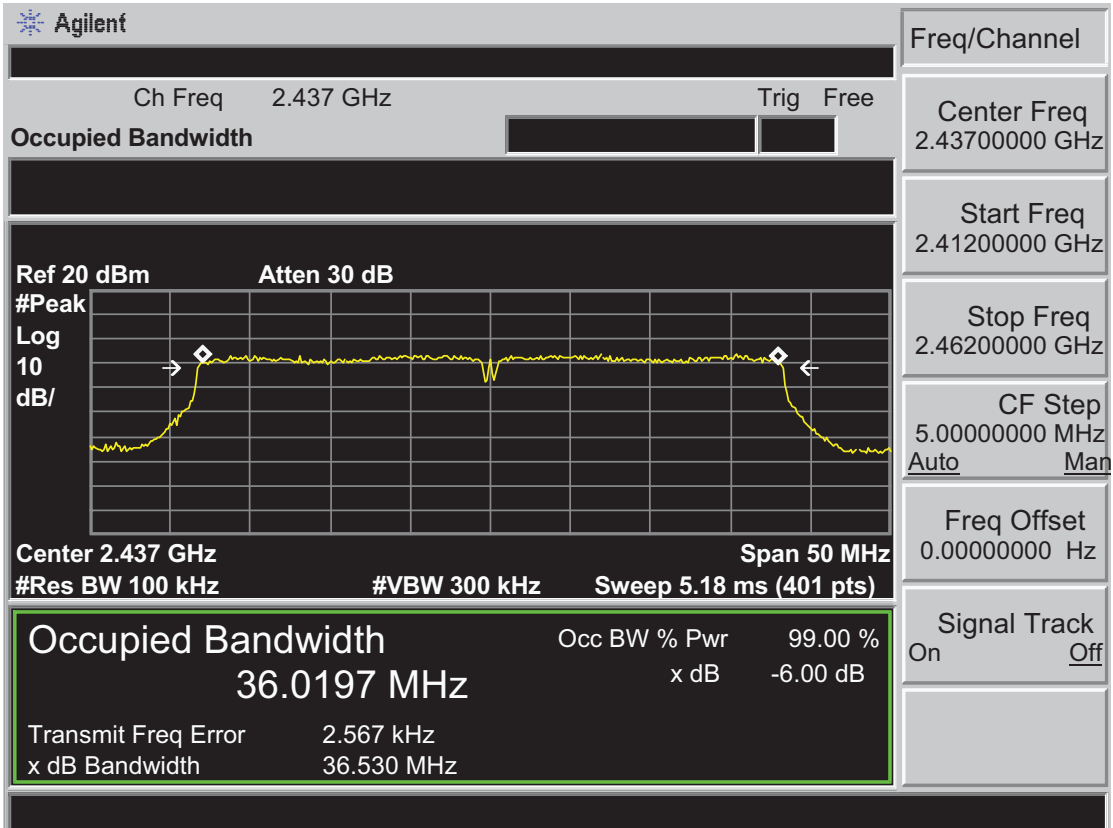
Freq Offset  
0.00000000 Hz

Signal Track  
 On      Off

Test Mode: IEEE 802.11n HT40 2422MHz



Test Mode: IEEE 802.11n HT40 2437MHz



Test Mode: IEEE 802.11n HT40 2452MHz

Agilent

Freq/Channel	
Center Freq	2.45200000 GHz
Start Freq	2.42700000 GHz
Stop Freq	2.47700000 GHz
CF Step	5.00000000 MHz
Auto	Man
Freq Offset	0.00000000 Hz
Signal Track	On <u>Off</u>

Ch Freq	2.452 GHz	Trig	Free
<b>Occupied Bandwidth</b>			

Ref 20 dBm	Atten 30 dB
#Peak	
Log	
10	
dB/	

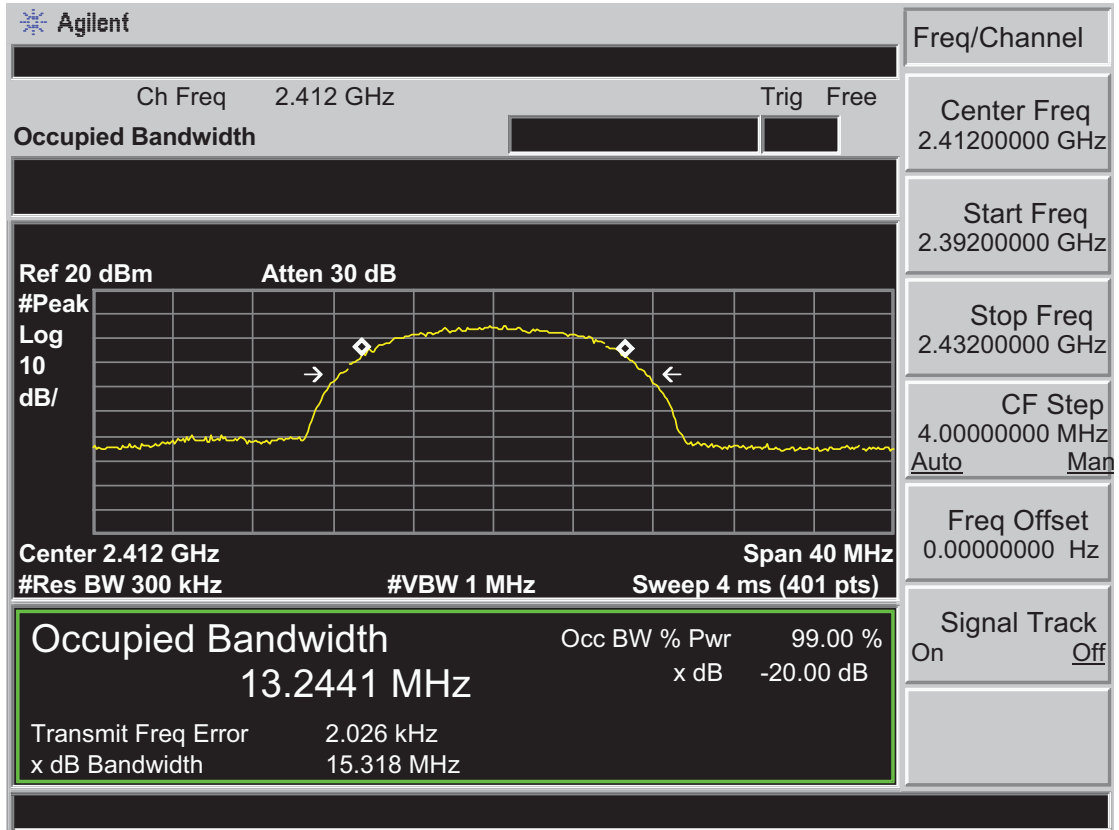
Center 2.452 GHz	Span 50 MHz
#Res BW 100 kHz	#VBW 300 kHz
Sweep 5.18 ms (401 pts)	

<b>Occupied Bandwidth</b>	Occ BW % Pwr	99.00 %
36.0248 MHz	x dB	-6.00 dB
Transmit Freq Error	-24.841 kHz	
x dB Bandwidth	36.527 MHz	

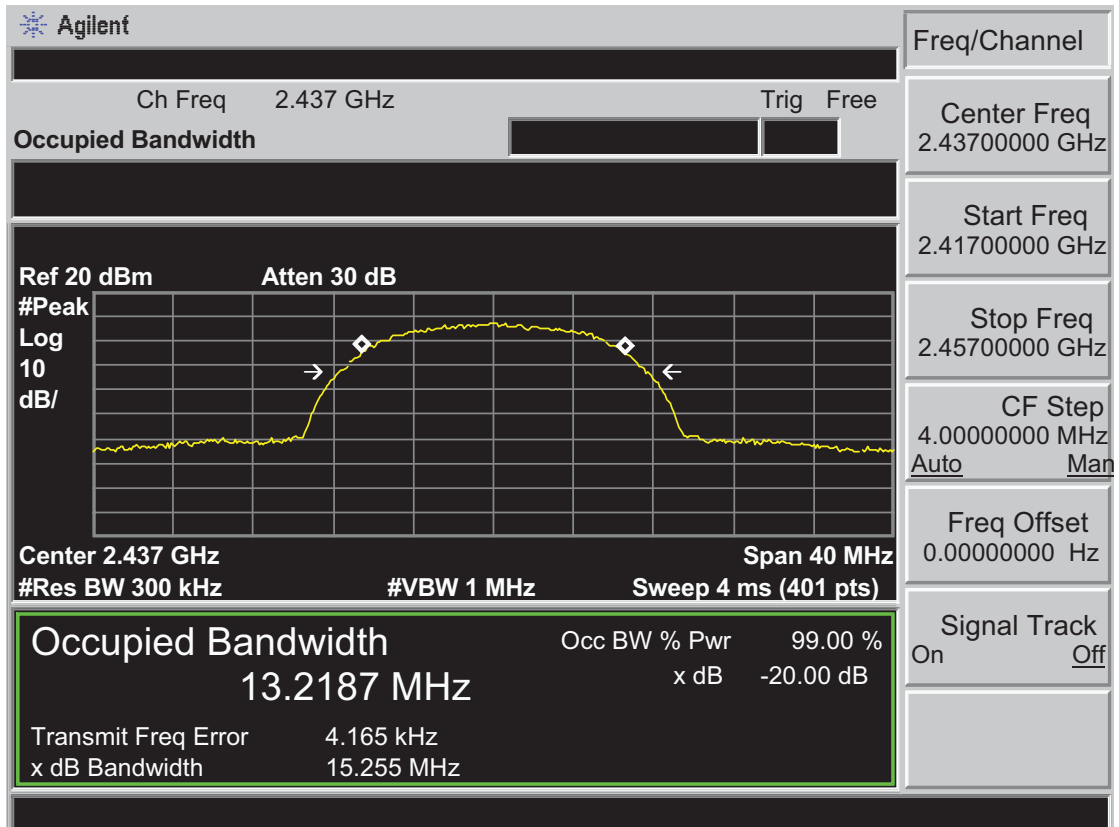
### 6.6 20dB Test Data

Antenna 0

Test Mode: IEEE 802.11b 2412MHz



Test Mode: IEEE 802.11b 2437MHz



Test Mode: IEEE 802.11b 2462MHz

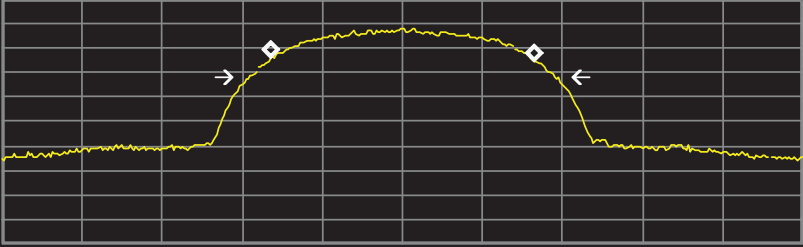
Agilent

Freq/Channel  
 Center Freq  
2.46200000 GHz  
 Start Freq  
2.44200000 GHz  
 Stop Freq  
2.48200000 GHz  
 CF Step  
4.00000000 MHz  
 Auto  Man

Ch Freq 2.462 GHz  
 Trig Free  
 Occupied Bandwidth

Ref 20 dBm

Atten 30 dB

#Peak	Log	10	dB/
			

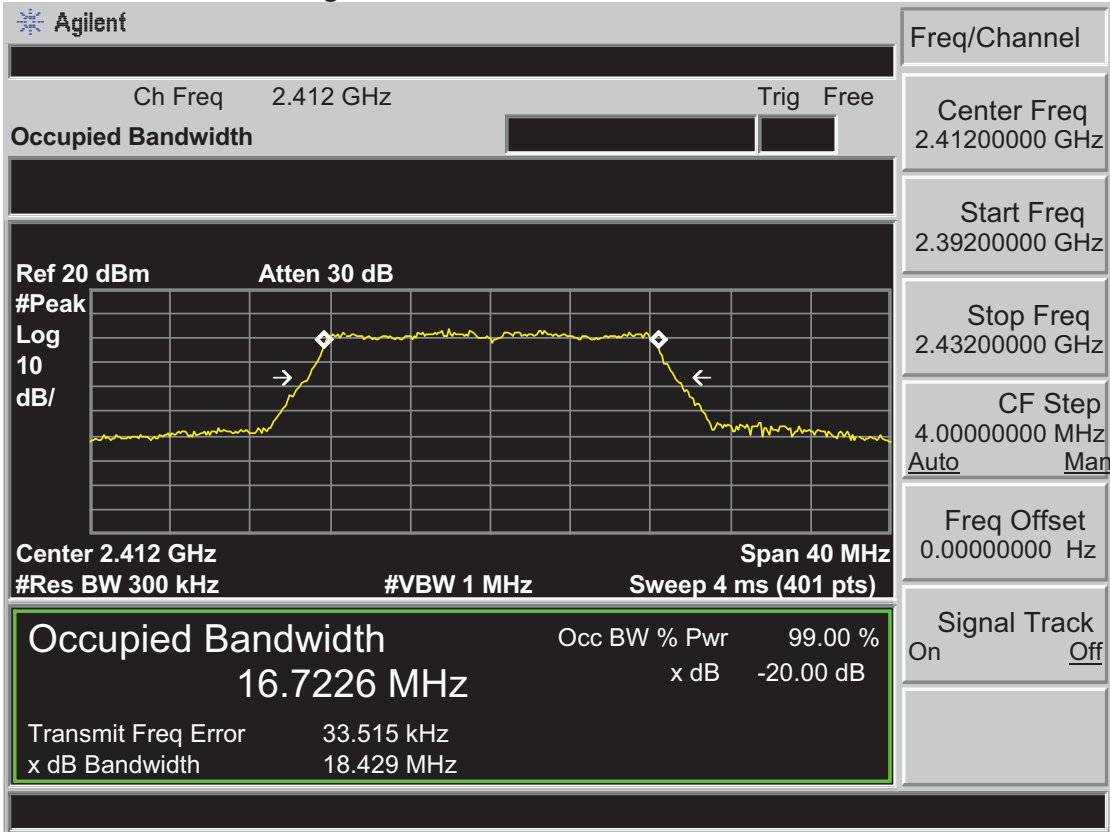
Center 2.462 GHz  
 #Res BW 300 kHz  
 #VBW 1 MHz

Span 40 MHz  
 Sweep 4 ms (401 pts)

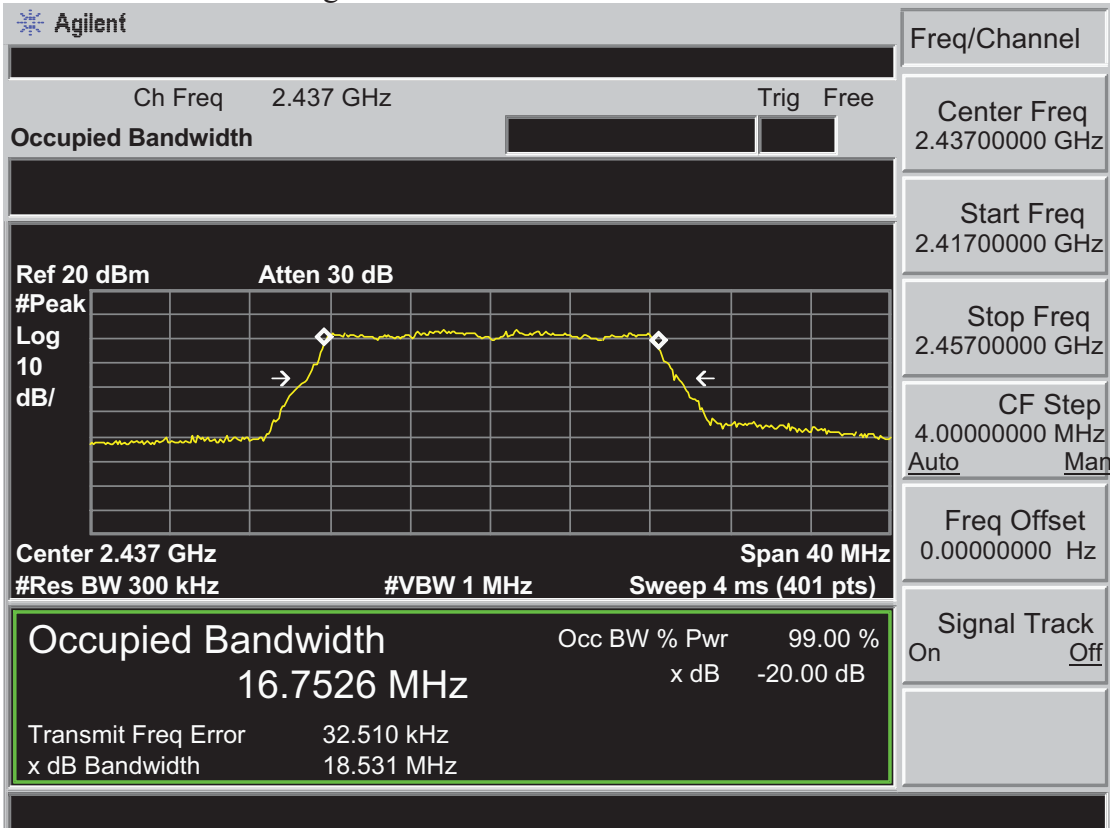
Occupied Bandwidth	Occ BW % Pwr	99.00 %
13.2254 MHz	x dB	-20.00 dB
Transmit Freq Error	3.217 kHz	
x dB Bandwidth	15.235 MHz	

Signal Track	On <input type="checkbox"/> Off <input type="checkbox"/>
--------------	--

Test Mode: IEEE 802.11g 2412MHz



Test Mode: IEEE 802.11g 2437MHz



Test Mode: IEEE 802.11g 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz
Trig Free

Occupied Bandwidth

Ref 20 dBm      Atten 30 dB

#Peak  
Log  
10  
dB/

Center Freq  
2.46200000 GHz

Start Freq  
2.44200000 GHz

Stop Freq  
2.48200000 GHz

CF Step  
4.00000000 MHz  
Auto      Man

Freq Offset  
0.00000000 Hz

Signal Track  
On      Off

Center 2.462 GHz
Span 40 MHz

#Res BW 300 kHz
#VBW 1 MHz
Sweep 4 ms (401 pts)

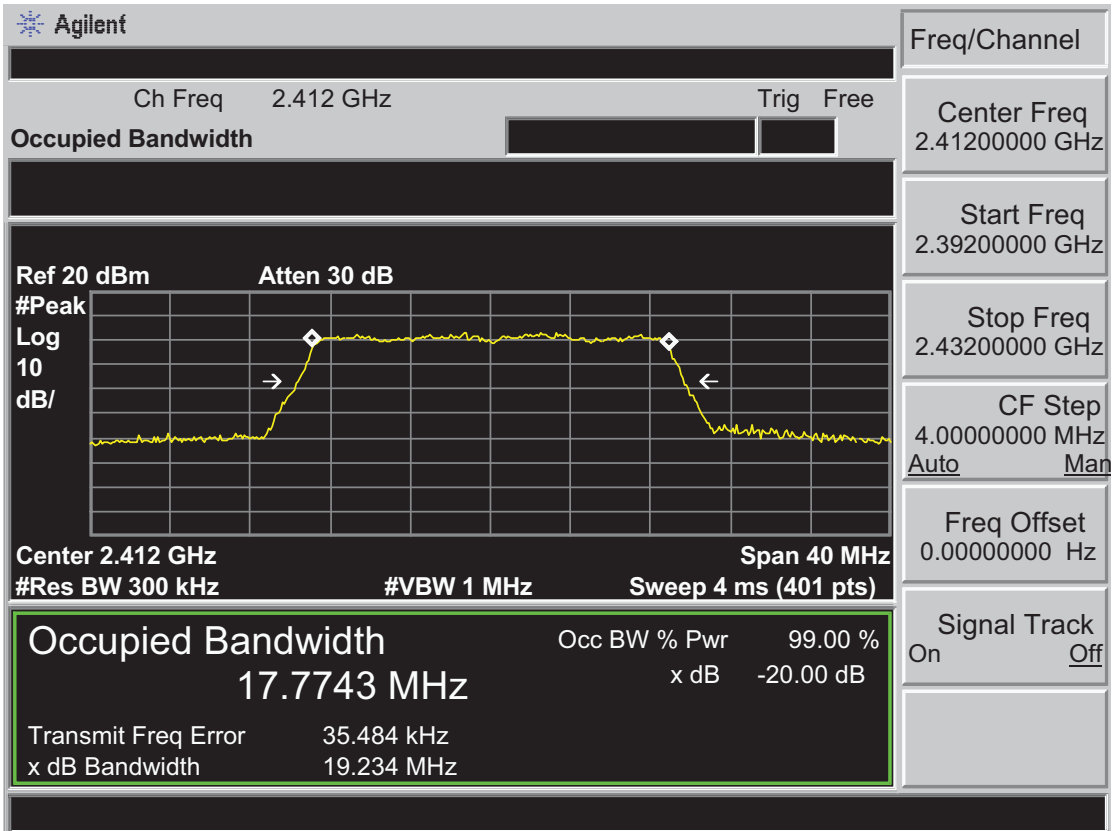
Occupied Bandwidth

16.7559 MHz

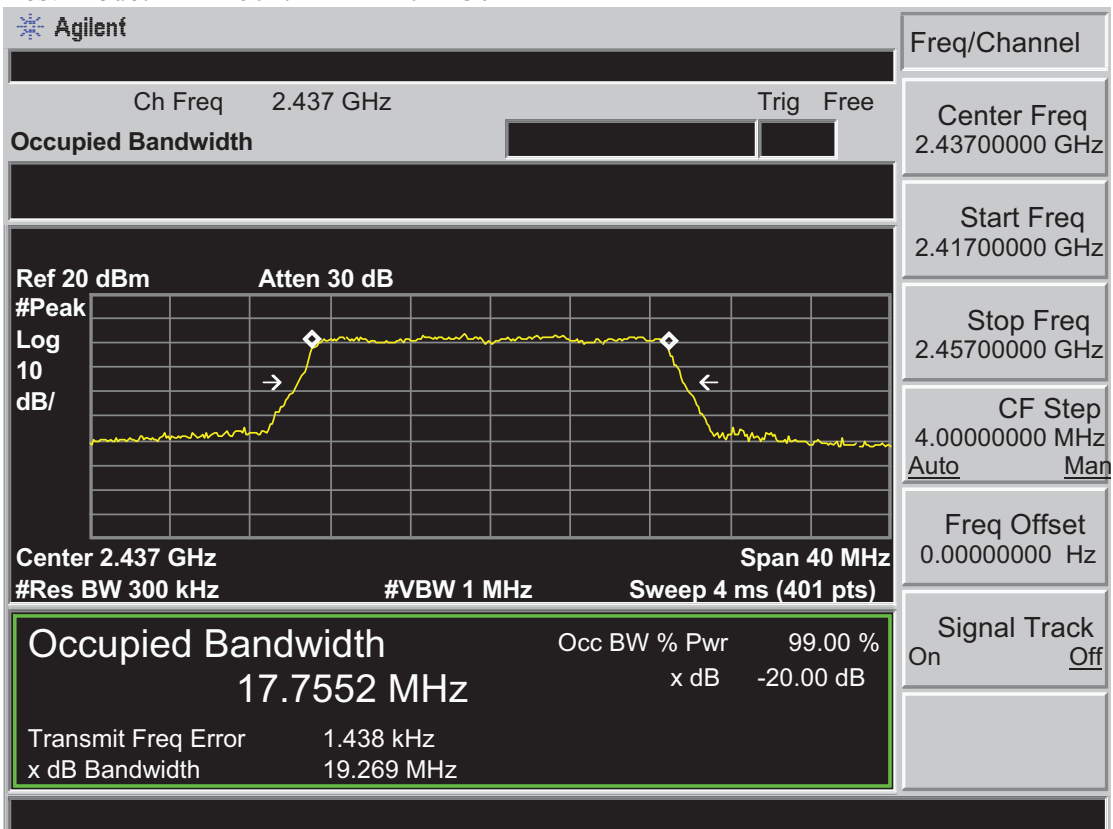
Occ BW % Pwr	99.00 %
x dB Bandwidth	-20.00 dB
Transmit Freq Error	15.308 kHz
x dB Bandwidth	18.313 MHz



Test Mode: IEEE 802.11n HT20 2412MHz



Test Mode: IEEE 802.11n HT20 2437MHz



Test Mode: IEEE 802.11n HT20 2462MHz

**Agilent**

Ch Freq 2.462 GHz Trig Free

**Occupied Bandwidth**

Center 2.462 GHz Span 40 MHz

#Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts)

**Occupied Bandwidth** 17.7977 MHz

Transmit Freq Error 5.417 kHz

x dB Bandwidth 19.388 MHz

Freq/Channel

Center Freq 2.46200000 GHz

Start Freq 2.44200000 GHz

Stop Freq 2.48200000 GHz

CF Step 4.00000000 MHz  
Auto Man

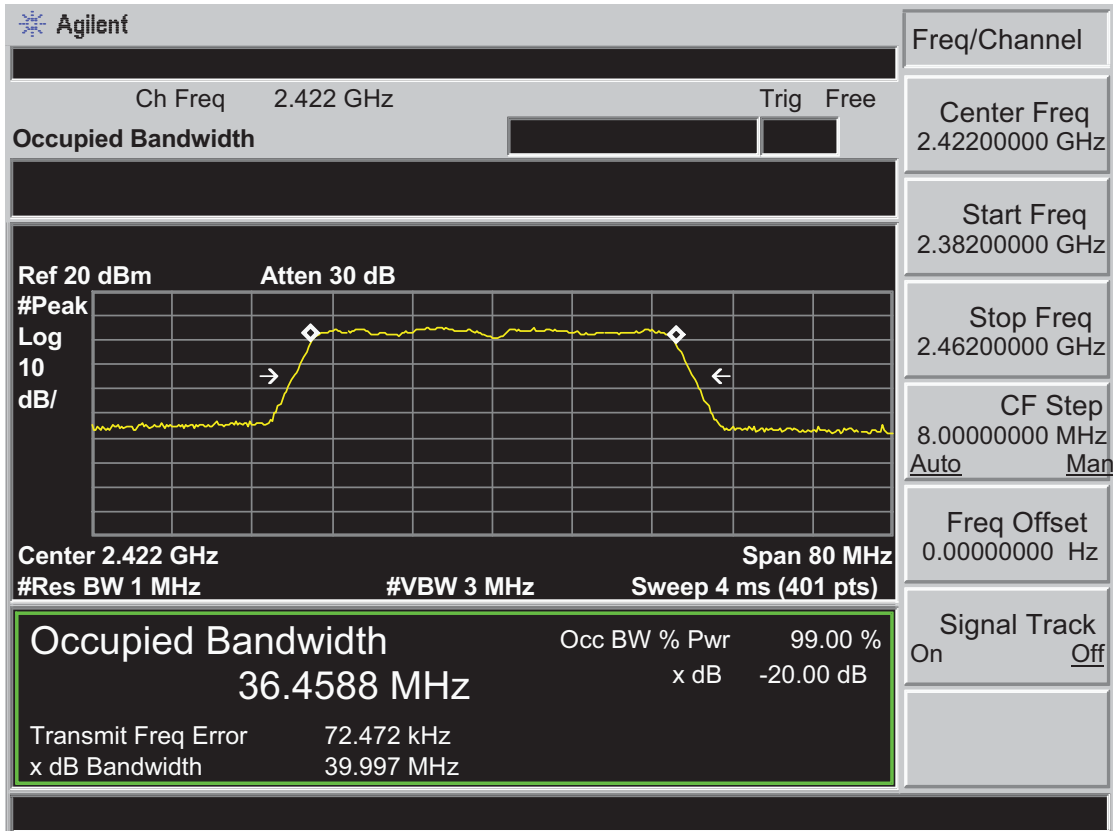
Freq Offset 0.00000000 Hz

Signal Track On Off

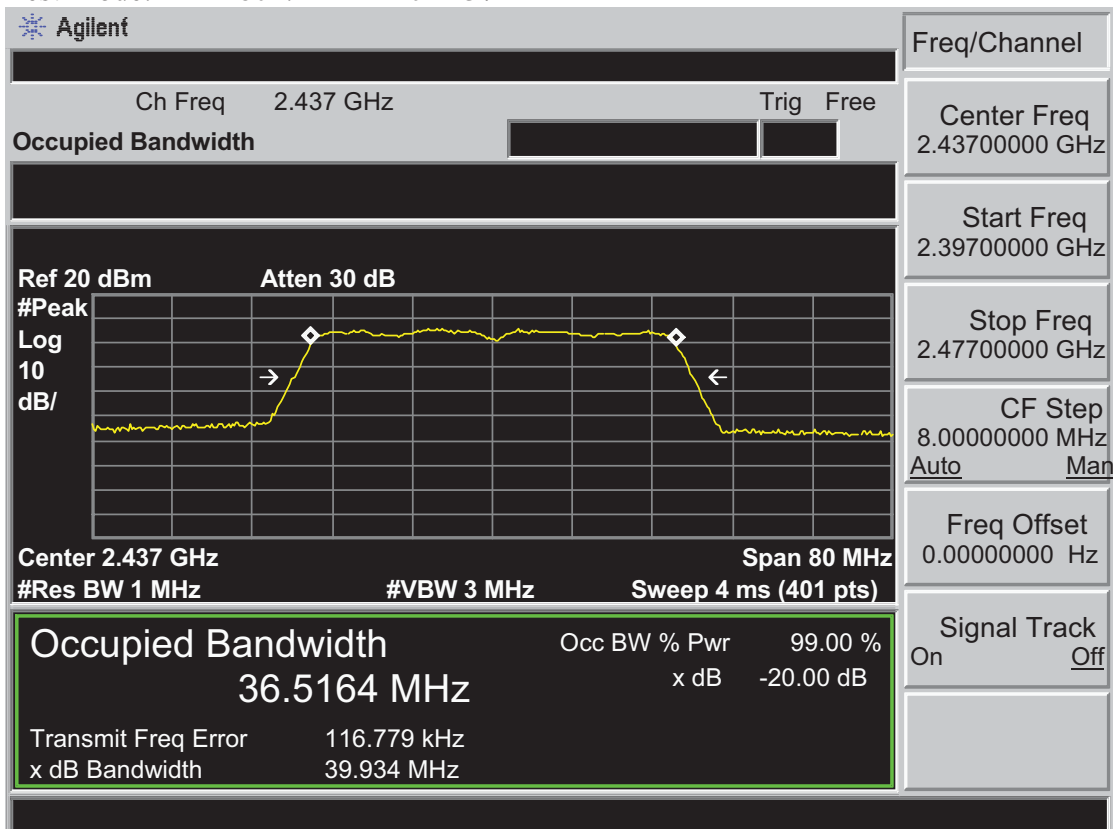
Occ BW % Pwr 99.00 %

x dB -20.00 dB

Test Mode: IEEE 802.11n HT40 2422MHz



Test Mode: IEEE 802.11n HT40 2437MHz



Test Mode: IEEE 802.11n HT40 2452MHz

Agilent

Freq/Channel  
Center Freq 2.45200000 GHz  
Start Freq 2.41200000 GHz  
Stop Freq 2.49200000 GHz  
CF Step 8.00000000 MHz  
Auto Man  
Freq Offset 0.00000000 Hz  
Signal Track  
On Off

Ch Freq 2.452 GHz Trig Free

**Occupied Bandwidth**

Ref 20 dBm Atten 30 dB

Center 2.452 GHz Span 80 MHz  
 #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts)

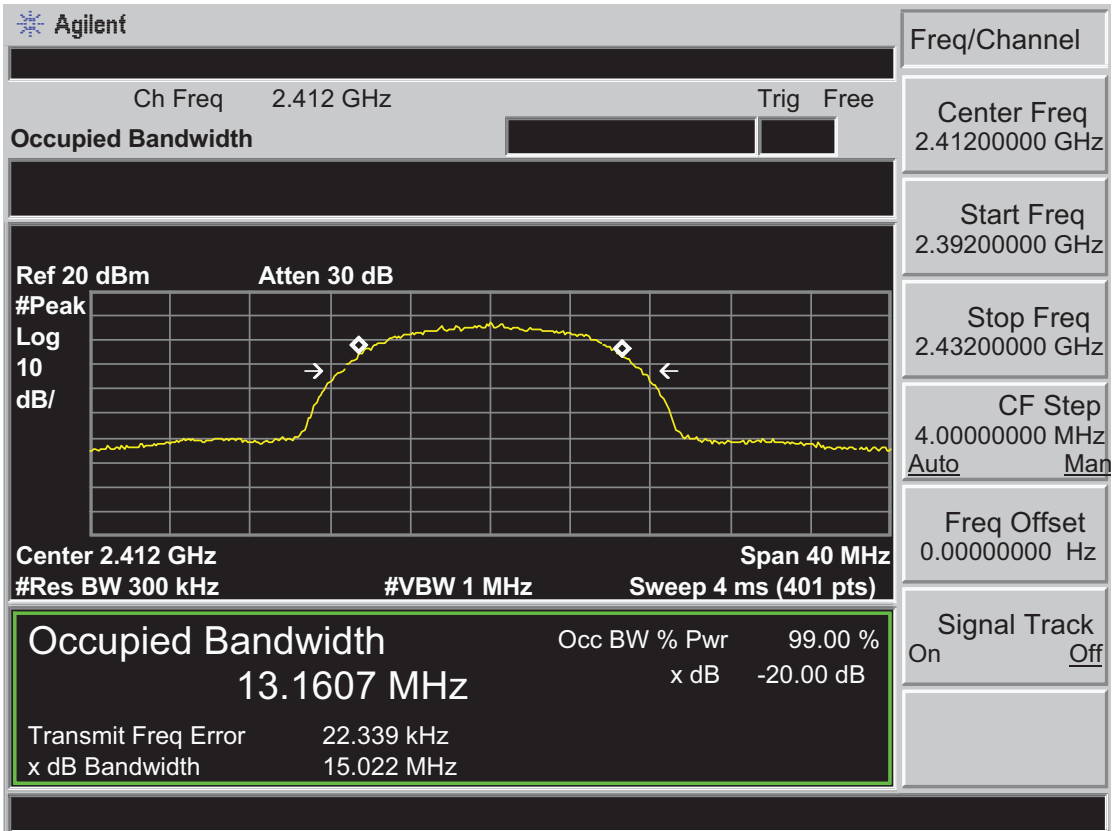
**Occupied Bandwidth** 36.4726 MHz

Occ BW % Pwr 99.00 %  
 x dB -20.00 dB

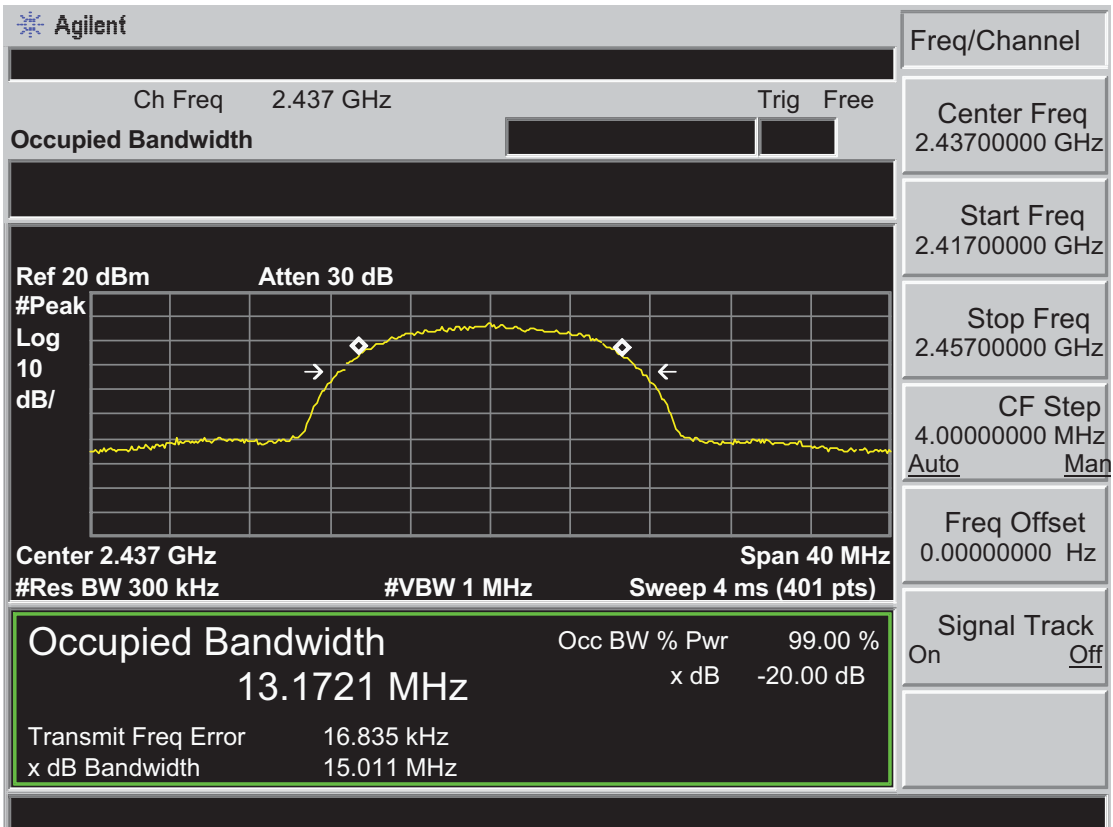
Transmit Freq Error 97.396 kHz  
 x dB Bandwidth 39.865 MHz

Antenna 1

Test Mode: IEEE 802.11b 2412MHz



Test Mode: IEEE 802.11b 2437MHz



Test Mode: IEEE 802.11b 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz  
**Occupied Bandwidth**

Trig Free

Ref 20 dBm
Atten 30 dB

Center 2.462 GHz
Span 40 MHz

#Res BW 300 kHz
#VBW 1 MHz
Sweep 4 ms (401 pts)

Center Freq  
2.46200000 GHz

Start Freq  
2.44200000 GHz

Stop Freq  
2.48200000 GHz

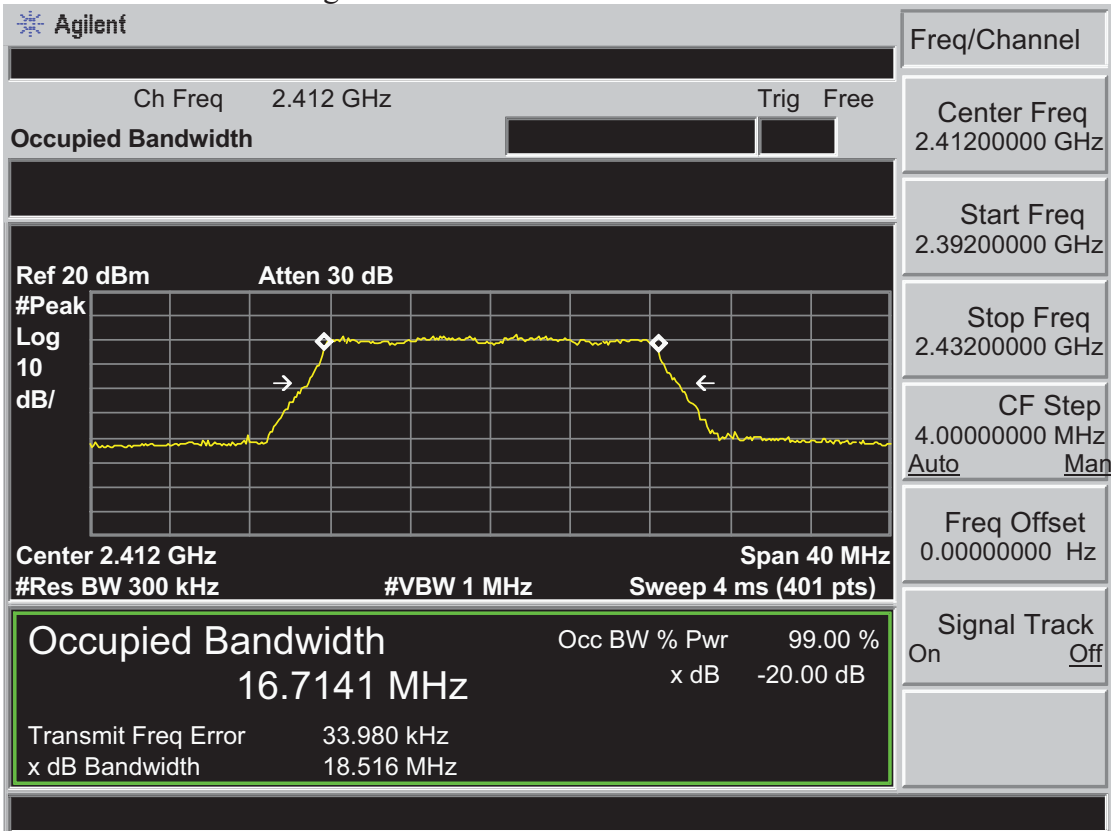
CF Step  
4.00000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

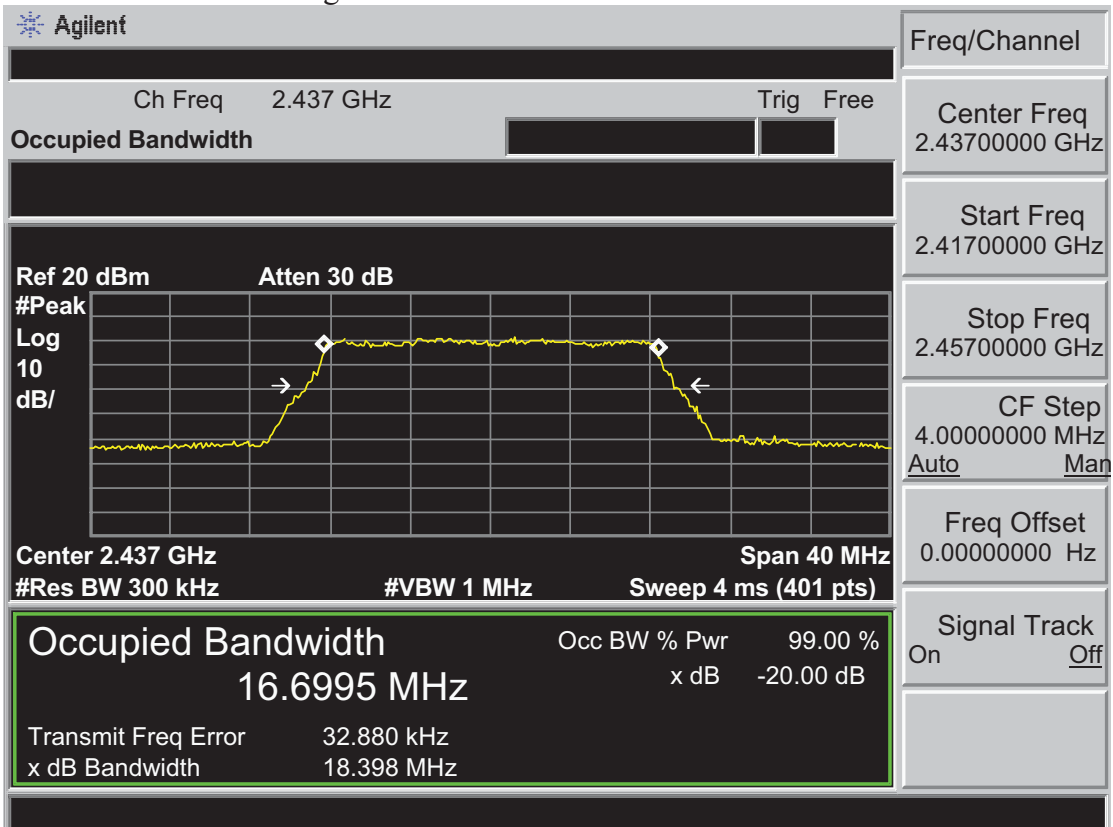
Signal Track  
On Off

Occupied Bandwidth	Occ BW % Pwr	99.00 %
13.1815 MHz	x dB	-20.00 dB
Transmit Freq Error	18.628 kHz	
x dB Bandwidth	14.975 MHz	

Test Mode: IEEE 802.11g 2412MHz



Test Mode: IEEE 802.11g 2437MHz



Test Mode: IEEE 802.11g 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz
Trig Free

Occupied Bandwidth

Ref 20 dBm      Atten 30 dB

Center 2.462 GHz      Span 40 MHz

#Res BW 300 kHz      #VBW 1 MHz      Sweep 4 ms (401 pts)

Center Freq  
2.46200000 GHz

Start Freq  
2.44200000 GHz

Stop Freq  
2.48200000 GHz

CF Step  
4.00000000 MHz  
Auto      Man

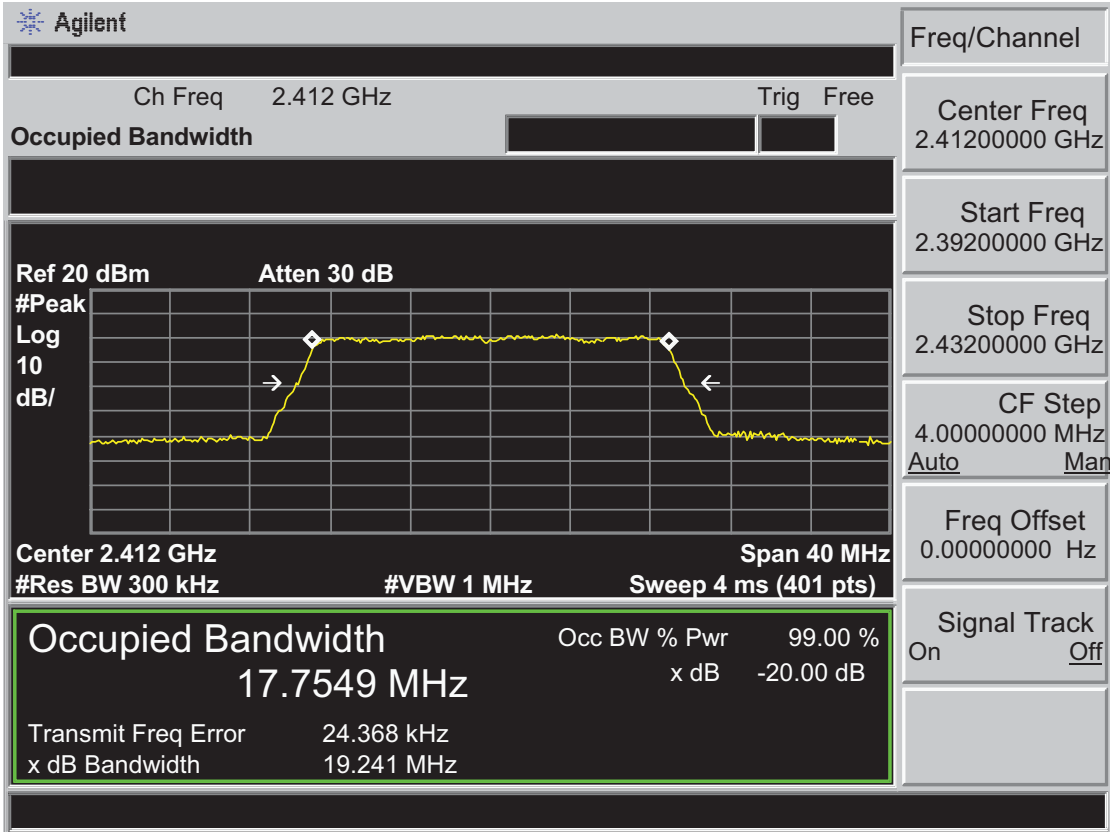
Freq Offset  
0.00000000 Hz

Signal Track  
On      Off

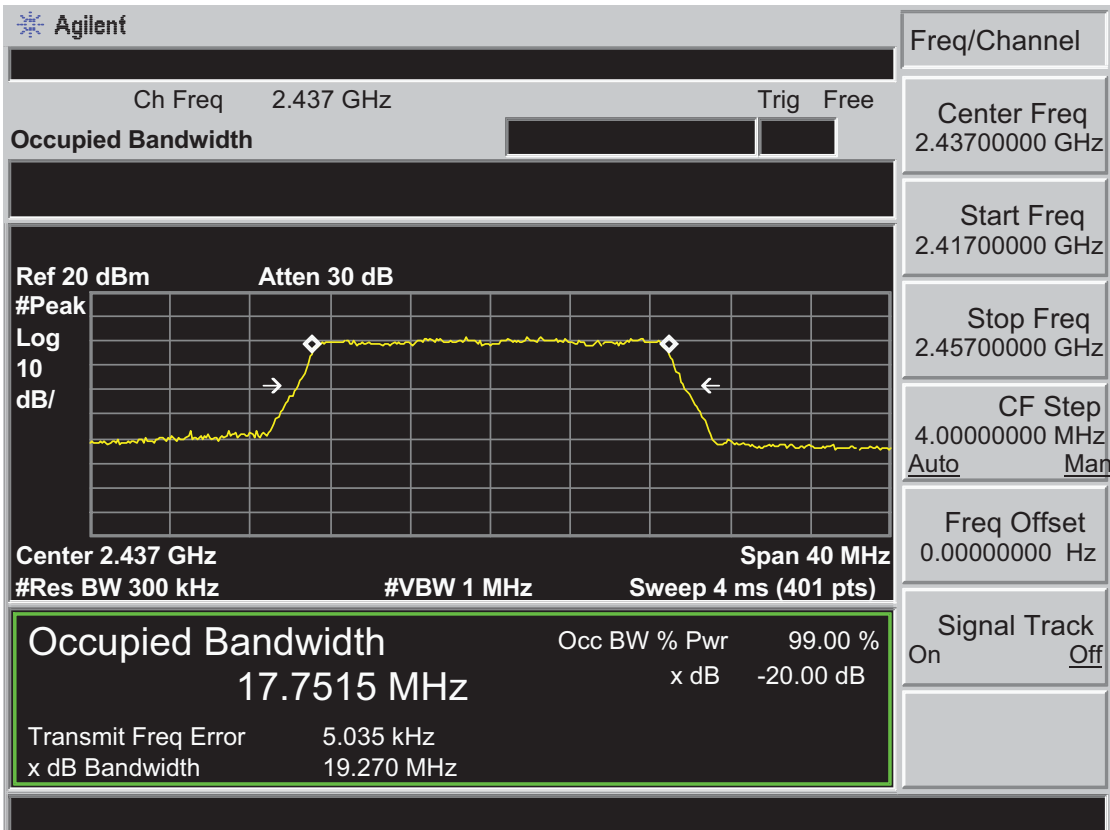
<b>Occupied Bandwidth</b>	Occ BW % Pwr	99.00 %
16.7356 MHz	x dB	-20.00 dB
Transmit Freq Error	42.818 kHz	
x dB Bandwidth	18.538 MHz	



Test Mode: IEEE 802.11n HT20 2412MHz



Test Mode: IEEE 802.11n HT20 2437MHz



Test Mode: IEEE 802.11n HT20 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz
Trig Free

Occupied Bandwidth

Ref 20 dBm      Atten 30 dB

Center 2.462 GHz      Span 40 MHz

#Res BW 300 kHz      #VBW 1 MHz      Sweep 4 ms (401 pts)

Center Freq  
2.46200000 GHz

Start Freq  
2.44200000 GHz

Stop Freq  
2.48200000 GHz

CF Step  
4.00000000 MHz  
Auto      Man

Freq Offset  
0.00000000 Hz

Signal Track  
On      Off

**Occupied Bandwidth**      Occ BW % Pwr      99.00 %

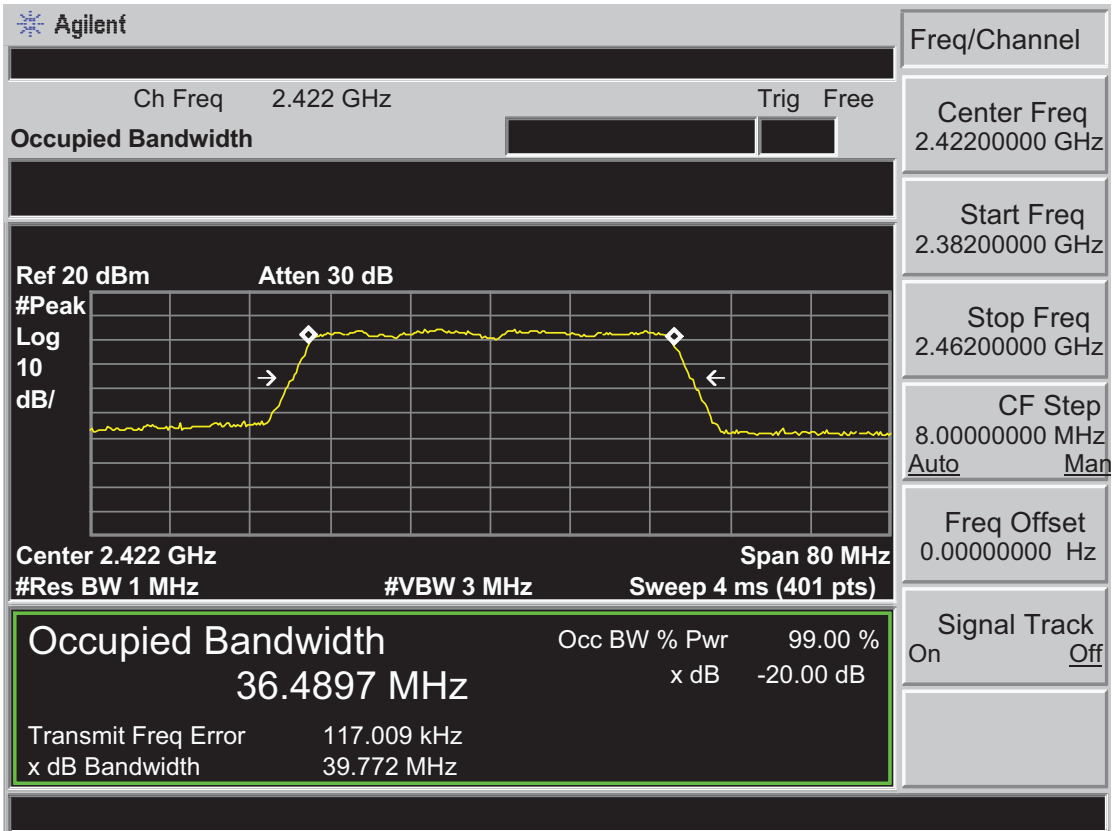
17.7510 MHz

x dB      -20.00 dB

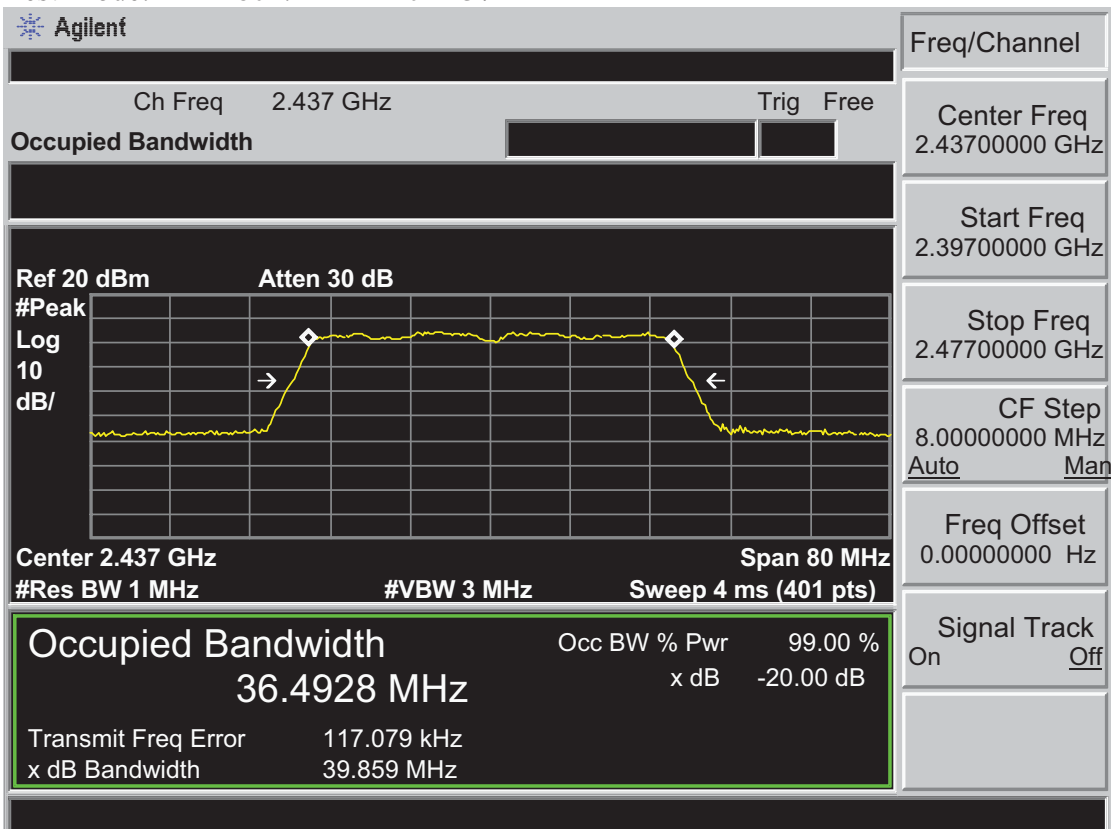
Transmit Freq Error      -4.678 kHz

x dB Bandwidth      19.265 MHz

Test Mode: IEEE 802.11n HT40 2422MHz



Test Mode: IEEE 802.11n HT40 2437MHz



Test Mode: IEEE 802.11n HT40 2452MHz

Agilent

Freq/Channel

Ch Freq 2.452 GHz  
**Occupied Bandwidth**

Trig Free

Ref 20 dBm
Atten 30 dB

Center 2.452 GHz
Span 80 MHz

#Res BW 1 MHz
#VBW 3 MHz
Sweep 4 ms (401 pts)

Center Freq  
2.45200000 GHz

Start Freq  
2.41200000 GHz

Stop Freq  
2.49200000 GHz

CF Step  
8.00000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

**Occupied Bandwidth**  
36.4031 MHz

Occ BW % Pwr 99.00 %  
 x dB -20.00 dB

Transmit Freq Error 105.524 kHz  
 x dB Bandwidth 39.874 MHz

## 7 OUTPUT POWER TEST

### 7.1 Limit

For systems using digital modulation in the 2400—2483.5MHz, The Peak out put Power shall not exceed 1W(30dBm)

### 7.2 Test Procedure

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2, Follow the test procedure as described in KDB 558074
  - (1)Set span to at least 1.5 times the OBW.
  - (2)Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
  - (3)Set VBW  $\geq 3 \times$  RBW.
  - (4)Number of points in sweep  $\geq 2 \times$  span / RBW. (This gives bin-to-bin spacing  $\leq$  RBW/2, so that narrowband signals are not lost between frequency bins.)
  - (4)Sweep time = auto.
  - (5)Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
  - (6)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 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  $\geq 98 \%$ , and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
  - (7)Trace average at least 100 traces in power averaging (i.e., RMS) mode.
  - (8)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.

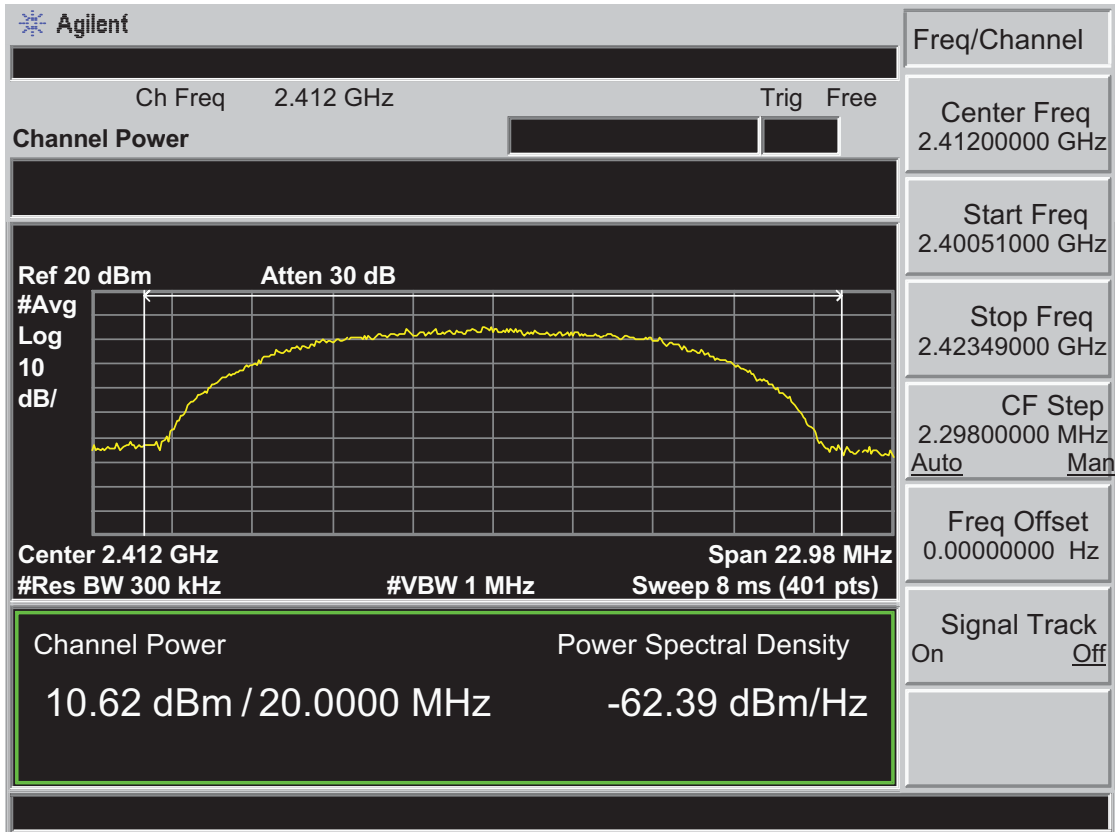
7.3 Test Result

EUT: Audio Converter Box					
M/N: BeoSound Core					
Test date: 2017-06-26		Test site: 3m Chamber		Tested by: Tony Tang	
Pass					
Test Mode	CH	Conducted Power (dBm)			Limit (dBm)
		Ant 0	Ant 1	Total	
IEEE 802.11 b	CH1	10.62	11.52	/	30
	CH6	13.02	12.32	/	30
	CH11	13.45	12.74	/	30
IEEE 802.11 g	CH1	10.12	8.88	/	30
	CH6	10.45	9.24	/	30
	CH11	10.49	9.72	/	30
IEEE 802.11 n HT 20	CH1	10.24	9.09	12.71	29.54
	CH6	10.88	8.99	13.05	29.54
	CH11	11.05	9.89	13.52	29.54
IEEE 802.11 n HT 40	CH1	8.94	7.94	11.48	29.54
	CH4	9.59	7.90	11.84	29.54
	CH7	9.47	7.85	11.75	29.54
Conclusion : PASS					
Note: MIMO mode Limit=30-(Directional gain - 6)=29.56.					

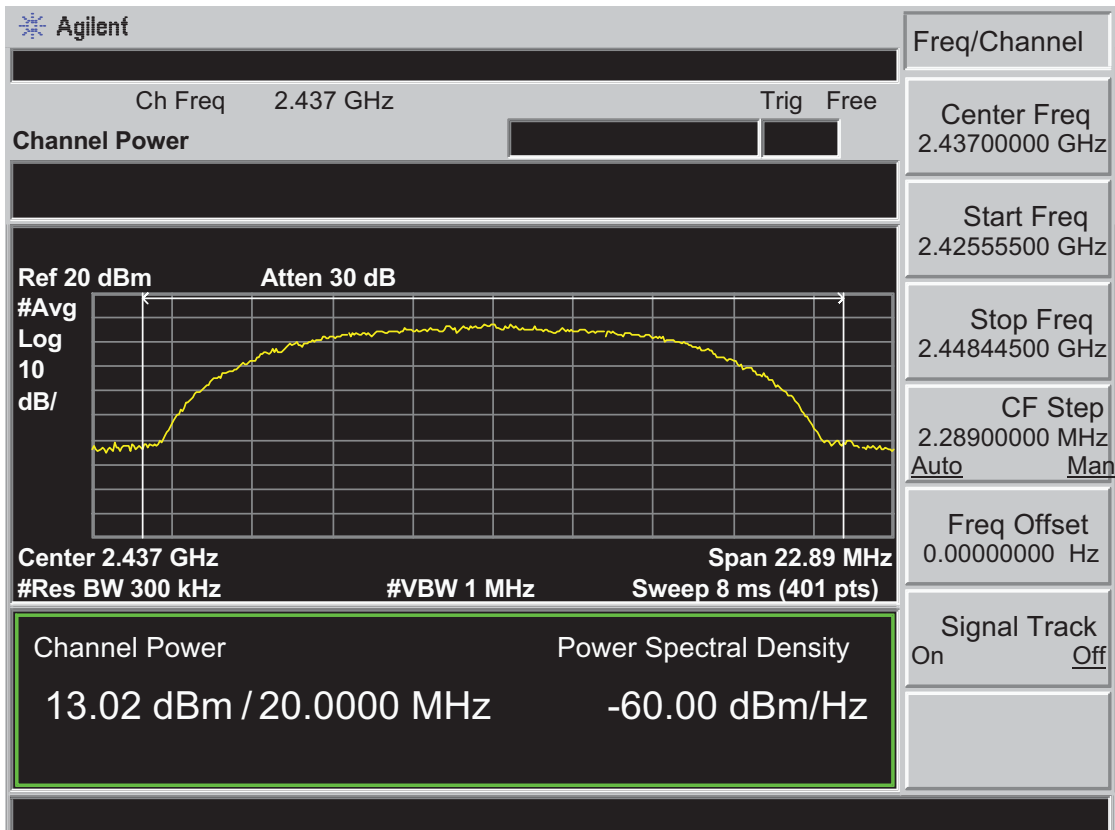
### 7.4 Test Data

Antenna 0

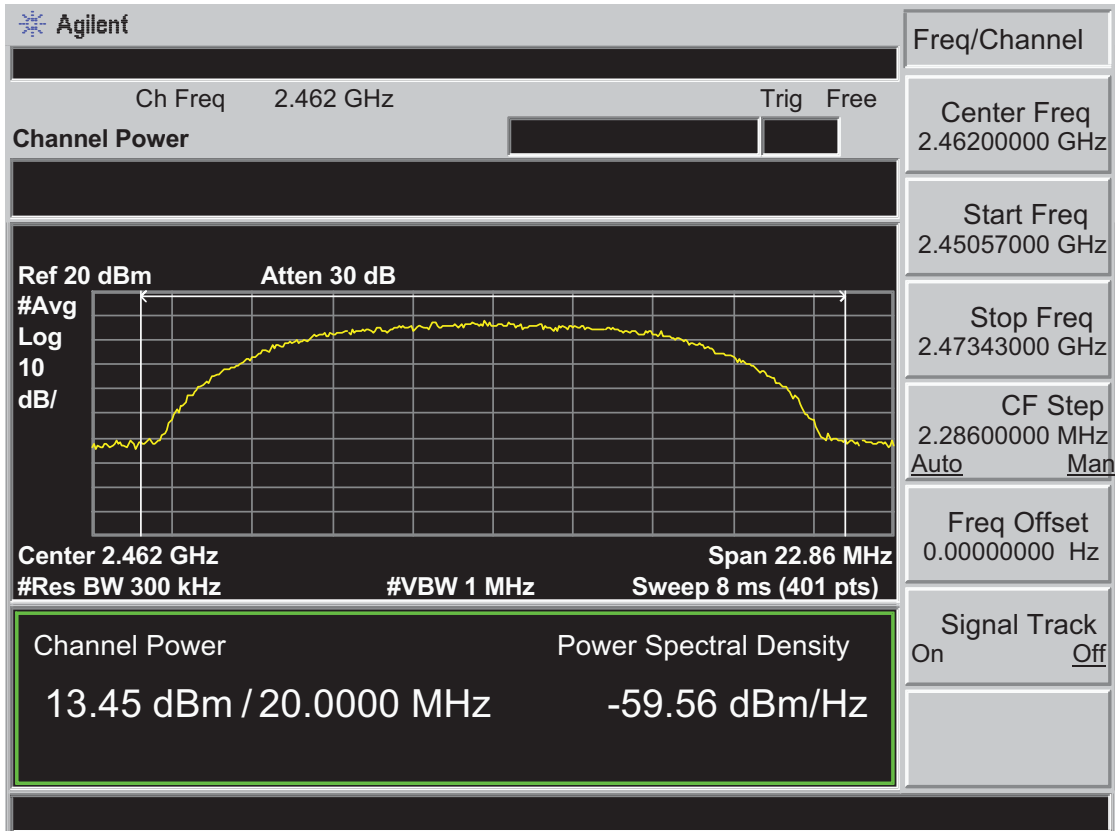
Test Mode: IEEE 802.11b 2412MHz



Test Mode: IEEE 802.11b 2437MHz

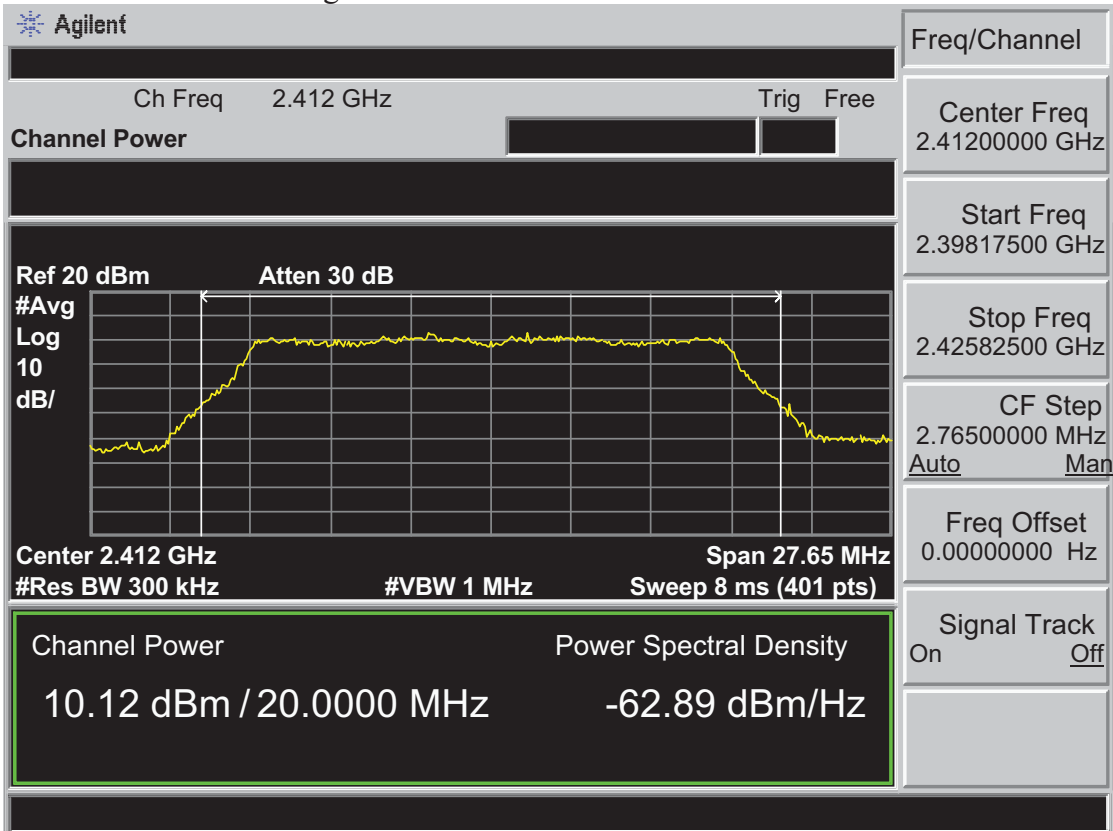


Test Mode: IEEE 802.11b 2462MHz

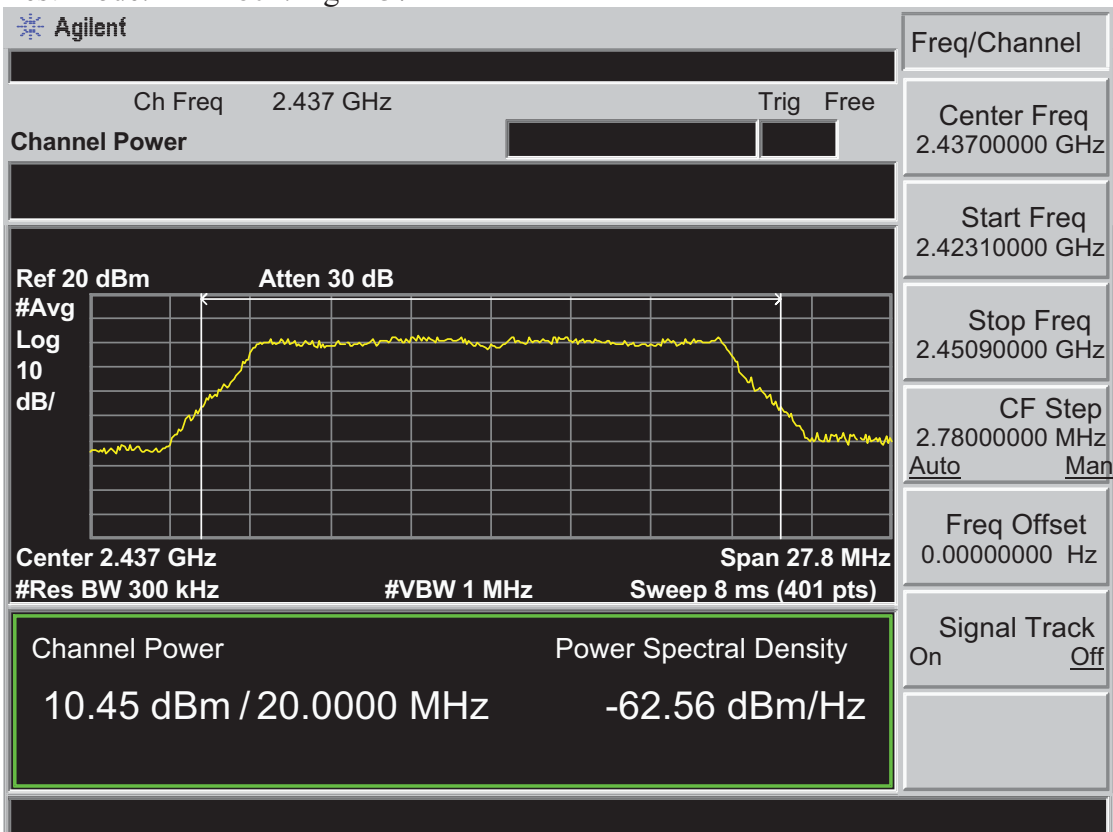




Test Mode: IEEE 802.11g 2412MHz



Test Mode: IEEE 802.11g 2437MHz



Test Mode: IEEE 802.11g 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz  
**Channel Power**

Trig Free

Center Freq  
2.46200000 GHz

Start Freq  
2.44826500 GHz

Stop Freq  
2.47573500 GHz

CF Step  
2.74700000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

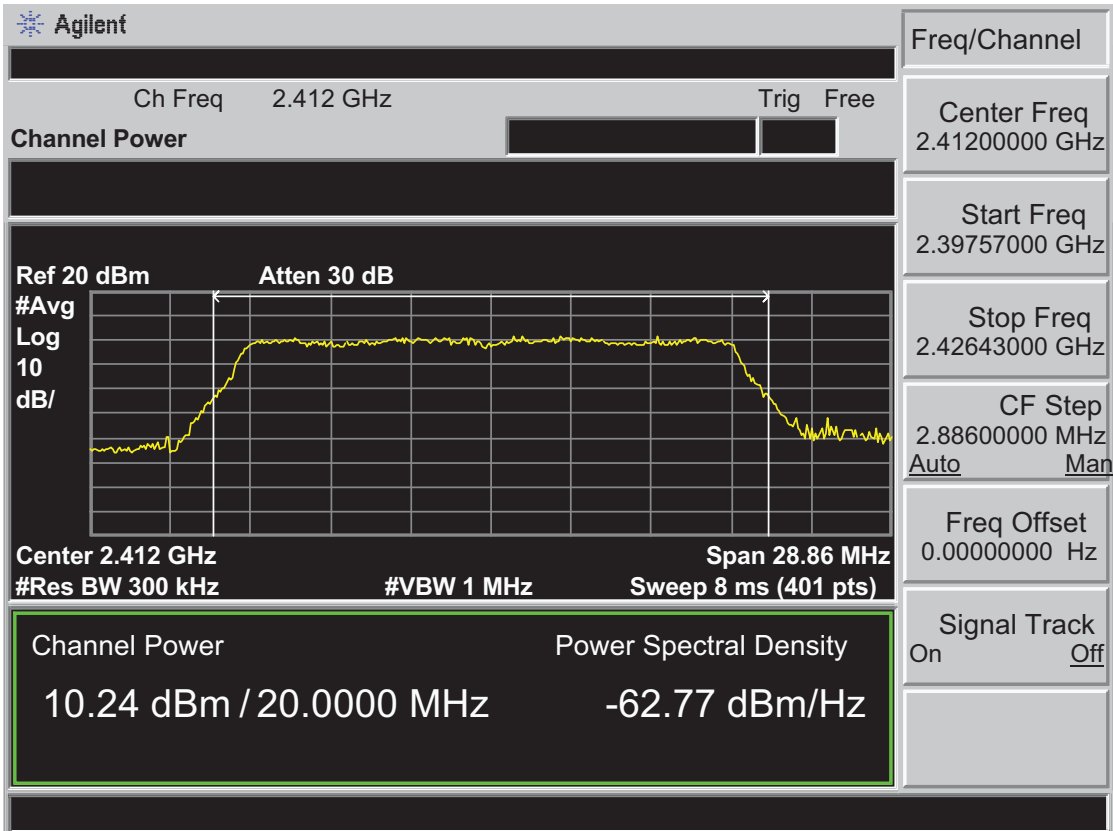
Ref 20 dBm      Atten 30 dB

#Avg 10  
#Res BW 300 kHz      #VBW 1 MHz      Sweep 8 ms (401 pts)

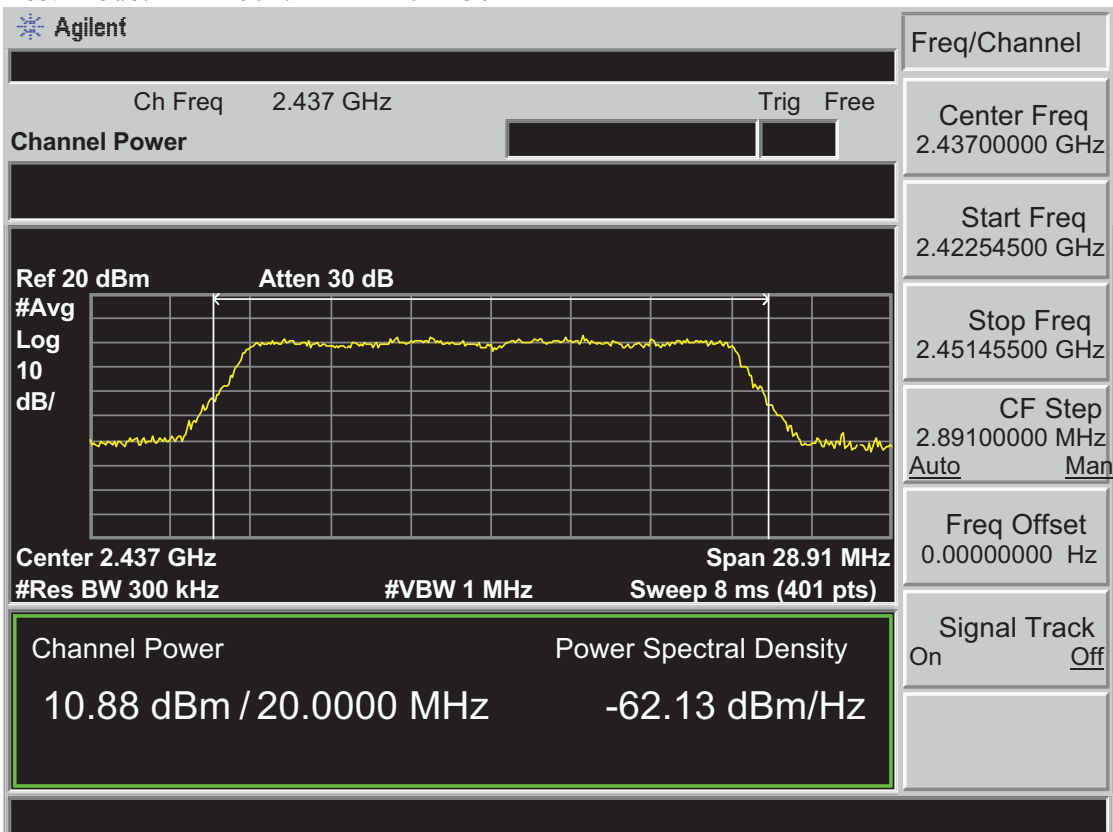
Span 27.47 MHz

Channel Power	Power Spectral Density
10.49 dBm / 20.0000 MHz	-62.53 dBm/Hz

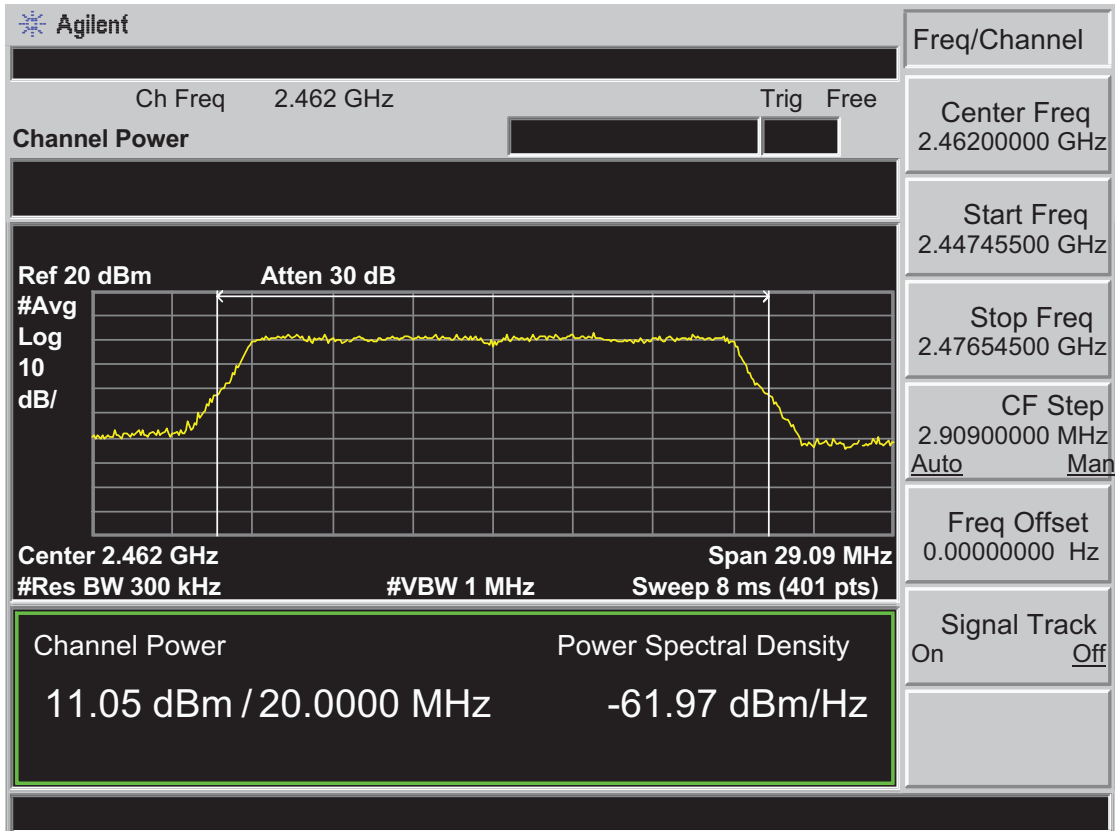
Test Mode: IEEE 802.11n HT20 2412MHz



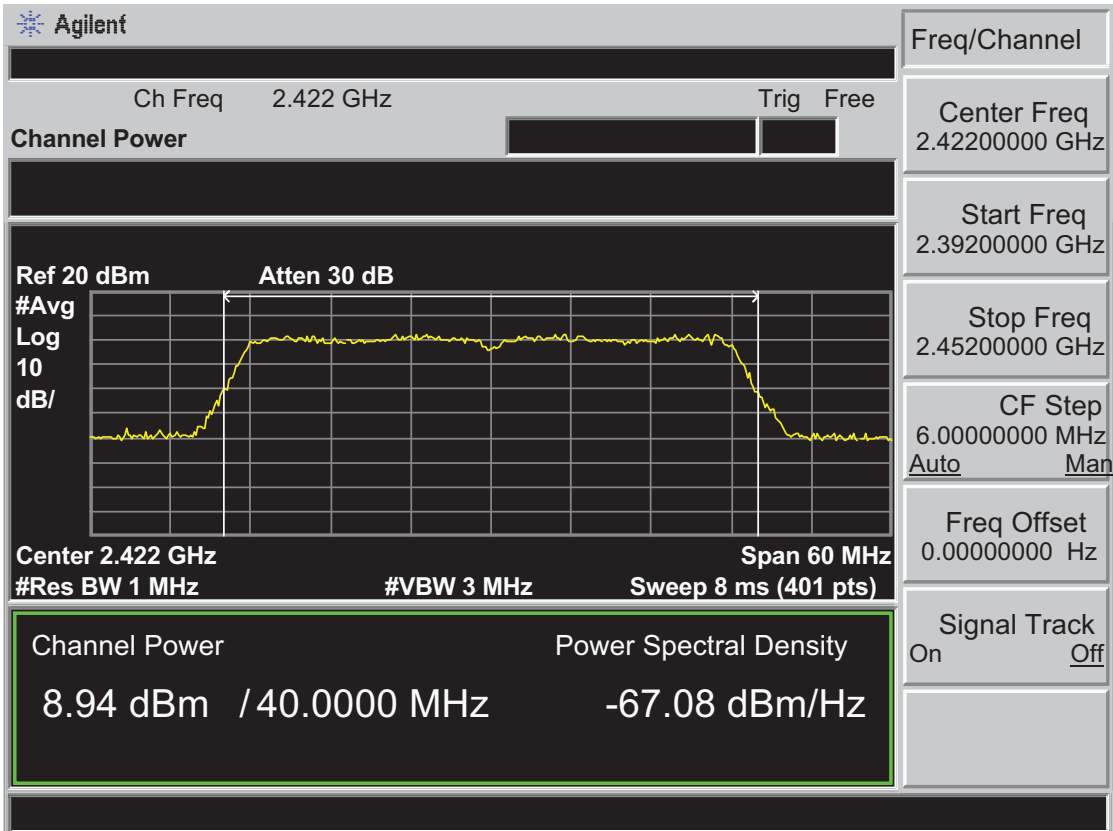
Test Mode: IEEE 802.11n HT20 2437MHz



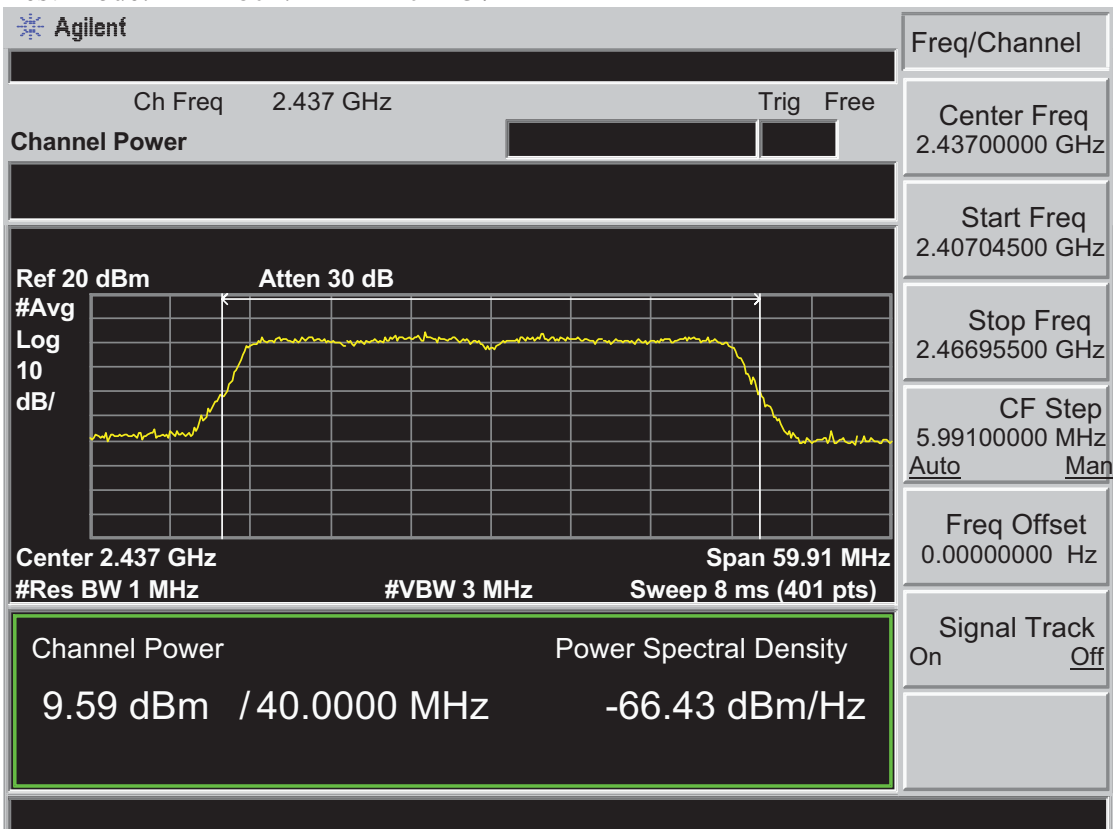
Test Mode: IEEE 802.11n HT20 2462MHz




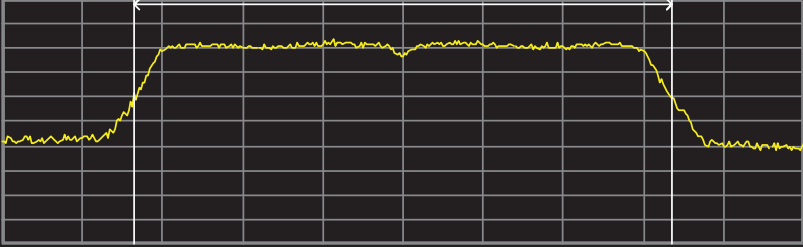
Test Mode: IEEE 802.11n HT40 2422MHz



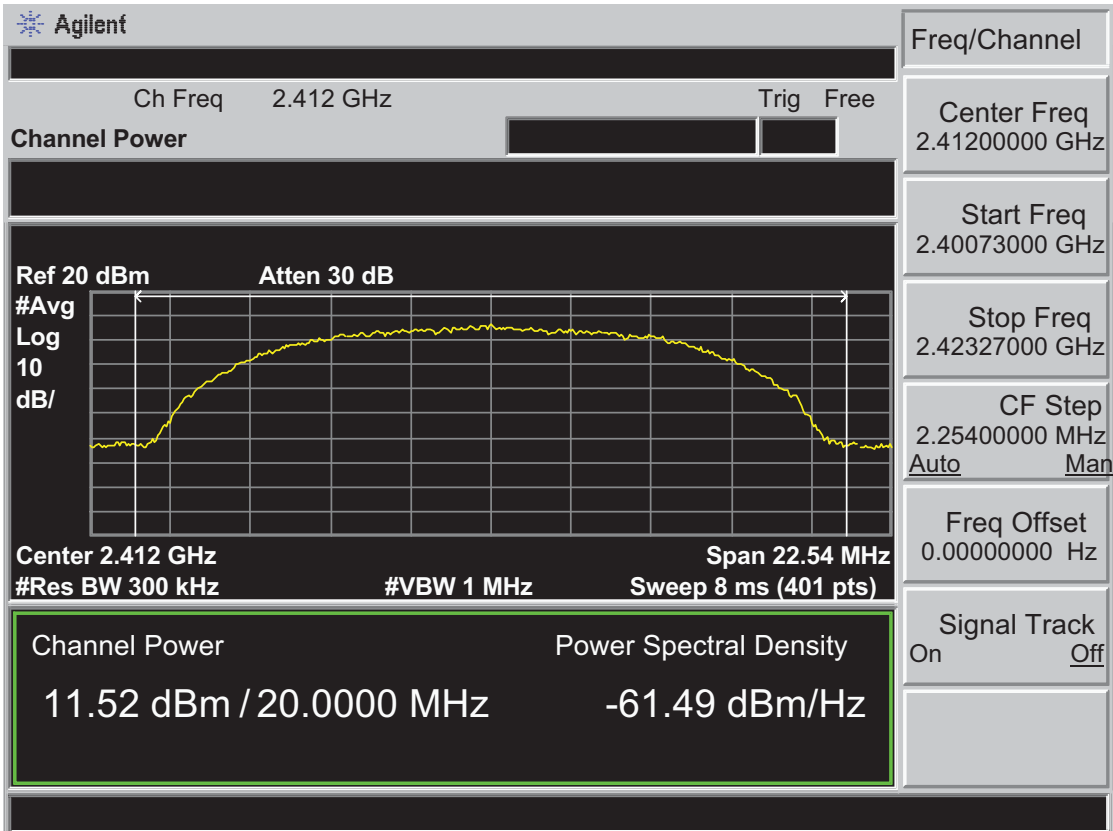
Test Mode: IEEE 802.11n HT40 2437MHz



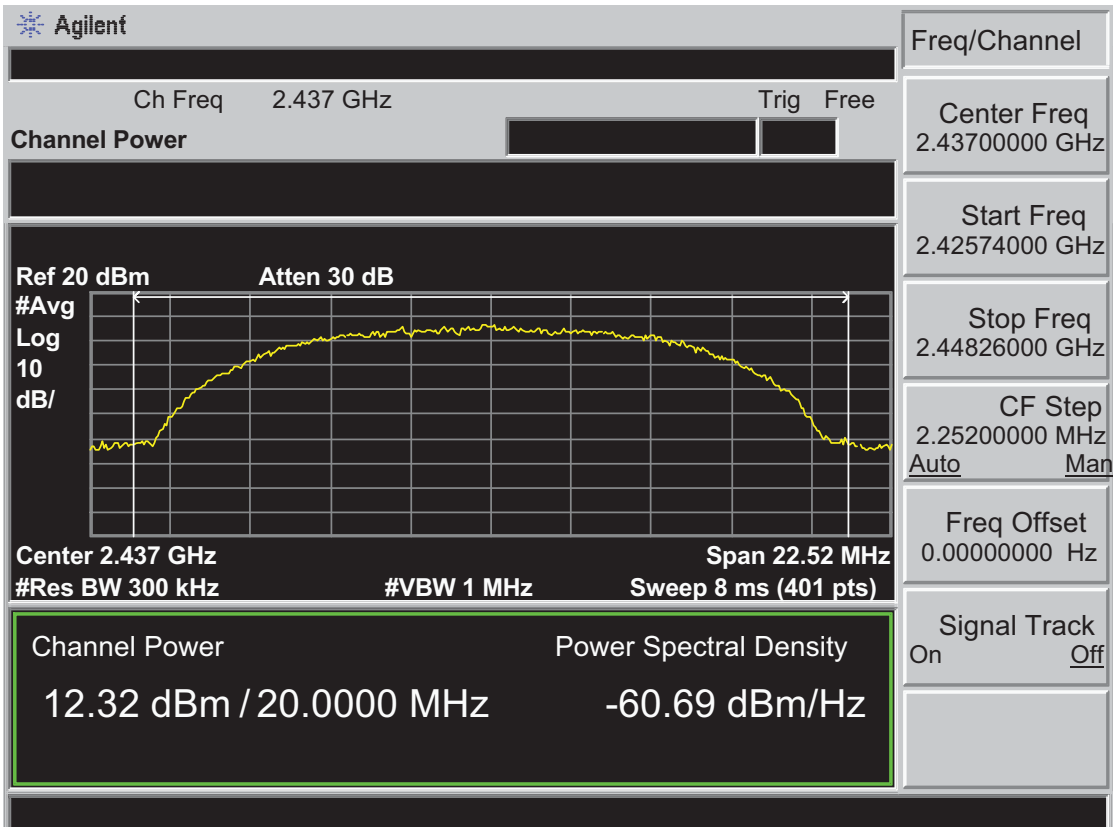
Test Mode: IEEE 802.11n HT40 2452MHz

		<b>Freq/Channel</b>	
Ch Freq 2.452 GHz		Trig Free	
<b>Channel Power</b>		Center Freq 2.4520000 GHz	
Ref 20 dBm      Atten 30 dB		Start Freq 2.42210000 GHz	
#Avg 10 Log dB/		Stop Freq 2.48190000 GHz	
		CF Step 5.98000000 MHz Auto      Man	
Center 2.452 GHz		Span 59.8 MHz	
#Res BW 1 MHz		#VBW 3 MHz      Sweep 8 ms (401 pts)	
<b>Channel Power</b>		<b>Power Spectral Density</b>	
9.47 dBm / 40.0000 MHz		-66.55 dBm/Hz	
		Signal Track On      Off	

Antenna 1  
 Test Mode: IEEE 802.11b 2412MHz



Test Mode: IEEE 802.11b 2437MHz



Test Mode: IEEE 802.11b 2462MHz

Agilent

Freq/Channel

Center Freq  
2.46200000 GHz

Start Freq  
2.45076500 GHz

Stop Freq  
2.47323500 GHz

CF Step  
2.24700000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Ch Freq 2.462 GHz

Trig Free

Channel Power

Ref 20 dBm      Atten 30 dB

Center 2.462 GHz      Span 22.47 MHz

#Res BW 300 kHz      #VBW 1 MHz      Sweep 8 ms (401 pts)

Channel Power

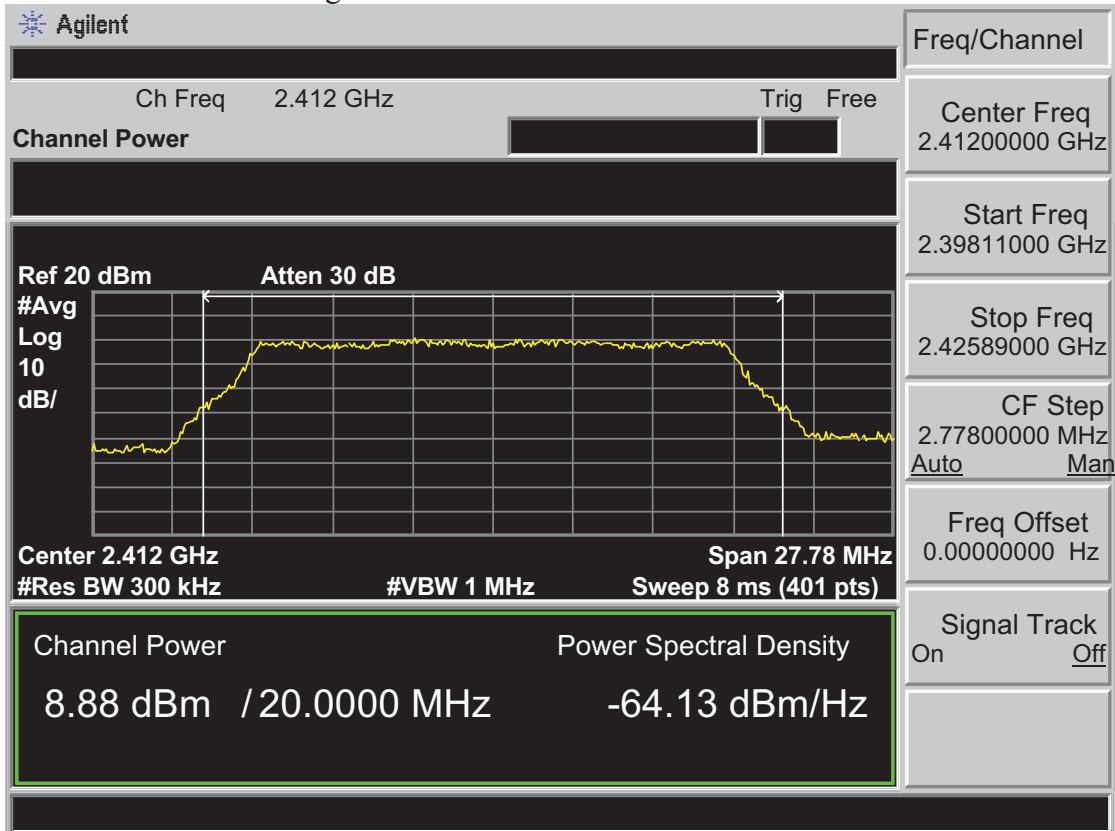
12.74 dBm / 20.0000 MHz

Power Spectral Density

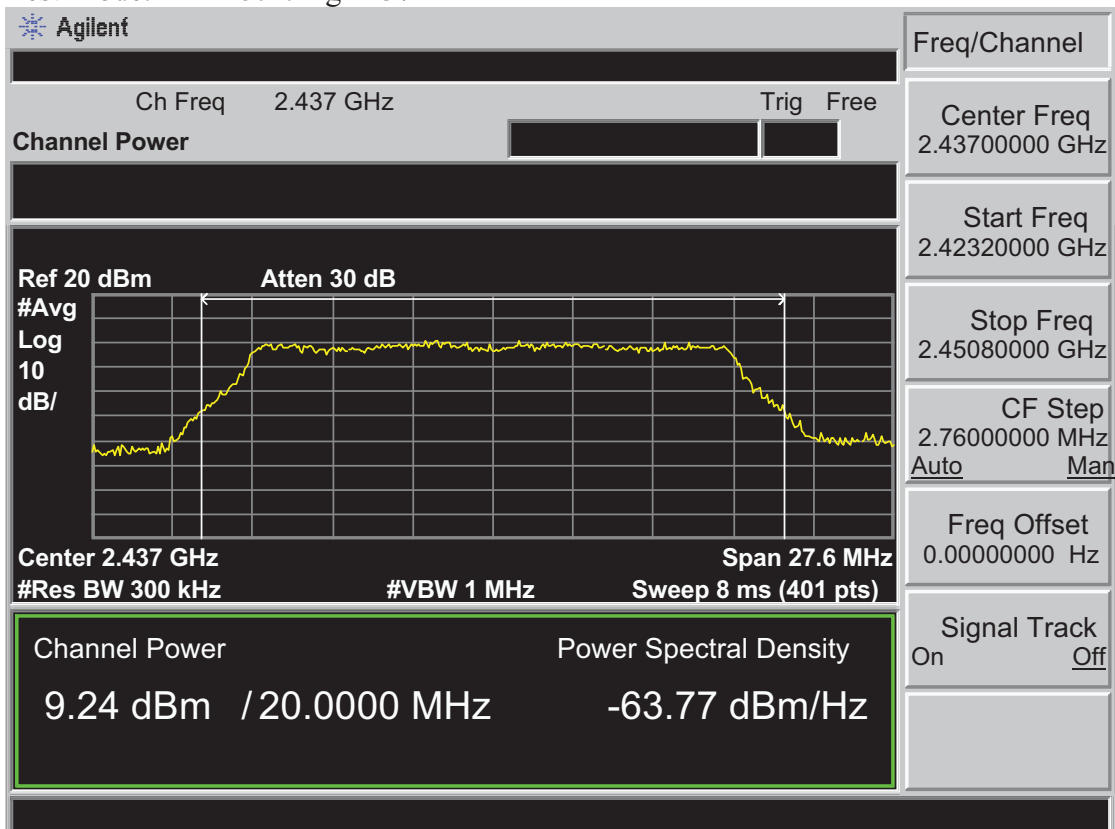
-60.52 dBm/Hz



Test Mode: IEEE 802.11g 2412MHz



Test Mode: IEEE 802.11g 2437MHz



Test Mode: IEEE 802.11g 2462MHz

Agilent

Freq/Channel	
Center Freq	2.46200000 GHz
Start Freq	2.44809500 GHz
Stop Freq	2.47590500 GHz
CF Step	2.78100000 MHz
Auto	Man
Freq Offset	0.00000000 Hz
Signal Track	On <u>Off</u>

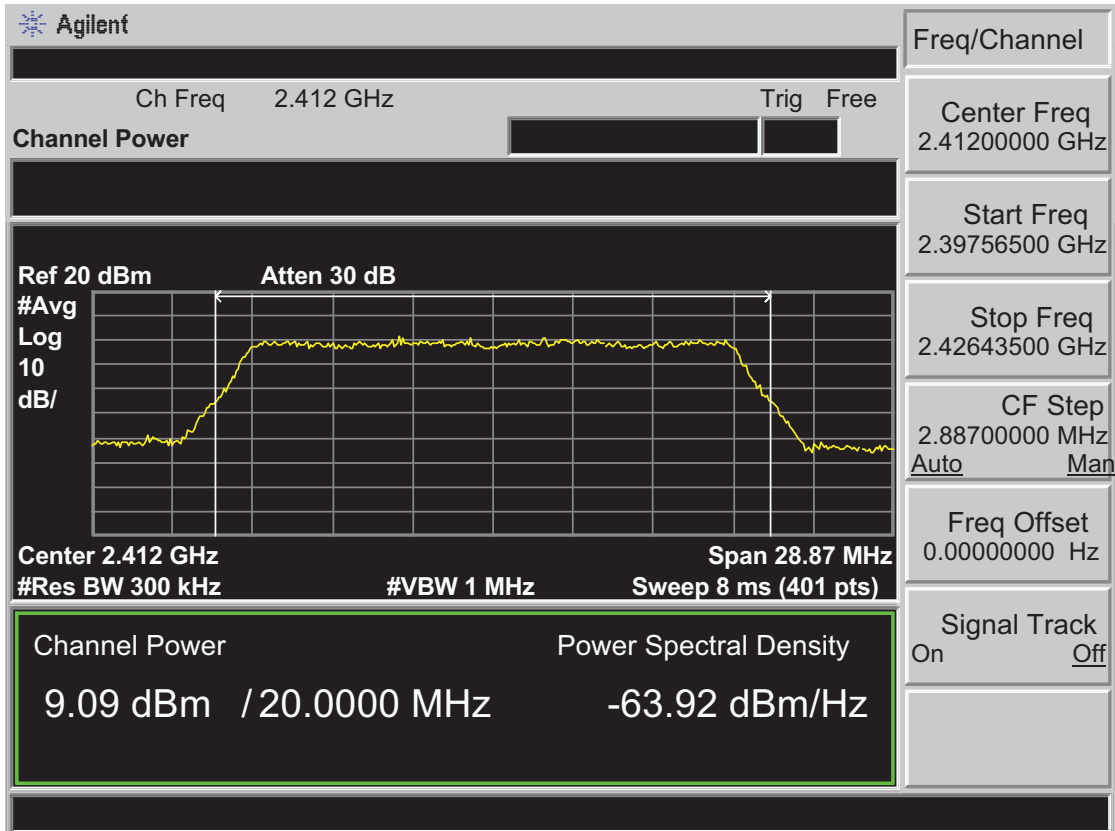
Ch Freq	2.462 GHz	Trig	Free
Channel Power			

Ref 20 dBm      Atten 30 dB

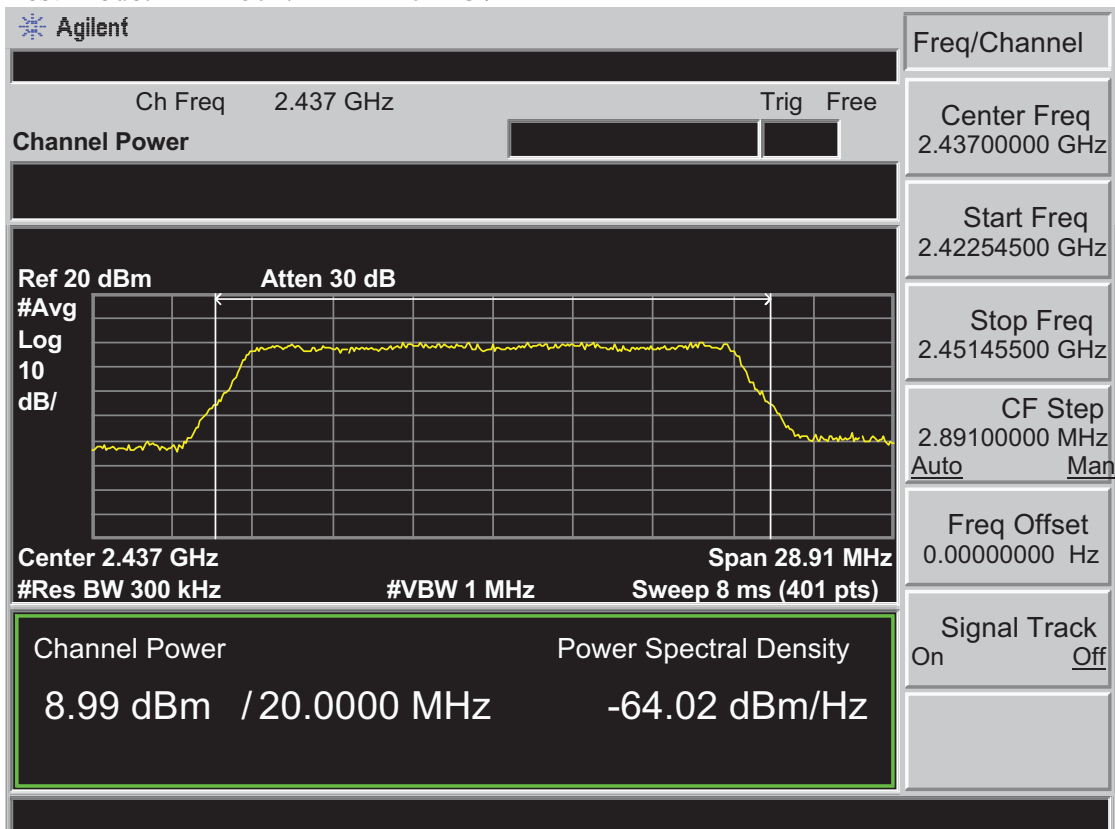
#Avg 10  
Log dB/  
Center 2.462 GHz      Span 27.81 MHz  
#Res BW 300 kHz      #VBW 1 MHz      Sweep 8 ms (401 pts)

Channel Power	Power Spectral Density
9.72 dBm / 20.0000 MHz	-63.29 dBm/Hz

Test Mode: IEEE 802.11n HT20 2412MHz



Test Mode: IEEE 802.11n HT20 2437MHz



Test Mode: IEEE 802.11n HT20 2462MHz

Agilent

Freq/Channel

Ch Freq 2.462 GHz  
**Channel Power**

Trig Free

Center Freq  
2.46200000 GHz

Start Freq  
2.44755000 GHz

Stop Freq  
2.47645000 GHz

CF Step  
2.89000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Ref 20 dBm  
 #Avg 10  
 Log  
 dB/

Atten 30 dB

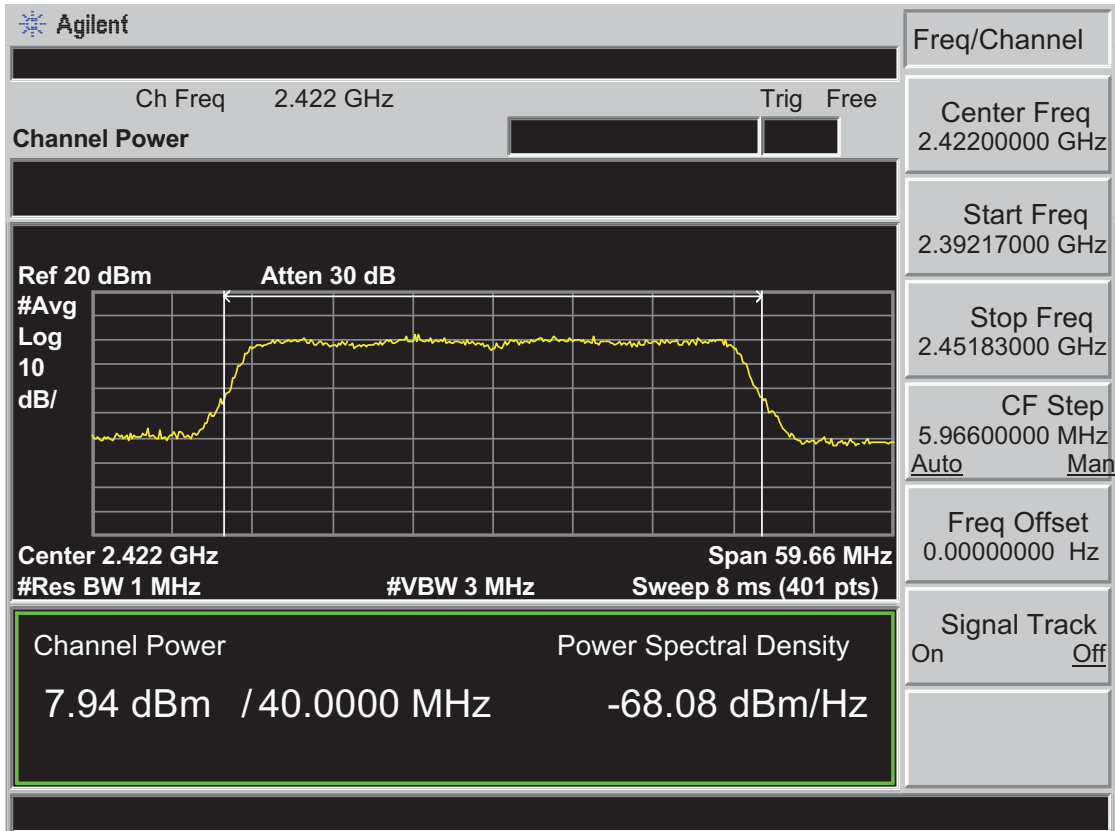
Center 2.462 GHz  
 #Res BW 300 kHz

#VBW 1 MHz

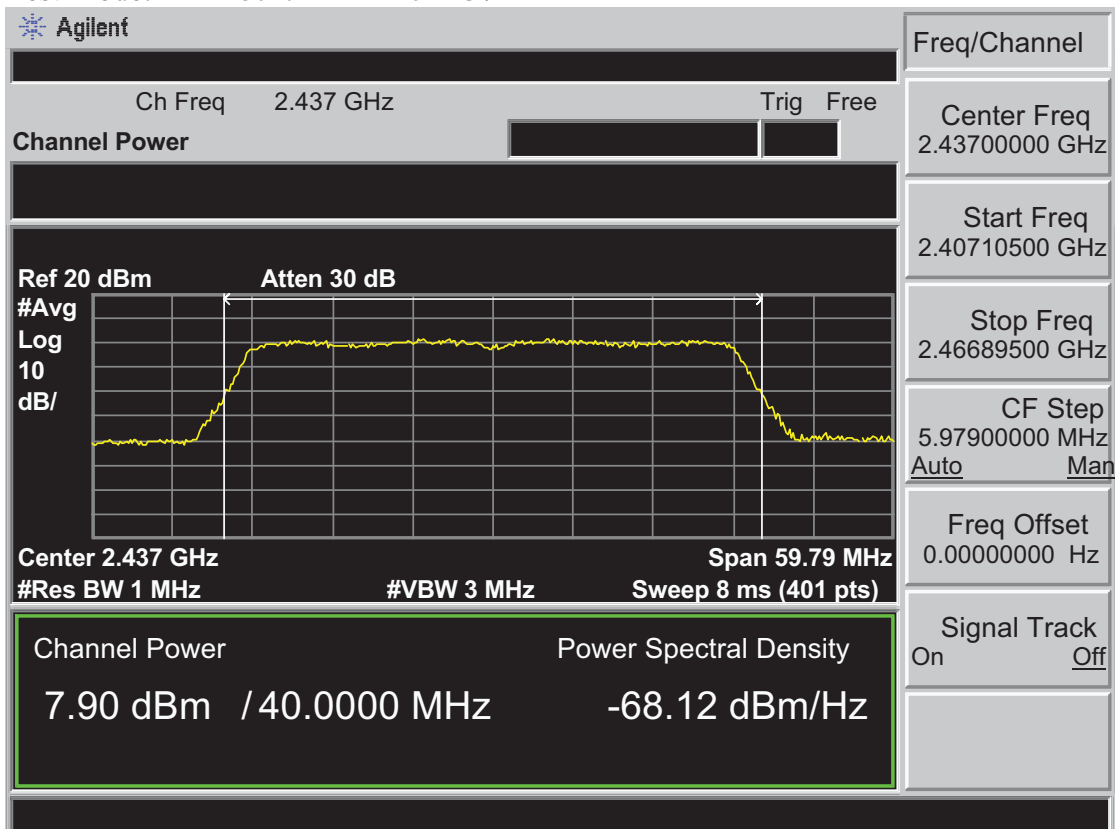
Span 28.9 MHz  
 Sweep 8 ms (401 pts)

Channel Power	Power Spectral Density
9.89 dBm / 20.0000 MHz	-63.12 dBm/Hz


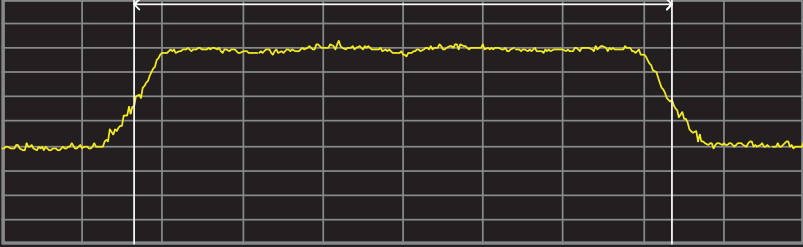
Test Mode: IEEE 802.11n HT40 2422MHz



Test Mode: IEEE 802.11n HT40 2437MHz



Test Mode: IEEE 802.11n HT40 2452MHz

		Freq/Channel	
Ch Freq 2.452 GHz		Trig Free	
Channel Power		Center Freq 2.45200000 GHz	
Ref 20 dBm      Atten 30 dB		Start Freq 2.42209000 GHz	
#Avg 10 Log dB/		Stop Freq 2.48191000 GHz	
		CF Step 5.98200000 MHz Auto      Man	
Center 2.452 GHz		Span 59.82 MHz	
#Res BW 1 MHz		#VBW 3 MHz      Sweep 8 ms (401 pts)	
Channel Power		Power Spectral Density	
7.85 dBm / 40.0000 MHz		-68.17 dBm/Hz	
		Signal Track On      Off	

## 8 POWER SPECTRAL DENSITY TEST

### 8.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

### 8.2 Test Procedure

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
  
- 2, Follow the test procedure as described in KDB 558074
  - (1). Set analyzer center frequency to DTS channel center frequency.
  - (2). Set the span to 1.5 times the DTS bandwidth.
  - (3). Set the RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
  - (4). Set the VBW  $\geq 3 \text{ RBW}$ .
  - (5). Detector = peak.
  - (6). Sweep time = auto couple.
  - (7). Trace mode = max hold.
  - (8). Allow trace to fully stabilize.
  - (9). Use the peak marker function to determine the maximum amplitude level.
  - (10). If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### 8.3 Test Result

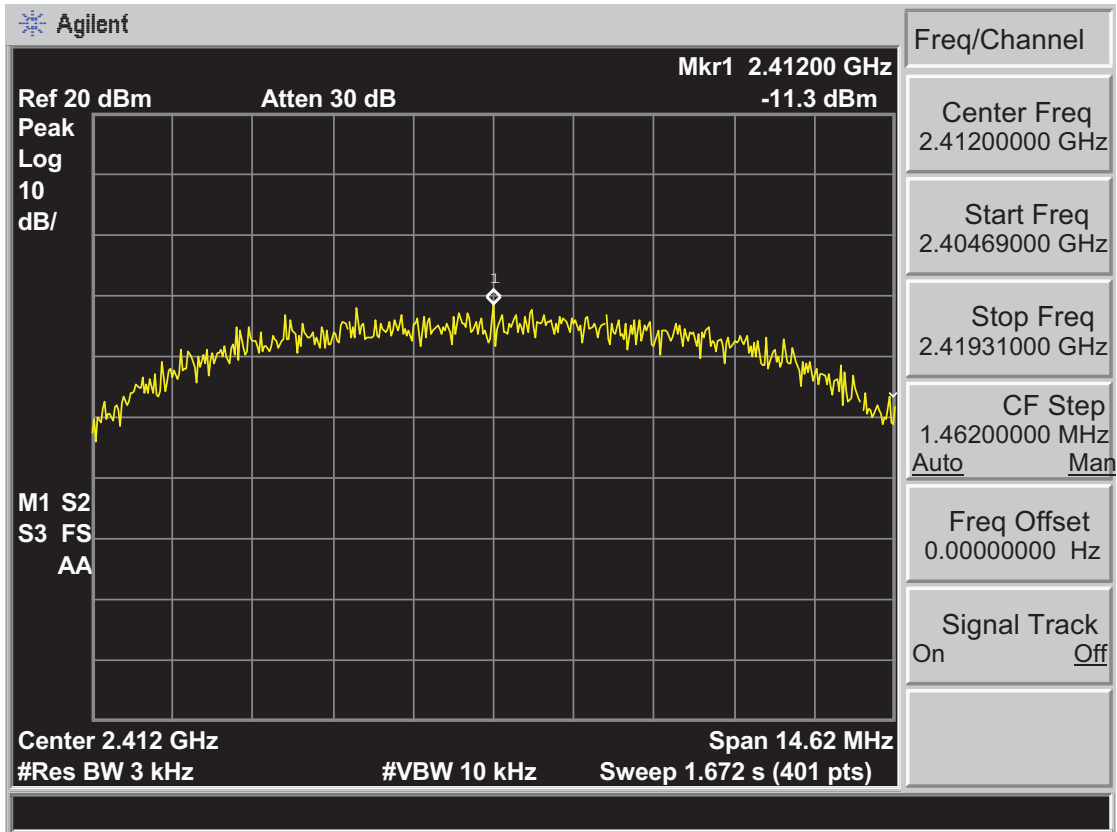
EUT: Audio Converter Box					
M/N: BeoSound Core					
Test date: 2017-06-26		Test site: 3m Chamber		Tested by: Tony Tang	
Pass					
Test Mode	CH	Power density (dBm/3kHz)			Limit (dBm/3kHz)
		Ant 0	Ant 1	Total	
IEEE 802.11 b	CH1	-11.30	-12.90	/	8
	CH6	-10.96	-10.58	/	8
	CH11	-10.80	-10.13	/	8
IEEE 802.11 g	CH1	-10.57	-12.55	/	8
	CH6	-10.78	-12.78	/	8
	CH11	-9.92	-12.19	/	8
IEEE 802.11 n HT 20	CH1	-10.46	-13.00	-8.54	7.54
	CH6	-10.15	-12.09	-8.00	7.54
	CH11	-9.72	-12.62	-7.92	7.54
IEEE 802.11 n HT 40	CH1	-10.99	-13.76	-9.15	7.54
	CH4	-10.93	-13.82	-9.13	7.54
	CH7	-10.79	-13.91	-9.07	7.54
Conclusion : PASS					
Note: MIMO mode Limit=8-(Directional gain - 6)=7.56.					



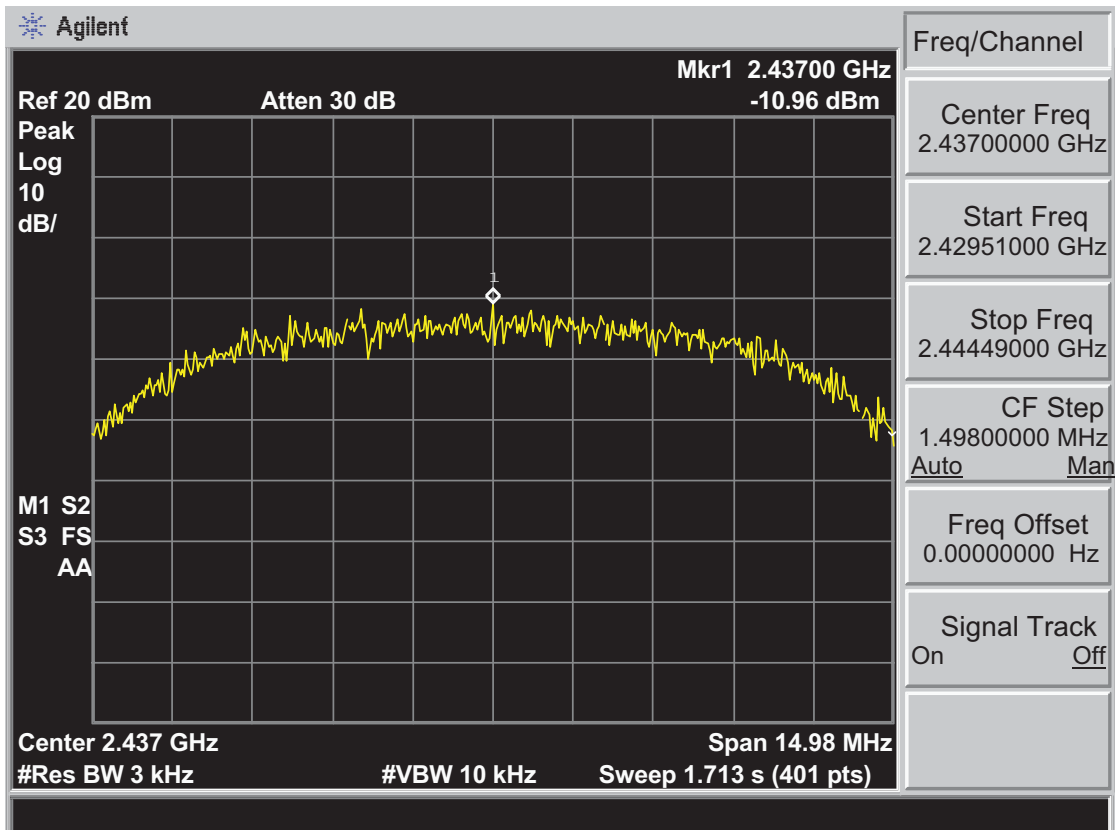
### 8.4 Test Data

Antenna 0

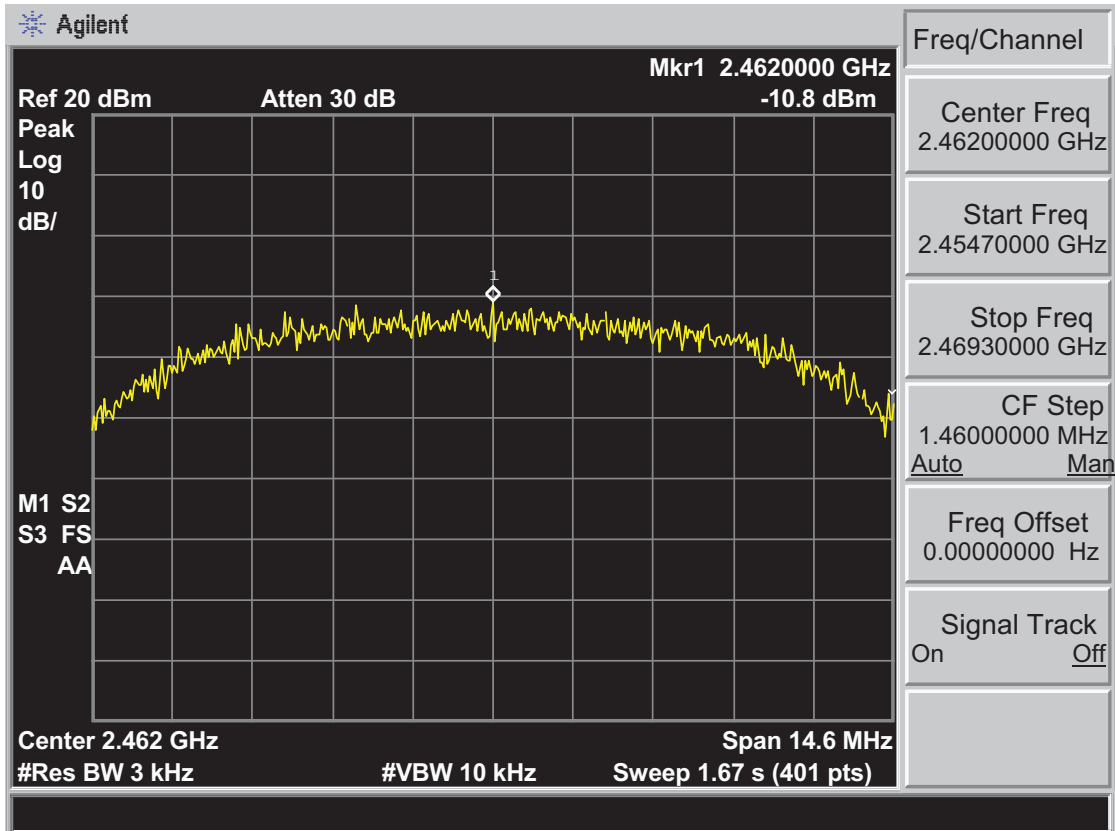
Test Mode: IEEE 802.11b 2412MHz



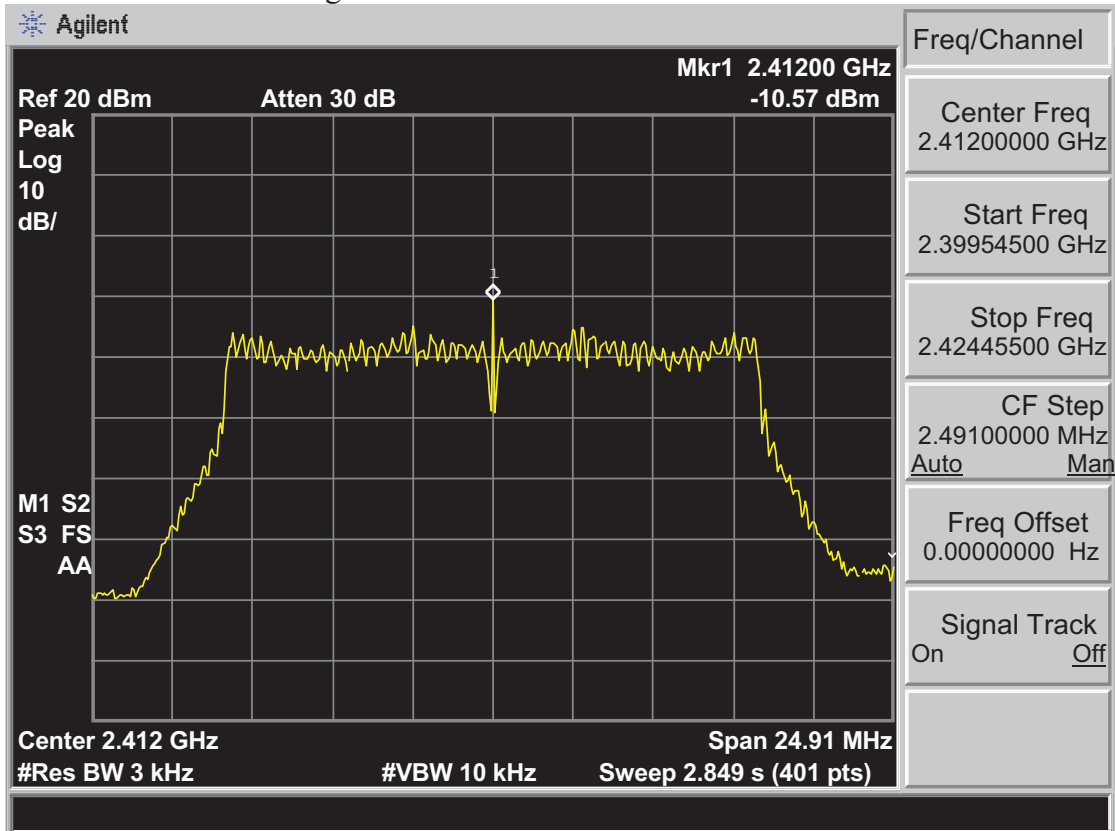
Test Mode: IEEE 802.11b 2437MHz



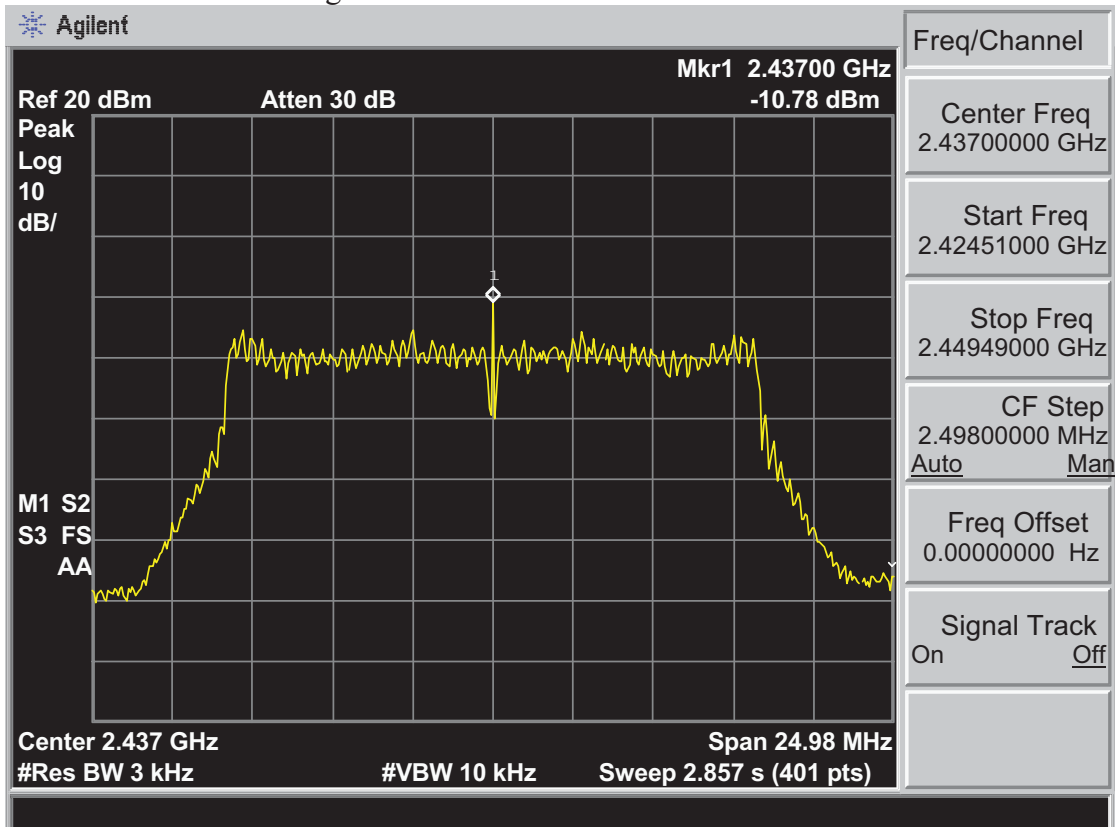
Test Mode: IEEE 802.11b 2462MHz



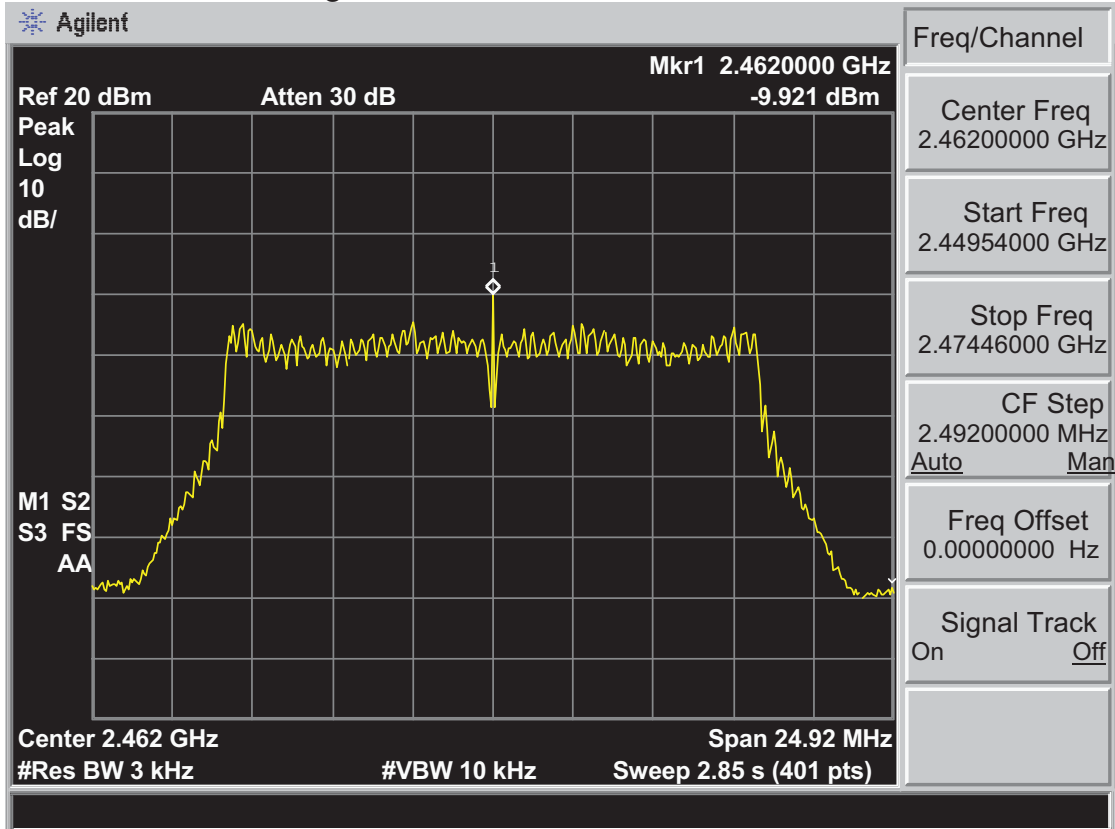
Test Mode: IEEE 802.11g 2412MHz



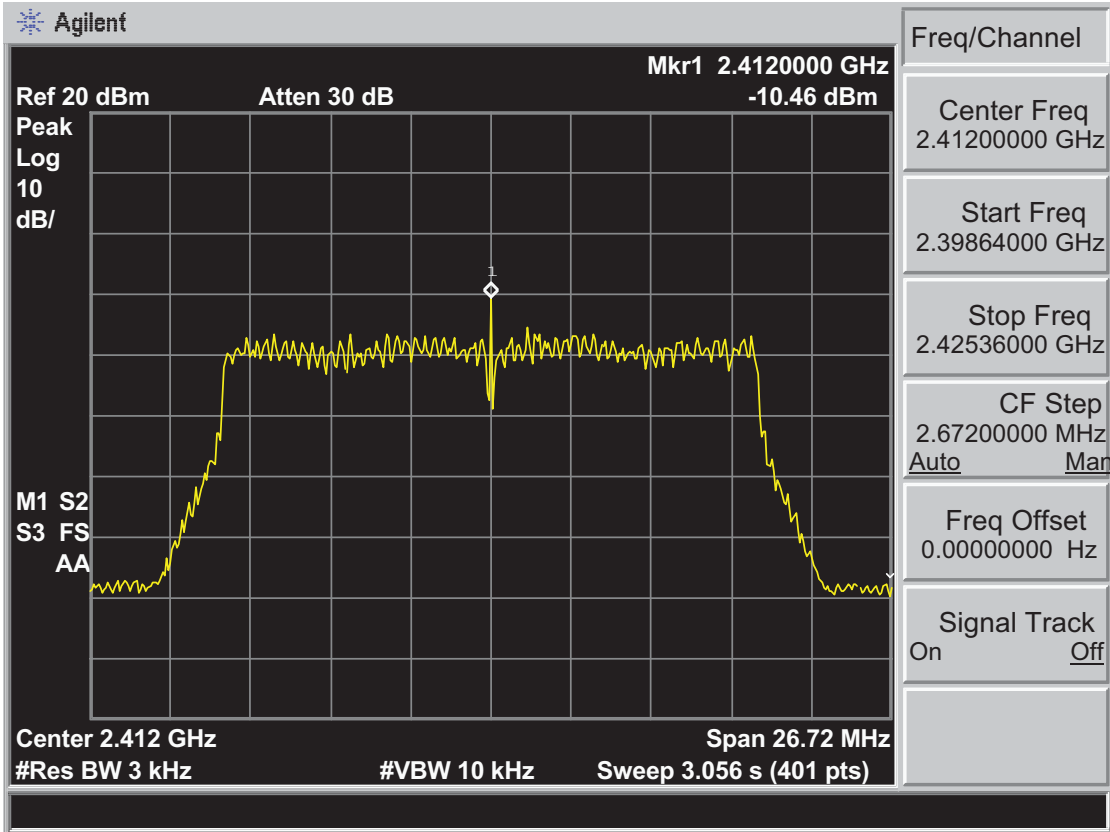
Test Mode: IEEE 802.11g 2437MHz



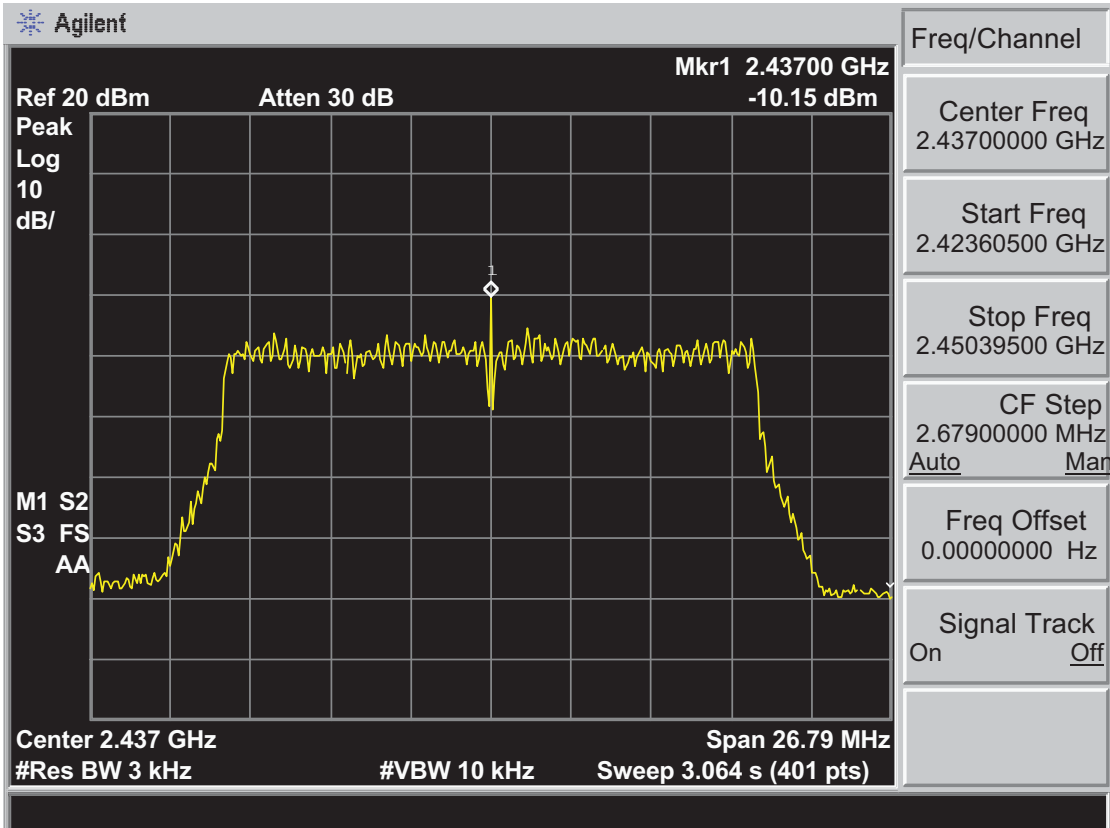
Test Mode: IEEE 802.11g 2462MHz



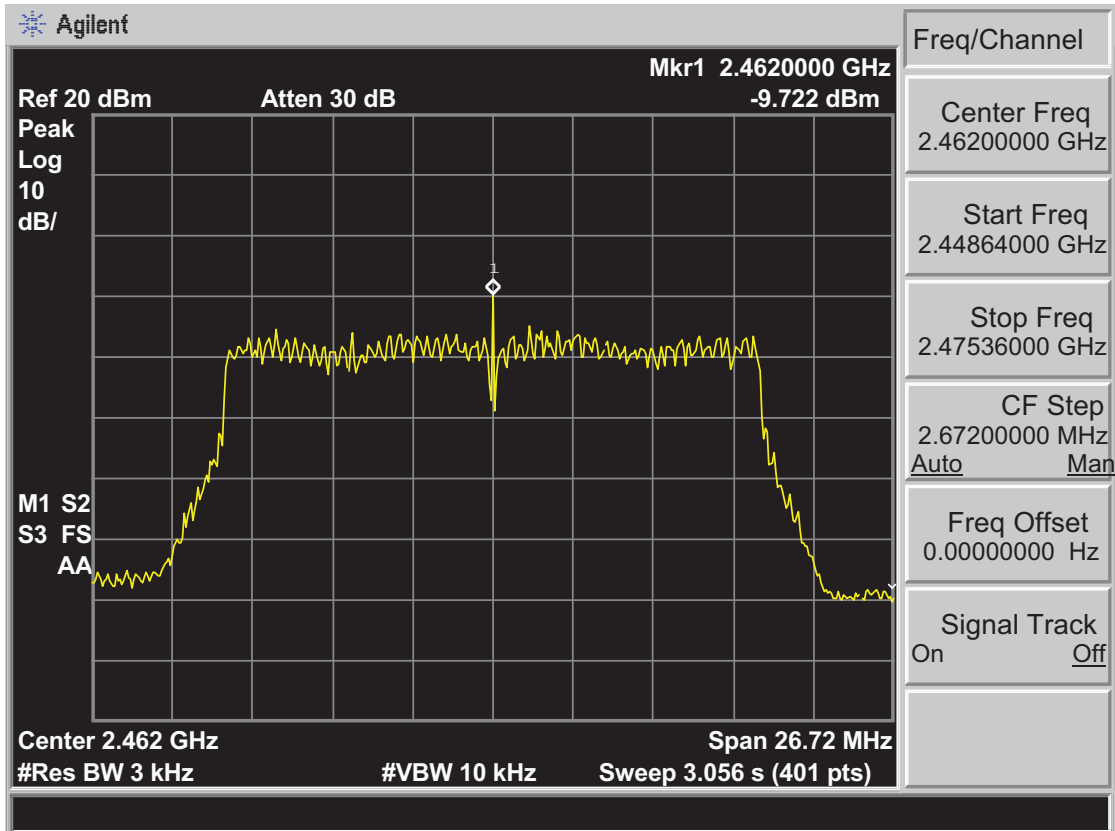
Test Mode: IEEE 802.11n HT20 2412MHz



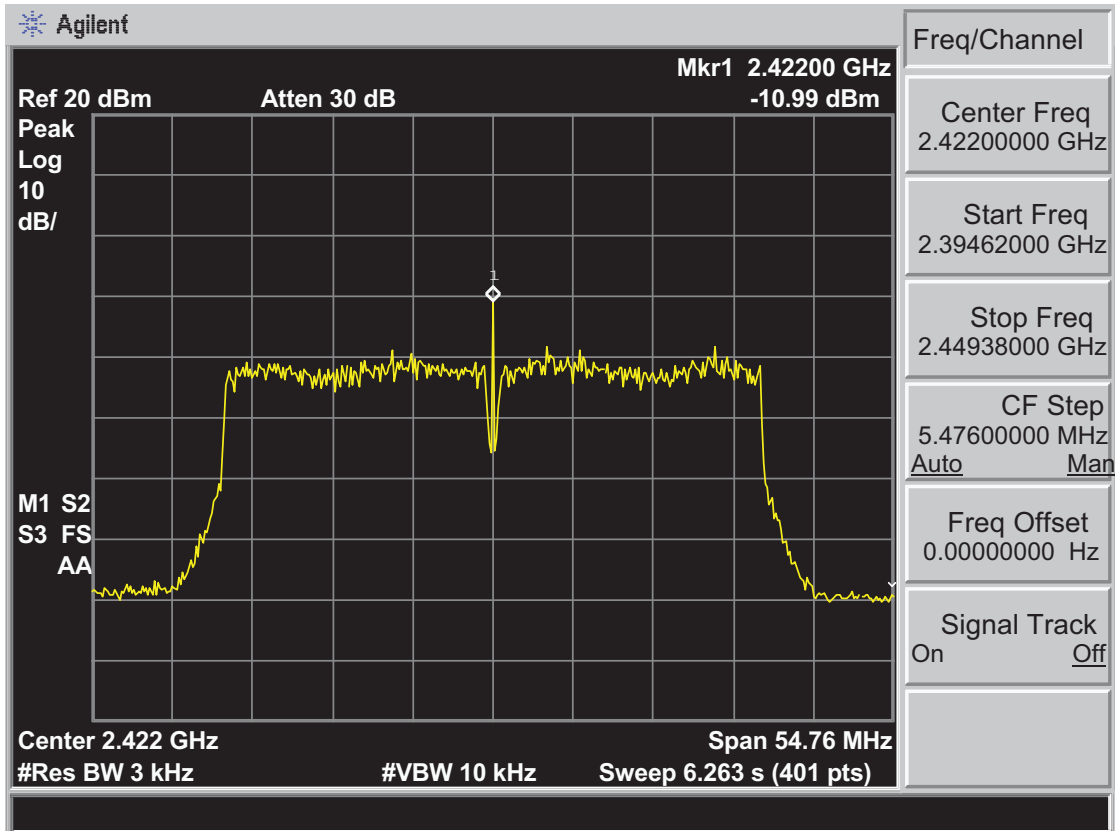
Test Mode: IEEE 802.11n HT20 2437MHz



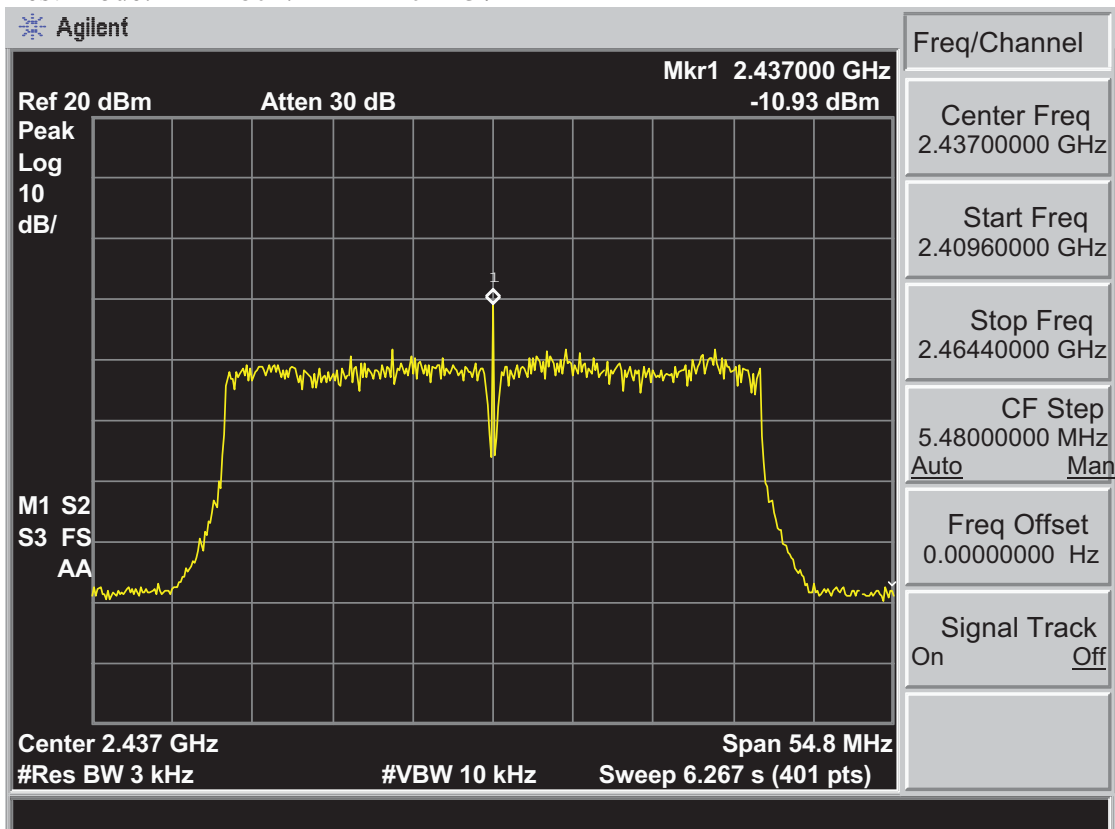
Test Mode: IEEE 802.11n HT20 2462MHz



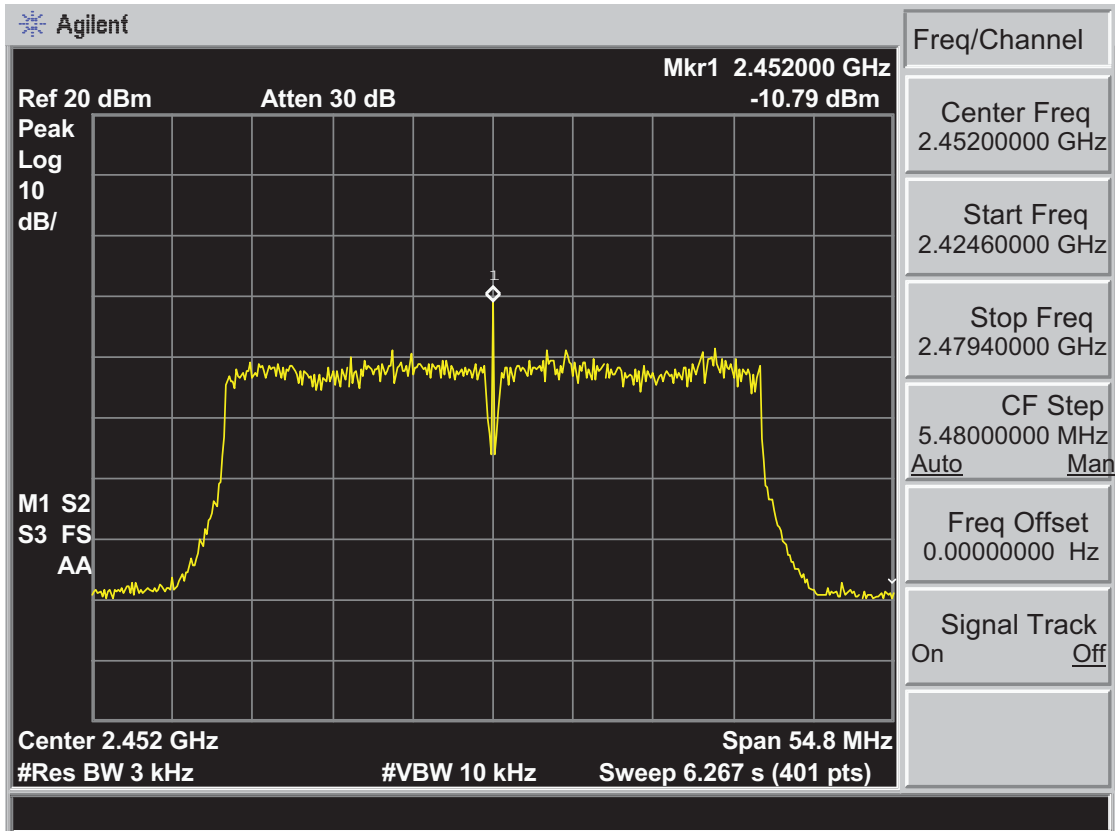
Test Mode: IEEE 802.11n HT40 2422MHz



Test Mode: IEEE 802.11n HT40 2437MHz

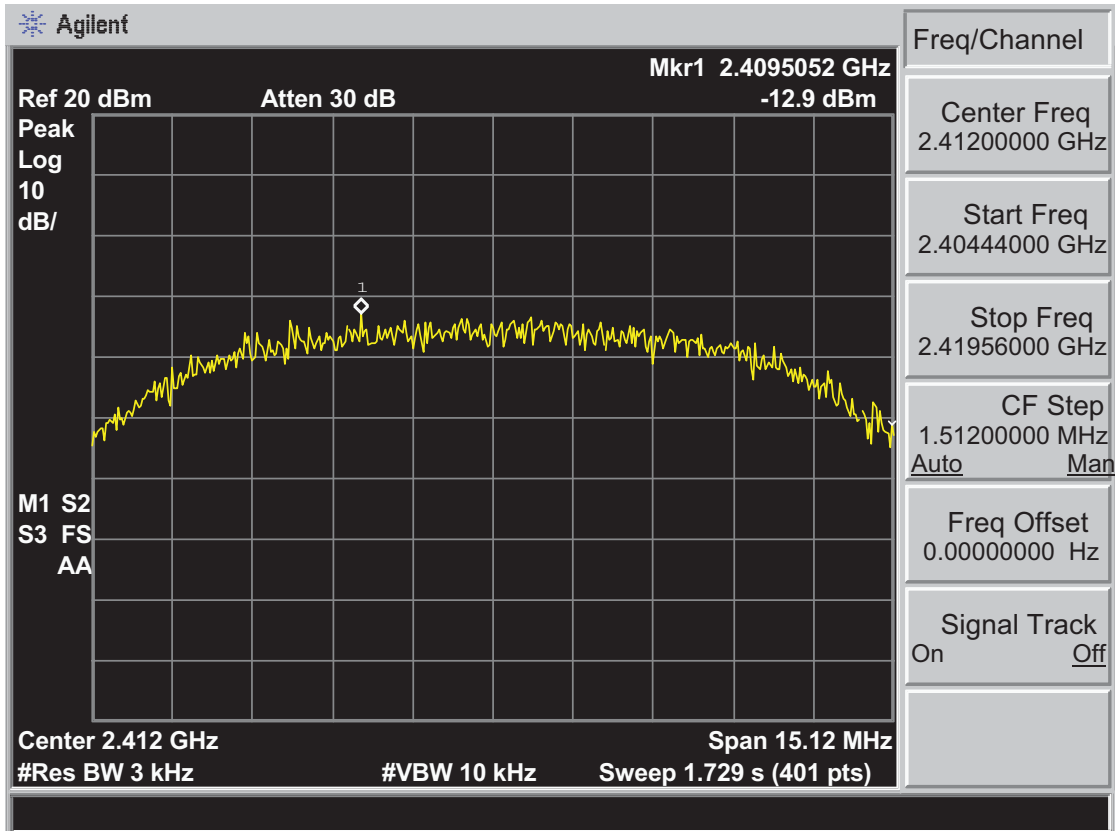


Test Mode: IEEE 802.11n HT40 2452MHz

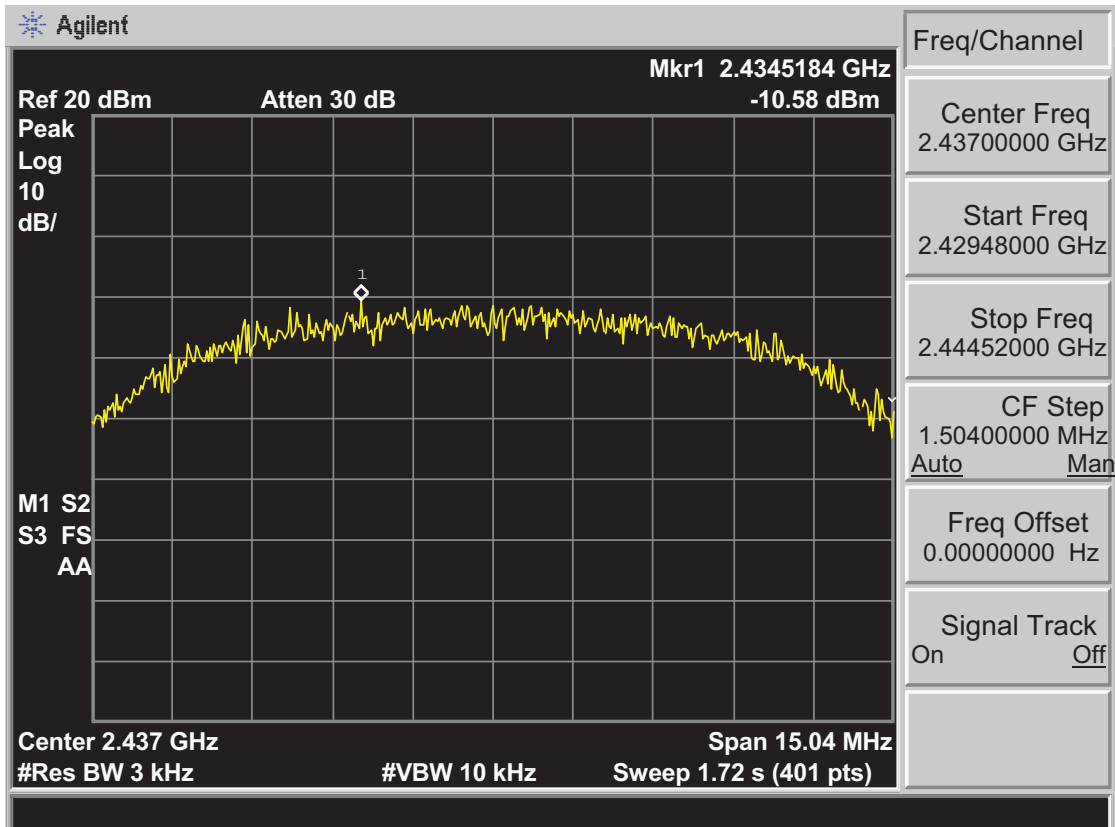




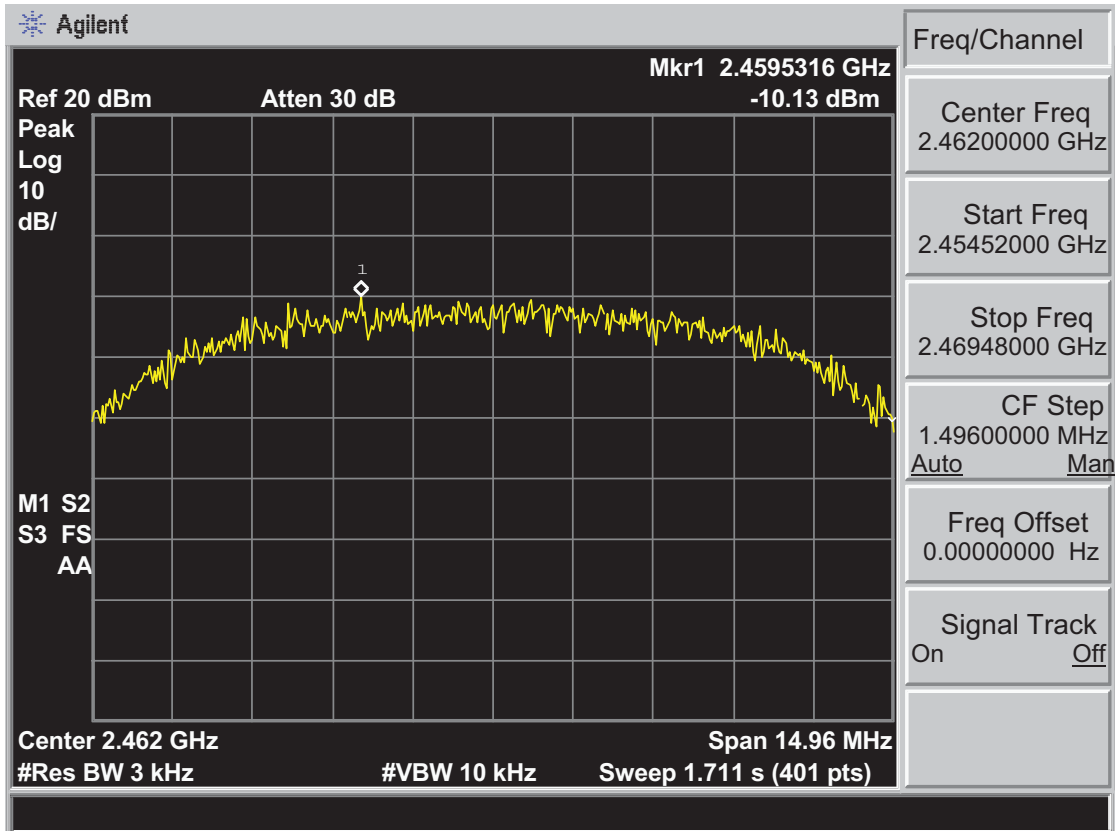
Antenna 1  
 Test Mode: IEEE 802.11b 2412MHz



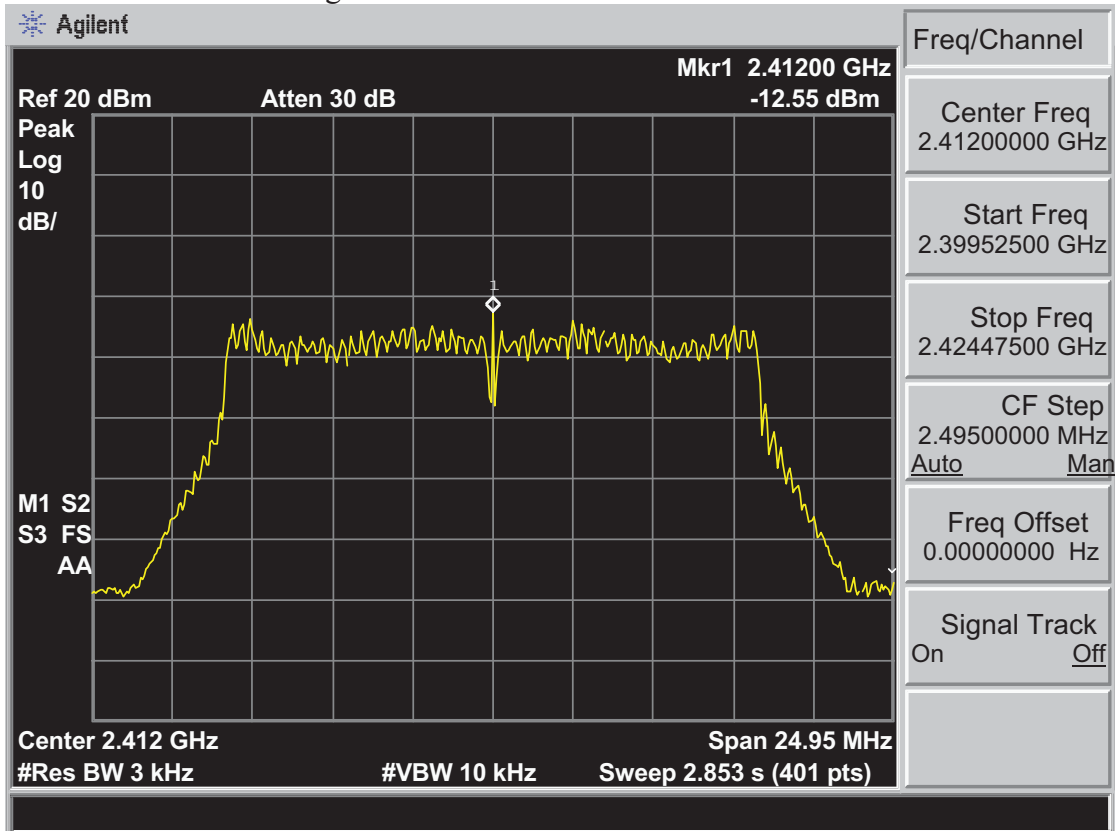
Test Mode: IEEE 802.11b 2437MHz



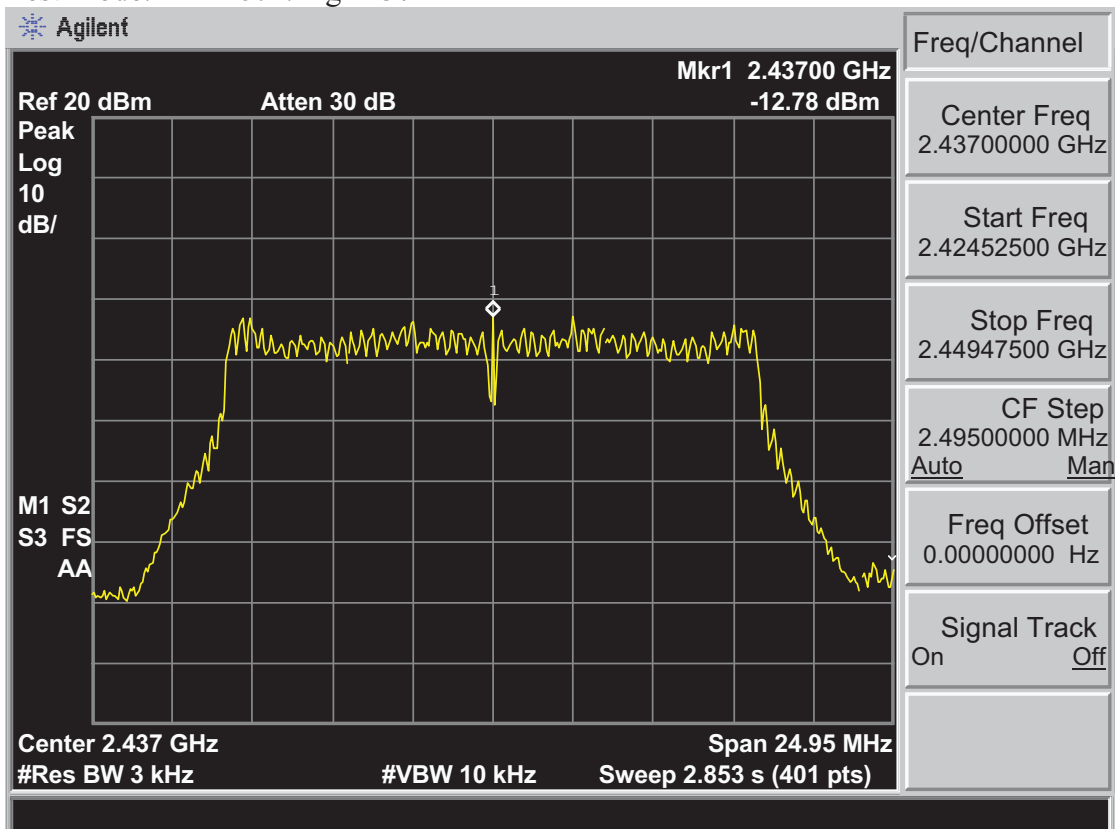
Test Mode: IEEE 802.11b 2462MHz



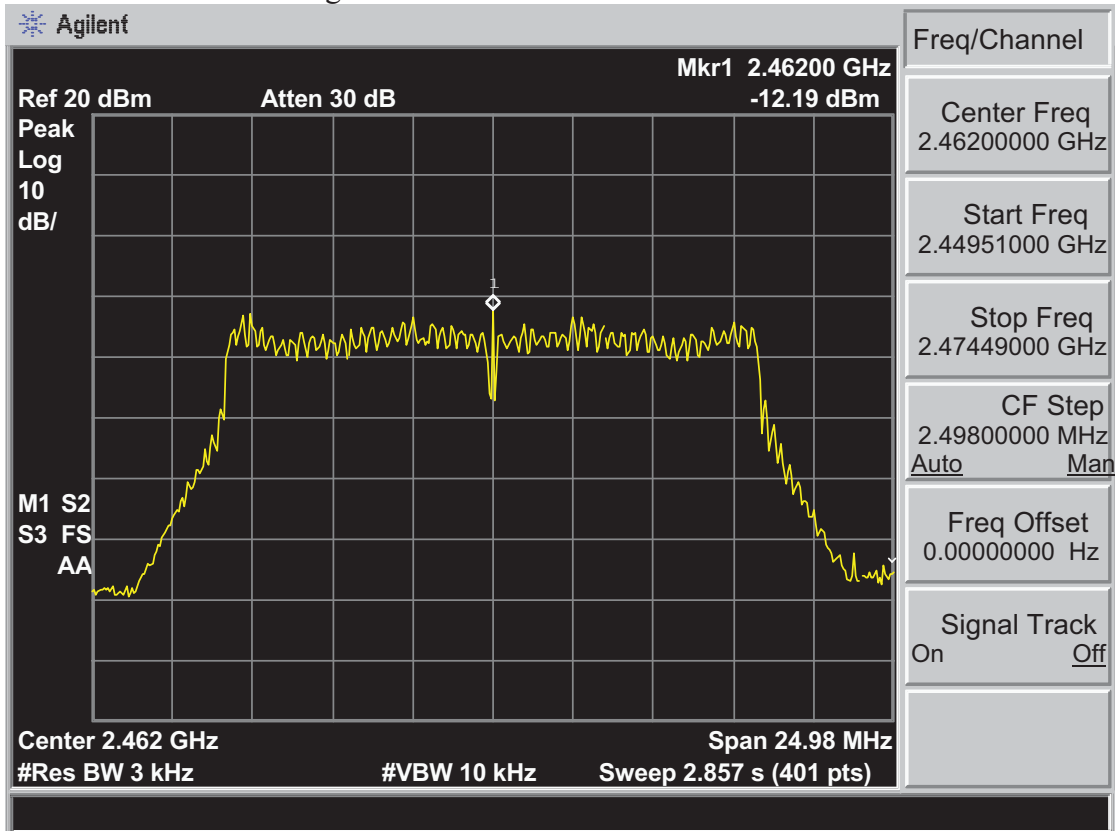
Test Mode: IEEE 802.11g 2412MHz



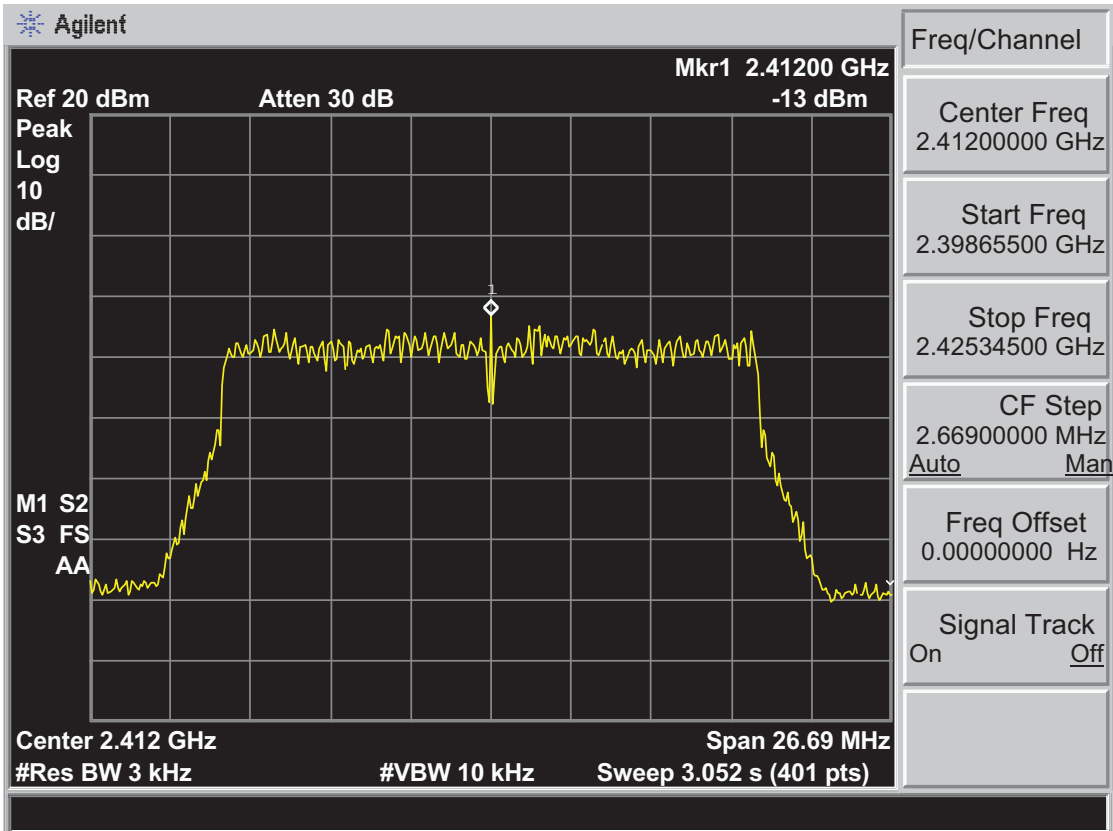
Test Mode: IEEE 802.11g 2437MHz



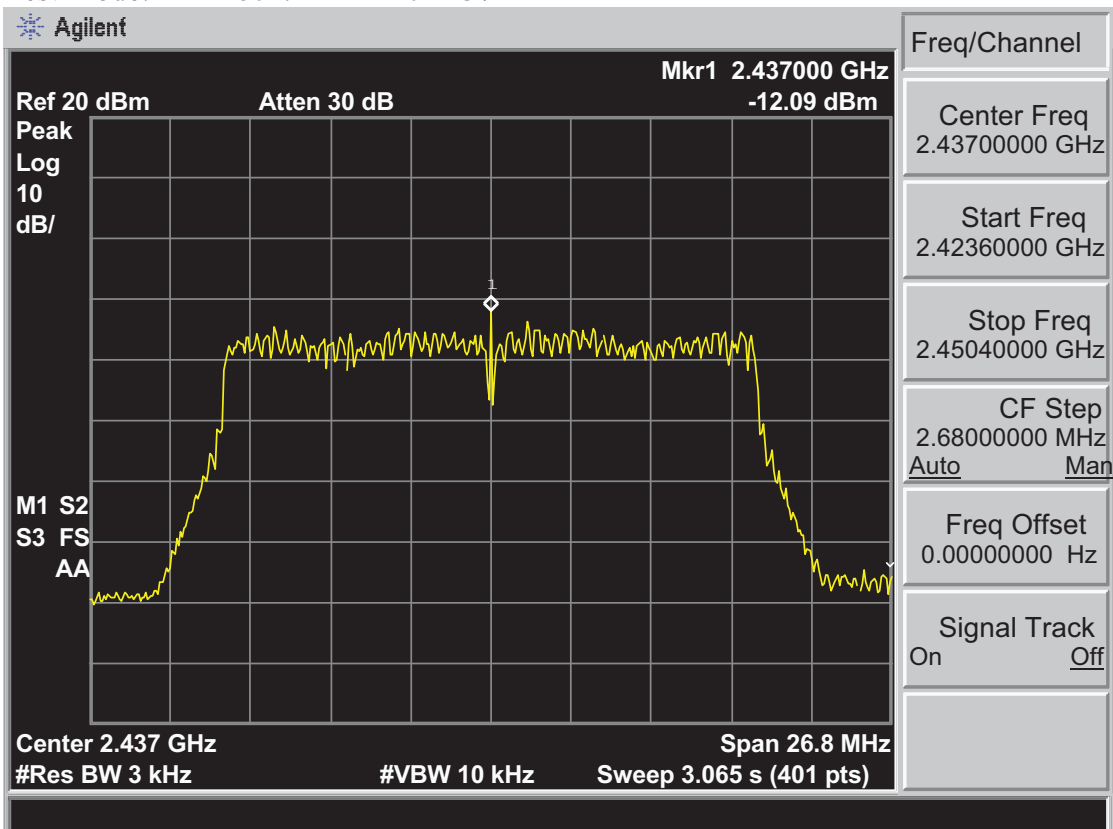
Test Mode: IEEE 802.11g 2462MHz



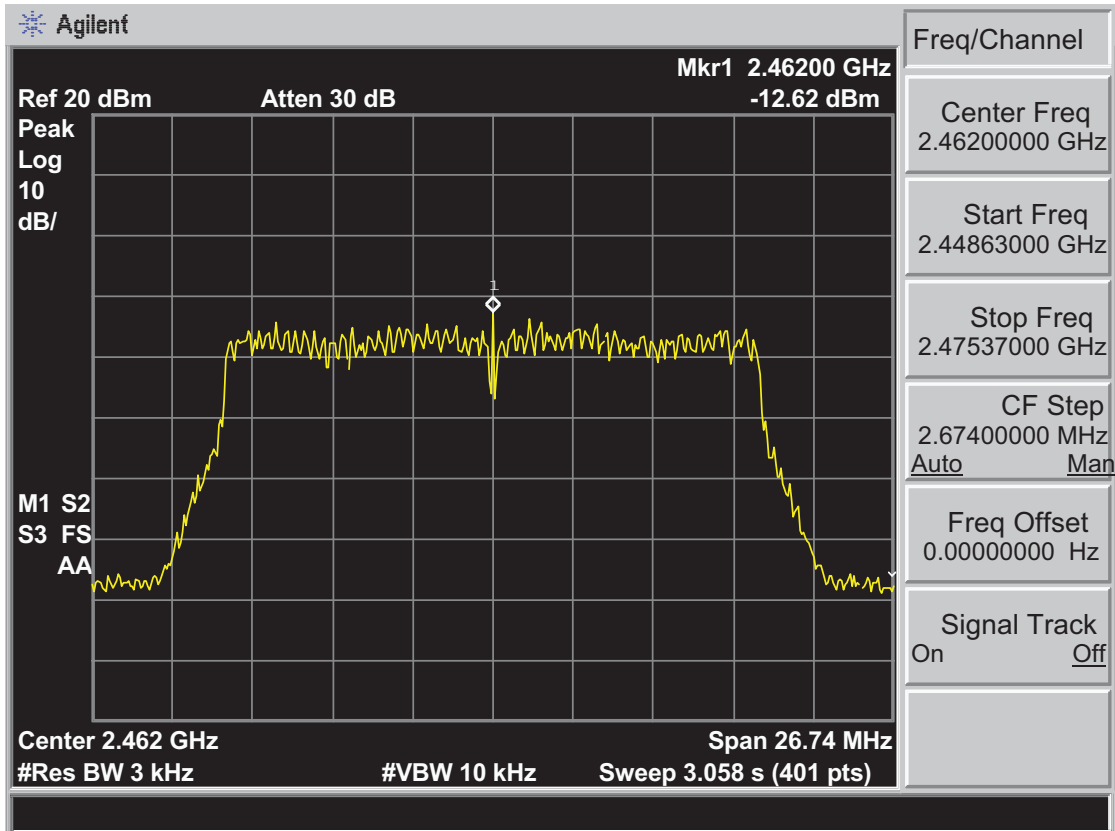
Test Mode: IEEE 802.11n HT20 2412MHz



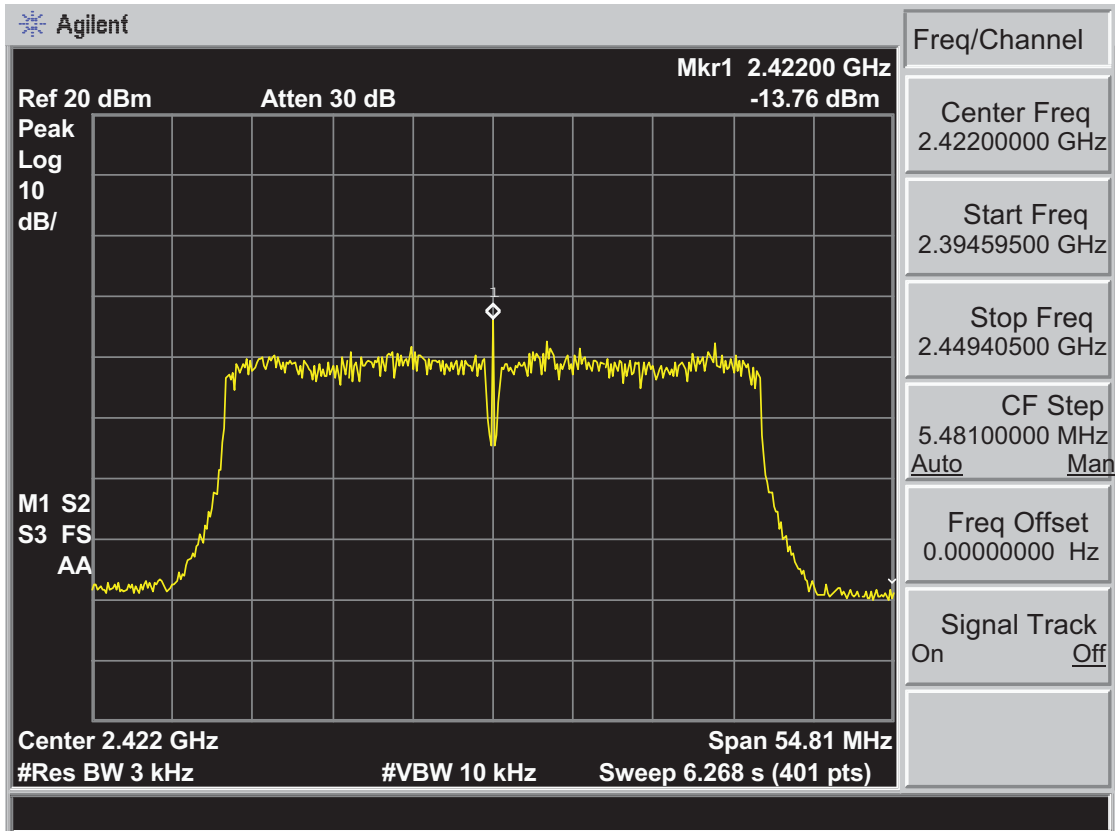
Test Mode: IEEE 802.11n HT20 2437MHz



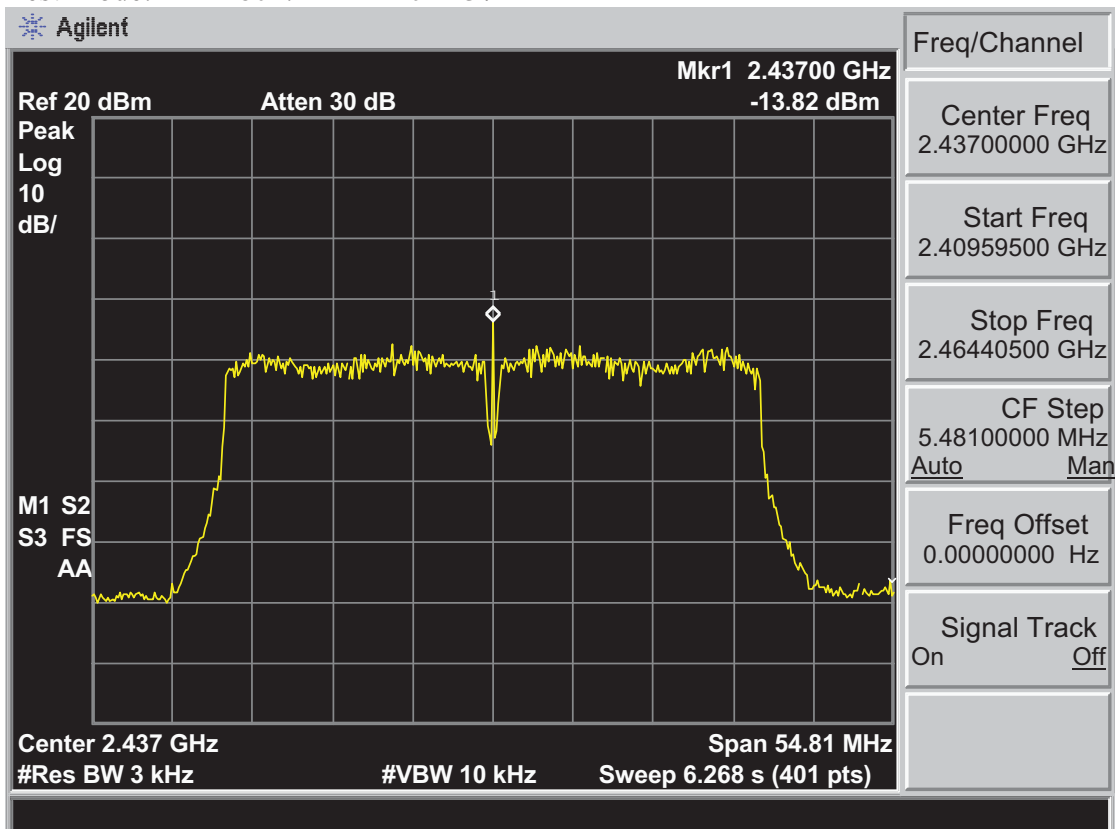
Test Mode: IEEE 802.11n HT20 2462MHz



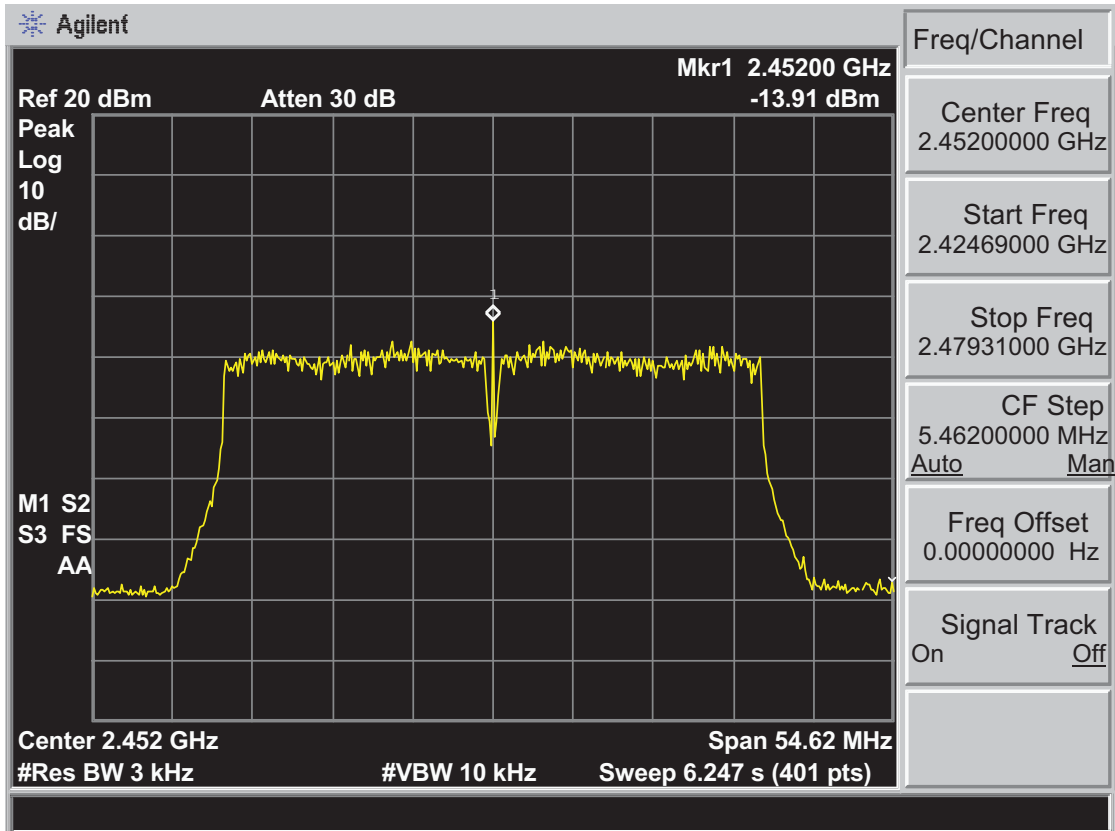
Test Mode: IEEE 802.11n HT40 2422MHz



Test Mode: IEEE 802.11n HT40 2437MHz



Test Mode: IEEE 802.11n HT40 2452MHz





## 9 ANTENNA REQUIREMENTS

### 9.1 Limit

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.

### 9.2 Result

The antennas used for this product are Integrated PCB antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 3.7 dBi in 2.4G band and 5.8 dBi in 5G Band.