

Channel 06 (2437MHz)



Spectrum Analyzer 1
Sweep SA

KEYSTONE Input RF
Coupling AC
Align Auto

Input Z: 50 Ω
Corrections Off
Fine Res. Int (S)
NEC Off

#Adm: 20 dB

PNO: Fast Gate Off
IF Gain Low Sig Track Off

Avg Type: Power (RMS)
Avalghold: 100/100
Trig: Free Run

0 2 3 4 5 6
A W W W W W
A N N N N N

Select Marker
Marker 1

Marker Frequency
2.440374923 GHz

Settings
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Minimum Peak
Pk-Pk Search
Marker Delta
Marker --CF
Marker --Ref Lvl
Continuous Peak Search
On Off

1 Spectrum
Scale/Div 10 dB
Log

Ref Lvl Offset 11.50 dB
Ref Level 8.00 dBm

**Cnt1 2 449 652 887 619 Hz
-16.244 dBm**

Center 2.452000 GHz
#Video BW 30 kHz*

Sweep 229 ms (12000 pts)

Nov 29, 2019
16:17 PM

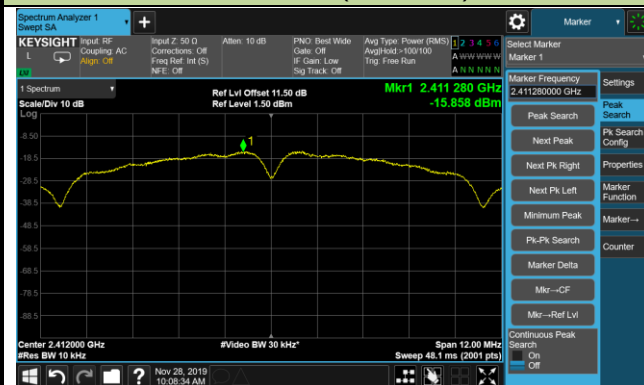
Product	HAN Access Point	Temperature	25°C
Test Engineer	Eric Xu	Relative Humidity	52%
Test Site	TR3	Test Date	2019/11/28
Model No.	AP361D - Scan Antenna		

Test Mode	Data Rate	Channel No.	Freq. (MHz)	Ant 0 AVGPDS (dBm/10kHz)	Duty Cycle (%)	Constant Factor (dB)	Total AVGPDS (dBm/3kHz)	Limit (dBm/3kHz)	Result
11b	1Mbps	01	2412	-15.86	99.35%	-5.23	-21.06	≤ 6.80	Pass
11b	1Mbps	06	2437	-16.18	99.35%	-5.23	-21.38	≤ 6.80	Pass
11b	1Mbps	11	2462	-15.02	99.35%	-5.23	-20.22	≤ 6.80	Pass
11g	6Mbps	01	2412	-19.87	96.02%	-5.23	-24.92	≤ 6.80	Pass
11g	6Mbps	06	2437	-20.82	96.02%	-5.23	-25.87	≤ 6.80	Pass
11g	6Mbps	11	2462	-19.46	96.02%	-5.23	-24.51	≤ 6.80	Pass

Note: When EUT duty cycle < 98%, Total AVGPDS = Ant 0 AVGPDS (dBm/10kHz) + 10*log (1/duty cycle) + Constant Factor (dB).

802.11b PSD - Ant 0

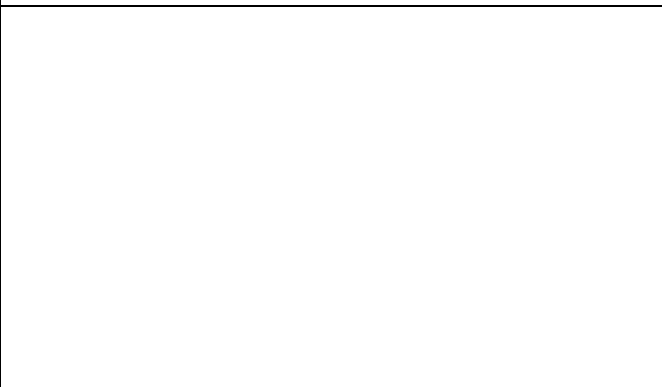
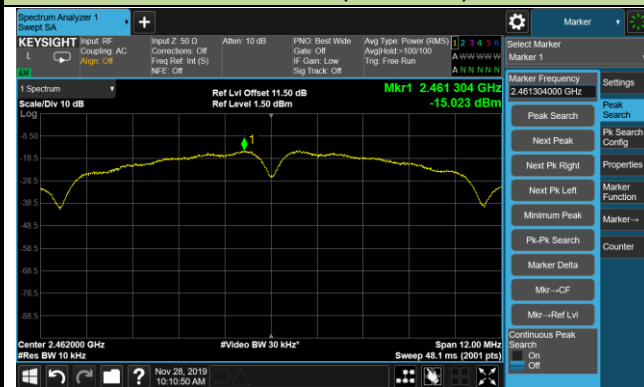
Channel 01 (2412MHz)



Channel 06 (2437MHz)

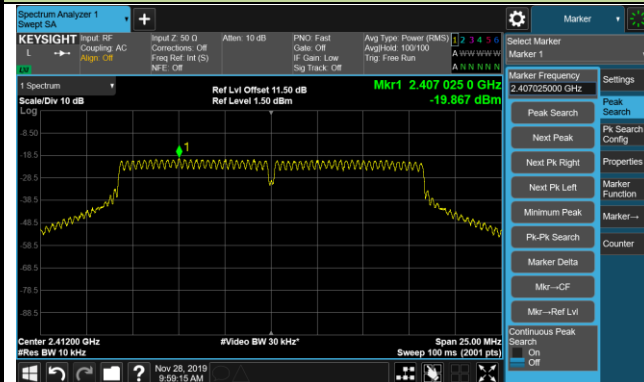


Channel 11 (2462MHz)

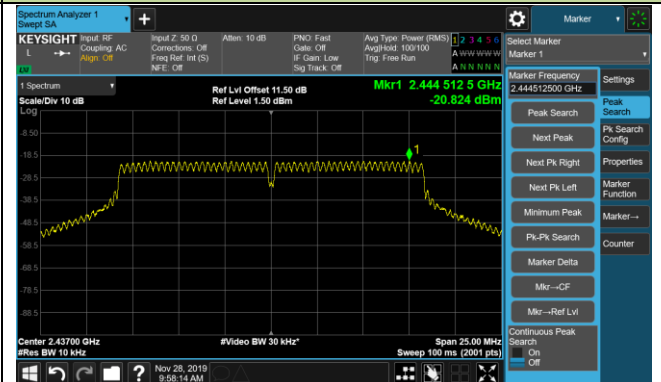


802.11g PSD - Ant 0

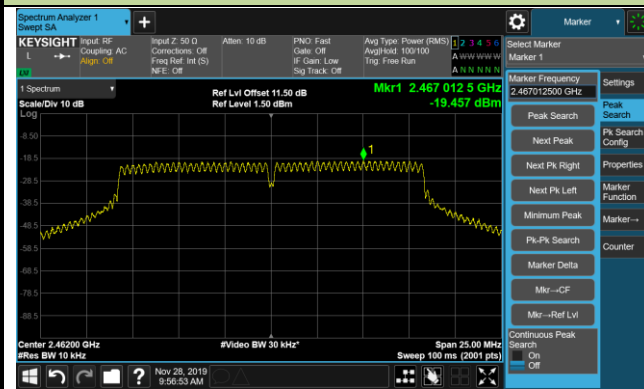
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



7.5. Conducted Band Edge and Out-of-Band Emissions

7.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

7.5.2. Test Procedure Used

ANSI C63.10 Section 11.11

7.5.3. Test Setting

Reference level measurement

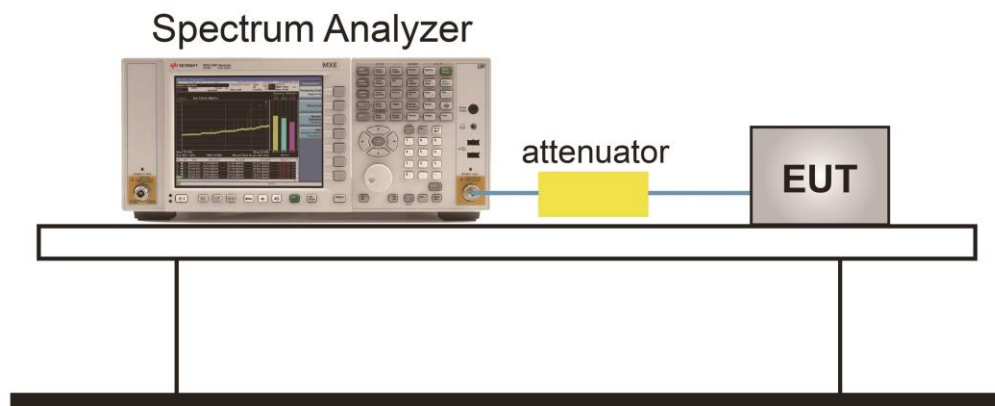
1. Set instrument center frequency to DTS channel center frequency
2. Set the span to ≥ 1.5 times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW $\geq 3 \times$ RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100kHz
3. VBW = 300kHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Notes

1. RBW was set to 1.3MHz rather than 100KHz in order to increase the measurement speed.
2. The display line shown in the following plots denotes the limit at 20dB below the fundamental emission level measured in a 100KHz bandwidth. However, since the traces in the following plots are measured with a 1.3MHz RBW, the display line may not necessarily appear to be 20dB below the level of the fundamental in a 1.3MHz bandwidth.
3. For plots showing conducted spurious emissions near the limit, the frequencies were investigated with a reduced RBW to ensure that no emissions were present.

7.5.4.Test Setup

7.5.5. Test Result

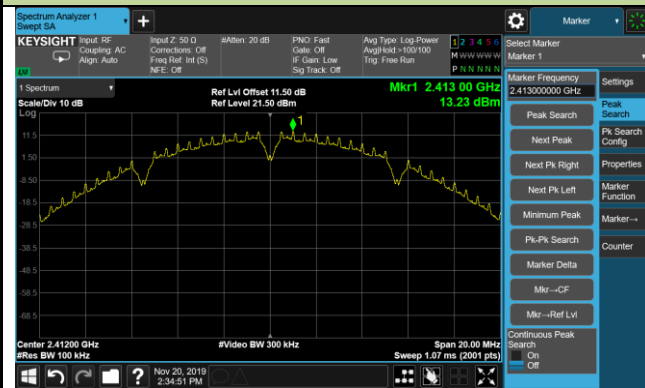
Product	HAN Access Point	Temperature	23 ~ 25°C
Test Engineer	Eric Xu	Relative Humidity	48 ~ 54%
Test Site	TR3	Test Date	2019/11/20 ~ 2019/12/04
Model No.	AP361D		

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Limit	Result
Ant 0 / Ant 0 + 1					
11b	1Mbps	01	2412	30dBc	Pass
11b	1Mbps	06	2437	30dBc	Pass
11b	1Mbps	11	2462	30dBc	Pass
11g	6Mbps	01	2412	30dBc	Pass
11g	6Mbps	06	2437	30dBc	Pass
11g	6Mbps	11	2462	30dBc	Pass
11n-HT20	MCS0	01	2412	30dBc	Pass
11n-HT20	MCS0	06	2437	30dBc	Pass
11n-HT20	MCS0	11	2462	30dBc	Pass
11n-HT40	MCS0	03	2422	30dBc	Pass
11n-HT40	MCS0	06	2437	30dBc	Pass
11n-HT40	MCS0	09	2452	30dBc	Pass
11VHT20	MCS0	01	2412	30dBc	Pass
11VHT20	MCS0	06	2437	30dBc	Pass
11VHT20	MCS0	11	2462	30dBc	Pass
11VHT40	MCS0	03	2422	30dBc	Pass
11VHT40	MCS0	06	2437	30dBc	Pass
11VHT40	MCS0	09	2452	30dBc	Pass
11ax-HE20	MCS0	01	2412	30dBc	Pass
11ax-HE20	MCS0	06	2437	30dBc	Pass
11ax-HE20	MCS0	11	2462	30dBc	Pass
11ax-HE40	MCS0	03	2422	30dBc	Pass
11ax-HE40	MCS0	06	2437	30dBc	Pass
11ax-HE40	MCS0	09	2452	30dBc	Pass

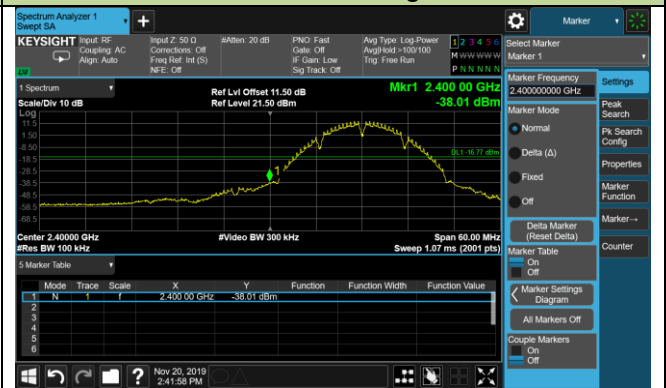
802.11b Out-of-Band Emissions - Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

100kHz PSD reference Level



Low Band Edge

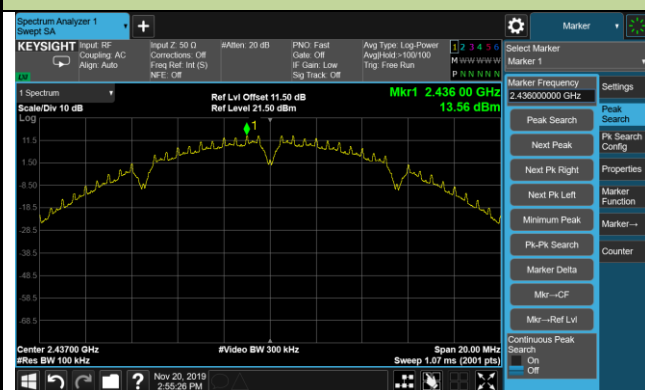


Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level

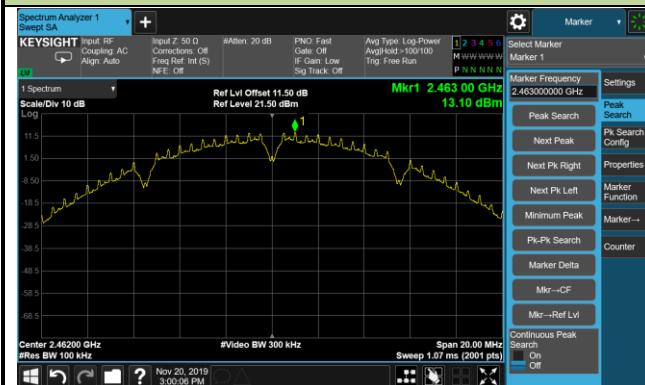


Spurious Emission

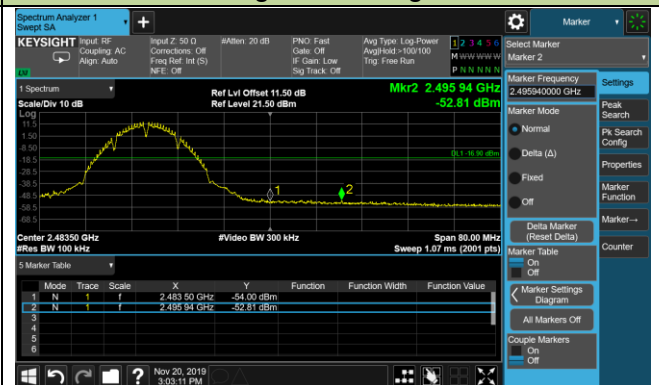


Channel 11 (2462MHz)

100kHz PSD reference Level



High Band Edge



Spurious Emission



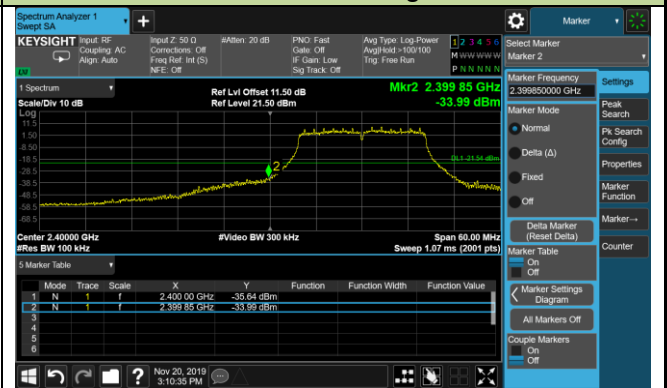
802.11g Out-of-Band Emissions- Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

100kHz PSD reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level



Spurious Emission



Channel 11 (2462MHz)

100kHz PSD reference Level



High Band Edge



Spurious Emission



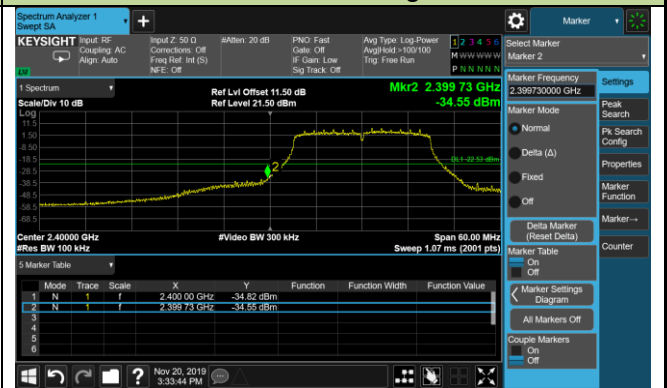
802.11n-HT20 Out-of-Band Emissions- Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

100kHz PSD reference Level



Low Band Edge

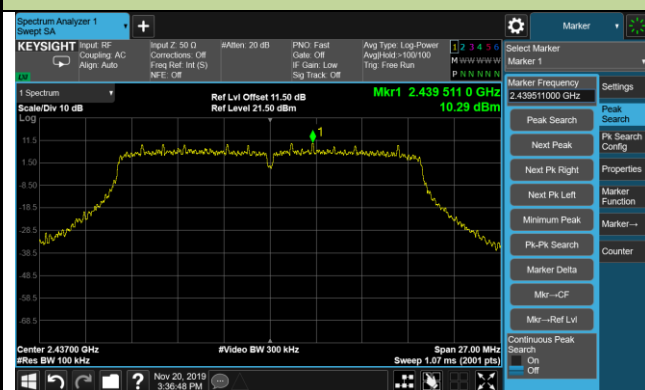


Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level

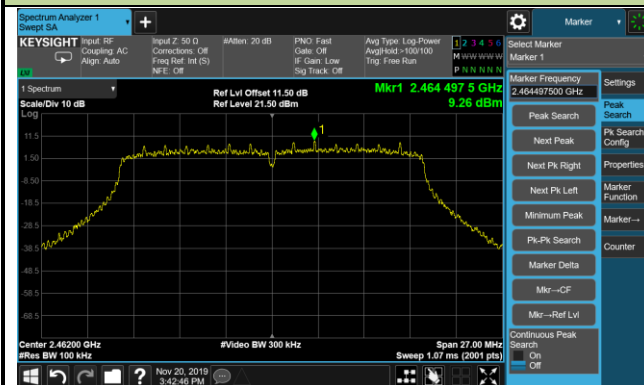


Spurious Emission

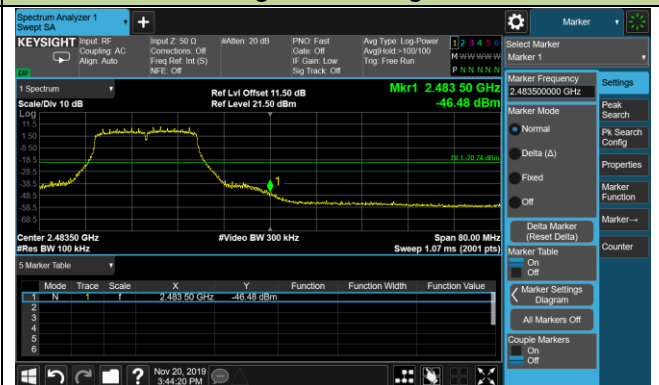


Channel 11 (2462MHz)

100kHz PSD reference Level



High Band Edge



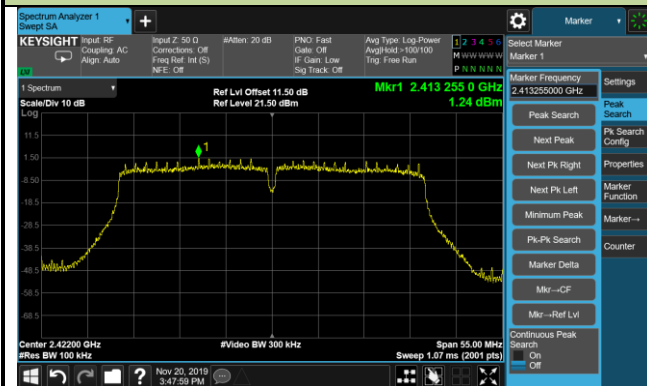
Spurious Emission



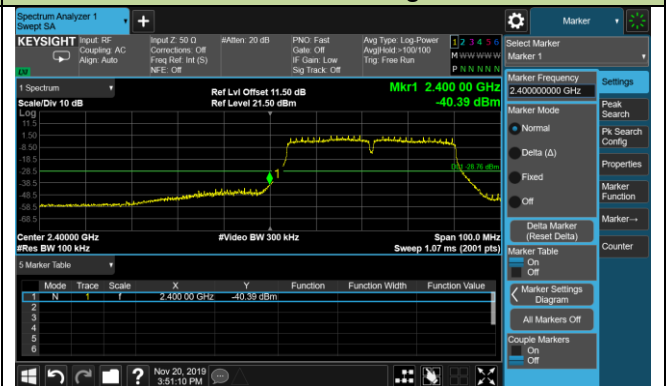
802.11n-HT40 Out-of-Band Emissions- Ant 0 / Ant 0 + 1

Channel 03 (2422MHz)

100kHz PSD reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level



Spurious Emission

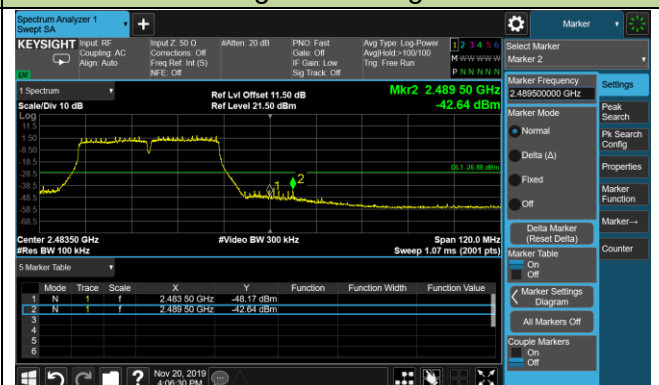


Channel 09 (2452MHz)

100kHz PSD reference Level



High Band Edge



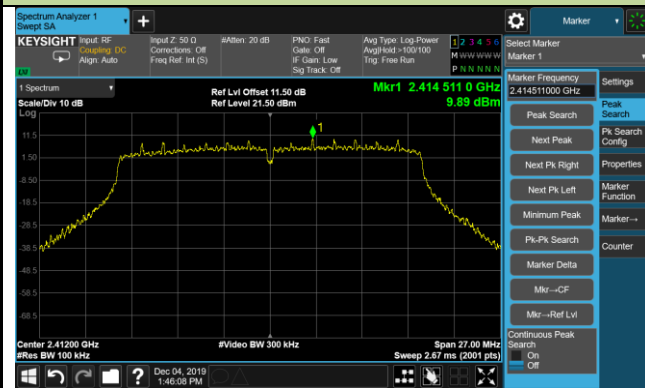
Spurious Emission



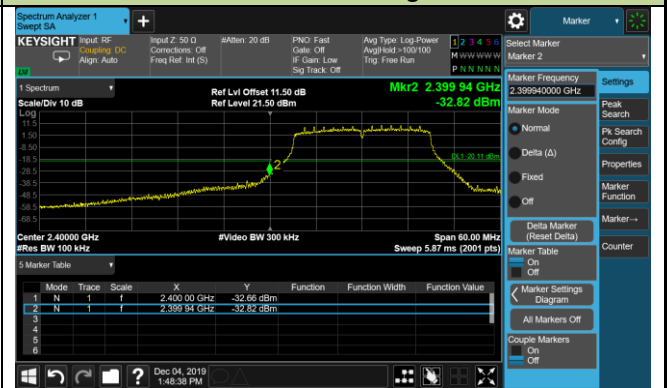
802.11VHT20 Out-of-Band Emissions- Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

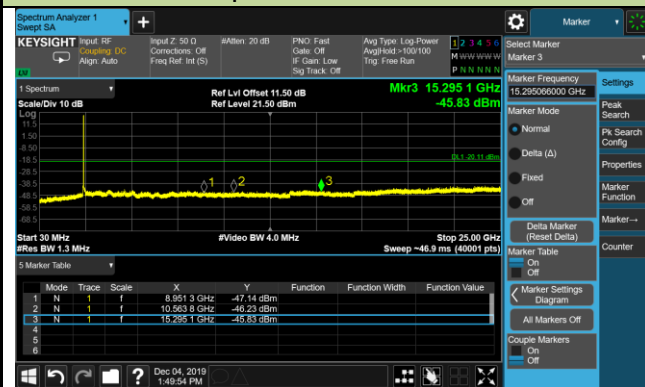
100kHz PSD reference Level



Low Band Edge

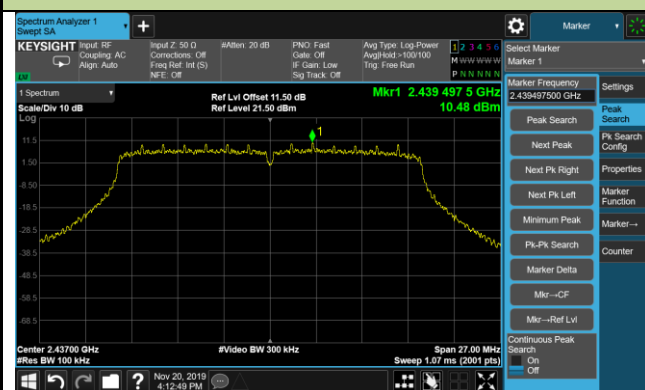


Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level

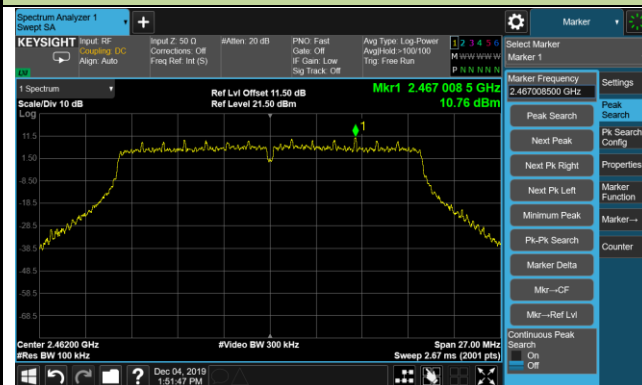


Spurious Emission



Channel 11 (2462MHz)

100kHz PSD reference Level



High Band Edge



Spurious Emission



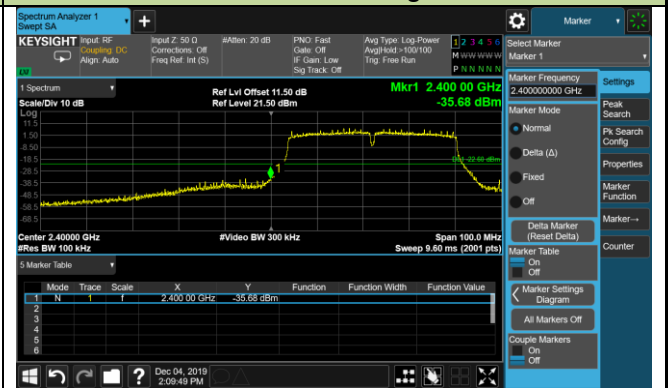
802.11VHT40 Out-of-Band Emissions- Ant 0 / Ant 0 + 1

Channel 03 (2422MHz)

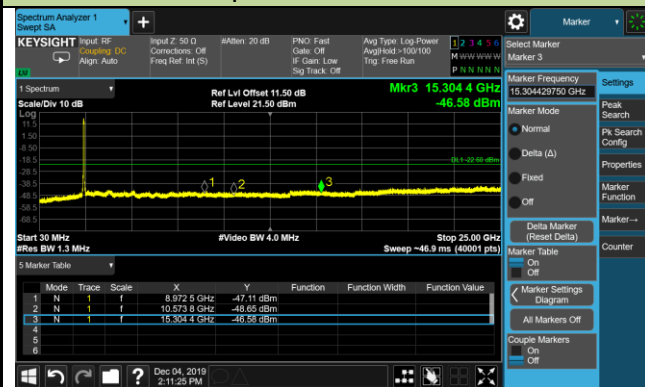
100kHz PSD reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level

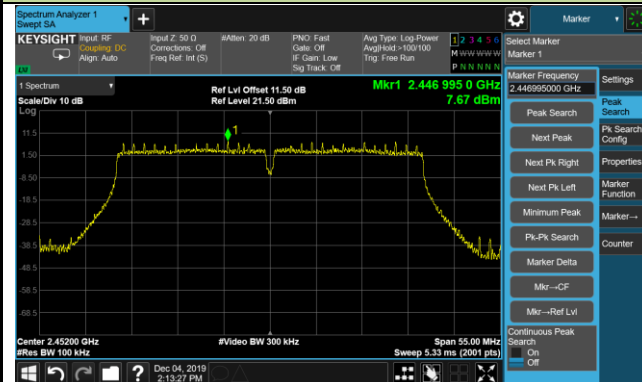


Spurious Emission



Channel 09 (2452MHz)

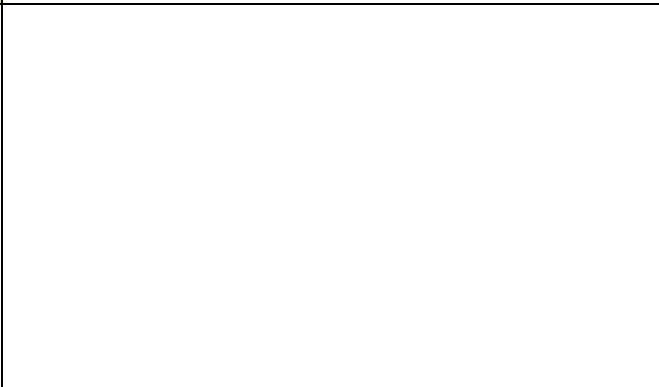
100kHz PSD reference Level



High Band Edge



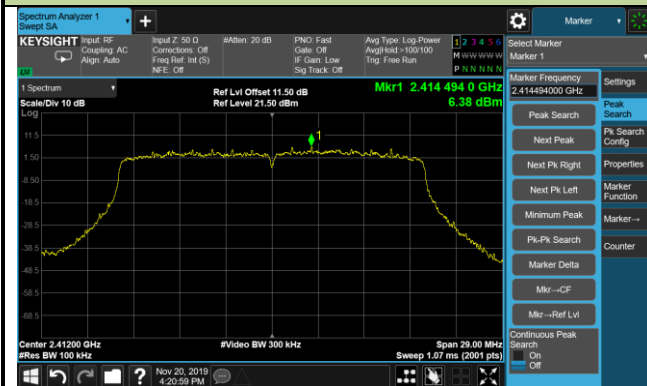
Spurious Emission



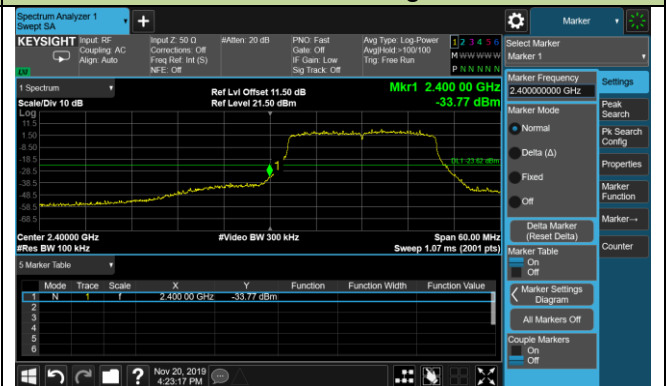
802.11ax-HE20 Out-of-Band Emissions- Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

100kHz PSD reference Level



Low Band Edge



Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level

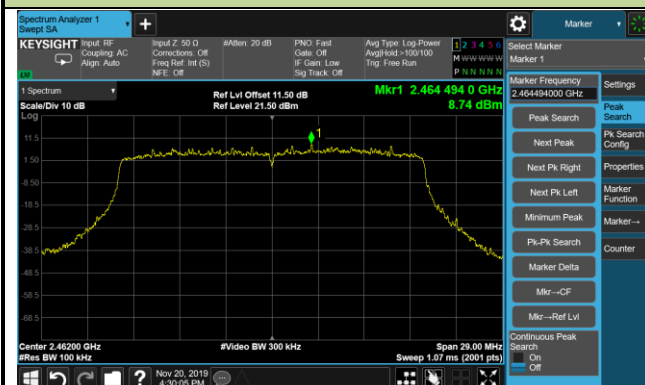


Spurious Emission

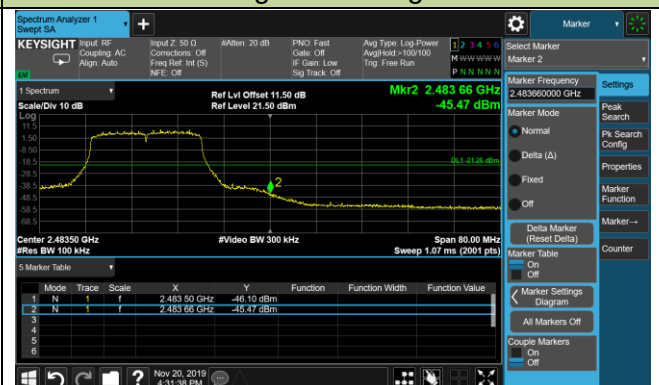


Channel 11 (2462MHz)

100kHz PSD reference Level



High Band Edge



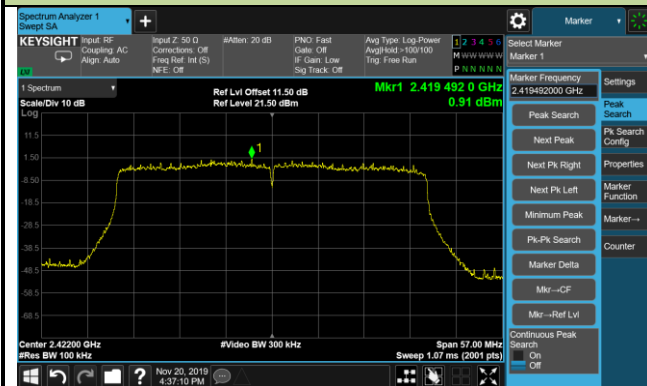
Spurious Emission



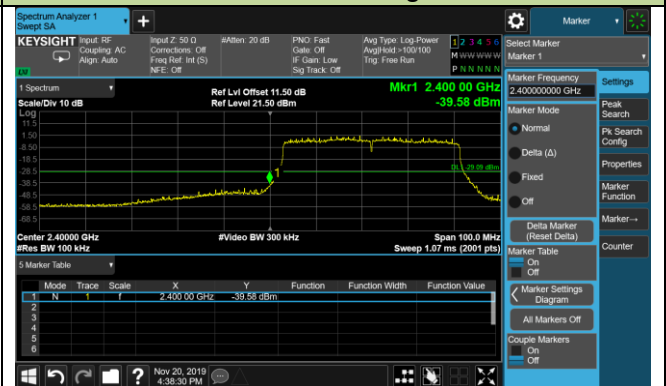
802.11ax-HE40 Out-of-Band Emissions- Ant 0 / Ant 0 + 1

Channel 03 (2422MHz)

100kHz PSD reference Level



Low Band Edge

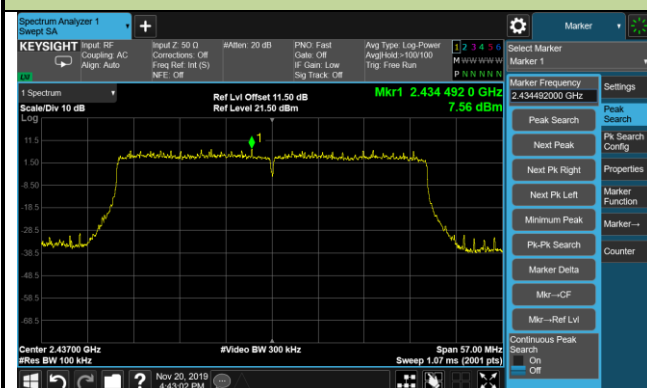


Spurious Emission



Channel 06 (2437MHz)

100kHz PSD reference Level

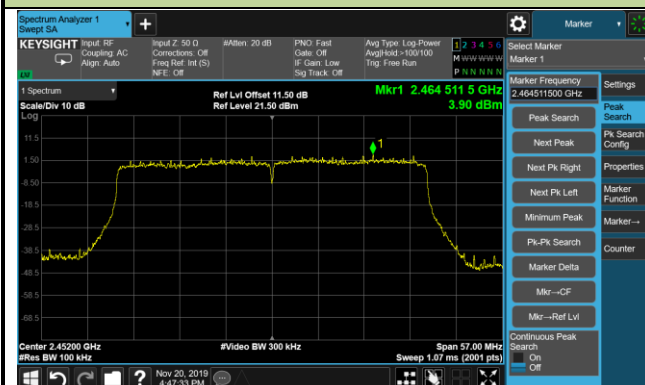


Spurious Emission

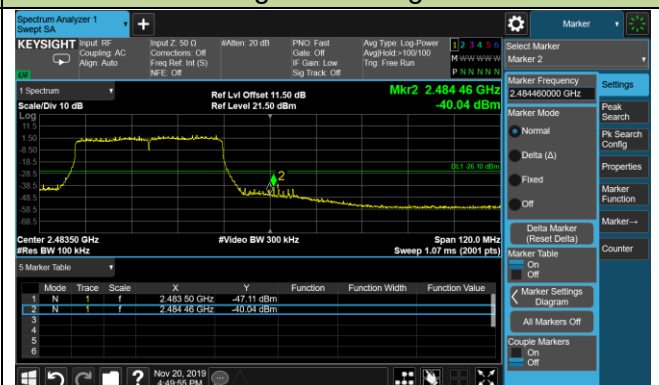


Channel 09 (2452MHz)

100kHz PSD reference Level



High Band Edge



Spurious Emission



Product	HAN Access Point	Temperature	23 ~ 25°C
Test Engineer	Eric Xu	Relative Humidity	46 ~ 52%
Test Site	TR3	Test Date	2019/11/28 ~ 2019/12/04
Model No.	AP361D – Scan Antenna		

Test Mode	Data Rate (Mbps)	Channel No.	Frequency (MHz)	Limit	Result
11b	1Mbps	01	2412	30dBc	Pass
11b	1Mbps	06	2437	30dBc	Pass
11b	1Mbps	11	2462	30dBc	Pass
11g	6Mbps	01	2412	30dBc	Pass
11g	6Mbps	06	2437	30dBc	Pass
11g	6Mbps	11	2462	30dBc	Pass