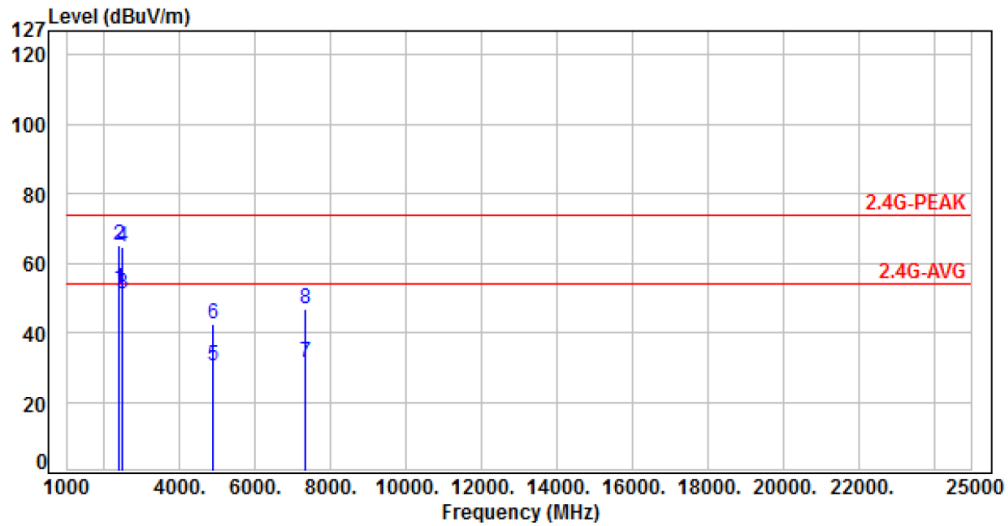




Power	: PoE 24V	Pol/Phase	: VERTICAL
Test Mode	: Mode 6, 2437MHz, P to MP	Temperature	: 24 °C
Test Date	: Aug. 25, 2017	Humidity	: 68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-19.03	71.83	52.80	54.00	-1.20	Average	178	342	P
2	2390.00	-19.03	84.29	65.26	74.00	-8.74	Peak	178	342	P
3	2483.50	-18.81	69.97	51.16	54.00	-2.84	Average	172	340	P
4	2483.50	-18.81	83.65	64.84	74.00	-9.16	Peak	172	340	P
5	4874.00	-13.24	43.80	30.56	54.00	-23.44	Average	218	338	P
6	4874.00	-13.24	55.53	42.29	74.00	-31.71	Peak	218	338	P
7	7311.00	-10.19	41.79	31.60	54.00	-22.40	Average	124	335	P
8	7311.00	-10.19	56.98	46.79	74.00	-27.21	Peak	124	335	P

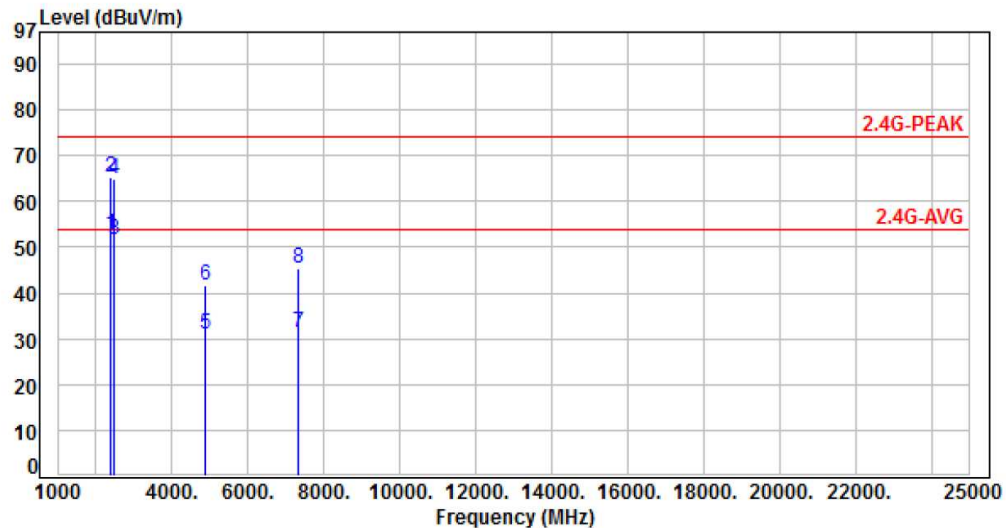
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE 24V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 6, 2437MHz, P to MP	Temperature	: 24 °C
Test Date	: Aug. 25, 2017	Humidity	: 68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-19.03	71.68	52.65	54.00	-1.35	Average	166	339	P
2	2390.00	-19.03	84.21	65.18	74.00	-8.82	Peak	166	339	P
3	2483.50	-18.81	70.36	51.55	54.00	-2.45	Average	156	342	P
4	2483.50	-18.81	83.63	64.82	74.00	-9.18	Peak	156	342	P
5	4874.00	-13.24	44.14	30.90	54.00	-23.10	Average	178	335	P
6	4874.00	-13.24	55.07	41.83	74.00	-32.17	Peak	178	335	P
7	7311.00	-10.19	41.58	31.39	54.00	-22.61	Average	101	337	P
8	7311.00	-10.19	55.74	45.55	74.00	-28.45	Peak	101	337	P

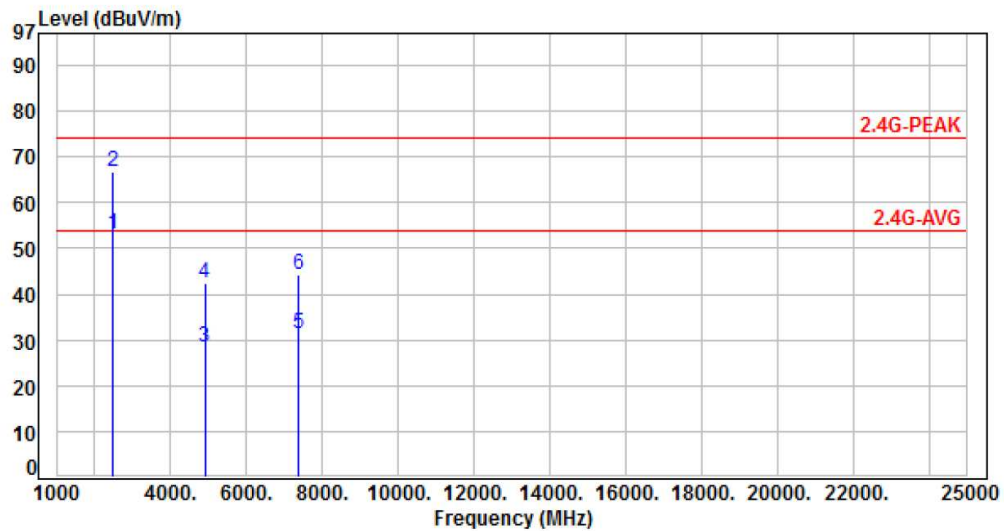
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE 24V	Pol/Phase	: VERTICAL
Test Mode	: Mode 6, 2452MHz, P to MP	Temperature	: 24 °C
Test Date	: Aug. 25, 2017	Humidity	: 68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.81	71.83	53.02	54.00	-0.98	Average	186	340	P
2	2483.50	-18.81	85.72	66.91	74.00	-7.09	Peak	186	340	P
3	4904.00	-13.17	41.62	28.45	54.00	-25.55	Average	187	342	P
4	4904.00	-13.17	55.69	42.52	74.00	-31.48	Peak	187	342	P
5	7356.00	-10.07	41.57	31.50	54.00	-22.50	Average	179	337	P
6	7356.00	-10.07	54.45	44.38	74.00	-29.62	Peak	179	337	P

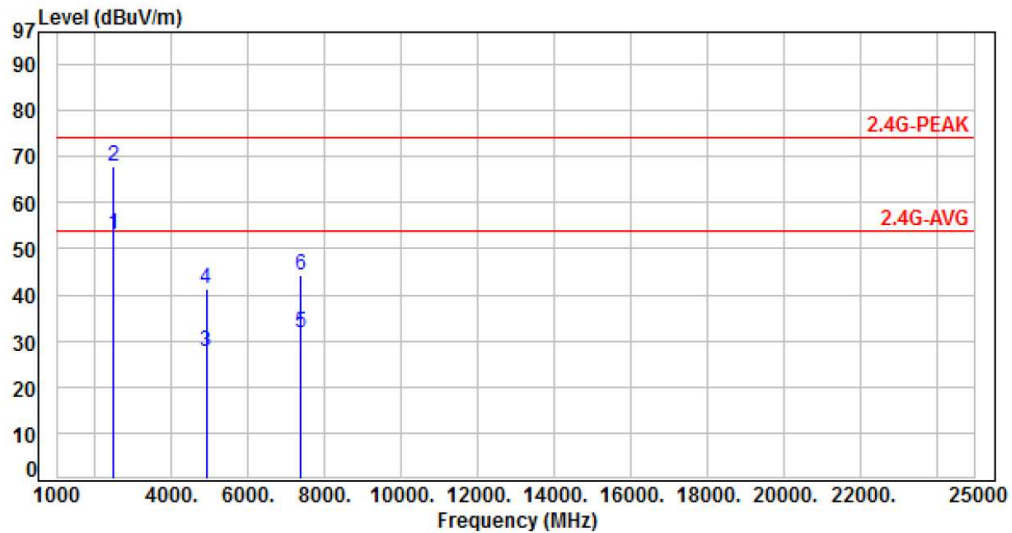
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE 24V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 6, 2452MHz, P to MP	Temperature	: 24 °C
Test Date	: Aug. 25, 2017	Humidity	: 68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.81	71.95	53.14	54.00	-0.86	Average	158	339	P
2	2483.50	-18.81	86.56	67.75	74.00	-6.25	Peak	158	339	P
3	4904.00	-13.17	40.92	27.75	54.00	-26.25	Average	183	346	P
4	4904.00	-13.17	54.58	41.41	74.00	-32.59	Peak	183	346	P
5	7356.00	-10.07	41.76	31.69	54.00	-22.31	Average	179	335	P
6	7356.00	-10.07	54.32	44.25	74.00	-29.75	Peak	179	335	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6.7 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz



7. Test of Conducted Spurious Emission

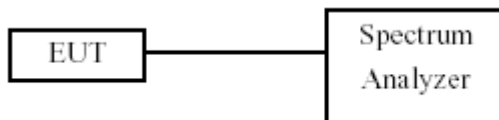
7.1 Test Limit

Below -30dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

7.2 Test Procedure

- The transmitter output was connected to the spectrum analyzer via a low lose cable.
- Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
- Average conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 30dB relative to the maximum measured in-band peak PSD level.
- The band edges was measured and recorded.

7.3 Test Setup Layout



7.4 Test Result and Data

Test Result : PASS

Test Date : Aug. 31, 2017

Temperature : 21°C

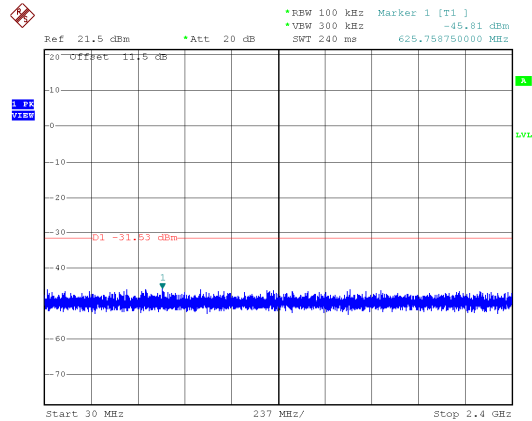
Humidity : 63%

Note: Test plots refers to the following pages.

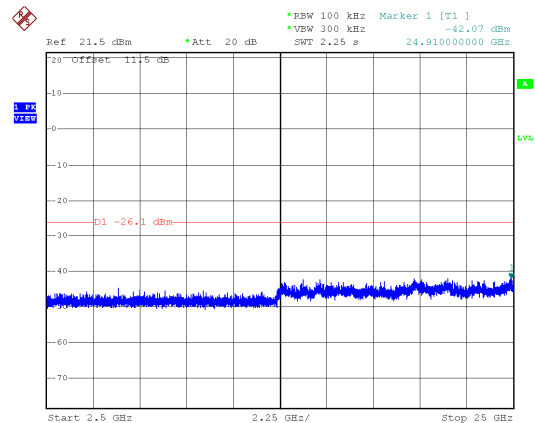
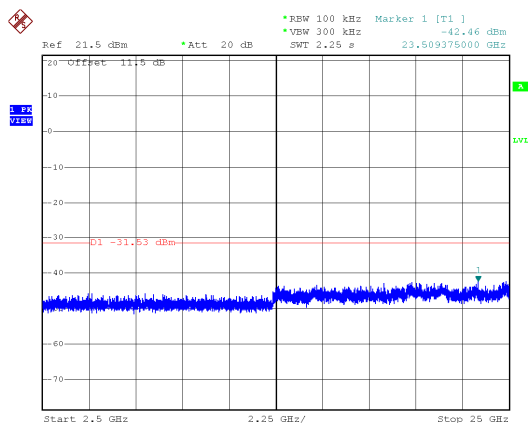
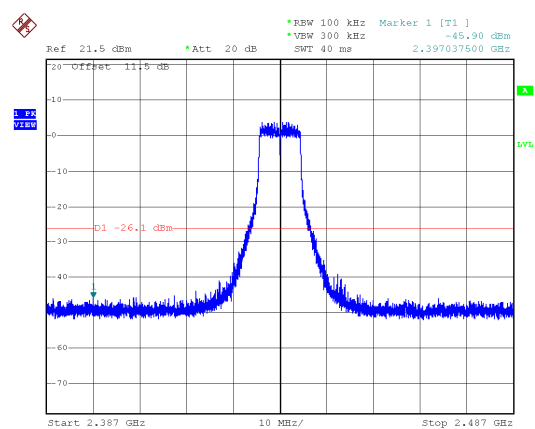
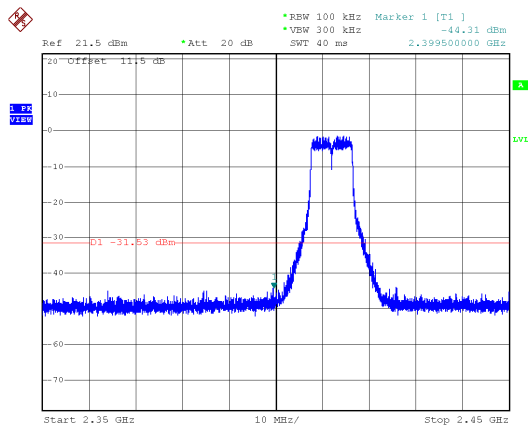
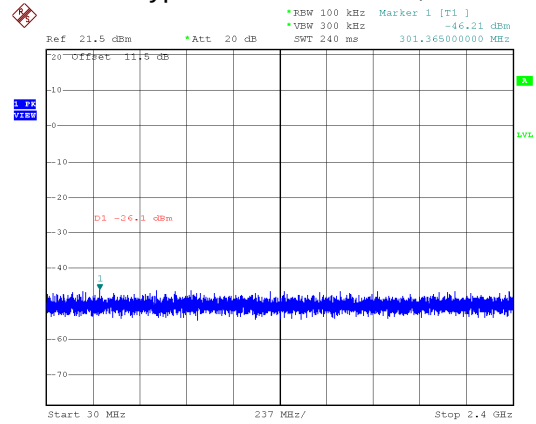


P to P
ANT A

Modulation Type: 802.11ac VHT10, 2412MHz



Modulation Type: 802.11ac VHT10, 2437MHz

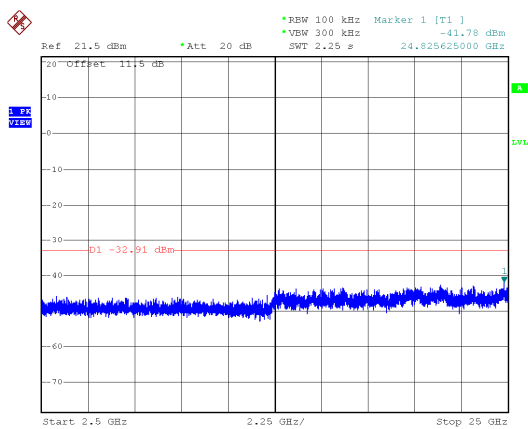
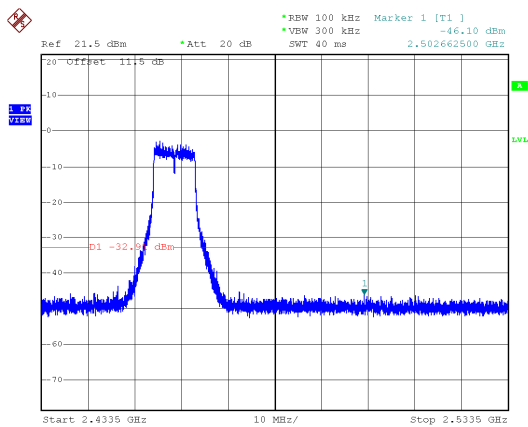
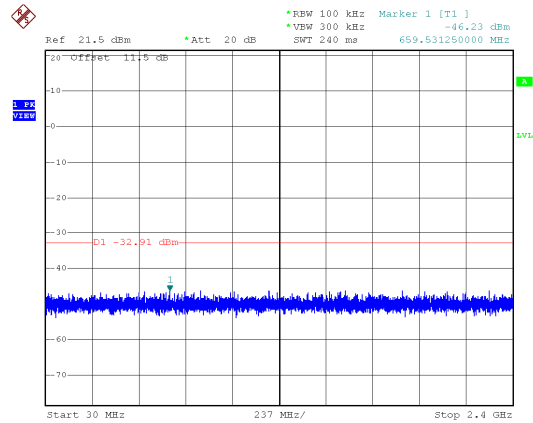




P to P

ANT A

Modulation Type: 802.11ac VHT10, 2462MHz

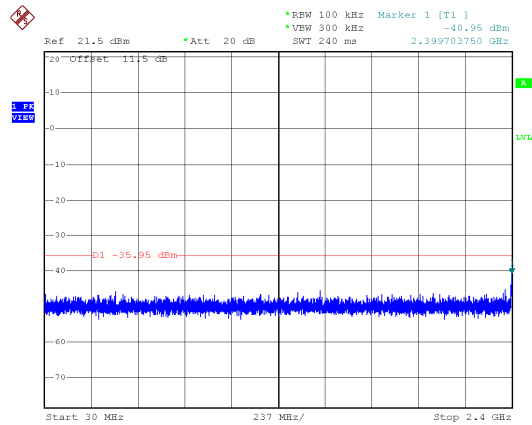




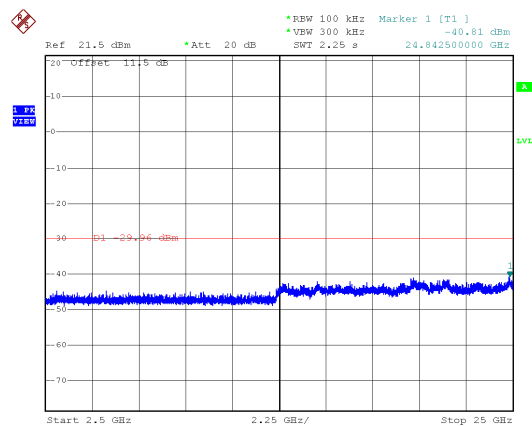
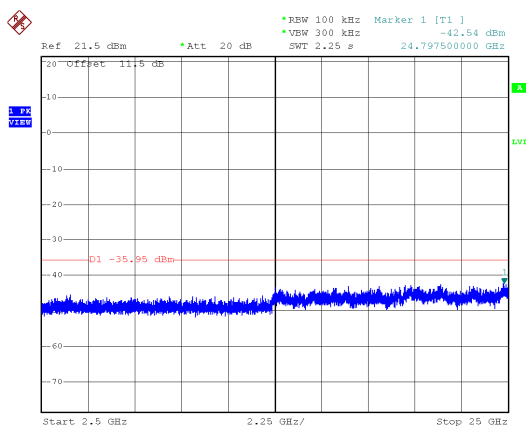
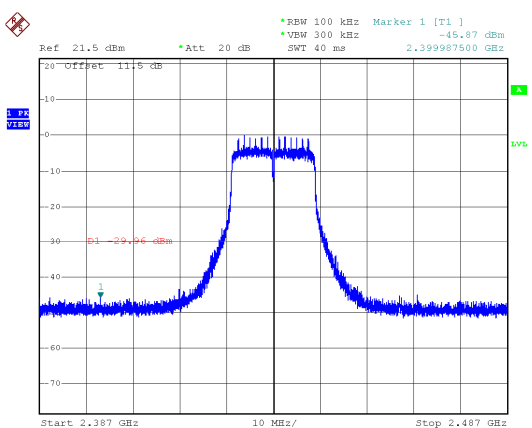
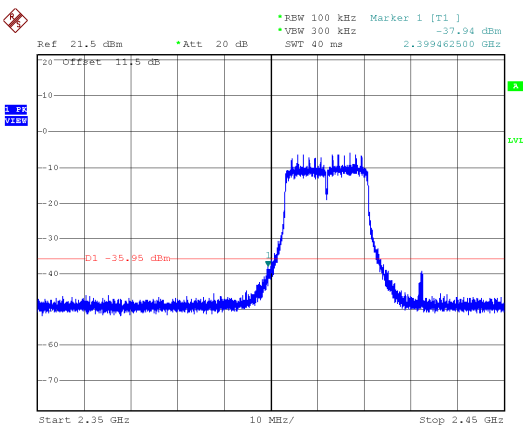
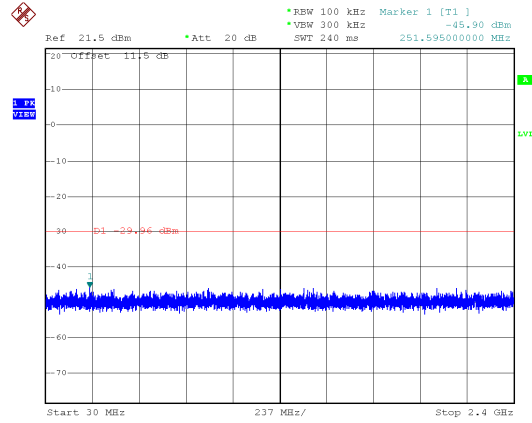
P to P

ANT A

Modulation Type: 802.11ac VHT20, 2412MHz



Modulation Type: 802.11ac VHT20, 2437MHz

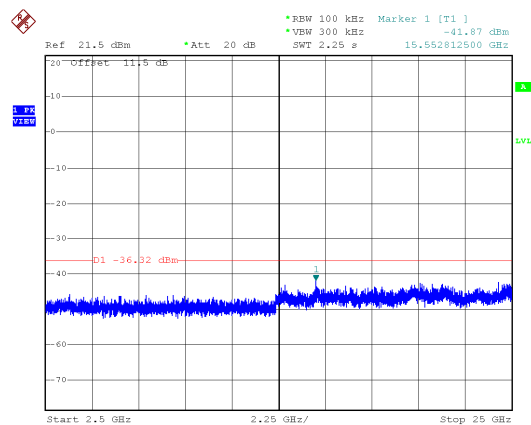
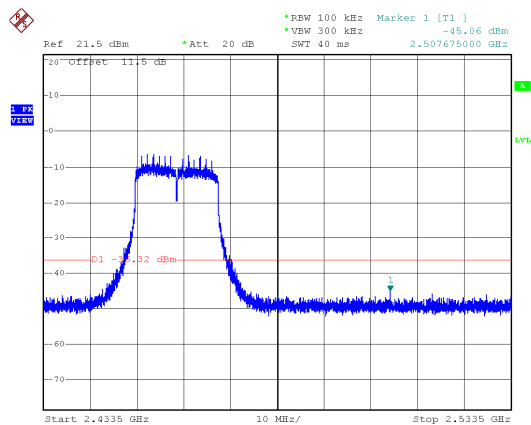
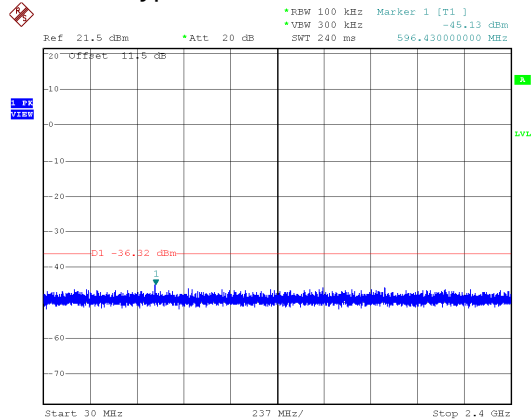




P to P

ANT A

Modulation Type: 802.11ac VHT20, 2462MHz

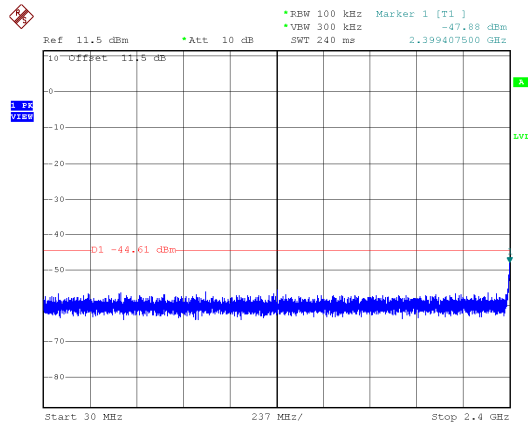




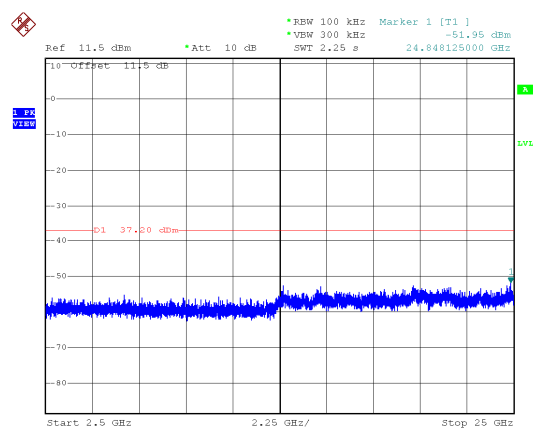
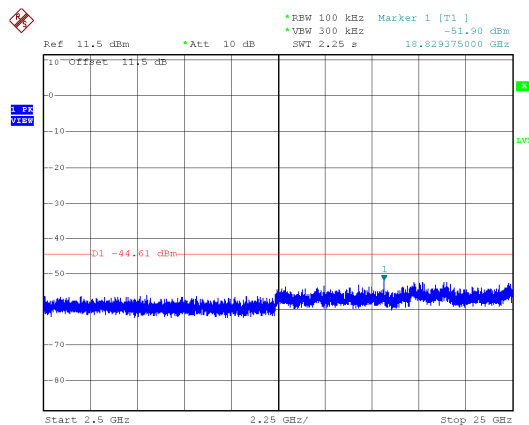
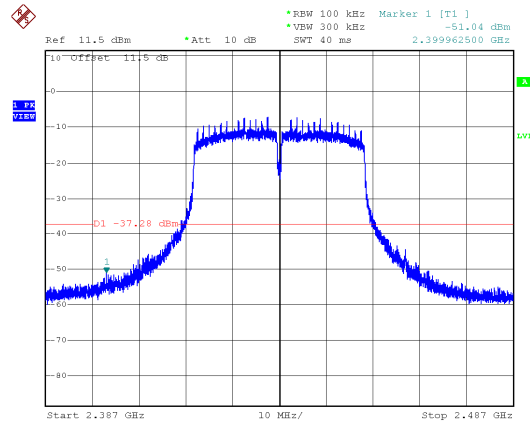
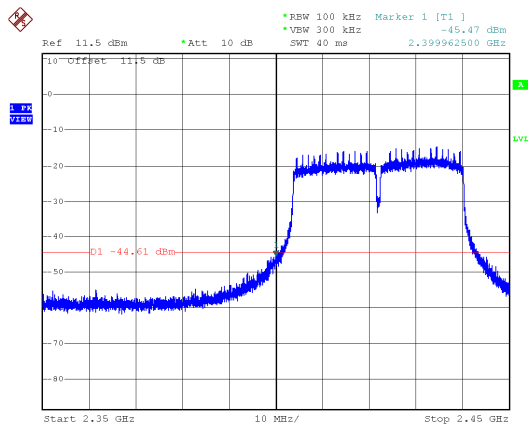
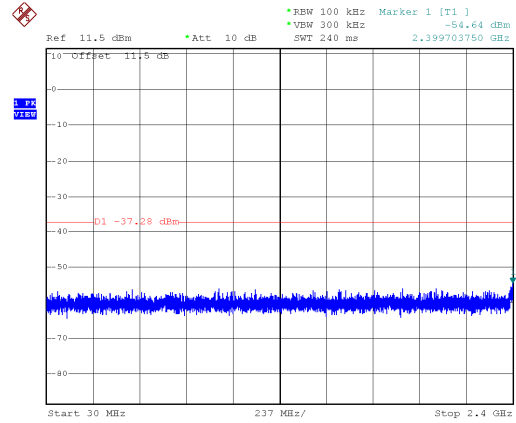
P to P

ANT A

Modulation Type: 802.11ac VHT40, 2422MHz



Modulation Type: 802.11ac VHT40, 2437MHz

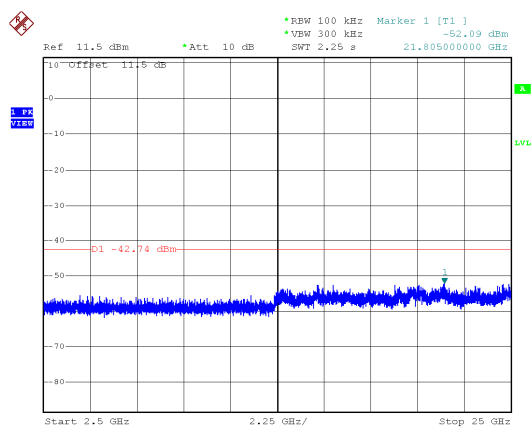
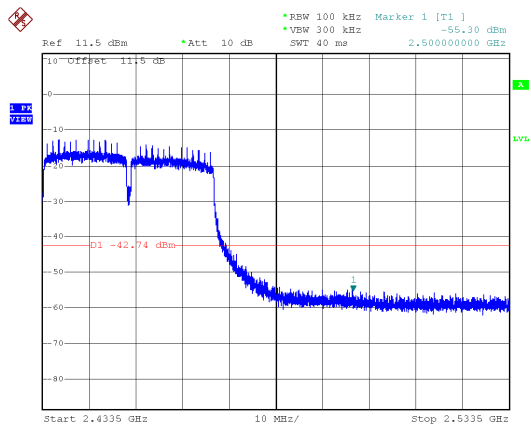
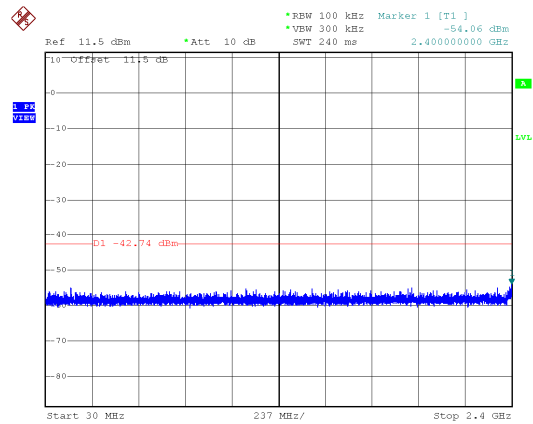




P to P

ANT A

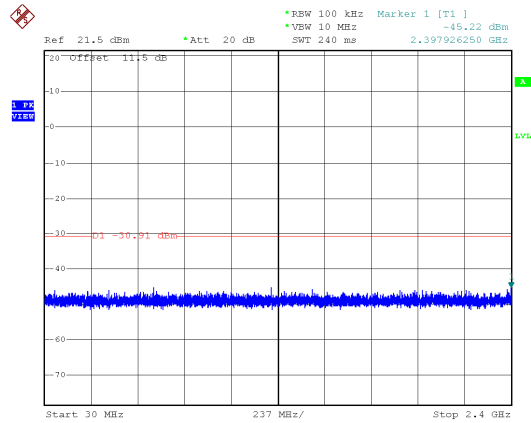
Modulation Type: 802.11ac VHT40, 2452MHz



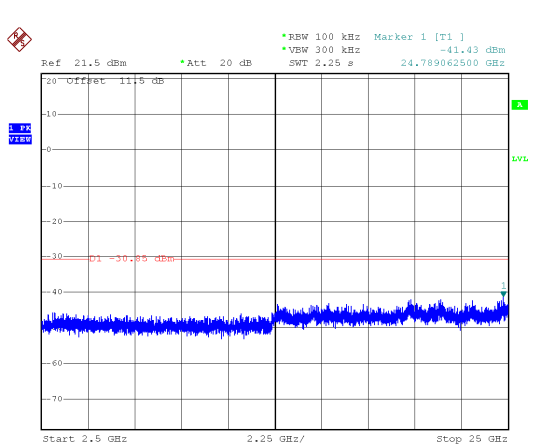
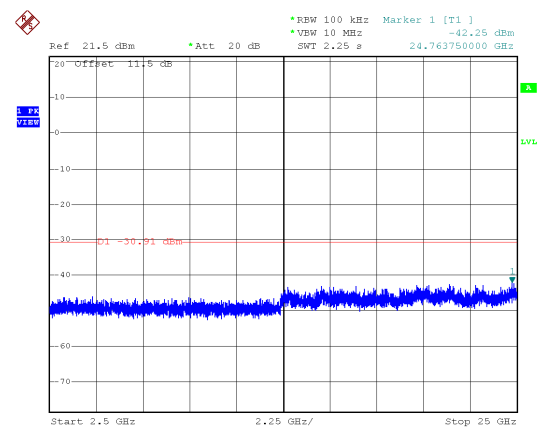
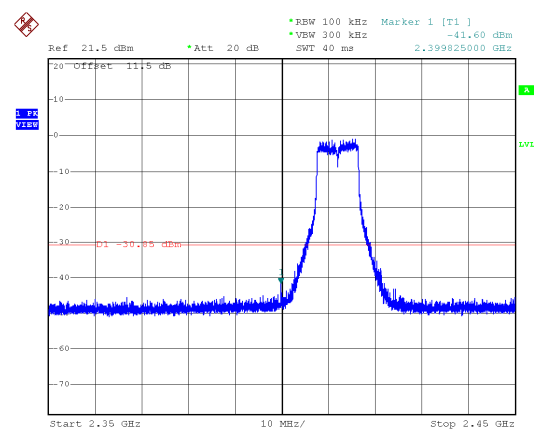
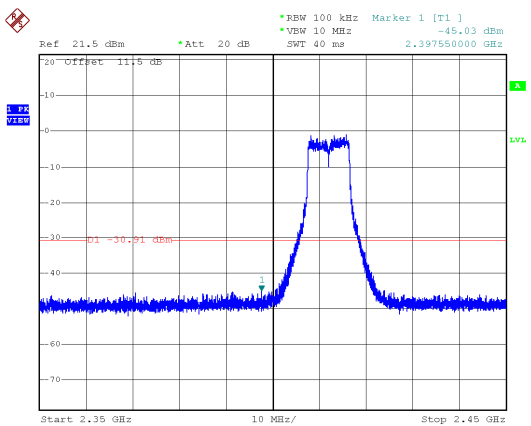
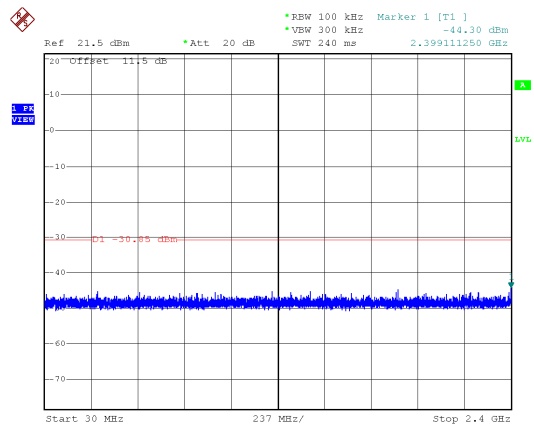


P to P
ANT B

Modulation Type: 802.11ac VHT10, 2412MHz



Modulation Type: 802.11ac VHT10, 2437MHz

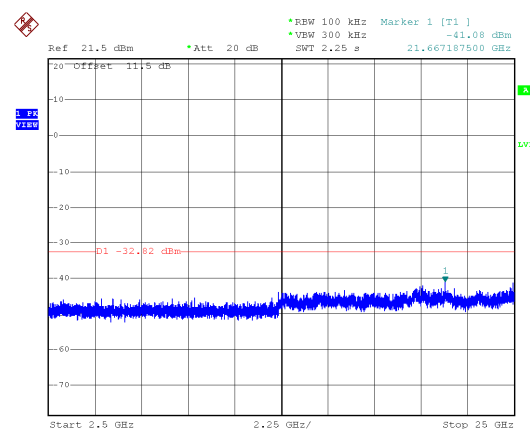
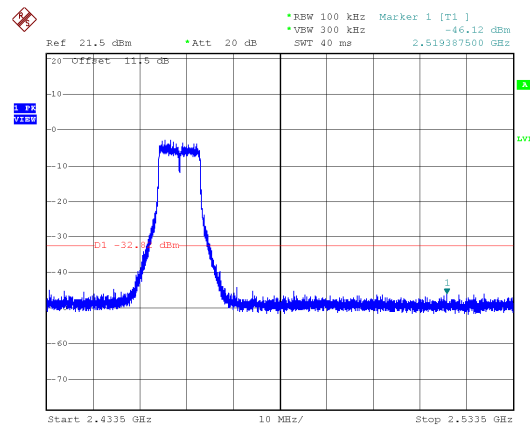
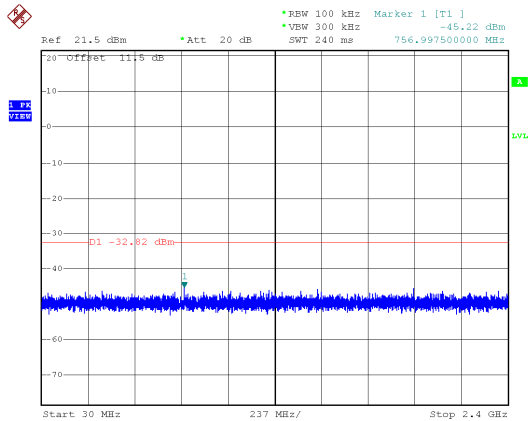




P to P

ANT B

Modulation Type: 802.11ac VHT10, 2462MHz

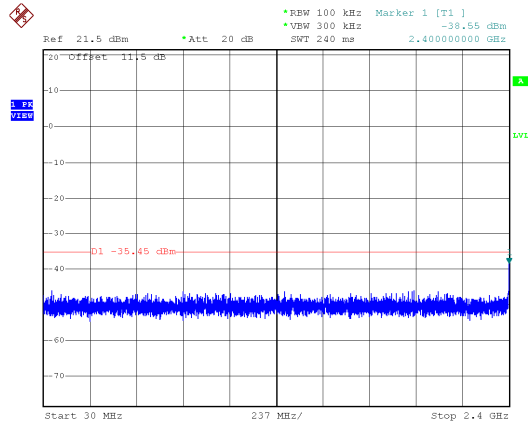




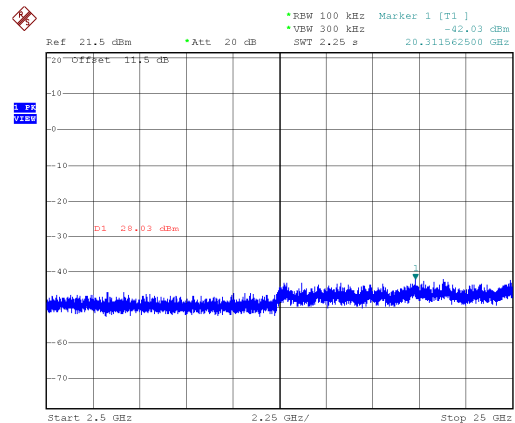
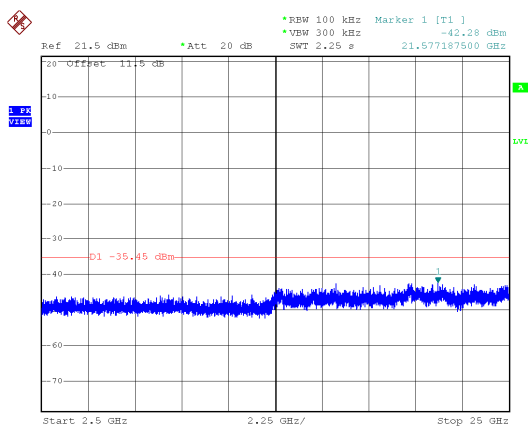
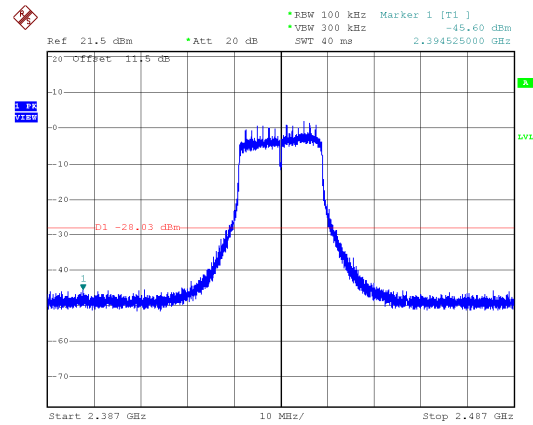
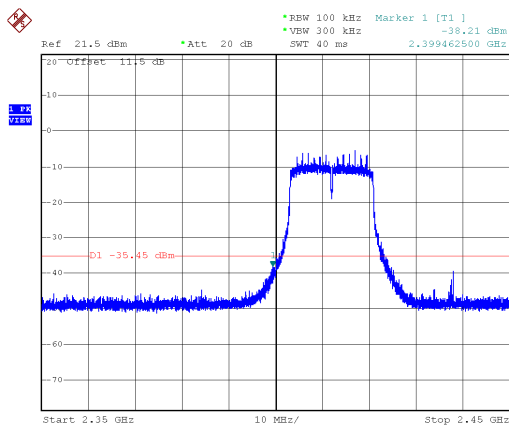
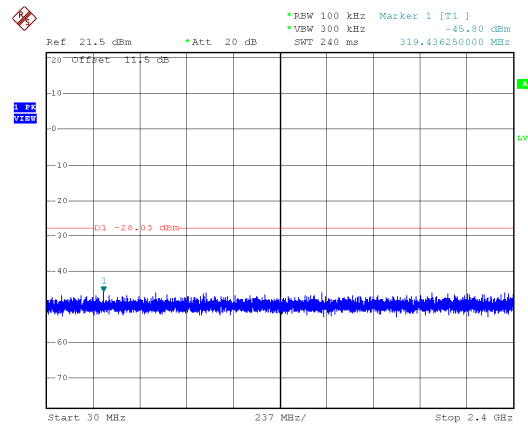
P to P

ANT B

Modulation Type: 802.11ac VHT20, 2412MHz



Modulation Type: 802.11ac VHT20, 2437MHz

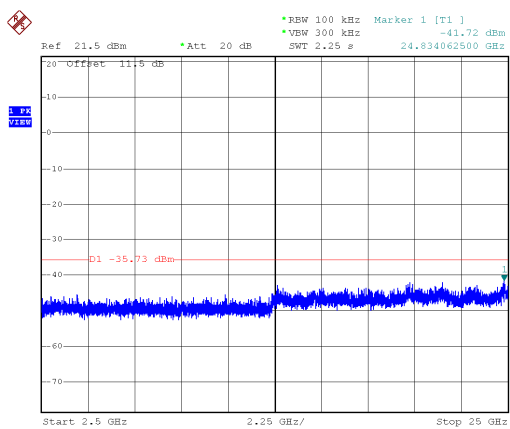
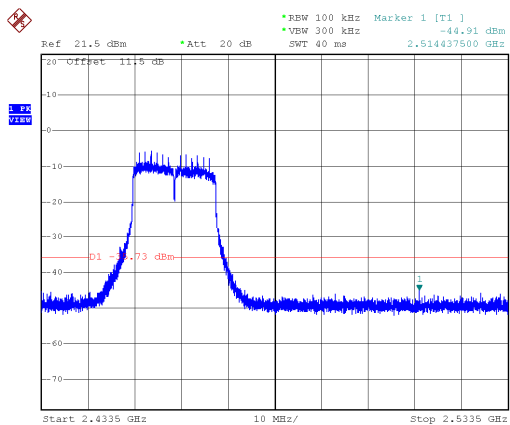
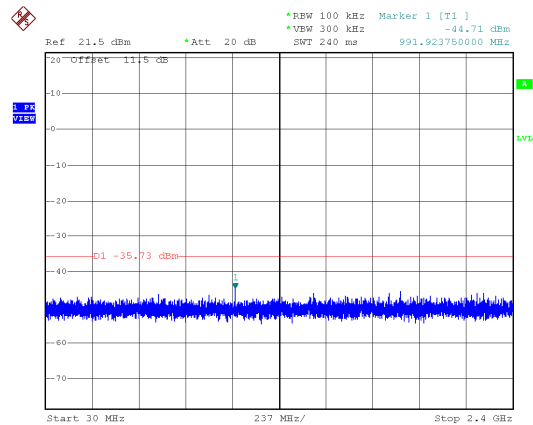




P to P

ANT B

Modulation Type: 802.11ac VHT20, 2462MHz

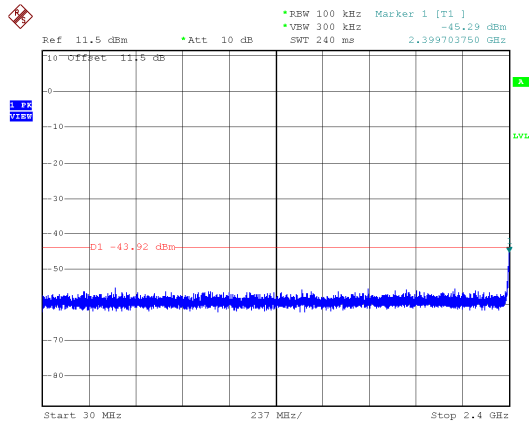




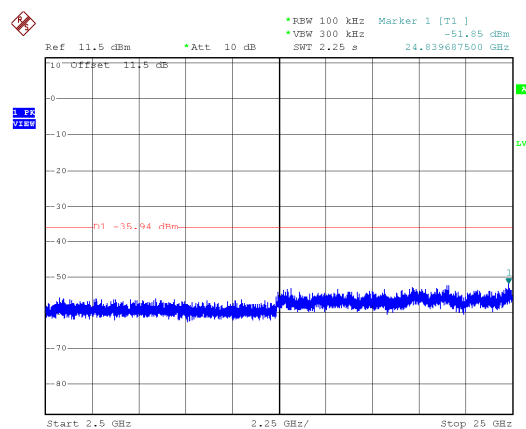
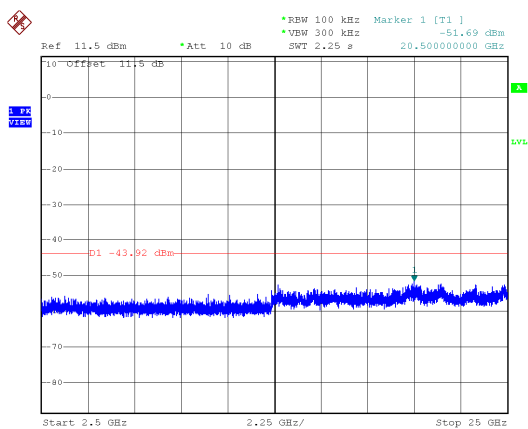
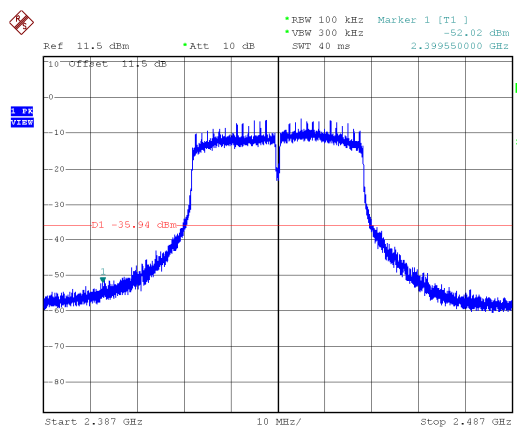
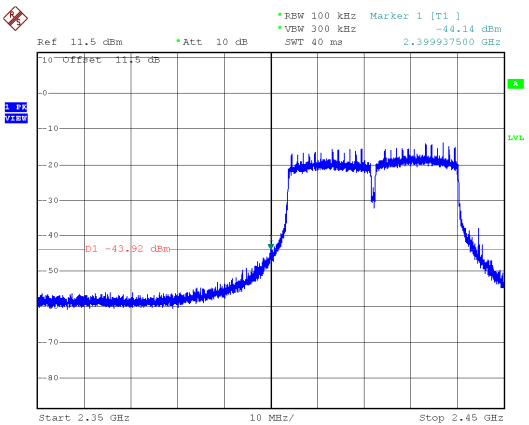
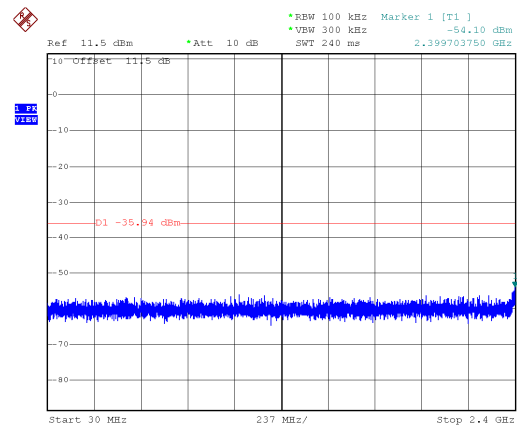
P to P

ANT B

Modulation Type: 802.11ac VHT40, 2422MHz



Modulation Type: 802.11ac VHT40, 2437MHz

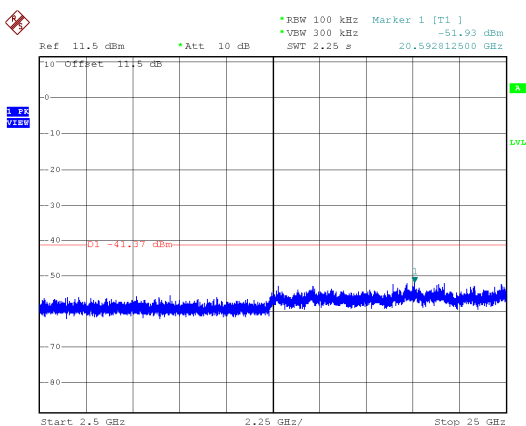
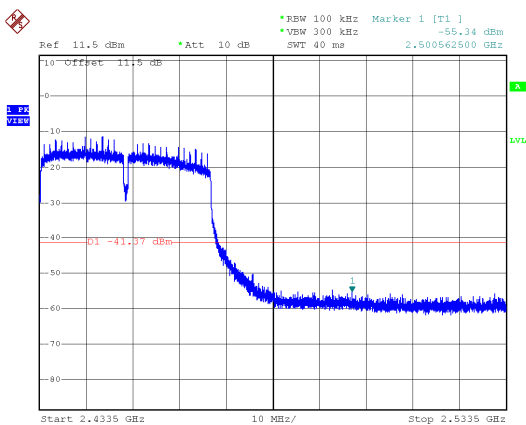
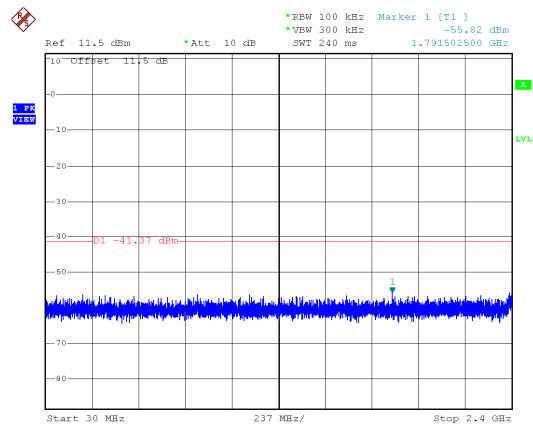




P to P

ANT B

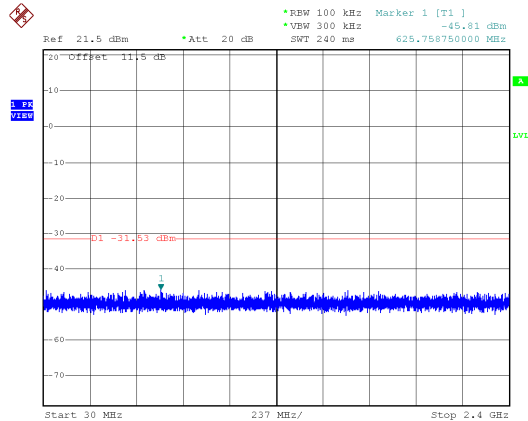
Modulation Type: 802.11ac VHT40, 2452MHz



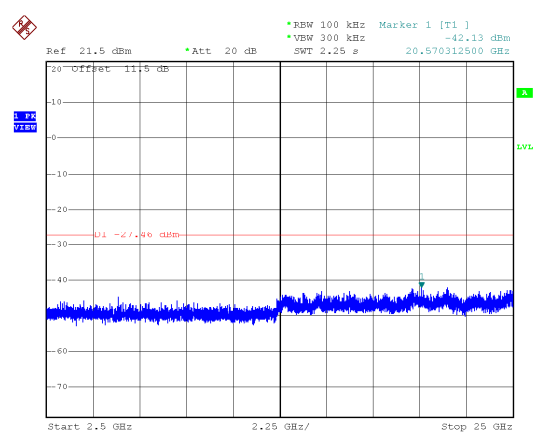
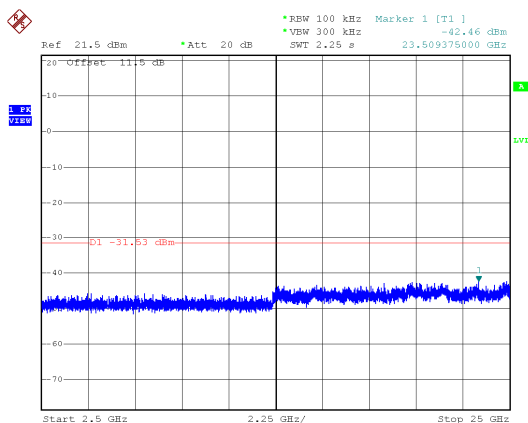
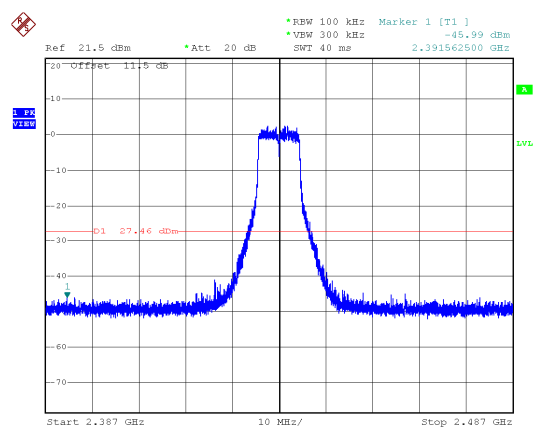
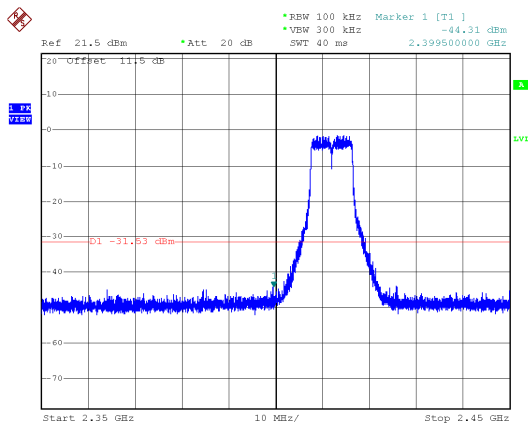
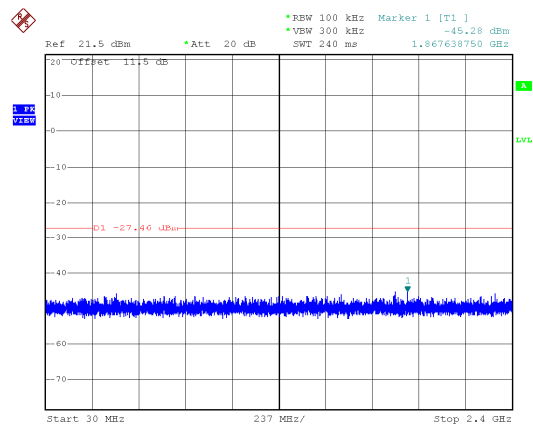


P to MP
ANT A

Modulation Type: 802.11ac VHT10, 2412MHz



Modulation Type: 802.11ac VHT10, 2437MHz

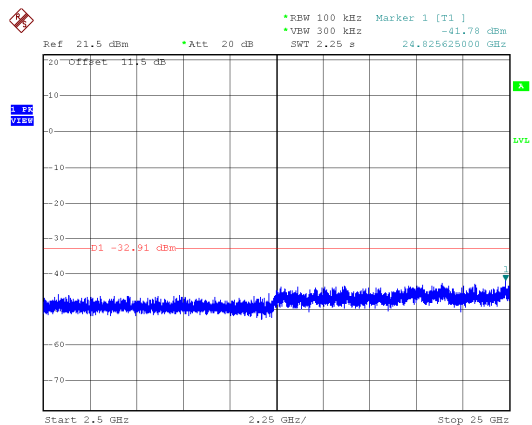
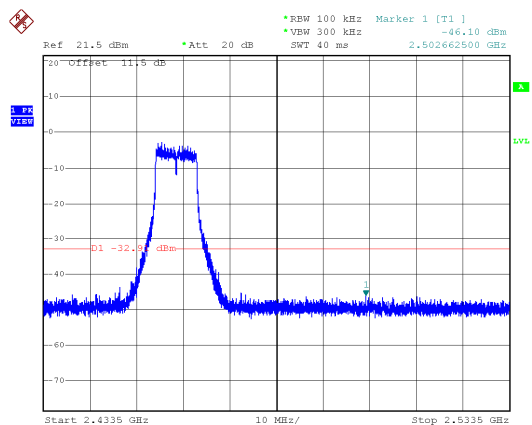
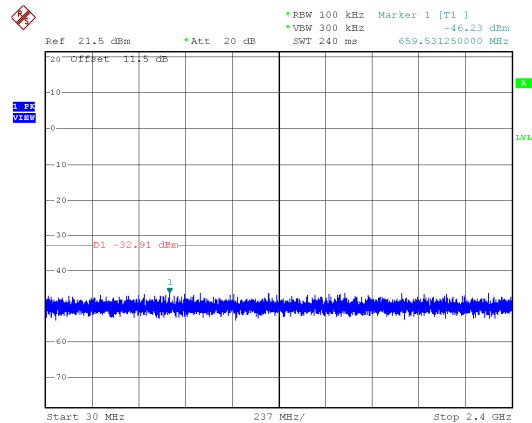




P to MP

ANT A

Modulation Type: 802.11ac VHT10, 2462MHz

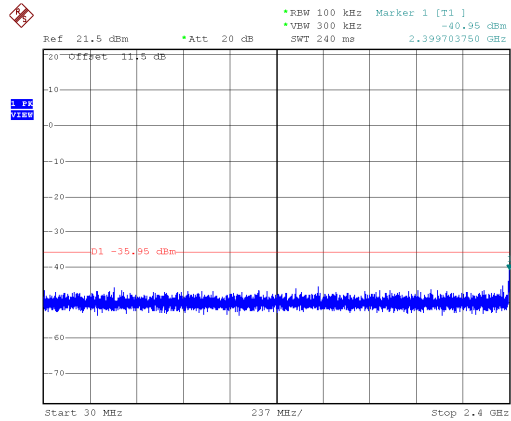




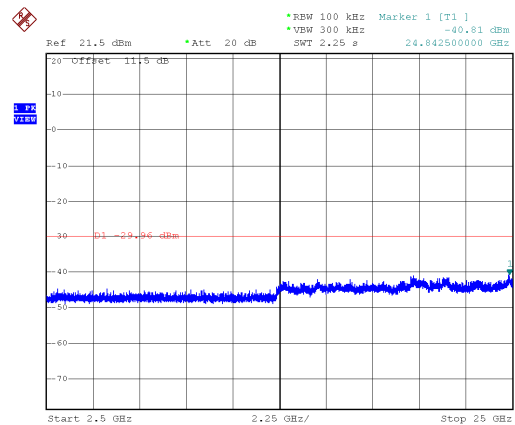
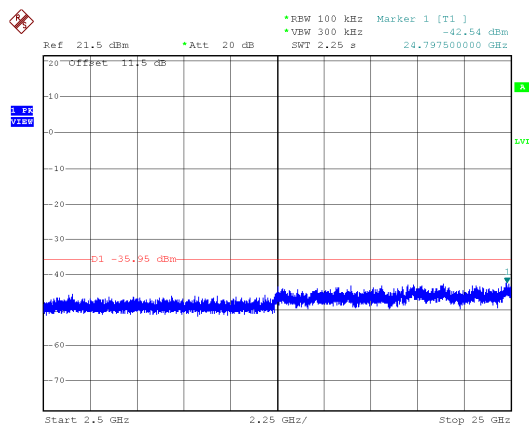
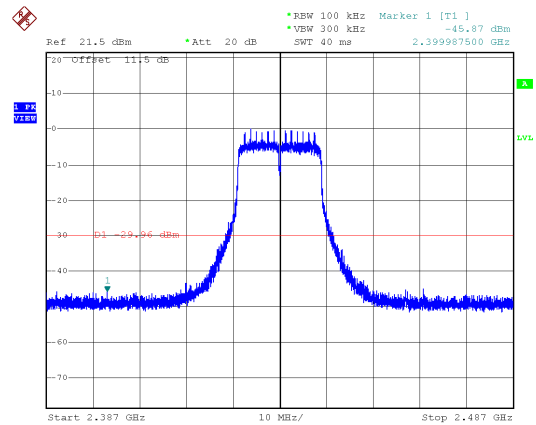
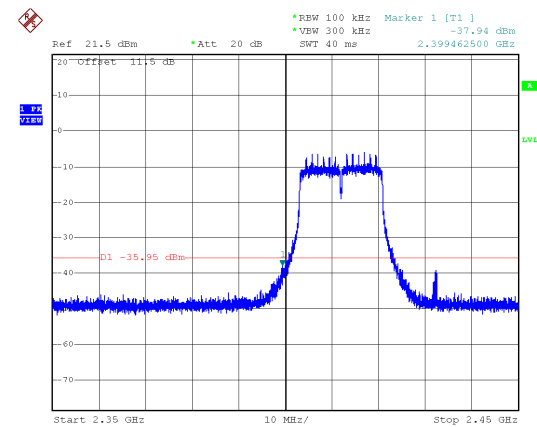
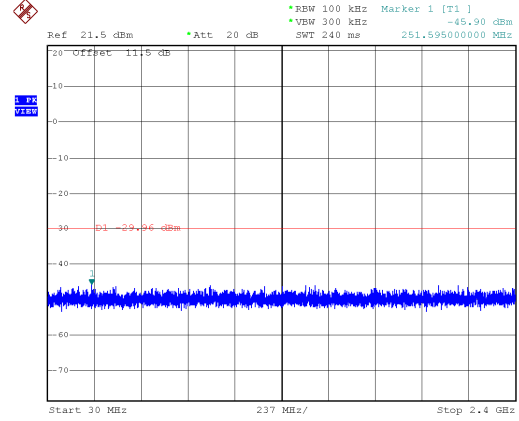
P to MP

ANT A

Modulation Type: 802.11ac VHT20, 2412MHz



Modulation Type: 802.11ac VHT20, 2437MHz

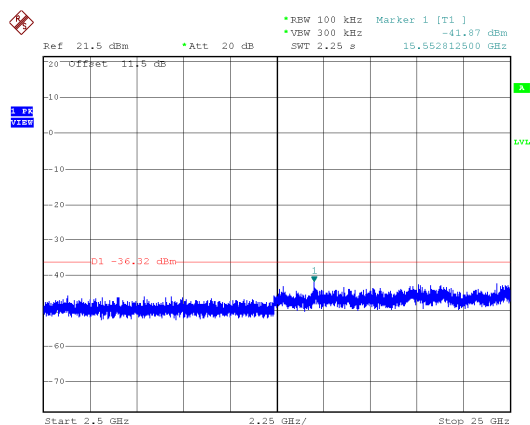
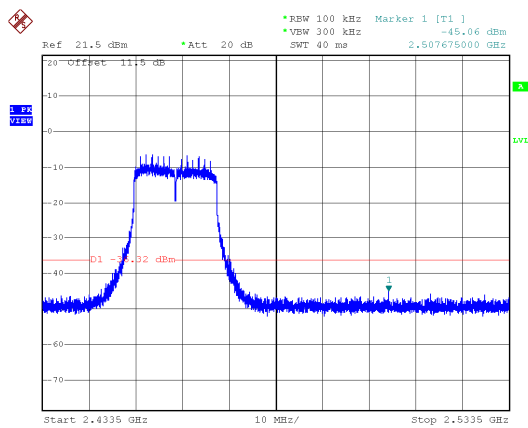
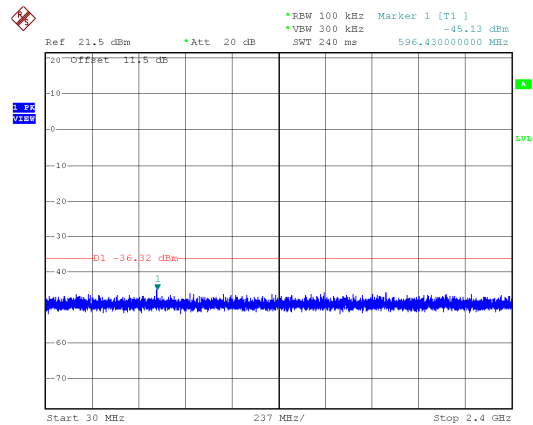




P to MP

ANT A

Modulation Type: 802.11ac VHT20, 2462MHz

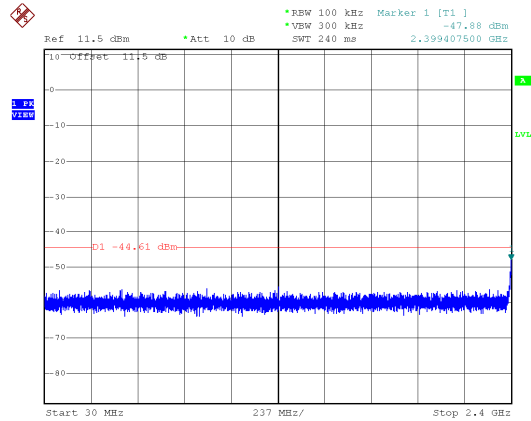




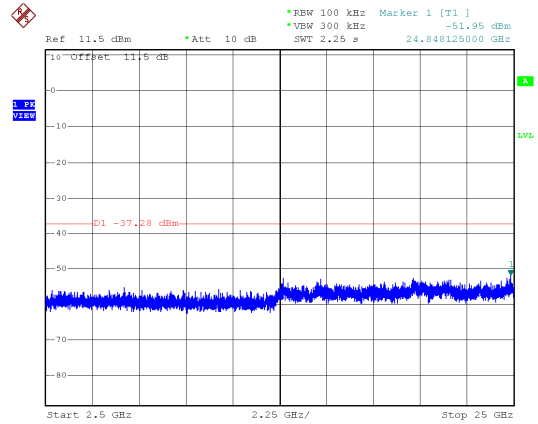
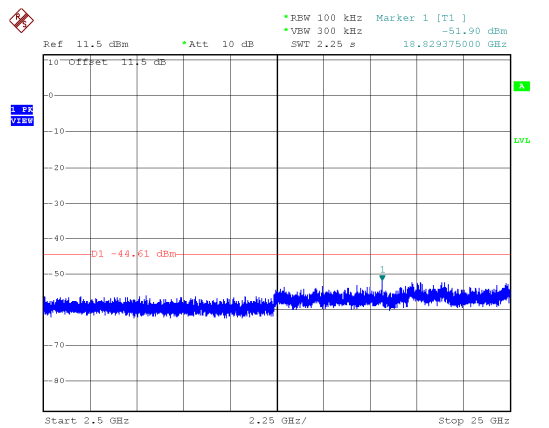
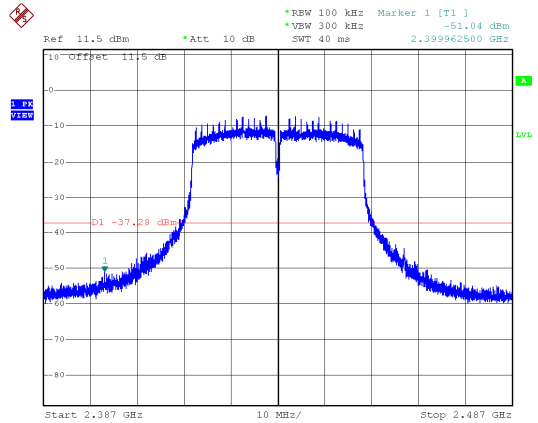
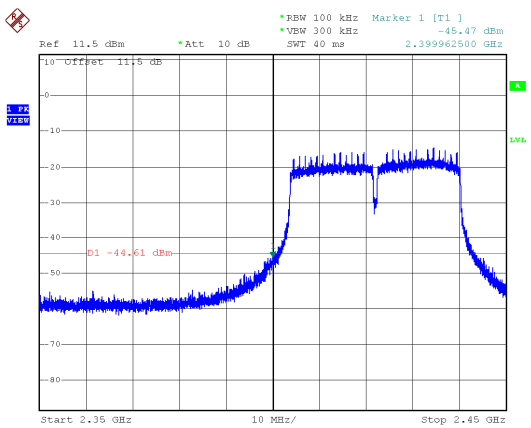
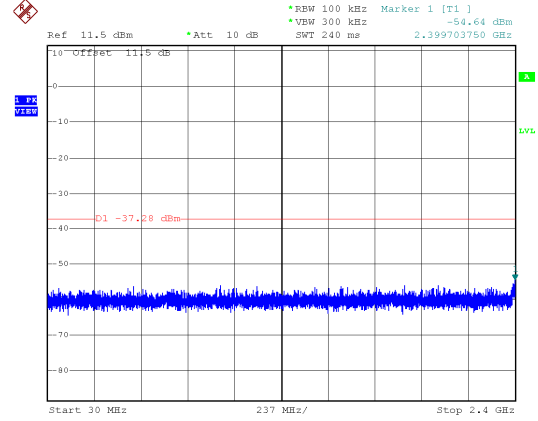
P to MP

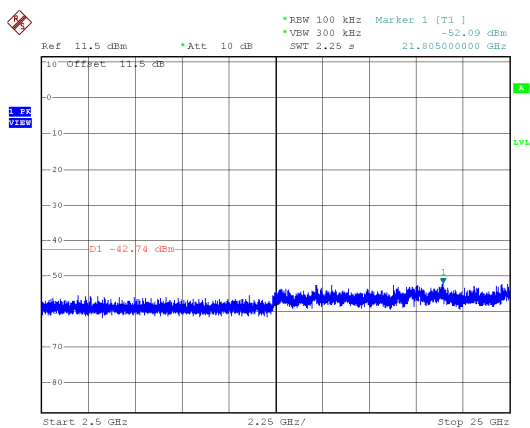
ANT A

Modulation Type: 802.11ac VHT40, 2422MHz



Modulation Type: 802.11ac VHT40, 2437MHz

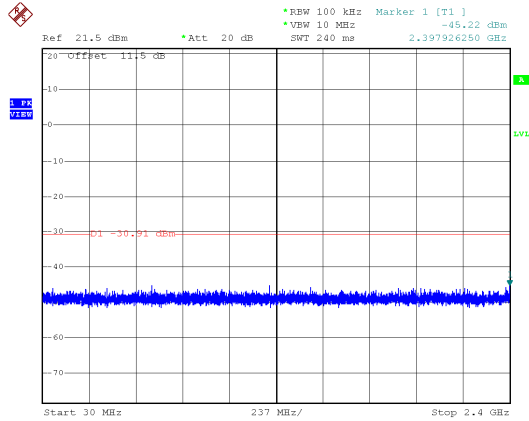




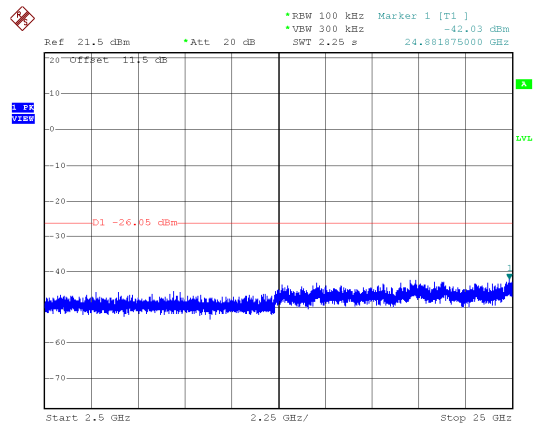
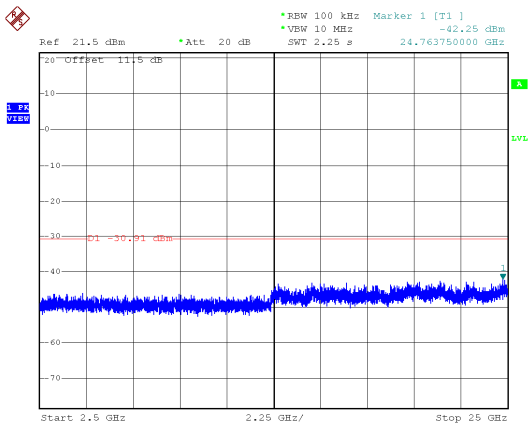
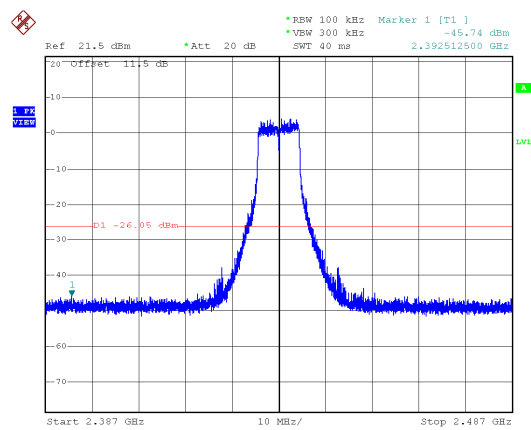
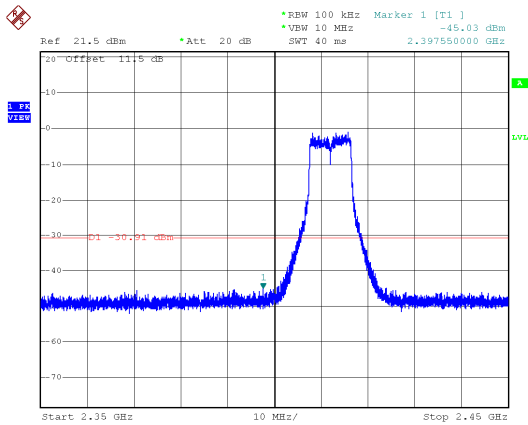
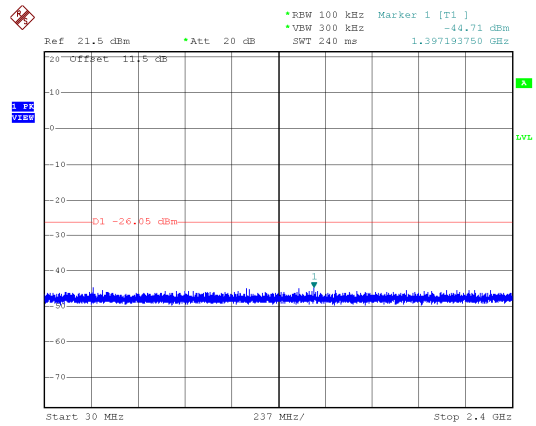


P to MP
ANT B

Modulation Type: 802.11ac VHT10, 2412MHz



Modulation Type: 802.11ac VHT10, 2437MHz

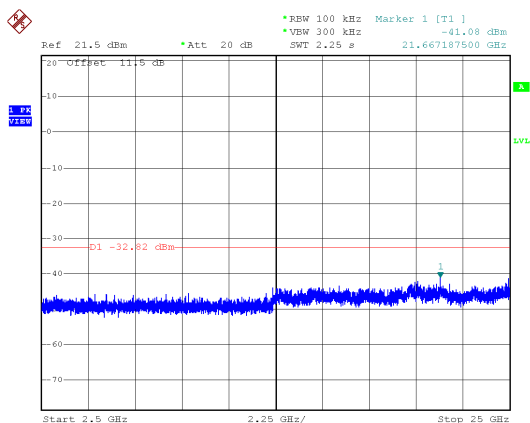
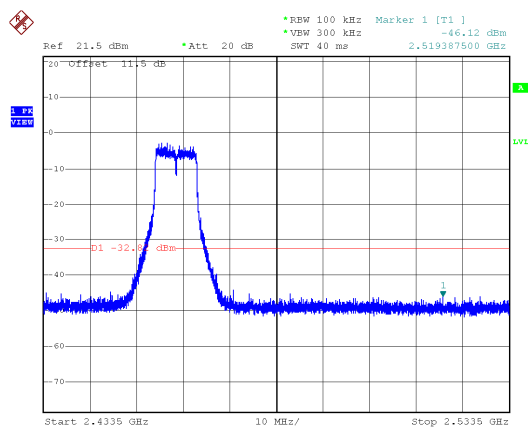
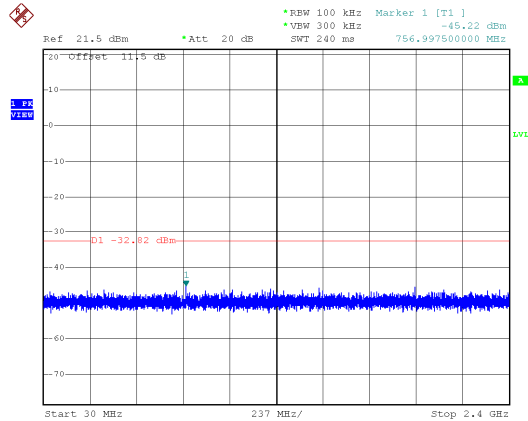




P to MP

ANT B

Modulation Type: 802.11ac VHT10, 2462MHz

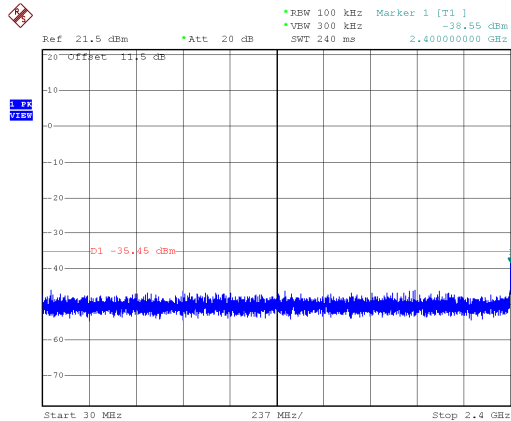




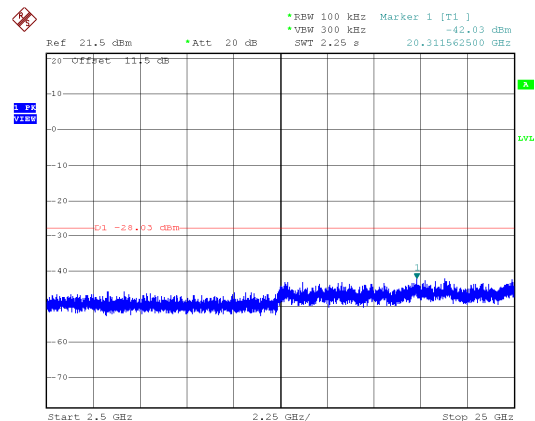
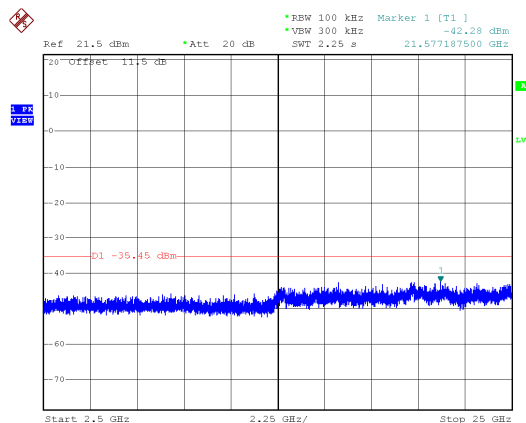
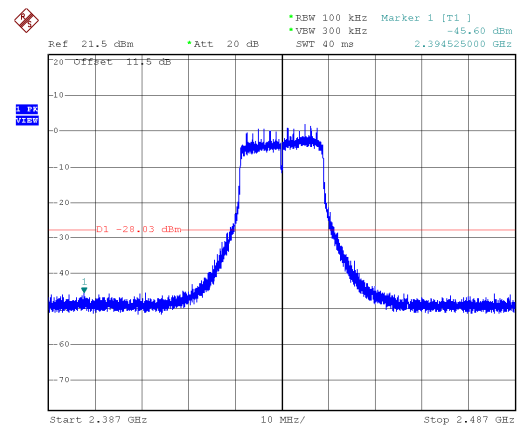
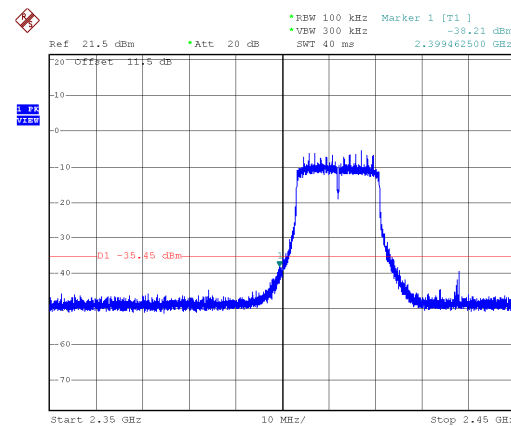
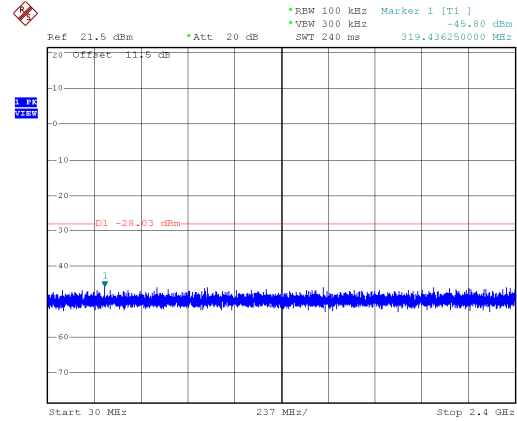
P to MP

ANT B

Modulation Type: 802.11ac VHT20, 2412MHz



Modulation Type: 802.11ac VHT20, 2437MHz

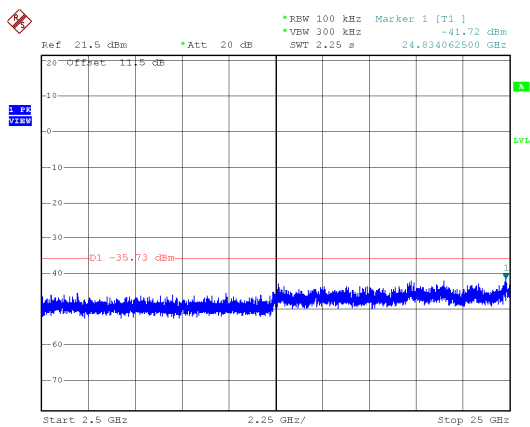
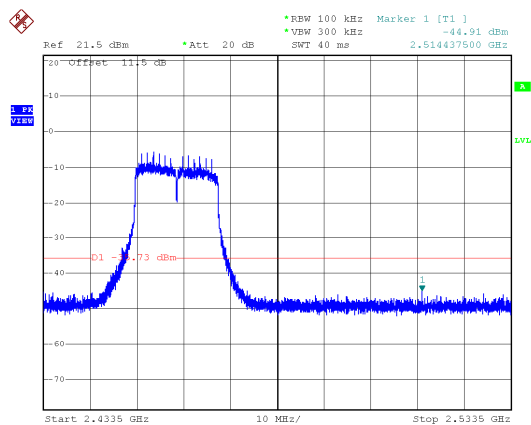
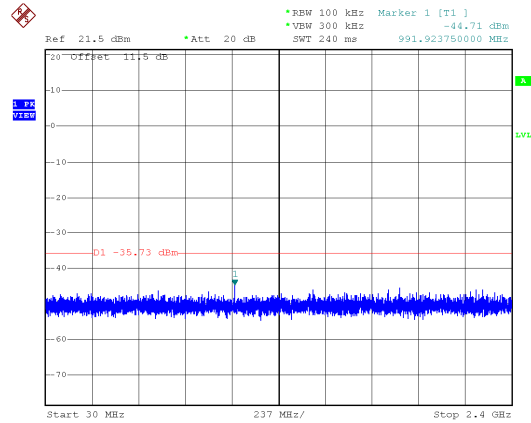




P to MP

ANT B

Modulation Type: 802.11ac VHT20, 2462MHz

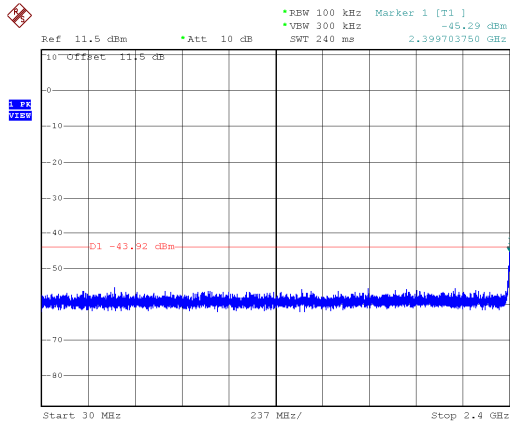




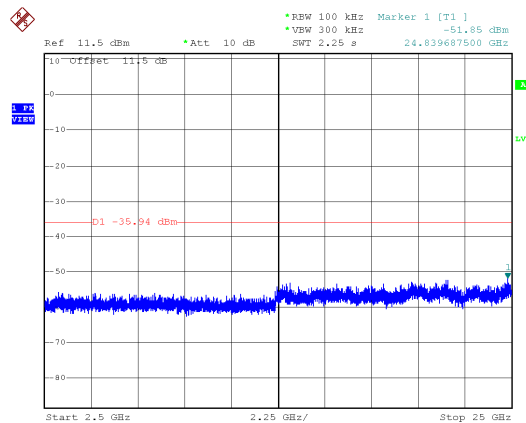
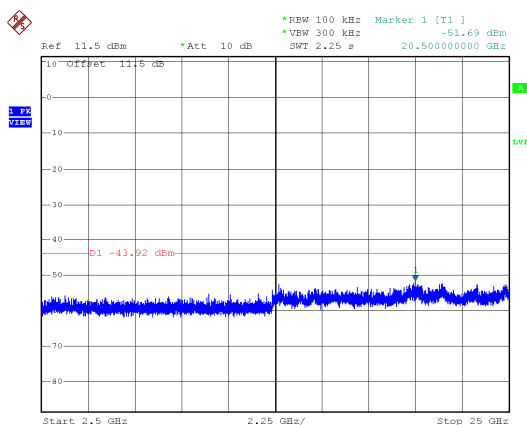
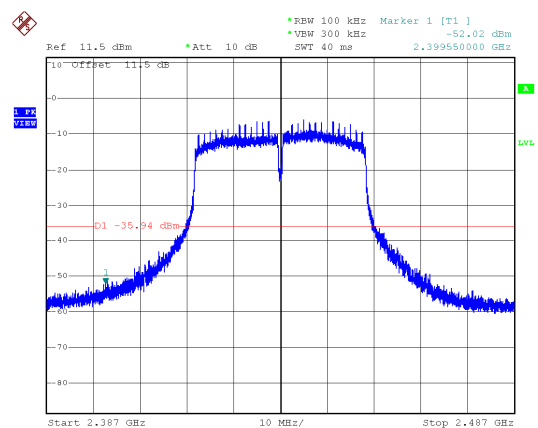
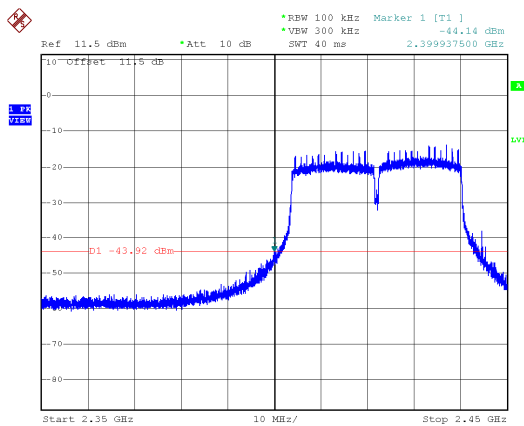
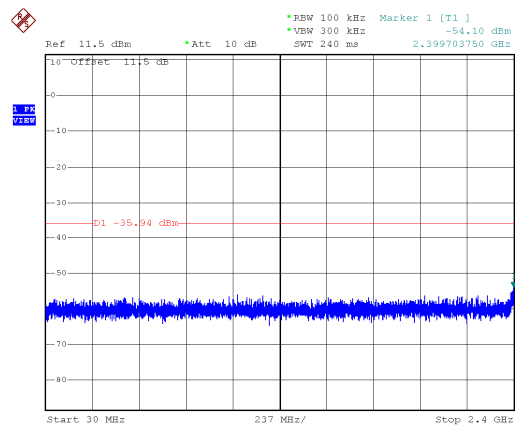
P to MP

ANT B

Modulation Type: 802.11ac VHT40, 2422MHz



Modulation Type: 802.11ac VHT40, 2437MHz

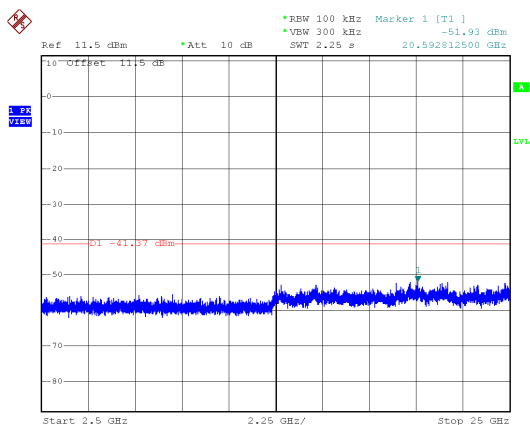
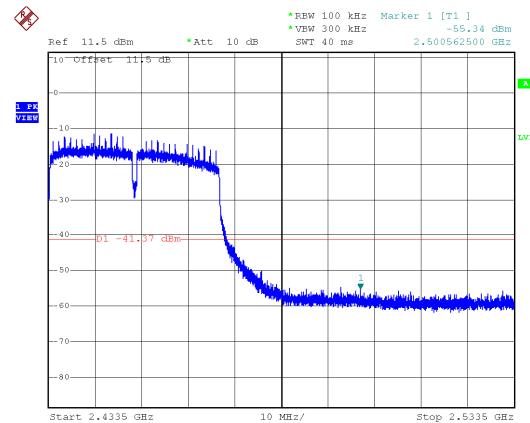
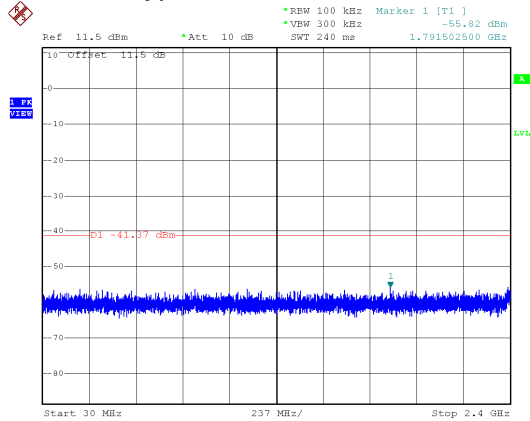




P to MP

ANT B

Modulation Type: 802.11ac VHT40, 2452MHz





8. 6dB Bandwidth Measurement Data

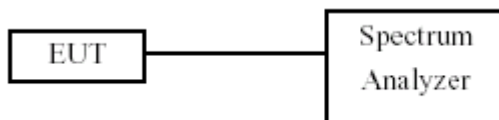
8.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

8.2 Test Procedures

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 1~5% of the emission bandwidth and VBW $\geq 3 \times$ RBW.
- The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
- The 6dB Bandwidth was measured and recorded.

8.3 Test Setup Layout





8.4 Test Result and Data

Temperature : 21°C

Humidity : 63%

Test Date : Aug. 31, 2017

P to P

Modulation Type	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
		ANT A	ANT B	
IEEE 802.11ac VHT10 (MCS0)	2412	8.94	8.82	0.5
	2437	8.88	8.94	0.5
	2462	8.88	8.82	0.5
IEEE 802.11ac VHT20 (MCS0)	2412	17.70	17.60	0.5
	2437	17.70	17.60	0.5
	2462	17.60	17.30	0.5
IEEE 802.11ac VHT40 (MCS0)	2422	36.20	36.40	0.5
	2437	35.80	35.80	0.5
	2452	35.80	35.80	0.5

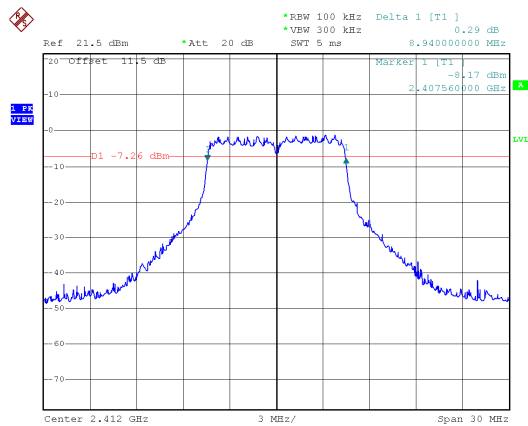
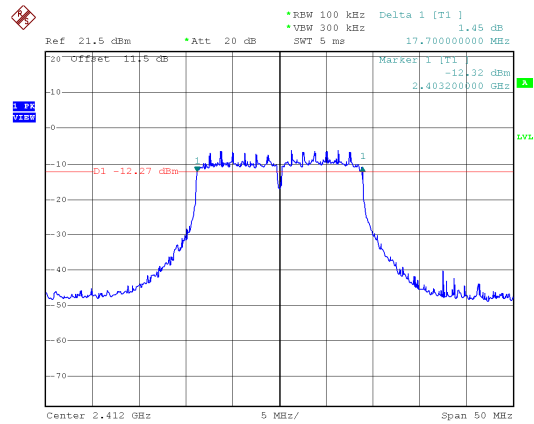
P to MP

Modulation Type	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
		ANT A	ANT B	
IEEE 802.11ac VHT10 (MCS0)	2412	8.94	8.82	0.5
	2437	8.88	8.94	0.5
	2462	8.88	8.82	0.5
IEEE 802.11ac VHT20 (MCS0)	2412	17.70	17.60	0.5
	2437	17.70	17.60	0.5
	2462	17.60	17.30	0.5
IEEE 802.11ac VHT40 (MCS0)	2422	36.20	36.40	0.5
	2437	35.80	35.80	0.5
	2452	35.80	35.80	0.5

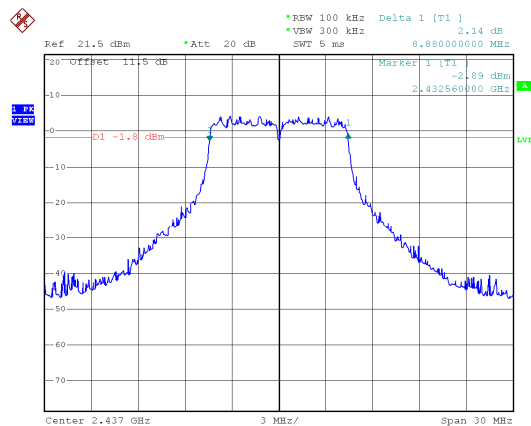


P to P

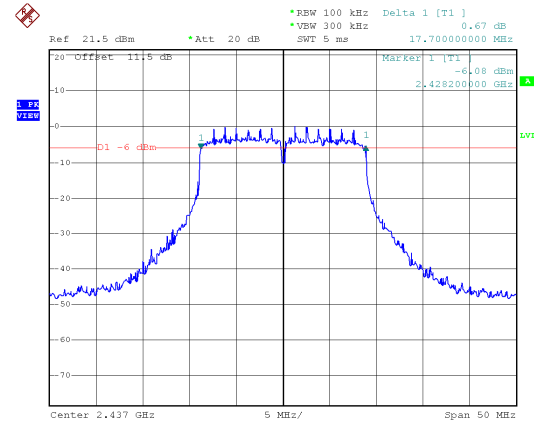
ANT A

Modulation Type: 802.11ac VHT10
2412MHzModulation Type: 802.11ac VHT20
2412MHz

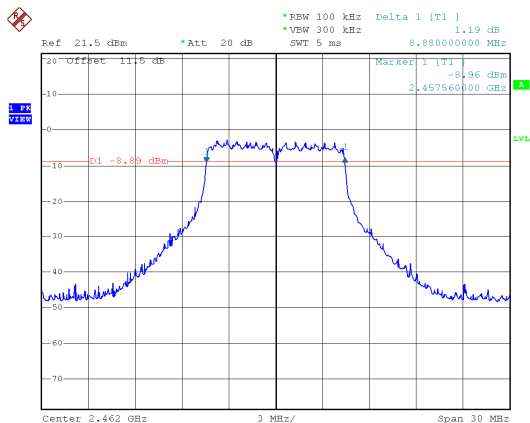
2437MHz



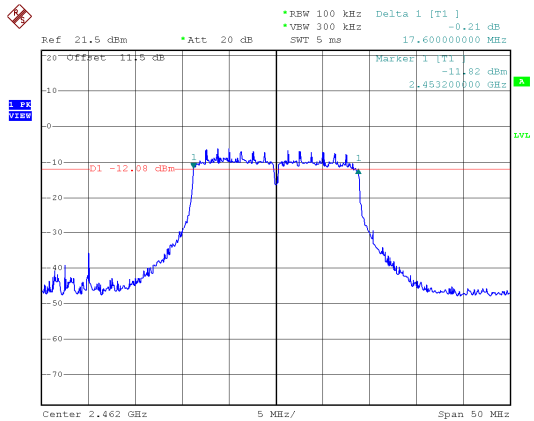
2437MHz



2462MHz



2462MHz



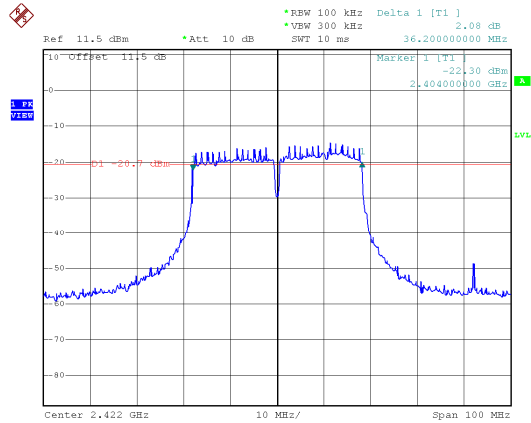


P to P

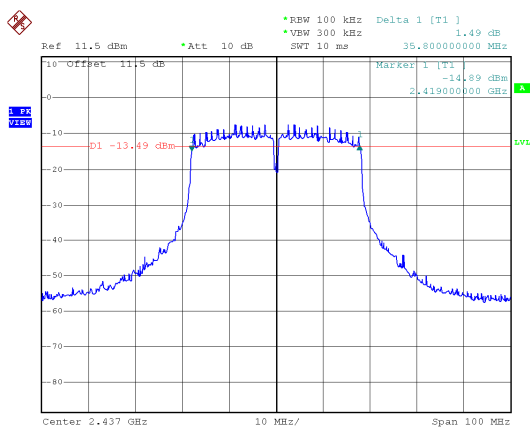
ANT A

Modulation Type: 802.11ac VHT40

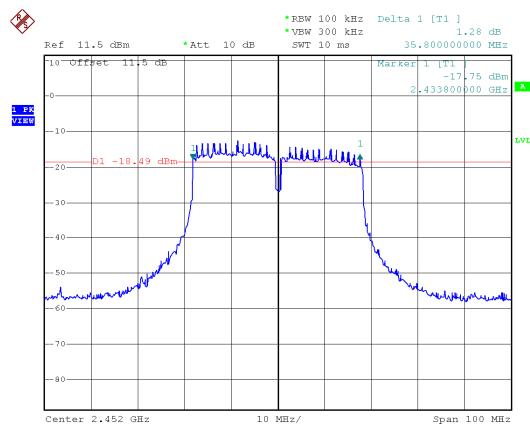
2422MHz



2437MHz



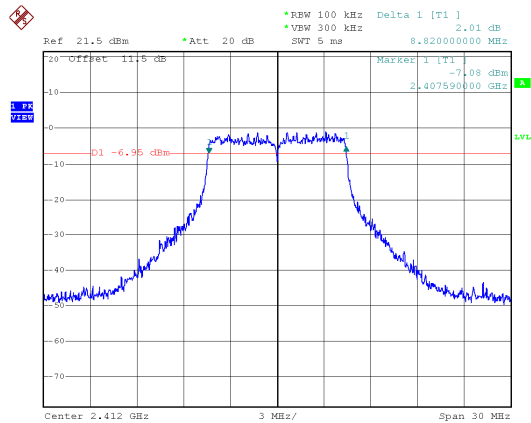
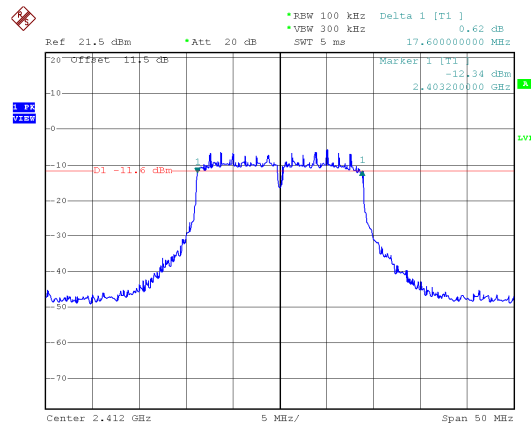
2452MHz



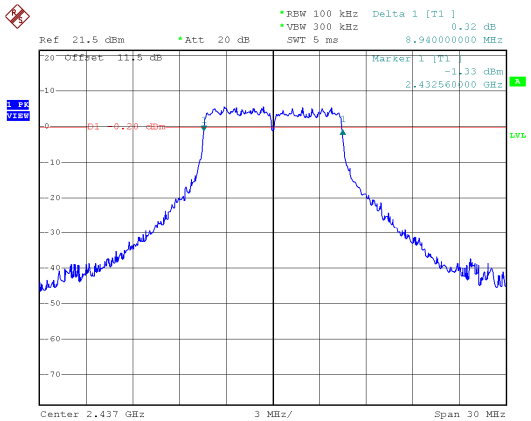


P to P

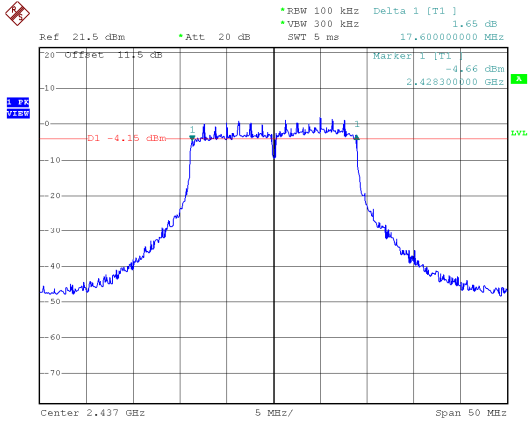
ANT B

Modulation Type: 802.11ac VHT10
2412MHzModulation Type: 802.11ac VHT20
2412MHz

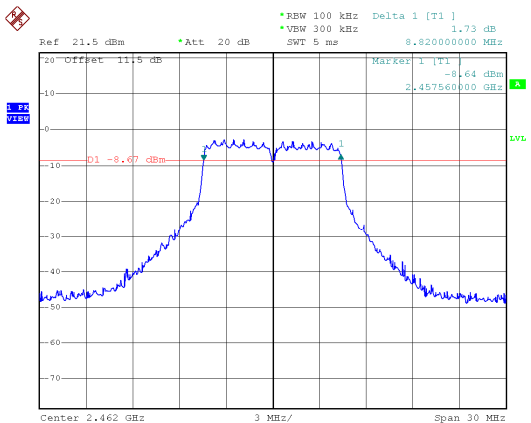
2437MHz



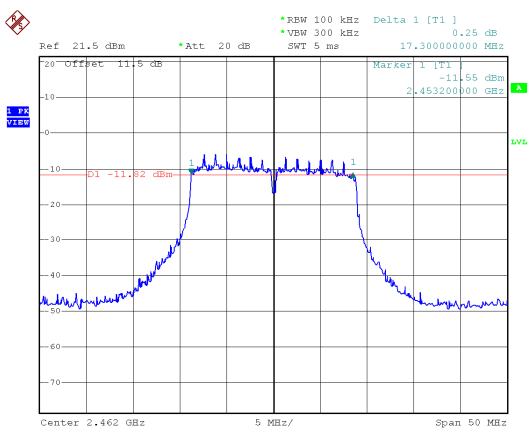
2437MHz



2462MHz



2462MHz

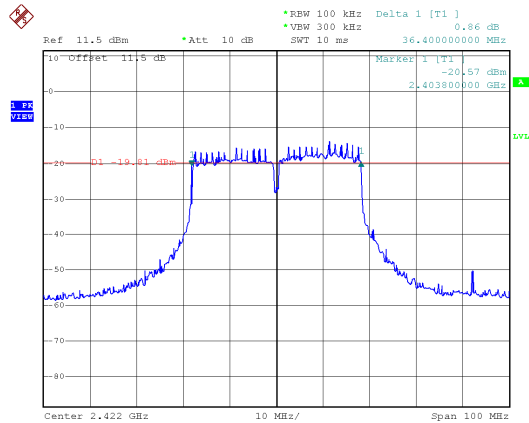




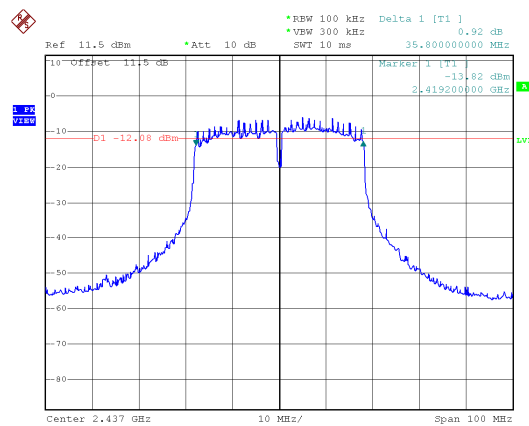
P to P

ANT B

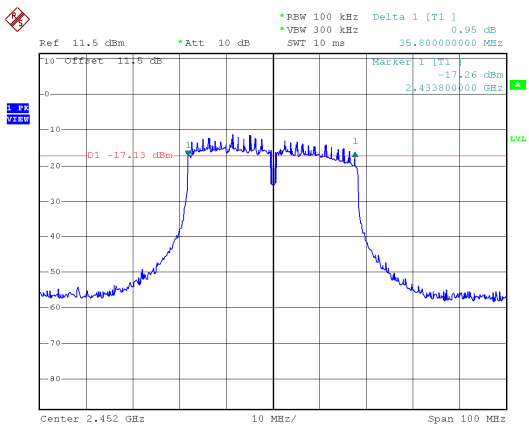
Modulation Type: 802.11ac VHT40
2422MHz



2437MHz



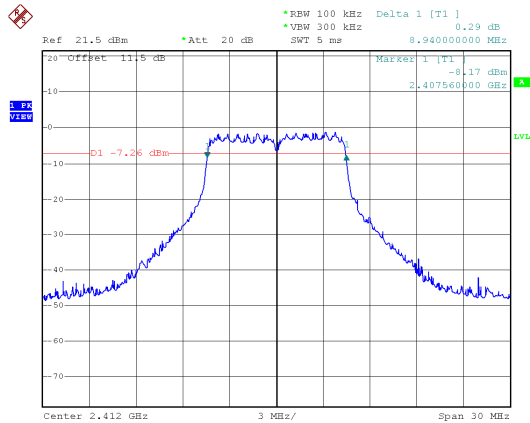
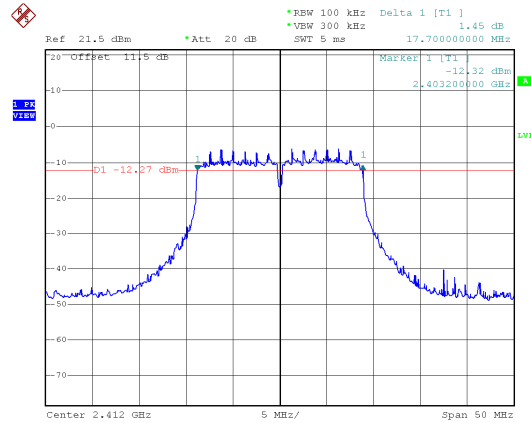
2452MHz



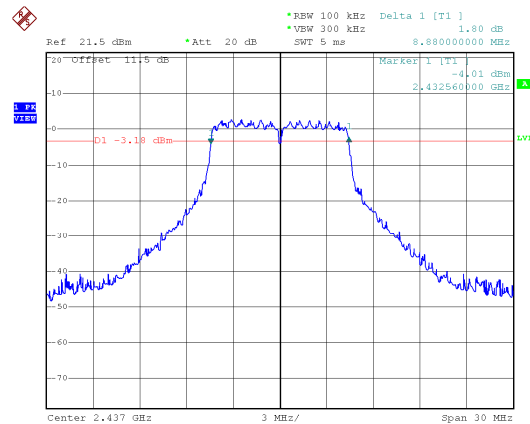


P to MP

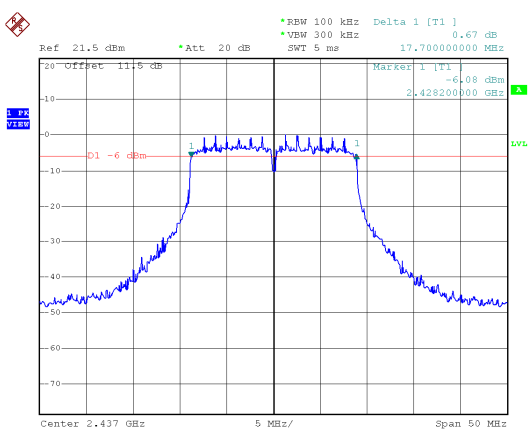
ANT A

Modulation Type: 802.11ac VHT10
2412MHzModulation Type: 802.11ac VHT20
2412MHz

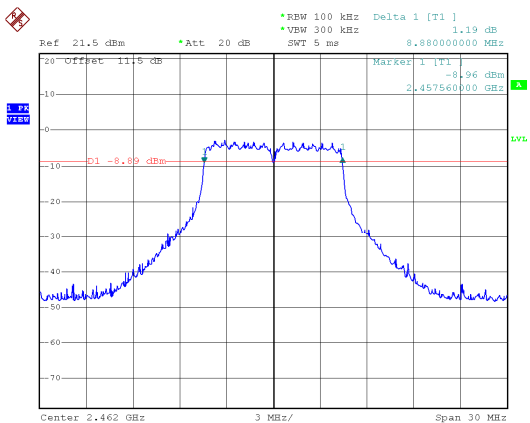
2437MHz



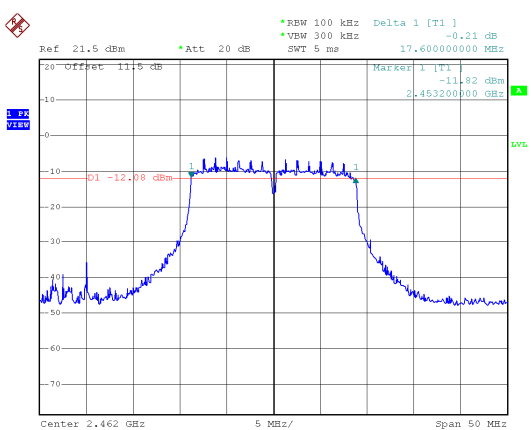
2437MHz



2462MHz



2462MHz



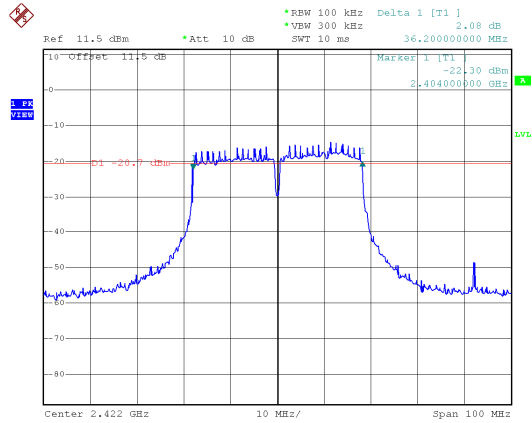


P to MP

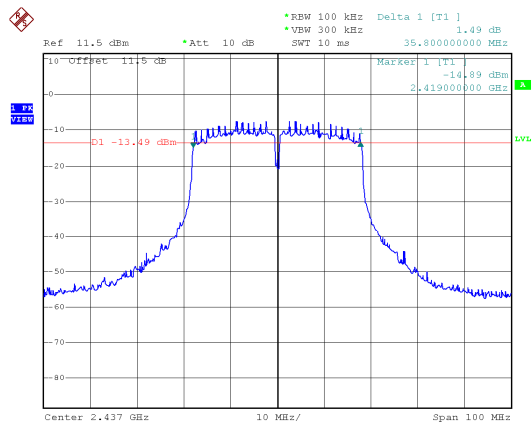
ANT A

Modulation Type: 802.11ac VHT40

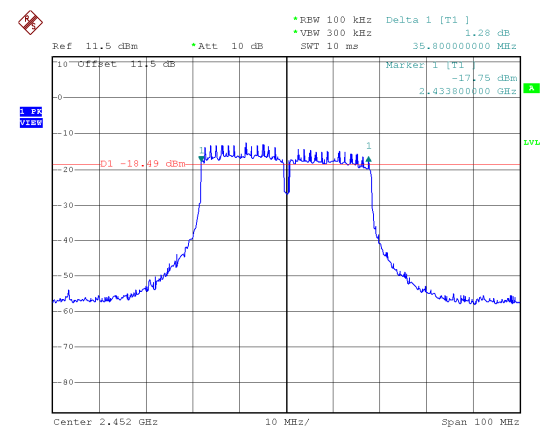
2422MHz



2437MHz



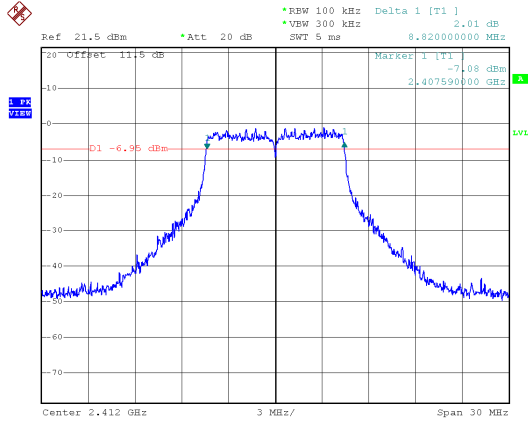
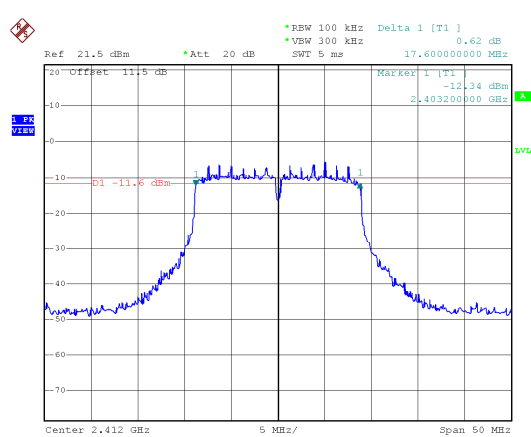
2452MHz



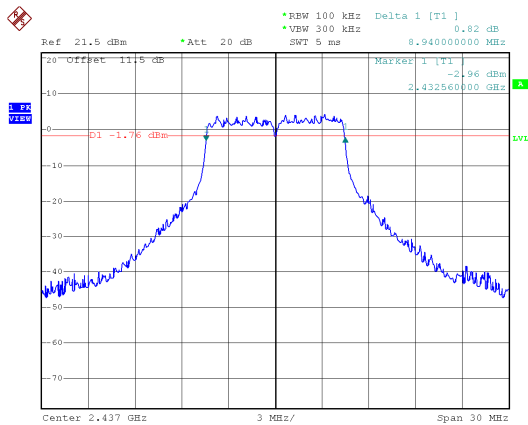


P to MP

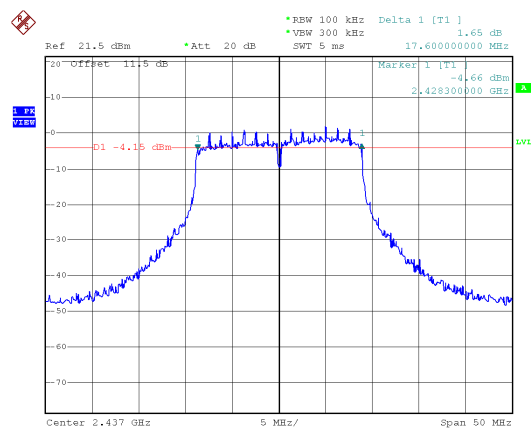
ANT B

Modulation Type: 802.11ac VHT10
2412MHzModulation Type: 802.11ac VHT20
2412MHz

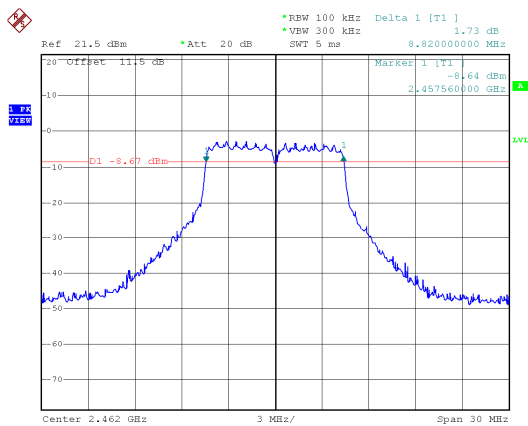
2437MHz



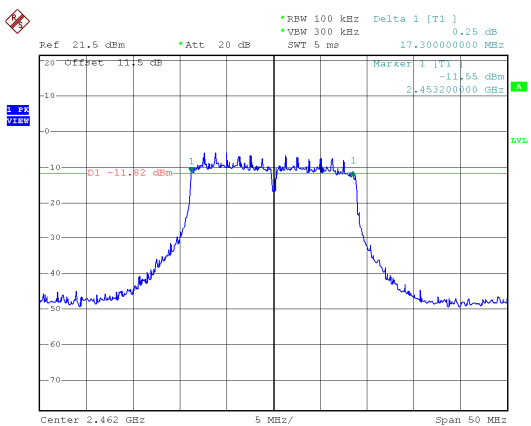
2437MHz



2462MHz



2462MHz

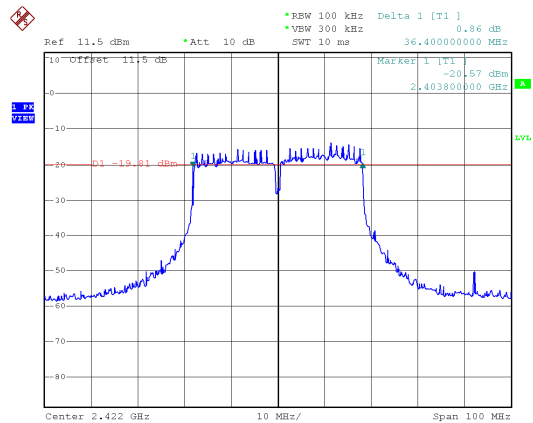




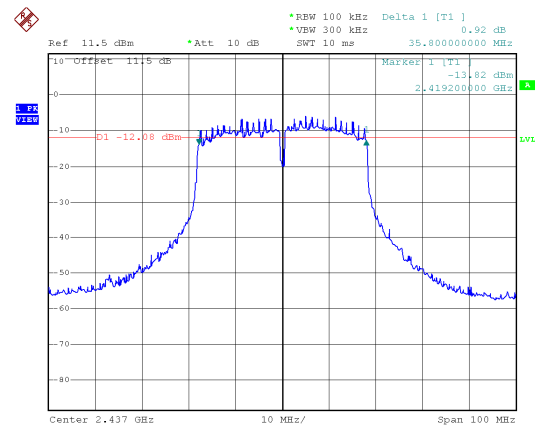
P to MP

ANT B

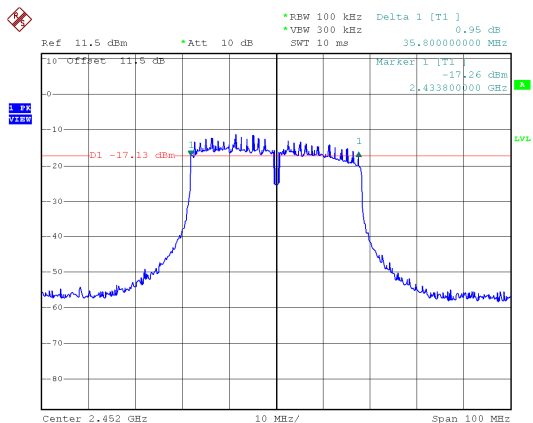
Modulation Type: 802.11ac VHT40
2422MHz



2437MHz



2452MHz





9. Maximum Average Output Power

9.1 Test Limit

The Maximum Average Output Power Measurement is 30dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

For P to MP

For Power directional gain= $G_{ant} = 18 \text{ dBi}$

The Power Limit = $30\text{dBm} - (18\text{dBi} - 6\text{dBi}) = 18\text{dBm}$

For P to P

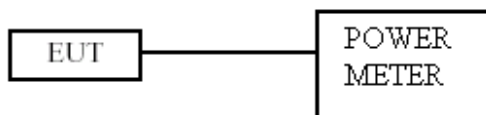
For Power directional gain= $G_{ant} = 18 \text{ dBi}$

The Power Limit = $30\text{dBm} - ((18\text{dBi} - 6\text{dBi})/3) = 26\text{dBm}$

9.2 Test Procedures

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

9.3 Test Setup Layout





9.4 Test Result and Data

Temperature : 21°C

Humidity : 63%

Test Date : Aug. 31, 2017

P to P

Modulation Type	Frequency (MHz)	Avg. Power Output (dBm)		Total Avg. Power (dBm)	Total Avg. Power (mW)	Limit (dBm)
		ANT A	ANT B			
IEEE 802.11ac VHT10 (MCS0)	2412	9.56	9.47	12.53	17.89	26.00
	2437	15.45	16.57	19.06	80.47	26.00
	2462	7.58	8.13	10.87	12.23	26.00
IEEE 802.11ac VHT20 (MCS0)	2412	5.67	5.53	8.61	7.26	26.00
	2437	11.92	12.62	15.29	33.84	26.00
	2462	4.87	5.75	8.34	6.83	26.00
IEEE 802.11ac VHT40 (MCS0)	2422	-1.07	-0.78	2.09	1.62	26.00
	2437	6.98	7.98	10.52	11.27	26.00
	2452	1.28	2.11	4.73	2.97	26.00

P to MP

Modulation Type	Frequency (MHz)	Avg. Power Output (dBm)		Total Avg. Power (dBm)	Total Avg. Power (mW)	Limit (dBm)
		ANT A	ANT B			
IEEE 802.11ac VHT10 (MCS0)	2412	9.56	9.47	12.53	17.89	18.00
	2437	14.12	15.08	17.64	58.03	18.00
	2462	7.58	8.13	10.87	12.23	18.00
IEEE 802.11ac VHT20 (MCS0)	2412	5.67	5.53	8.61	7.26	18.00
	2437	11.92	12.62	15.29	33.84	18.00
	2462	4.87	5.75	8.34	6.83	18.00
IEEE 802.11ac VHT40 (MCS0)	2422	-1.07	-0.78	2.09	1.62	18.00
	2437	6.98	7.98	10.52	11.27	18.00
	2452	1.28	2.11	4.73	2.97	18.00



10. Power Spectral Density

10.1 Test Limit

The Maximum of Power Spectral Density Measurement is 8dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

For P to MP

For PSD directional gain= $G_{ant} = 21.01$ dBi

The Power Limit = $8\text{dBm} - (21.01\text{dBi} - 6\text{dBi}) = -7.01\text{dBm}$

For P to P

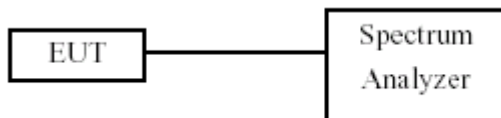
For Power directional gain= $G_{ant} = 21.01$ dBi

The Power Limit = $8\text{dBm} - ((21.01\text{dBi} - 6\text{dBi})/3) = 3\text{dBm}$

10.2 Test Procedures

- The transmitter output was connected to spectrum analyzer.
- The spectrum analyzer's resolution bandwidth were set at 3kHz RBW and 30KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
- The power spectral density was measured and recorded.

10.3 Test Setup Layout





10.4 Test Result and Data

Temperature : 21°C

Humidity : 63%

Test Date : Aug. 31, 2017

P to P

Modulation Type	Freq. (MHz)	Maximum Power Density (dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
		ANT A	ANT B				
IEEE 802.11ac VHT10 (MCS0)	2412	-15.37	-15	-12.17	0.00	-12.17	3.00
	2437	-9.3	-7.97	-5.57	0.00	-5.57	3.00
	2462	-16.8	-16.43	-13.60	0.00	-13.60	3.00
IEEE 802.11ac VHT20 (MCS0)	2412	-19.83	-19.74	-16.77	0.20	-16.57	3.00
	2437	-13.78	-11.98	-9.78	0.20	-9.58	3.00
	2462	-19.82	-19.62	-16.71	0.20	-16.51	3.00
IEEE 802.11ac VHT40 (MCS0)	2422	-27.89	-27.66	-24.76	0.44	-24.32	3.00
	2437	-21.03	-19.67	-17.29	0.44	-16.85	3.00
	2452	-25.88	-25.48	-22.67	0.44	-22.23	3.00

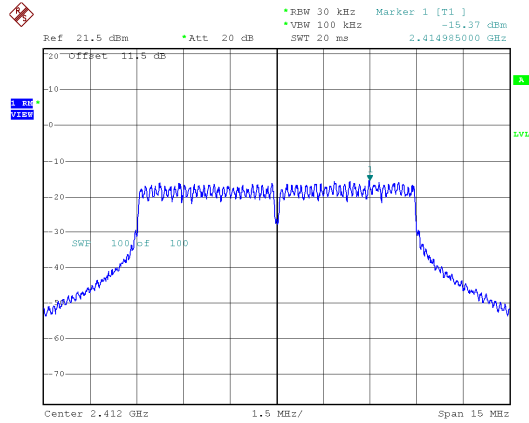
P to MP

Modulation Type	Freq. (MHz)	Maximum Power Density (dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
		ANT A	ANT B				
IEEE 802.11ac VHT10 (MCS0)	2412	-15.37	-15	-12.17	0.00	-12.17	-7.01
	2437	-10.78	-9.97	-7.35	0.00	-7.35	-7.01
	2462	-16.8	-16.43	-13.60	0.00	-13.60	-7.01
IEEE 802.11ac VHT20 (MCS0)	2412	-19.83	-19.74	-16.77	0.20	-16.57	-7.01
	2437	-13.78	-11.98	-9.78	0.20	-9.58	-7.01
	2462	-19.82	-19.62	-16.71	0.20	-16.51	-7.01
IEEE 802.11ac VHT40 (MCS0)	2422	-27.89	-27.66	-24.76	0.44	-24.32	-7.01
	2437	-21.03	-19.67	-17.29	0.44	-16.85	-7.01
	2452	-25.88	-25.48	-22.67	0.44	-22.23	-7.01

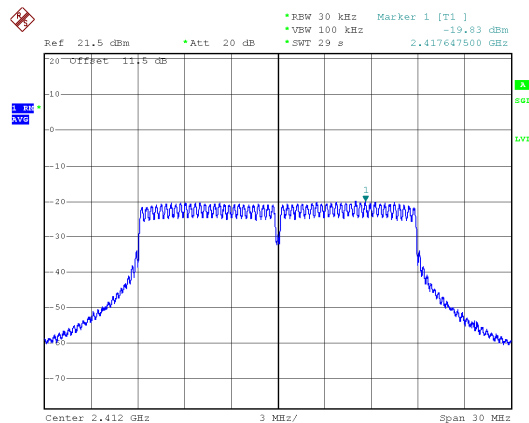


P to P
ANT A

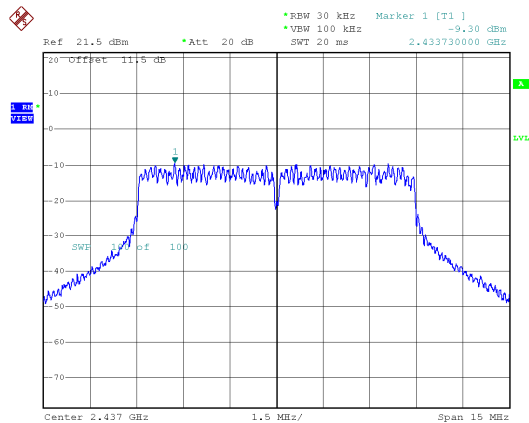
Modulation Type: 802.11ac VHT10
2412MHz



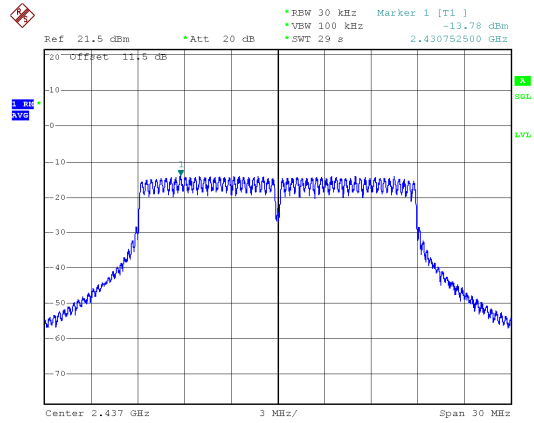
Modulation Type: 802.11ac VHT20
2412MHz



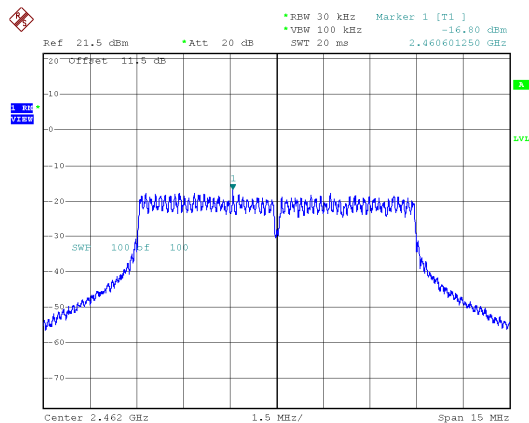
2437MHz



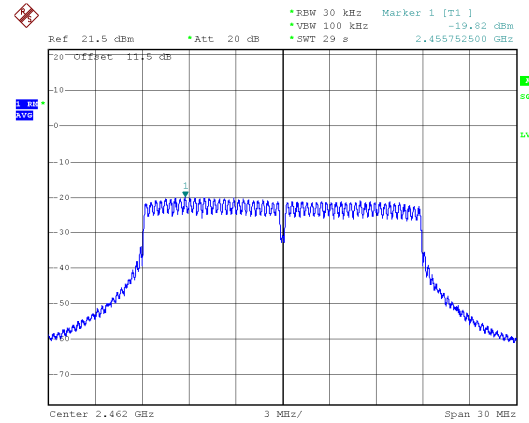
2437MHz



2462MHz



2462MHz

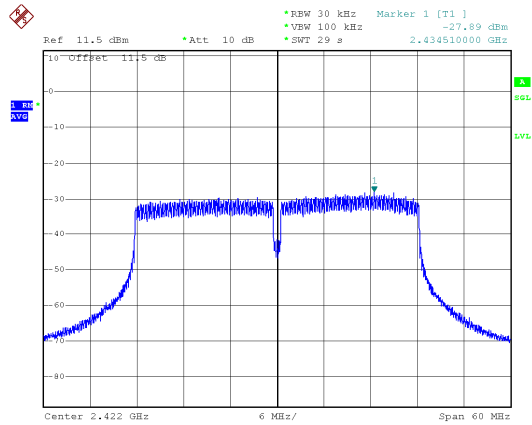




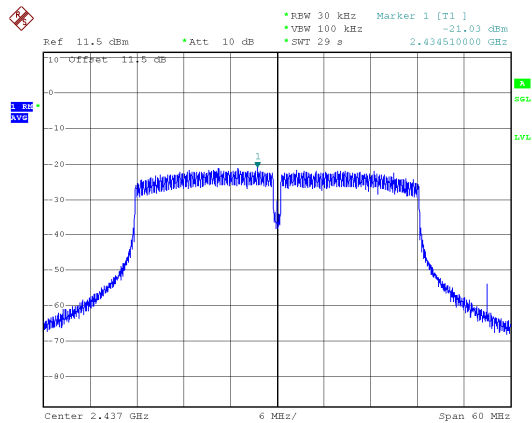
P to P

ANT A

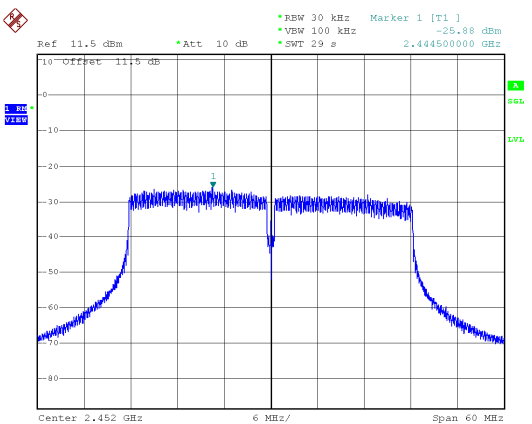
Modulation Type: 802.11ac VHT40
2422MHz



2437MHz



2452MHz

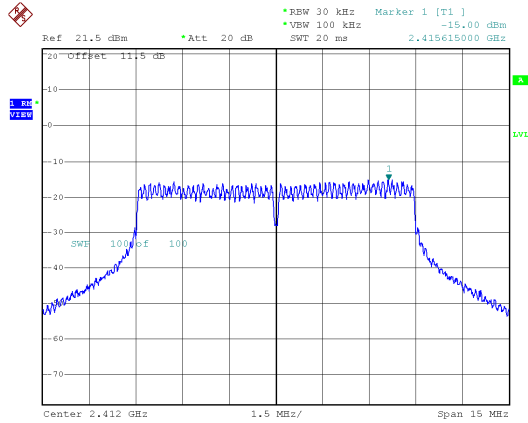




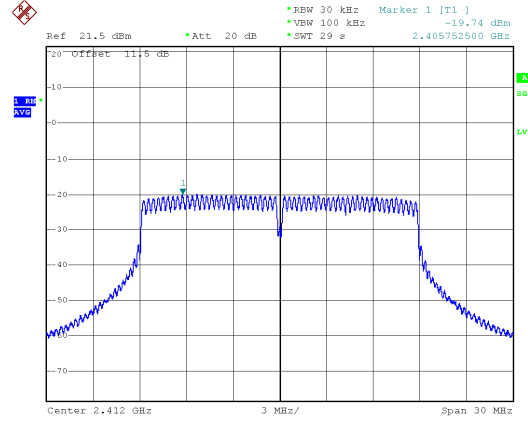
P to P

ANT B

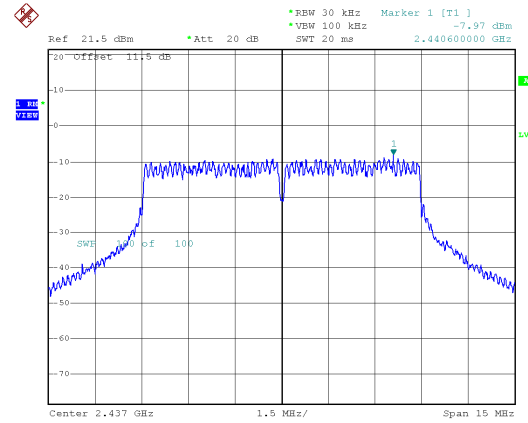
Modulation Type: 802.11ac VHT10
2412MHz



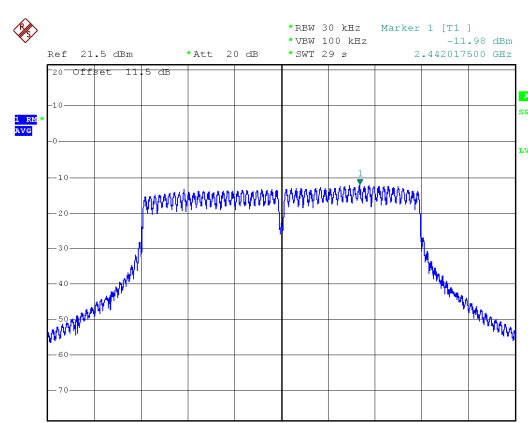
Modulation Type: 802.11ac VHT20
2412MHz



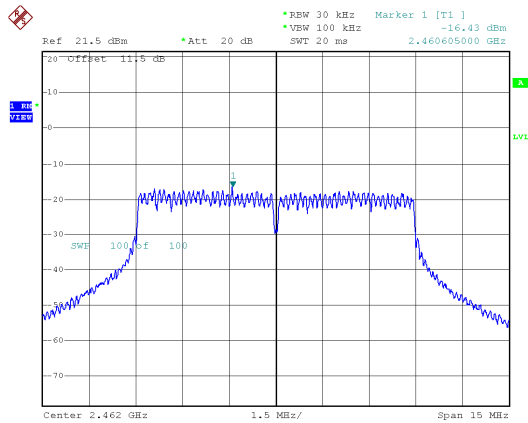
2437MHz



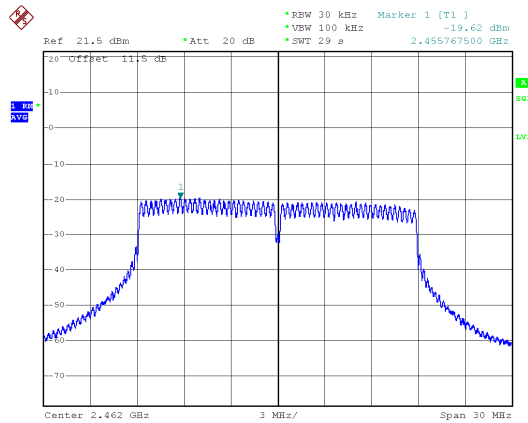
2437MHz



2462MHz



2462MHz

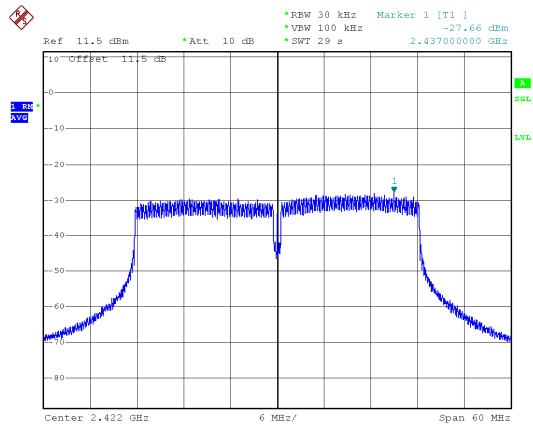




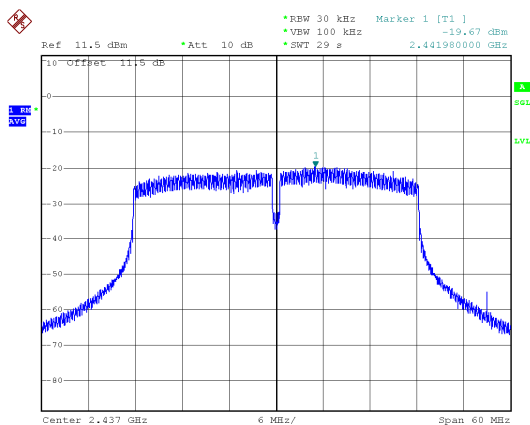
P to P

ANT B

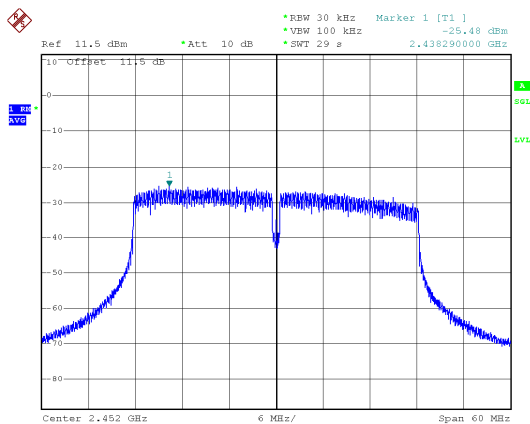
Modulation Type: 802.11ac VHT40
2422MHz



2437MHz



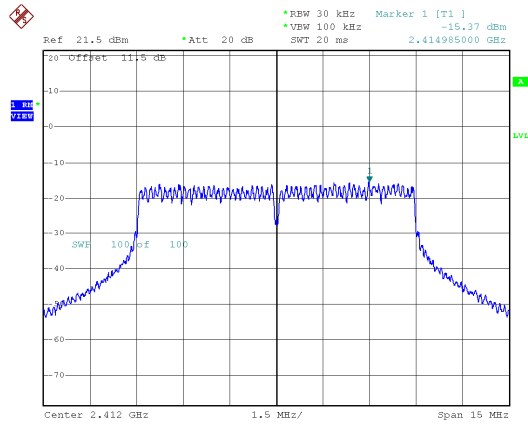
2452MHz



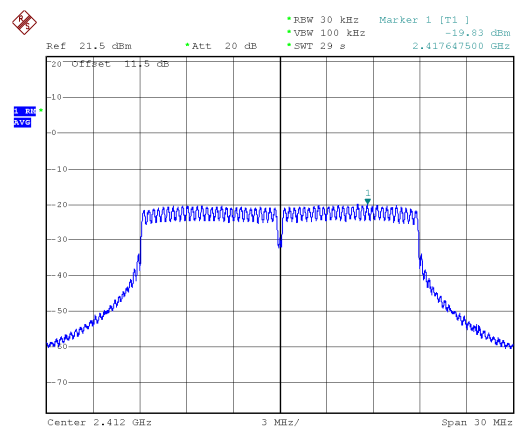


P to MP
ANT A

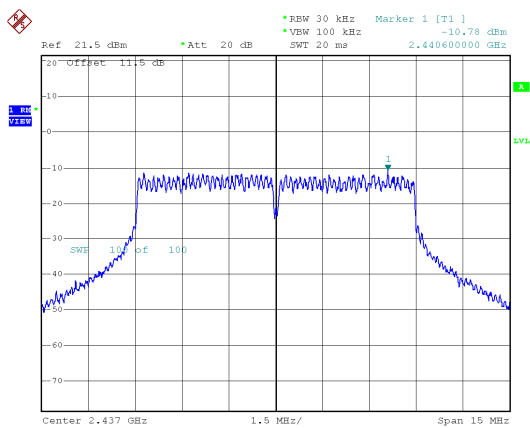
Modulation Type: 802.11ac VHT10
2412MHz



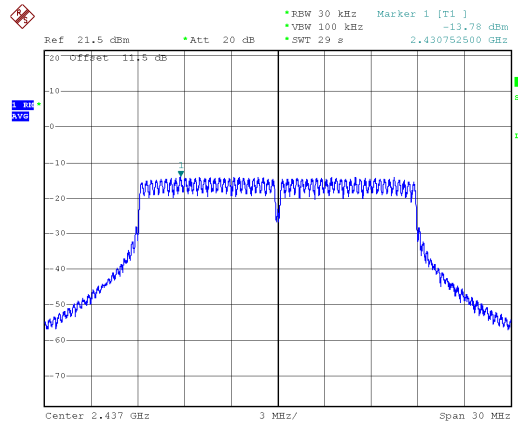
Modulation Type: 802.11ac VHT20
2461MHz



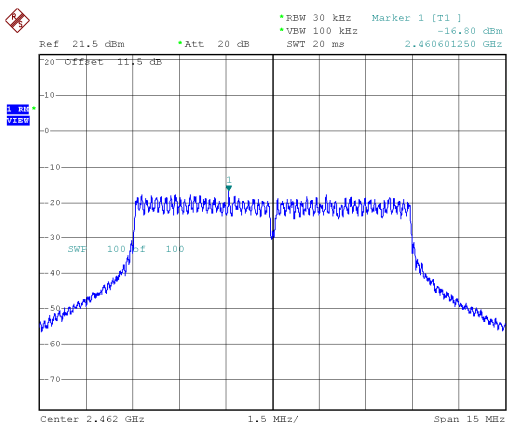
2437MHz



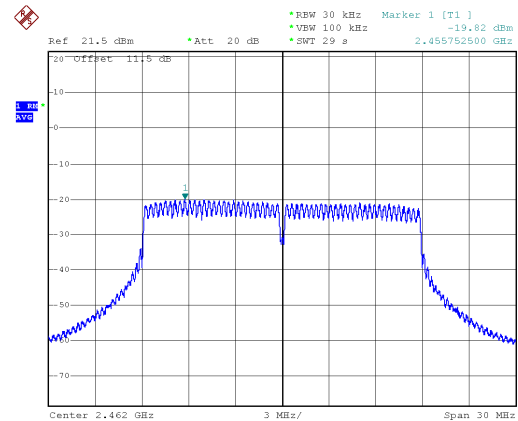
2437MHz



2462MHz



2462MHz

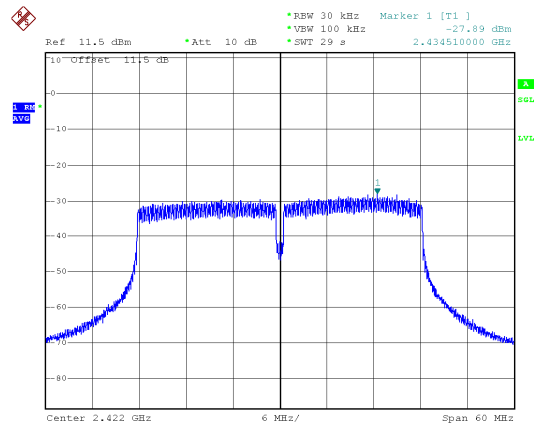




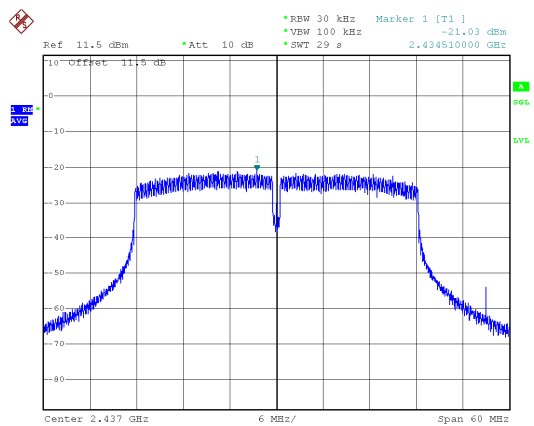
P to MP

ANT A

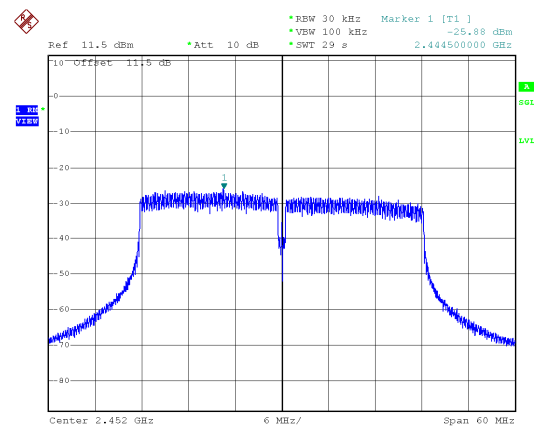
Modulation Type: 802.11ac VHT40
2422MHz



2437MHz



2452MHz

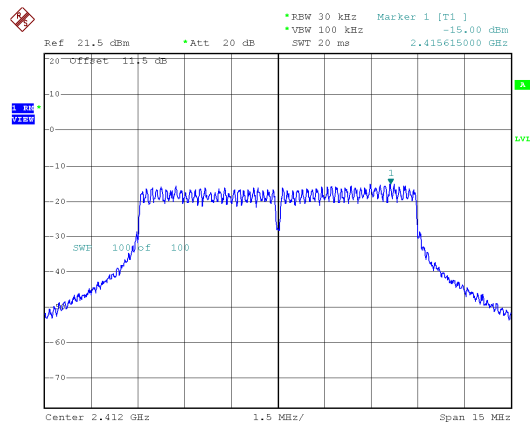




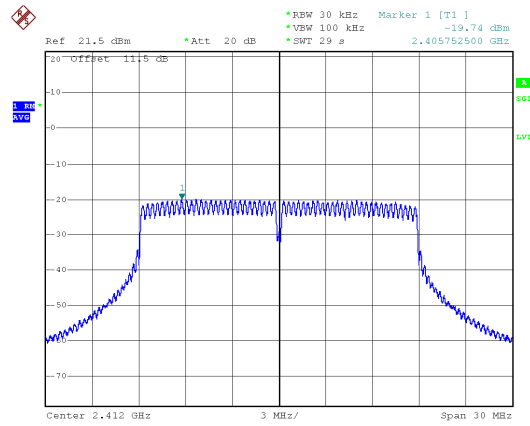
P to MP

ANT B

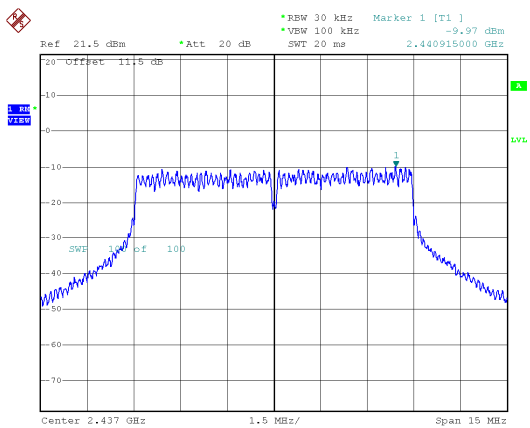
Modulation Type: 802.11ac VHT10
2412MHz



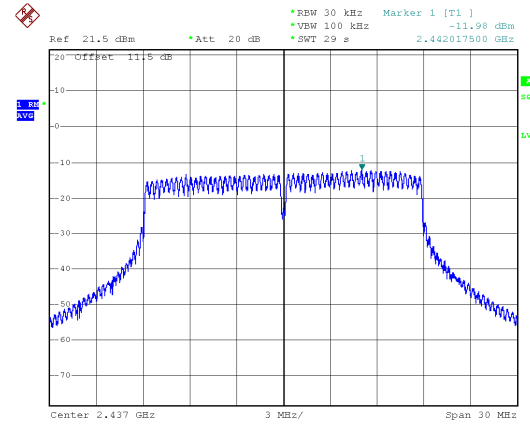
Modulation Type: 802.11ac VHT20
2412MHz



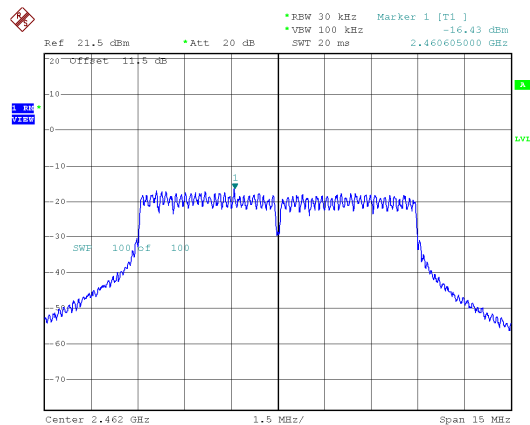
2437MHz



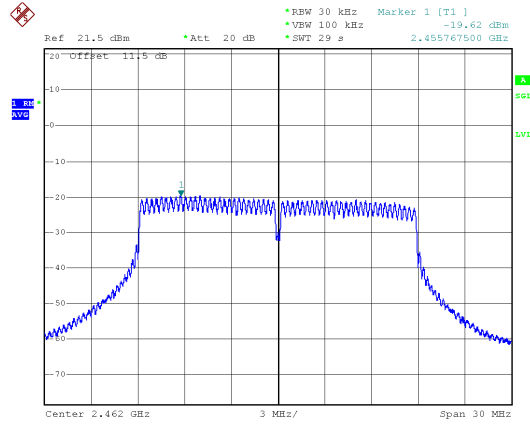
2437MHz



2462MHz



2462MHz

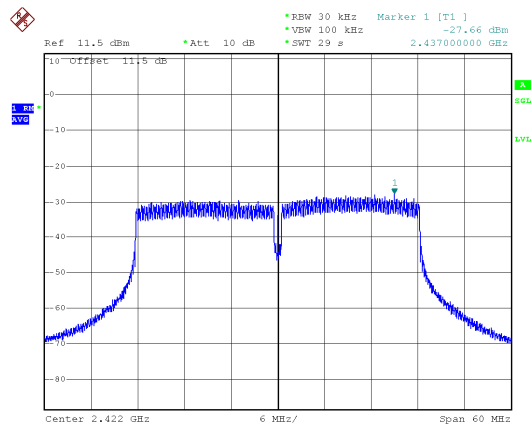




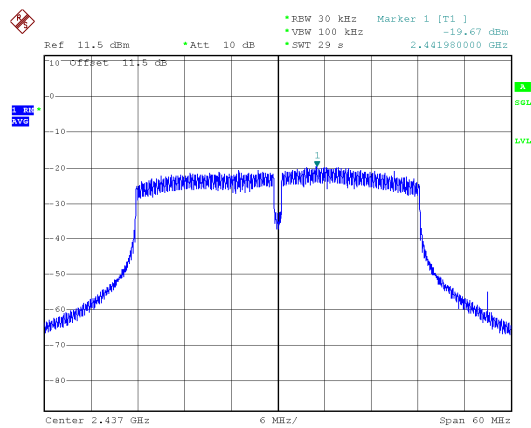
P to MP

ANT B

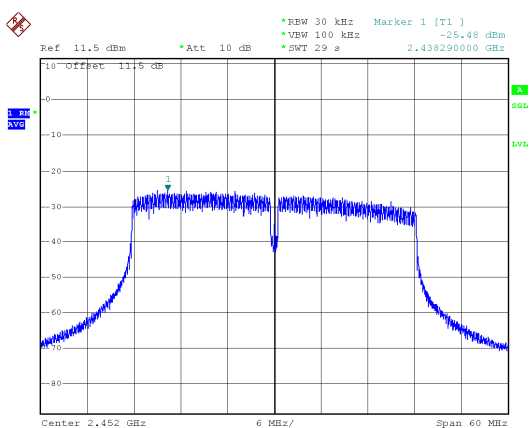
Modulation Type: 802.11ac VHT40
2422MHz



2437MHz



2452MHz





11. Radio Frequency Exposure

11.1 Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1091)
KDB 447498

11.2 EUT Specification

Frequency band (Operating)	☒ WLAN: 2412MHz ~ 2462MHz ☐ WLAN: 5150MHz ~ 5250MHz ☐ WLAN: 5250MHz ~ 5350MHz ☐ WLAN: 5470MHz ~ 5725MHz ☒ WLAN: 5725MHz ~ 5850MHz ☐ Bluetooth: 2402MHz ~ 2480MHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW/cm}^2$) ☒ General Population/Uncontrolled exposure ($S=1\text{mW/cm}^2$)
Antenna diversity	☐ Single antenna ☒ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☒ Tx/Rx diversity
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A
Remark: 1. The maximum output power is <u>19.06dBm (80.47mW)</u> at <u>2437MHz</u> (with <u>numeric 18 antenna gain.</u>) 2. DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance. 3. For mobile or fixed location transmitters, no SAR consideration applied. The maximum power density is 1.0 mW/cm^2 even if the calculation indicates that the power density would be larger.	



11.3 Test Results

No non-compliance noted.

11.4 Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{3770}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770d^2}$$

Changing to units of mW and cm, using:

$P \text{ (mW)} = P \text{ (W)} / 1000$ and

$d \text{ (cm)} = d \text{ (m)} / 100$

Yields

$$S = \frac{30 \times (P / 1000) \times G}{3770 \times (d / 100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²



11.5 Maximum Permissible Exposure

P to P

Modulation Type	Frequency band (MHz)	Max. Conducted output power(dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
11n HT10	2412-2462	19.01	18	28	0.5097	1
11n HT20	2412-2462	15.27	18	28	0.2157	1
11n HT40	2412-2462	10.48	18	28	0.0716	1
11ac VHT10	2422-2452	19.06	18	28	0.5154	1
11ac VHT20	2412-2462	15.29	18	28	0.2167	1
11ac VHT40	2422-2452	10.52	18	28	0.0722	1

P to MP

Modulation Type	Frequency band (MHz)	Max. Conducted output power(dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
11n HT10	2412-2462	17.61	18	28	0.3695	1
11n HT20	2412-2462	15.27	18	28	0.2157	1
11n HT40	2412-2462	10.48	18	28	0.0716	1
11ac VHT10	2422-2452	17.64	18	28	0.3717	1
11ac VHT20	2412-2462	15.29	18	28	0.2167	1
11ac VHT40	2422-2452	10.52	18	28	0.0722	1