



TEST REPORT

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Report No.:
KR20-SRF0202-A

Page (1) of (783)

KCTL

1. Client

- Name : Kaonbroadband CO., Ltd
- Address : 884-3, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
- Date of Receipt : 2020-03-18

2. Use of Report : Certification

3. Name of Product / Model : GPON Gateway / PG2141

4. Manufacturer / Country of Origin : Kaonbroadband CO., Ltd / Korea

5. FCC ID : 2AXCW-PG2141

6. Date of Test : 2020-04-17 to 2020-07-03

7. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing (Address: Address of testing location)

8. Test method used : FCC Part 15 Subpart E, 15.407

9. Test Results : Refer to the test result in the test report

Affirmation	Tested by	Technical Manager
	Name : Euijung Kim  (Signature)	Name : Heesu Ahn  (Signature)

2020-09-10

KCTL Inc.

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REPORT REVISION HISTORY

Date	Revision	Page No
2020-08-27	Originally issued	-
2020-09-10	Updated	10

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Note. The report No. KR20-SRF0202 is superseded by the report No. KR20-SRF0202-A.

General remarks for test reports

Nothing significant to report.



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1. General information

Client : Kaonbroadband CO., Ltd
 Address : 884-3, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
 Manufacturer : Kaonbroadband CO., Ltd
 Address : 884-3, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
 Laboratory : KCTL Inc.
 Address : 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
 Accreditations : FCC Site Designation No: KR0040, FCC Site Registration No: 687132
 VCCI Registration No. : R-20080, G-20078, C-20059, T-20056
 Industry Canada Registration No. : 8035A
 KOLAS No.: KT231

2. Device information

Equipment under test : GPON Gateway
 Model : PG2141
 Frequency range : 2 412 MHz ~ 2 462 MHz (802.11b/g/n_HT20)
 2 422 MHz ~ 2 452 MHz (802.11n_HT40)
 UNII-1: 5 180 MHz ~ 5 240 MHz (11a/n_HT20/ac_VHT20)
 UNII-1: 5 190 MHz ~ 5 230 MHz (11n_HT40/ac_VHT40)
 UNII-1: 5 210 MHz (11ac_VHT80)
 UNII-2A: 5 260 MHz ~ 5 320 MHz (11a/n_HT20/ac_VHT20)
 UNII-2A: 5 270 MHz ~ 5 310 MHz (11n_HT40/ac_VHT40)
 UNII-2A: 5 290 MHz (11ac_VHT80)
 UNII-2C: 5 500 MHz ~ 5 720 MHz (11a/n_HT20/ac_VHT20)
 UNII-2C: 5 510 MHz ~ 5 710 MHz (11n_HT40/ac_VHT40)
 UNII-2C: 5 530 MHz ~ 5 690 MHz (11ac_VHT80)
 UNII-3: 5 745 MHz ~ 5 825 MHz (11a/n_HT20/ac_VHT20)
 UNII-3: 5 755 MHz ~ 5 795 MHz (11n_HT40/ac_VHT40)
 UNII-3: 5 775 MHz (11ac_VHT80)
 Modulation technique : DSSS (802.11b)
 OFDM (802.11a/g/n_HT20/ HT40/ac_VHT20/ VHT40/ VHT80)
 Number of channels : 11 ch (802.11b/g/n_HT20)_2.4 GHz Band
 9 ch (802.11n_HT40)_2.4 GHz Band
 UNII-1: 4 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
 UNII-2A: 4 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
 UNII-2C: 12 ch (20 MHz), 6 ch (40 MHz), 3 ch (80 MHz)
 UNII-3: 5 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
 Power source : DC 12 V
 Antenna specification : PCB Antenna
 2.4G ANT 0: 1.90 dBi, ANT 1: 1.90 dBi, ANT 2: 1.90 dBi
 UNII-1 ANT 0: 1.50 dBi, ANT 1: 1.60 dBi, ANT 2: 1.60 dBi, ANT 3: 1.70 dBi
 UNII-2A ANT 0: 1.60 dBi, ANT 1: 1.50 dBi, ANT 2: 1.50 dBi, ANT 3: 1.60 dBi
 UNII-2C ANT 0: 1.80 dBi, ANT 1: 2.00 dBi, ANT 2: 2.00 dBi, ANT 3: 1.70 dBi

UNII-3 ANT 0: 2.00 dBi, ANT 1: 1.70 dBi, ANT 2: 1.70 dBi, ANT 3: 1.60 dBi
 Software version : PG2141_OrigSDK.FCC_v1.0.15.w
 Hardware version : REV1.0
 Operation temperature : 22 °C

2.1. Accessory information

Equipment	Manufacturer	Model	Serial No.	FCC ID
AC Adapter	MOSO Technology Co., Ltd.	MSA-C2000IS 12.0-24Y-DE	N/A	N/A

2.2. Frequency/channel operations

This device contains the following capabilities:

2.4 GHz WIFI: WLAN 802.11b/g/n(HT20,HT40)

5 GHz WIFI: WLAN 802.11a/g/n(HT20,HT40)/ac(VHT20,VHT40,VHT80)

UNII-1

Ch.	Frequency (MHz)
36	5 180
44	5 220
48	5 240

UNII-2A

Ch.	Frequency (MHz)
52	5 260
60	5 300
64	5 320

UNII-2C

Ch.	Frequency (MHz)
100	5 500
120	5 600
140	5 700
144	5 720

UNII-3

Ch.	Frequency (MHz)
149	5 745
157	5 785
165	5 825

Table 2.2.1. 802.11a/n/ac_HT20/VHT20 mode

UNII-1

Ch.	Frequency (MHz)
38	5 190
46	5 230

UNII-2A

Ch.	Frequency (MHz)
54	5 270
62	5 310

UNII-2C

Ch.	Frequency (MHz)
102	5 510
118	5 590
134	5 670
142	5 710

UNII-3

Ch.	Frequency (MHz)
151	5 755
159	5 795

Table 2.2.2. 802.11n/ac_HT40/VHT40 mode

UNII-1

Ch.	Frequency (MHz)
42	5 210

UNII-2A

Ch.	Frequency (MHz)
58	5 290

UNII-2C

Ch.	Frequency (MHz)
106	5 530
122	5 610
138	5 690

UNII-3

Ch.	Frequency (MHz)
155	5 775

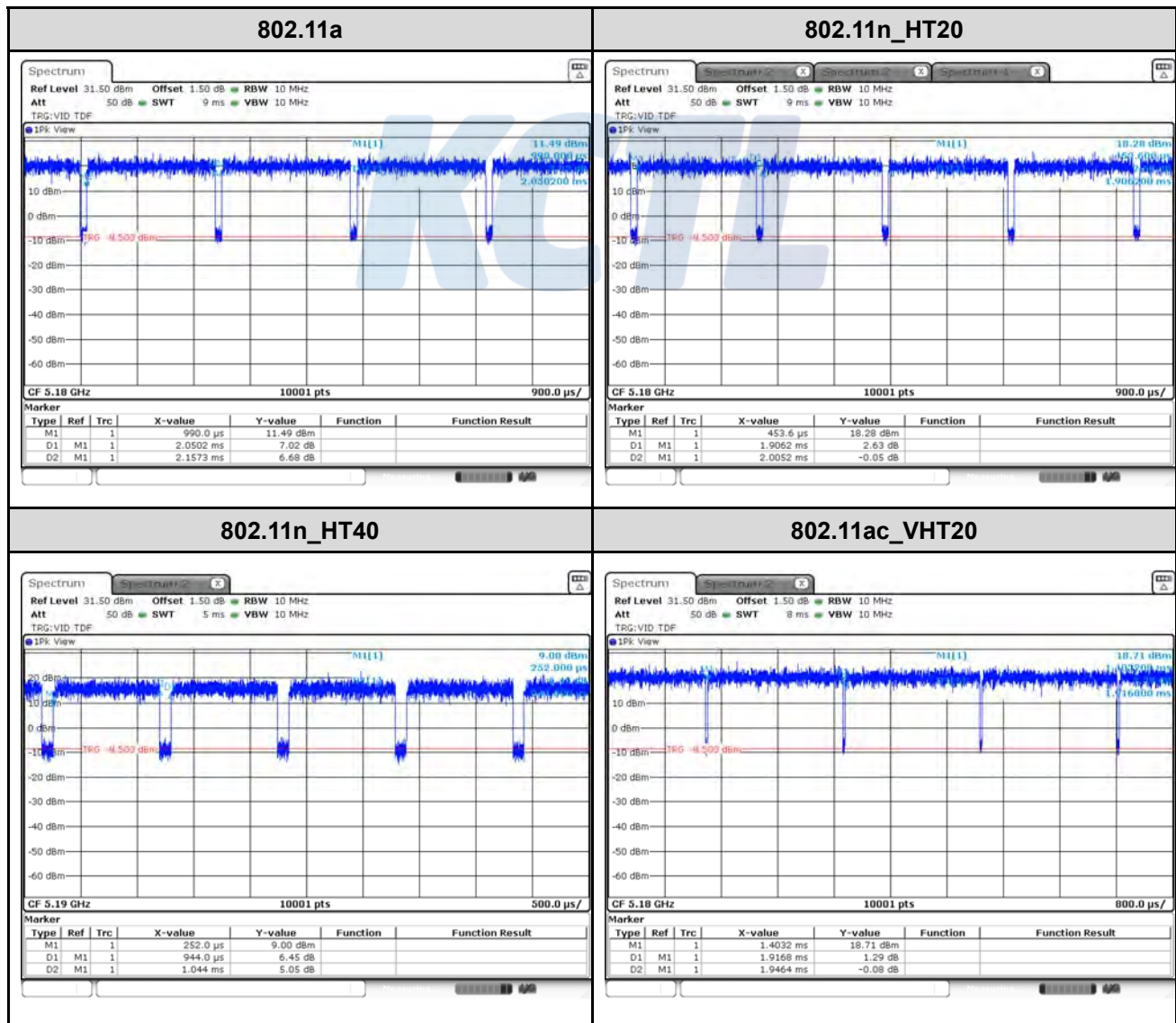
Table 2.2.3 802.11ac_VHT80 mode

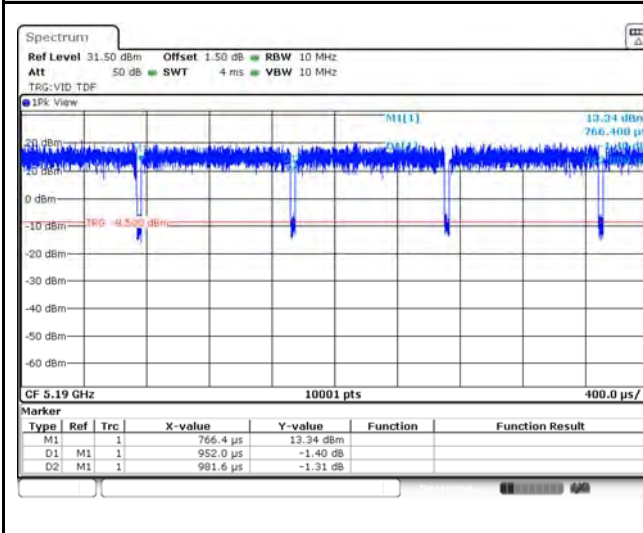
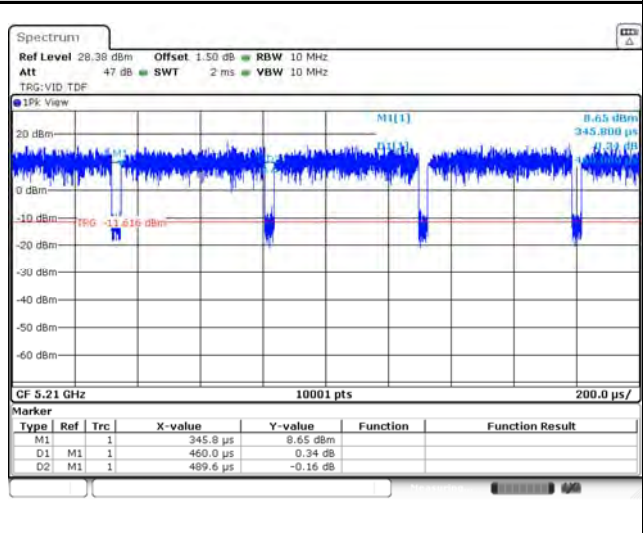
2.3. Duty Cycle Factor

Test mode	T _{on} time (ms)	Period (ms)	Duty cycle		Duty cycle factor (dB)
			(Linear)	(%)	
802.11a	2.050 2	2.157 3	0.950 4	95.04	0.22
802.11n_HT20	1.906 2	2.005 2	0.950 6	95.06	0.22
802.11n_HT40	0.944 0	1.044 0	0.904 6	90.46	0.44
802.11ac_VHT20	1.916 8	1.946 4	0.984 8	98.48	0.07
802.11ac_VHT40	0.952 0	0.981 6	0.969 8	96.98	0.13
802.11ac_VHT80	0.460 0	0.489 6	0.939 5	93.95	0.27

Notes.

1. Duty cycle (Linear) = T_{on} time / Period
2. DCF(Duty cycle factor) = 10log(1/duty cycle)
3. DCF is not applied as a continuous transmitter when the duty cycle is 98% or more.



802.11ac_VHT40**802.11ac_VHT80****KCTL**

2.4. Power level setup in software

Power level setup in software						
Test Mode	Frequency	Software Setup				
		ANT 0	ANT 1	ANT 2	ANT 3	4TX MIMO
a	5 180 MHz	72	72	72	72	71
	5 220 MHz	83	83	83	83	76
	5 240 MHz	89	89	89	89	80
	5 260 MHz	80	80	80	80	58
	5 300 MHz	80	80	80	80	58
	5 320 MHz	72	72	72	72	58
	5 500 MHz	70	70	70	70	57
	5 600 MHz	78	78	78	78	57
	5 700 MHz	78	78	78	78	57
	5 720 MHz	78	78	78	78	57
	5 745 MHz	84	84	84	84	84
	5 785 MHz	86	86	86	86	88
	5 825 MHz	89	89	89	89	90
n20	5 180 MHz	71	71	71	71	71
	5 220 MHz	86	86	86	86	80
	5 240 MHz	86	86	86	86	80
	5 260 MHz	80	80	80	80	58
	5 300 MHz	80	80	80	80	58
	5 320 MHz	72	72	72	72	58
	5 500 MHz	70	70	70	70	57
	5 600 MHz	78	78	78	78	57
	5 700 MHz	78	78	78	78	57
	5 720 MHz	78	78	78	78	57
	5 745 MHz	84	84	84	84	86
	5 785 MHz	87	87	87	87	88
	5 825 MHz	89	89	89	89	89
n40	5 190 MHz	68	68	68	68	53
	5 230 MHz	78	78	78	78	80
	5 270 MHz	78	78	78	78	72
	5 310 MHz	68	68	68	68	56
	5 510 MHz	76	76	76	76	63
	5 590 MHz	74	74	74	74	70
	5 670 MHz	74	74	74	74	70
	5 710 MHz	74	74	74	74	70
	5 755 MHz	86	86	86	86	86
	5 795 MHz	86	86	86	86	86

ac20	5 180 MHz	71	71	71	71	71
	5 220 MHz	86	86	86	86	80
	5 240 MHz	86	86	86	86	80
	5 260 MHz	80	80	80	80	58
	5 300 MHz	80	80	80	80	58
	5 320 MHz	72	72	72	72	58
	5 500 MHz	70	70	70	70	57
	5 600 MHz	78	78	78	78	57
	5 700 MHz	78	78	78	78	57
	5 720 MHz	78	78	78	78	57
	5 745 MHz	84	84	84	84	86
	5 785 MHz	87	87	87	87	88
ac40	5 825 MHz	89	89	89	89	89
	5 190 MHz	68	68	68	68	53
	5 230 MHz	78	78	78	78	80
	5 270 MHz	78	78	78	78	72
	5 310 MHz	68	68	68	68	56
	5 510 MHz	76	76	76	76	63
	5 590 MHz	74	74	74	74	70
	5 670 MHz	74	74	74	74	70
	5 710 MHz	74	74	74	74	70
	5 755 MHz	86	86	86	86	86
ac80	5 795 MHz	86	86	86	86	86
	5 210 MHz	64	64	64	64	48
	5 290 MHz	62	62	62	62	48
	5 530 MHz	65	65	65	65	50
	5 610 MHz	74	74	74	74	70
	5 690 MHz	74	74	74	74	70
	5 775 MHz	82	82	82	82	82

3. Antenna requirement

According to §15.203, §15.407

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The transmitter has permanently attached PCB Antenna.
- The E.U.T Complies with the requirement of §15.203, §15.407

3.1 Antenna information

Mode	SISO				CDD	MIMO
	ANT 0	ANT 1	ANT 2	ANT 3	ANT 0 + 1 + 2 + 3	ANT 0 + 1 + 2 + 3
802.11a	√	√	√	√	√	√
802.11n HT20	√	√	√	√	√	√
802.11n HT40	√	√	√	√	√	√
802.11ac VHT20	√	√	√	√	√	√
802.11ac VHT40	√	√	√	√	√	√
802.11ac VHT80	√	√	√	√	√	√

√ = Support, × = Not support

Note.

1. This device employs SISO and CDD, MIMO technology output power as ANT 0 and ANT 1 and ANT 2 and ANT 3.

3.2 Directional Gain Calculations

According to clause F), 2), f), (iii) of KDB 662911 D01 Multiple Transmitter Output, Directional gain may be calculated by using the formulas as below.

3.2.1. Directional Antenna Gain with equal gain

Band	ANT 0 Gain (dBi)	ANT 1 Gain (dBi)	ANT 2 Gain (dBi)	ANT 3 Gain (dBi)	PSD Directional Gain (dBi)	Power Directional Gain (dBi)
UNII 1	1.50	1.60	1.60	1.70	7.72	1.70
UNII 2A	1.60	1.50	1.50	1.60	7.62	1.60
UNII 2C	1.80	2.00	2.00	1.70	8.02	2.00
UNII 3	2.00	1.70	1.70	1.60	8.02	2.00

Note.

1. If all transmit signals are completely correlated, then

Directional gain = $G_{ANT\ MAX} + \text{Array Gain}$.

- For PSD measurements on all devices Array gain = $10 \log (N_{ANT} / N_{ss})$ dB
- For Power measurements on IEEE 802.11 devices Array gain = 0 dB For $N_{ANT} \leq 4$.

4. Summary of tests

FCC Part section(s)	Parameter	Test condition	Test results
15.407(a)	Maximum conducted output power	Conducted	Pass
15.407(a)	Maximum power spectral density		Pass
15.407(a)	26 dB bandwidth		Pass
15.407(e)	6 dB bandwidth		Pass
15.407(g)	Frequency stability		Pass
15.207(a)	Conducted emissions		Pass
15.407(d), 15.205(a), 15.209(a)	Spurious emission	Radiated	Pass
	Band-edge, restricted band		Pass

Notes:

- All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- According to exploratory test no any obvious emission were detected from 9 kHz to 30 MHz. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
- The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that X orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in X orientation.
- The test procedure(s) in this report were performed in accordance as following.
 - ANSI C63.10-2013
 - KDB 662911 D01 v02r01
 - KDB 789033 D02 v02r01
- The EUT supports SISO and MIMO modes.
- The worst-case data rates were:
 - 802.11a mode : 6Mbps
 - 802.11n/ac_HT20 mode : MCS0 / MCS0NSS1
 - 802.11n/ac_HT40 mode : MCS0 / MCS0NSS1
 - 802.11ac_VHT80 mode : MCS0 / MCS0NSS1

5. Measurement uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicated a 95% level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded uncertainty ($\pm$)	
Conducted RF power	1.76 dB	
Conducted spurious emissions	4.03 dB	
Radiated spurious emissions	9 kHz ~ 30 MHz:	2.28 dB
	30 MHz ~ 300 MHz	4.98 dB
	300 MHz ~ 1 000 MHz	5.14 dB
	1 GHz ~ 6 GHz	6.70 dB
	Above 6 GHz	6.60 dB
Conducted emissions	9 kHz ~ 150 kHz	3.66 dB
	150 kHz ~ 30 MHz	3.26 dB

6. Measurement results explanation example

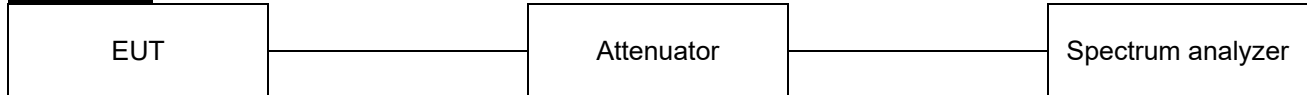
The offset level is set in the spectrum analyzer to compensate the RF cable loss factor between EUT conducted output port and spectrum analyzer.

With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Frequency (MHz)	Factor(dB)	Frequency (MHz)	Factor(dB)
30	9.43	17 000	13.63
100	10.00	18 000	13.68
200	10.38	19 000	13.75
300	10.46	20 000	13.85
400	10.55	21 000	14.03
500	10.62	22 000	14.14
600	10.66	23 000	14.53
700	10.72	24 000	14.40
800	10.83	25 000	14.37
900	10.86	26 000	14.93
1 000	10.88	26 500	14.99
2 000	11.24	27 000	14.67
3 000	11.53	28 000	14.76
4 000	11.72	29 000	15.19
5 000	11.97	30 000	15.27
6 000	12.13	31 000	15.38
7 000	12.26	32 000	15.94
8 000	12.44	33 000	16.03
9 000	12.59	34 000	16.47
10 000	12.72	35 000	16.53
11 000	12.85	36 000	16.62
12 000	13.03	37 000	16.12
13 000	13.13	38 000	16.23
14 000	13.38	39 000	16.27
15 000	13.57	40 000	16.48
16 000	13.53	-	-

Note.

Offset(dB) = RF cable loss(dB) + Attenuator(dB)

7. Test results**7.1. Maximum conducted output power****Test setup****Limit**

According to §15.407(a)

Band	EUT category		Limit
UNII-1		Outdoor access point	1 W (30 dBm)
		Indoor access point	
		Fixed point-to-point access point	
	√	Client device	250 mW (23.98 dBm)
UNII-2A		√	250 mW or 11 dBm + 10logB*
UNII-2C		√	250 mW or 11 dBm + 10logB*
UNII-3		√	1 W (30 dBm)

Note.:

*FCC Limit B is the 26 dB emission bandwidth.

Test procedureANSI C63.10-2013-Section 12.3.3.2 and 14.2
KDB 789033 D02 v02r01 - Section E.2.d) or e)
KDB 662911 D01 v02r01 - Section E).1)

Test settings

Used test method is Section E.2.d)

◆ KDB 789033 D02 v02r01

Section E.2.d)

Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction):

- (i) Measure the duty cycle, x , of the transmitter output signal as described in II.B..
- (ii) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (iii) Set $RBW = 1 \text{ MHz}$
- (iv) Set $RBW \geq 3 \text{ MHz}$
- (v) Number of points in sweep $\geq 2 \times \text{span} / RBW$. (This ensures that bin-to-bin spacing is $\leq RBW/2$, so that narrowband signals are not lost between frequency bins.)
- (vi) Sweep time = auto.
- (vii) Detector = power averaging (rms), if available. Otherwise use sample detector mode.
- (viii) Do not use sweep triggering. Allow the sweep to "free run."
- (ix) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
- (x) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (xi) Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \log(1/0.25) = 6 \text{ dB}$ if the duty cycle is 25%.

Section E.2.e)

Method SA-2 Alternative (power averaging(rms) detection with slow sweep with each spectrum bin averaging across on and off times of the EUT transmissions, followed by duty cycle correction):

- (i) Measure the duty cycle, x , of the transmitter output signal as described in II.B..
- (ii) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (iii) Set $RBW = 1 \text{ MHz}$
- (iv) Set $RBW \geq 3 \text{ MHz}$
- (v) Number of points in sweep $\geq 2 \times \text{span} / RBW$. (This ensures that bin-to-bin spacing is $\leq RBW/2$, so that narrowband signals are not lost between frequency bins.)
- (vi) Manually set sweep time $\geq 10 \times (\text{number of points in sweep}) \times (\text{total on/off period of the transmitted signal})$.
- (vii) Set detector = power averaging (rms)
- (viii) Perform a single sweep.
- (ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement

function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

- (x) Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \log (1/0.25) = 6$ dB if the duty cycle is 25%.

Section E.3.a)**Method PM (Measurement using an RF average power meter):**

- (xi) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.
- The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
 - At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
 - The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five
- (xii) If the transmitter does not transmit continuously, measure the duty cycle, x , of the transmitter output signal as described in II
- (xiii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
- (xiv) Adjust the measurement in dBm by adding $10 \log (1/x)$ where x is the duty cycle (e.g., $10 \log (1/0.25)$ if the duty cycle is 25%).

Section E.3.b)**Method PM-G (Measurement using a gated RF average power meter):**

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Test results

SISO

Test mode	Band	Frequency (MHz)	Measured output power									
			Reading ANT 0 (dBm)	Reading ANT 1 (dBm)	Reading ANT 2 (dBm)	Reading ANT 3 (dBm)	DCF (dB)	Result ANT 0 (dBm) ¹⁾	Result ANT 1 (dBm) ¹⁾	Result ANT 2 (dBm) ¹⁾	Result ANT 3 (dBm) ¹⁾	Limit (dBm)
11a	UNII 1	5 180	17.18	17.49	17.49	18.16	0.22	17.40	17.71	17.71	18.38	30.00
		5 220	20.50	20.09	19.89	20.89		20.72	20.31	20.11	21.11	
		5 240	22.05	21.53	21.74	22.33		22.27	21.75	21.96	22.55	
	UNII 2A	5 260	19.78	19.29	19.36	20.30		20.00	19.51	19.58	20.52	23.98
		5 300	19.70	19.13	19.09	19.74		19.92	19.35	19.31	19.96	
		5 320	17.55	17.30	17.18	17.66		17.77	17.52	17.40	17.88	
	UNII 2C	5 500	16.94	17.23	17.12	17.53		17.16	17.45	17.34	17.75	23.98
		5 600	19.46	18.97	18.85	19.22		19.68	19.19	19.07	19.44	
		5 700	19.40	19.18	18.71	18.31		19.62	19.40	18.93	18.53	
	UNII 3	5 745	20.77	20.38	20.18	19.61		20.99	20.60	20.40	19.83	30.00
		5 785	20.94	20.95	20.81	20.48		21.16	21.17	21.03	20.70	
		5 825	21.51	21.32	21.28	21.30		21.73	21.54	21.50	21.52	
11n HT20	UNII 1	5 180	17.39	17.23	17.08	17.84	0.22	17.61	17.45	17.30	18.06	30.00
		5 220	21.19	20.72	21.03	21.54		21.41	20.94	21.25	21.76	
		5 240	21.10	20.59	20.97	21.55		21.32	20.81	21.19	21.77	
	UNII 2A	5 260	19.92	19.30	19.37	20.11		20.14	19.52	19.59	20.33	23.98
		5 300	19.81	19.05	19.11	19.81		20.03	19.27	19.33	20.03	
		5 320	17.78	17.22	17.19	17.72		18.00	17.44	17.41	17.94	
	UNII 2C	5 500	16.97	17.00	17.13	17.48		17.19	17.22	17.35	17.70	23.98
		5 600	19.61	18.97	18.74	19.17		19.83	19.19	18.96	19.39	
		5 700	19.70	19.17	18.63	18.28		19.92	19.39	18.85	18.50	
	UNII 3	5 745	20.89	20.45	19.95	19.60		21.11	20.67	20.17	19.82	30.00
		5 785	21.87	21.24	20.92	20.71		22.09	21.46	21.14	20.93	
		5 825	22.10	21.32	21.19	21.39		22.32	21.54	21.41	21.61	
11n HT40	UNII 1	5 190	16.96	16.32	15.46	16.99	0.44	17.40	16.76	15.90	17.43	30.00
		5 230	18.95	18.95	17.82	19.54		19.39	19.39	18.26	19.98	
	UNII 2A	5 270	18.68	18.72	18.71	19.20		19.12	19.16	19.15	19.64	23.98
		5 310	15.86	15.80	15.28	16.20		16.30	16.24	15.72	16.64	
	UNII 2C	5 510	18.64	18.52	18.09	18.01		19.08	18.96	18.53	18.45	23.98
		5 590	17.83	17.57	17.41	17.80		18.27	18.01	17.85	18.24	
		5 670	17.81	17.80	17.36	17.62		18.25	18.24	17.80	18.06	
	UNII 3	5 755	21.53	20.85	20.41	19.83		21.97	21.29	20.85	20.27	30.00
		5 795	21.47	20.85	20.53	20.14		21.91	21.29	20.97	20.58	
11ac VHT20	UNII 1	5 180	17.99	17.14	17.38	18.04	-	17.99	17.14	17.38	18.04	30.00
		5 220	21.38	20.74	21.06	21.62		21.38	20.74	21.06	21.62	
		5 240	21.38	20.74	21.00	21.76		21.38	20.74	21.00	21.76	

	UNII 2A	5 260	19.50	19.43	19.50	20.16		19.50	19.43	19.50	20.16	23.98
		5 300	19.20	19.39	19.16	19.85		19.20	19.39	19.16	19.85	
		5 320	17.27	17.50	17.04	17.78		17.27	17.50	17.04	17.78	
	UNII 2C	5 500	17.32	17.31	17.20	17.67		17.32	17.31	17.20	17.67	23.98
		5 600	18.97	19.06	18.85	19.28		18.97	19.06	18.85	19.28	
		5 700	19.10	19.25	18.66	18.52		19.10	19.25	18.66	18.52	
	UNII 3	5 745	20.38	20.62	20.15	19.70		20.38	20.62	20.15	19.70	30.00
		5 785	21.26	21.40	20.99	20.82		21.26	21.40	20.99	20.82	
		5 825	21.50	21.52	21.32	21.42		21.50	21.52	21.32	21.42	
11ac VHT40	UNII 1	5 190	16.59	16.56	15.49	17.04	0.13	16.72	16.69	15.62	17.17	30.00
		5 230	19.13	19.07	18.35	19.38		19.26	19.20	18.48	19.51	
	UNII 2A	5 270	19.10	18.84	18.82	19.14		19.23	18.97	18.95	19.27	30.00
		5 310	16.21	16.11	15.71	16.38		16.34	16.24	15.84	16.51	
	UNII 2C	5 510	18.92	18.54	18.61	18.40		19.05	18.67	18.74	18.53	23.98
		5 590	17.88	17.61	17.70	17.94		18.01	17.74	17.83	18.07	
		5 670	18.20	17.78	17.48	17.36		18.33	17.91	17.61	17.49	
	UNII 3	5 755	21.11	21.14	20.70	19.80		21.24	21.27	20.83	19.93	30.00
		5 795	21.18	21.21	20.74	20.24		21.31	21.34	20.87	20.37	
11ac VHT80	UNII 1	5 210	15.51	15.51	14.15	15.56	0.27	15.78	15.78	14.42	15.83	30.00
	UNII 2A	5 290	15.04	14.66	13.72	14.86		15.31	14.93	13.99	15.13	23.98
	UNII 2C	5 530	15.61	15.08	15.16	14.62		15.88	15.35	15.43	14.89	23.98
		5 610	18.08	17.78	17.63	17.52		18.35	18.05	17.90	17.79	
	UNII 3	5 775	20.17	20.02	19.66	18.49		20.44	20.29	19.93	18.76	30.00

Note.

1. Result(dBm) = Reading (dBm) + Duty Cycle Factor (dB)

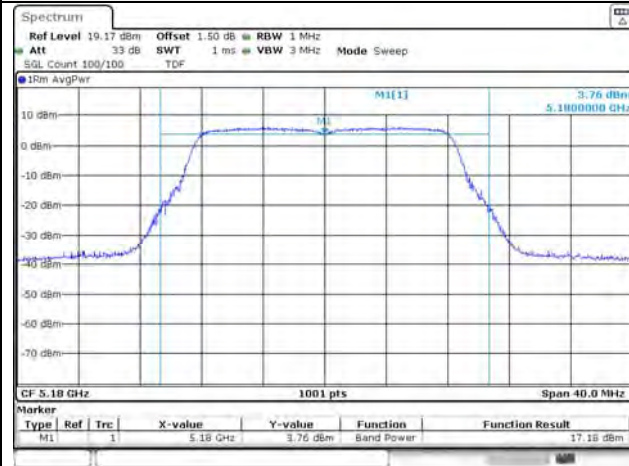
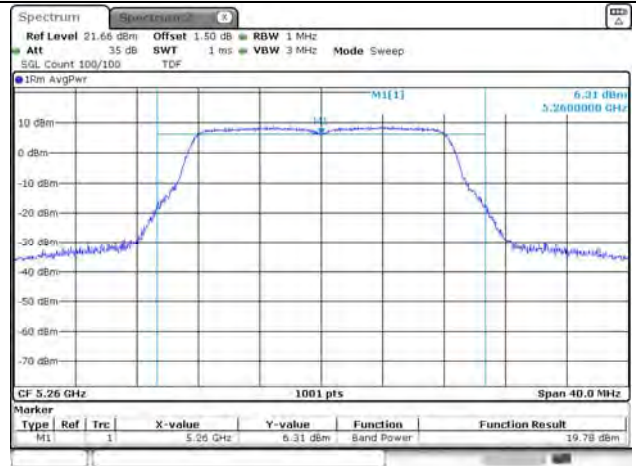
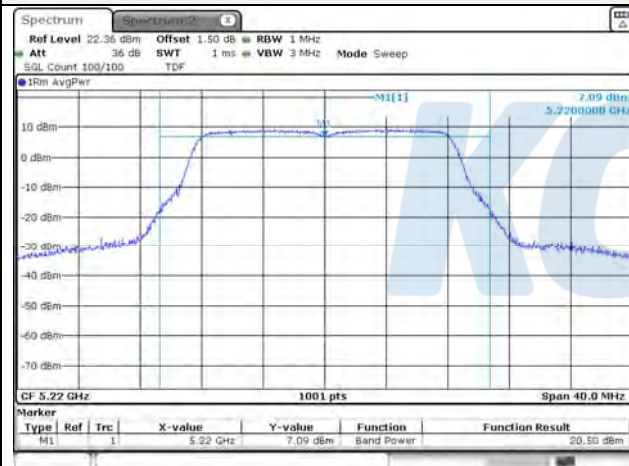
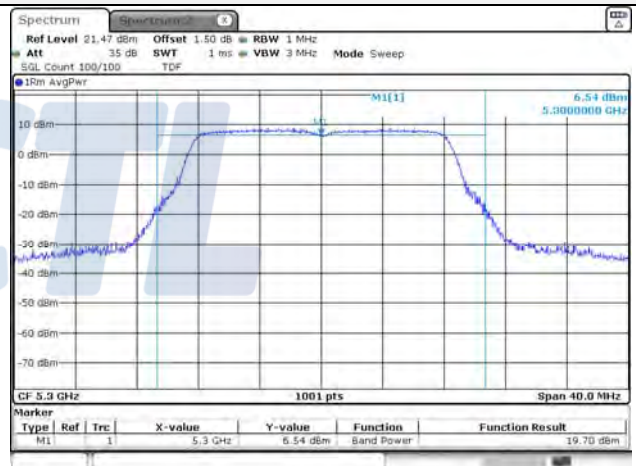
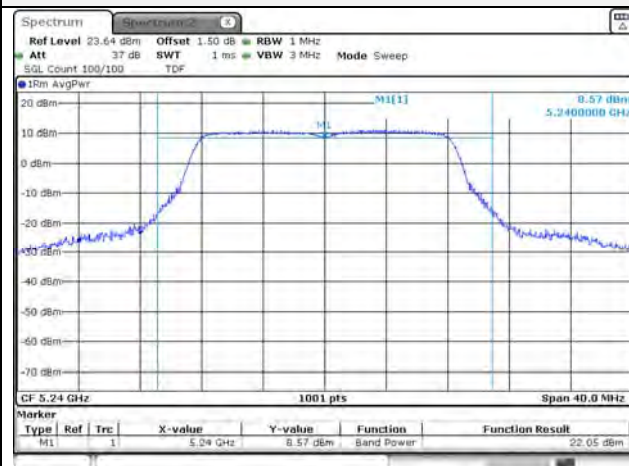
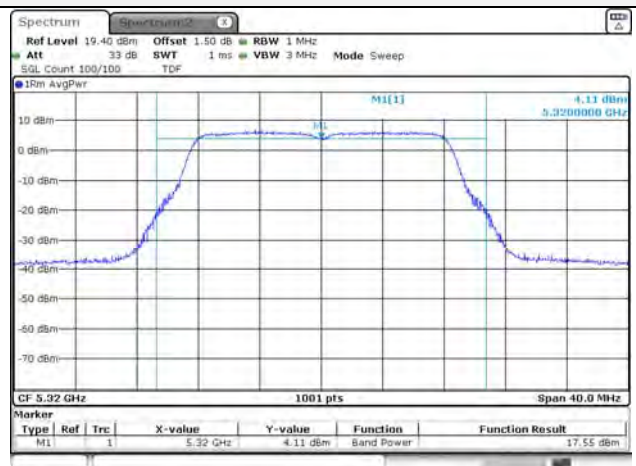
4TX MIMO

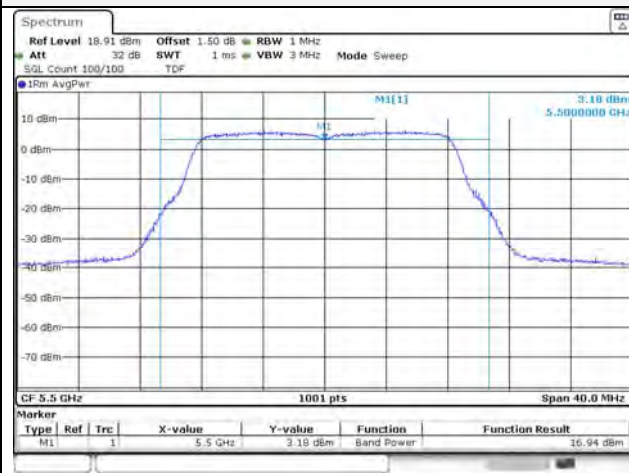
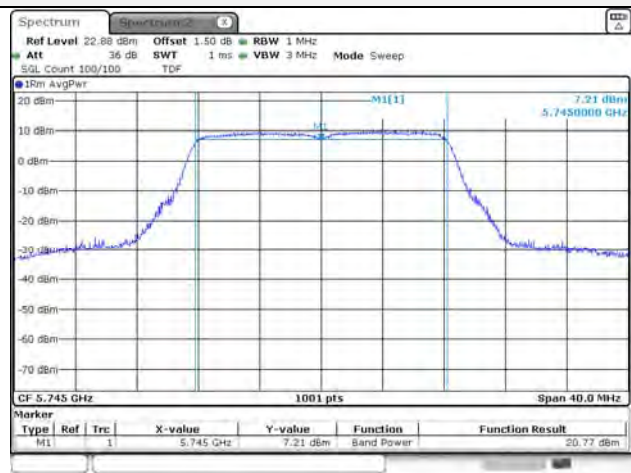
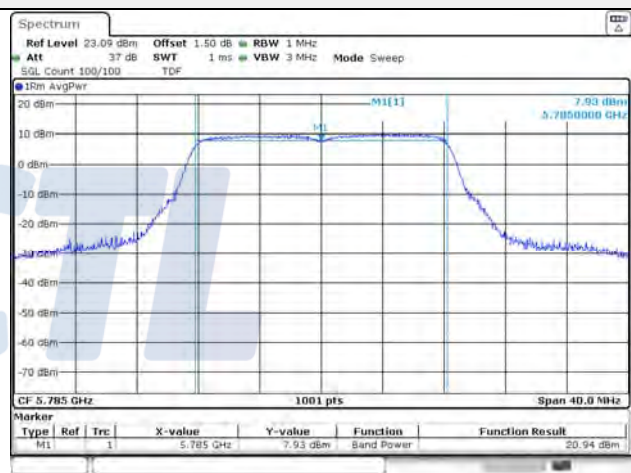
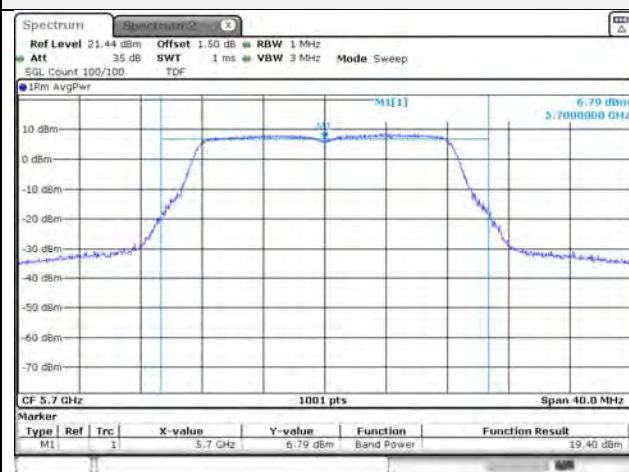
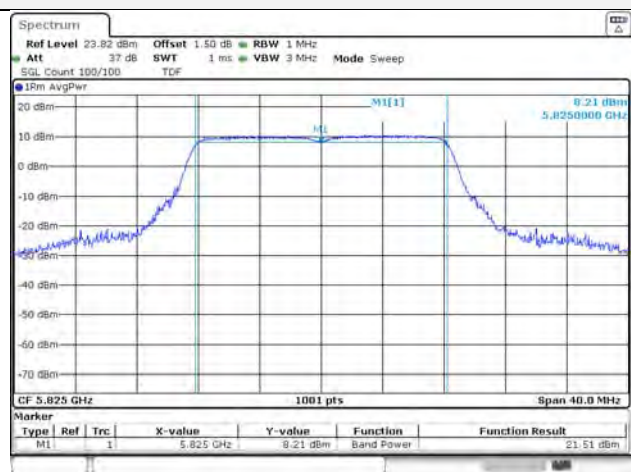
Test mode	Band	Frequency (MHz)	Measured output power						
			Reading ANT 0 (dBm)	Reading ANT 1 (dBm)	Reading ANT 2 (dBm)	Reading ANT 3 (dBm)	DCF (dB)	Result 4TX MIMO (dBm) ⁽¹⁾	Limit (dBm)
11a	UNII 1	5 180	16.83	16.17	15.94	16.61	0.22	22.64	30.00
		5 220	18.23	17.71	17.54	18.64		24.29	
		5 240	19.05	18.54	18.66	19.63		25.23	
	UNII 2A	5 260	13.18	13.05	13.19	13.91		19.59	23.98
		5 300	13.24	12.90	13.03	13.89		19.52	
		5 320	13.32	12.92	12.98	13.95		19.55	
	UNII 2C	5 500	13.02	13.07	12.78	12.86		19.18	23.98
		5 600	13.41	13.16	11.98	13.29		19.24	
		5 700	13.07	12.99	12.04	13.48		19.17	
	UNII 3	5 745	20.09	19.99	19.36	19.02		25.88	30.00
		5 785	21.31	20.98	20.44	20.29		27.02	
		5 825	21.43	20.92	20.72	20.83		27.23	
11n HT20	UNII 1	5 180	16.44	15.64	16.20	16.42	0.22	22.43	30.00
		5 220	18.98	18.58	18.45	19.33		25.09	
		5 240	18.81	18.46	18.45	19.27		25.00	
	UNII 2A	5 260	13.54	13.51	13.10	14.39		19.90	23.98
		5 300	13.40	13.24	12.74	14.16		19.66	
		5 320	13.45	13.22	12.50	14.32		19.66	
	UNII 2C	5 500	13.04	13.00	12.68	13.49		19.30	23.98
		5 600	13.16	13.00	12.37	13.68		19.32	
		5 700	12.83	12.91	12.50	13.63		19.23	
	UNII 3	5 745	20.54	20.43	19.77	19.35		26.29	30.00
		5 785	21.14	20.90	20.41	20.16		26.91	
		5 825	21.02	20.73	20.52	20.53		26.95	
11n HT40	UNII 1	5 190	11.21	11.33	8.87	12.21	0.44	15.84	30.00
		5 230	18.44	18.10	17.12	18.82		24.18	
	UNII 2A	5 270	16.50	16.33	15.87	16.50		22.88	23.98
		5 310	12.65	12.12	12.11	12.98		17.31	
	UNII 2C	5 510	14.33	14.39	14.40	15.00		20.99	23.98
		5 590	16.48	16.14	15.89	16.41		22.69	
		5 670	16.90	16.52	16.11	16.09		22.87	
	UNII 3	5 755	21.11	20.77	20.02	19.82		26.92	30.00
		5 795	20.97	20.68	20.27	20.09		26.97	
11ac VHT20	UNII 1	5 180	16.71	16.36	16.15	17.34	-	22.68	30.00
		5 220	18.90	18.59	18.57	19.53		24.94	
		5 240	19.06	18.50	18.55	19.63		24.98	

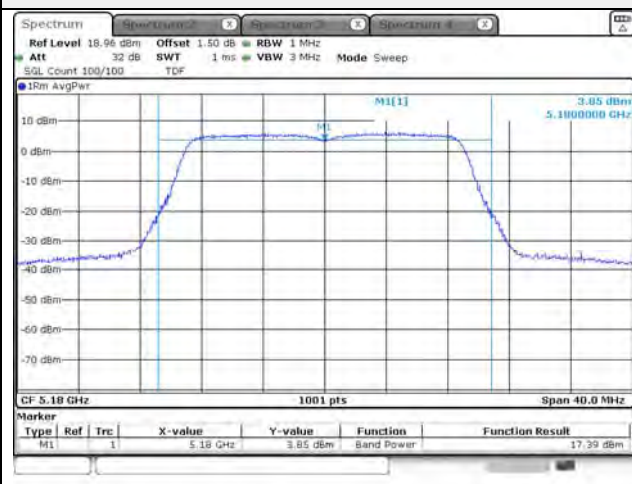
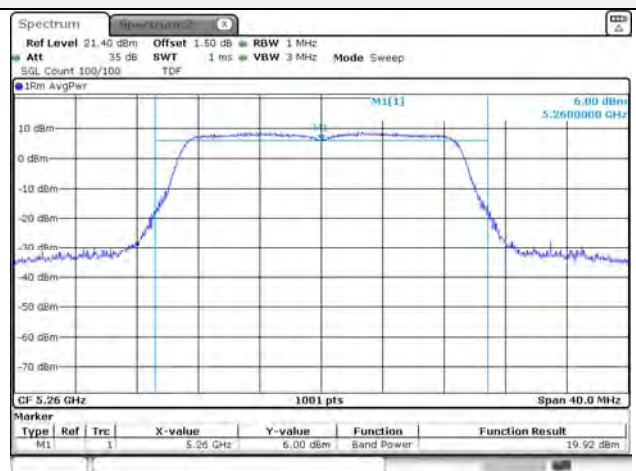
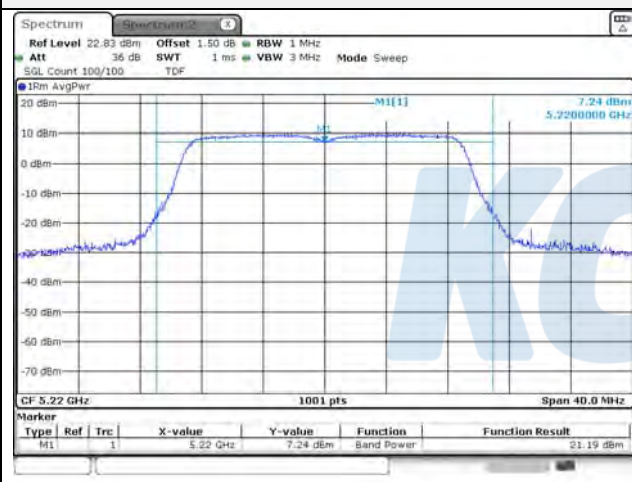
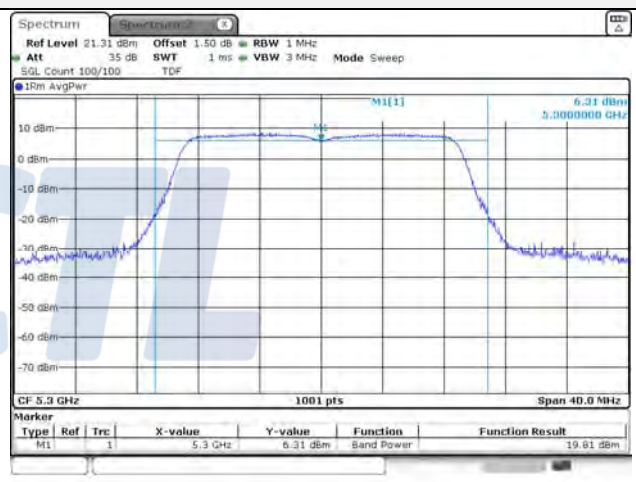
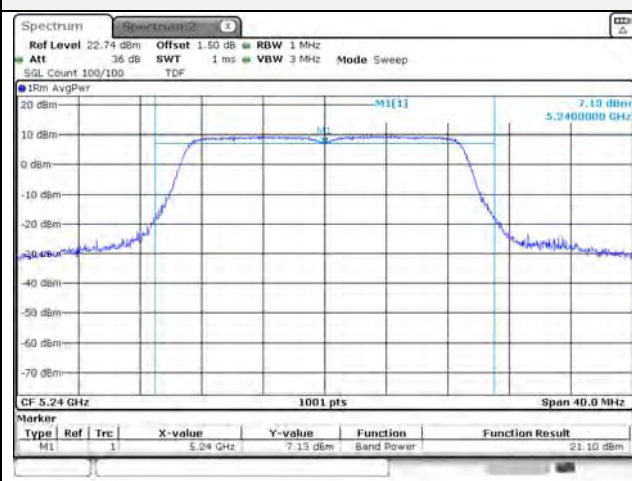
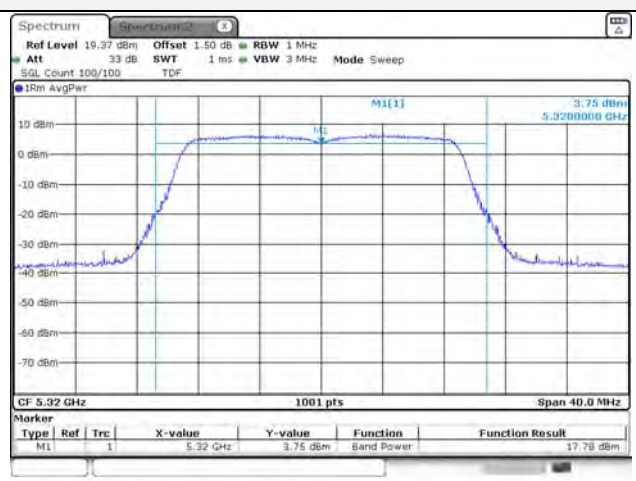
	UNII 2A	5 260	13.72	13.19	13.41	14.11		19.64	23.98
		5 300	13.36	12.98	13.17	13.97		19.41	
		5 320	13.12	12.86	13.01	14.06		19.31	
	UNII 2C	5 500	14.15	13.47	13.35	14.06		19.79	23.98
		5 600	13.81	13.19	12.70	13.98		19.47	
		5 700	13.97	13.65	12.83	13.37		19.50	
	UNII 3	5 745	20.86	20.77	19.89	19.58		26.33	30.00
		5 785	21.21	21.21	20.68	20.36		26.90	
		5 825	21.60	21.04	20.58	20.71		27.02	
11ac VHT40	UNII 1	5 190	12.04	11.82	9.30	12.96	0.13	17.88	30.00
		5 230	18.96	18.75	17.51	18.82		24.70	
	UNII 2A	5 270	16.80	16.98	16.61	17.02		23.01	23.98
		5 310	12.24	11.83	11.82	12.70		18.32	
	UNII 2C	5 510	14.56	14.39	14.08	14.61		20.57	23.98
		5 590	16.90	16.40	16.23	16.76		22.73	
		5 670	17.05	16.81	16.44	16.46		22.85	
	UNII 3	5 755	20.59	20.53	19.92	19.38		26.29	30.00
		5 795	20.69	20.19	19.93	20.00		26.37	
11ac VHT80	UNII 1	5 210	10.52	9.40	6.92	9.82	0.27	15.65	30.00
	UNII 2A	5 290	10.46	9.72	7.76	10.18		15.94	23.98
	UNII 2C	5 530	11.54	10.43	10.22	9.72		16.82	23.98
		5 610	16.42	16.25	16.00	16.32		22.54	
	UNII 3	5 775	19.42	19.11	18.43	17.21		24.91	30.00

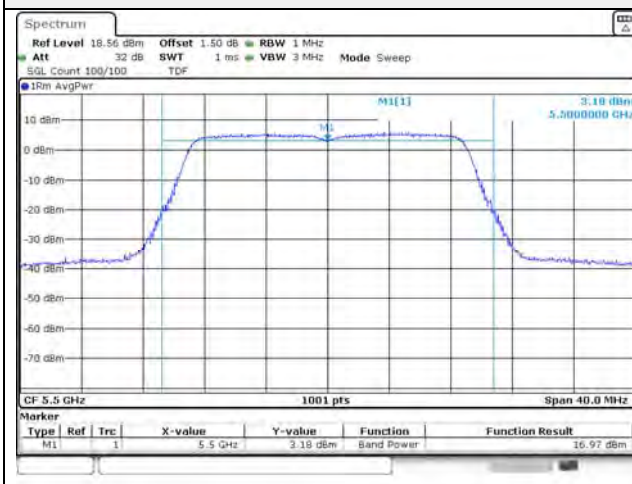
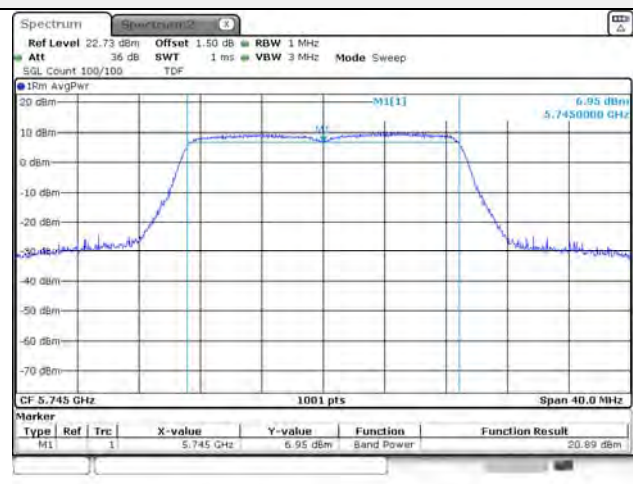
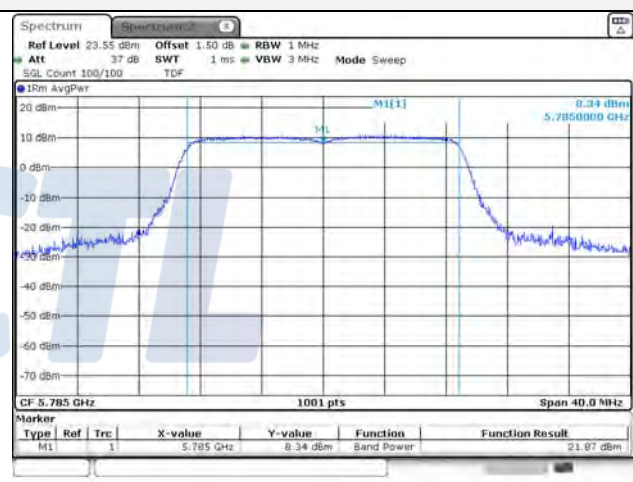
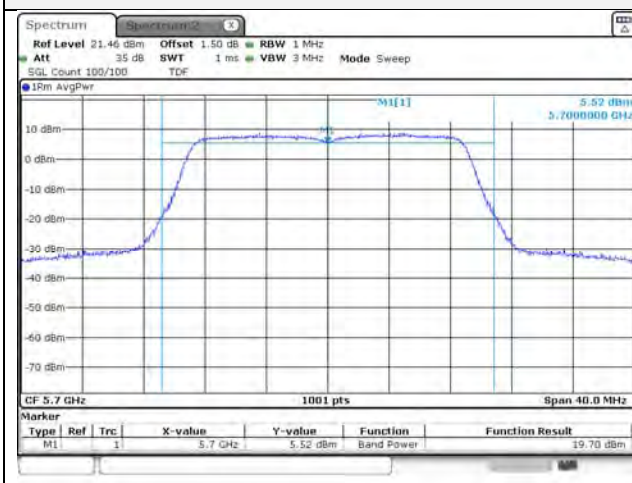
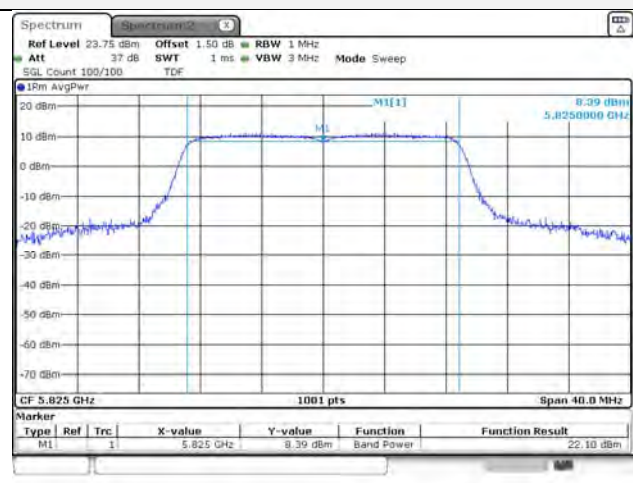
Note.

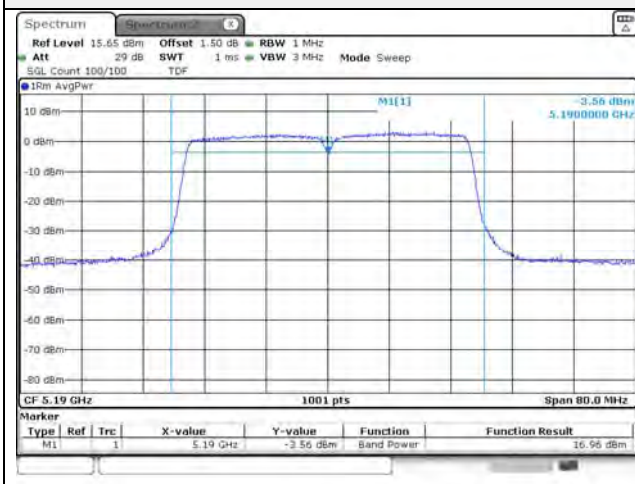
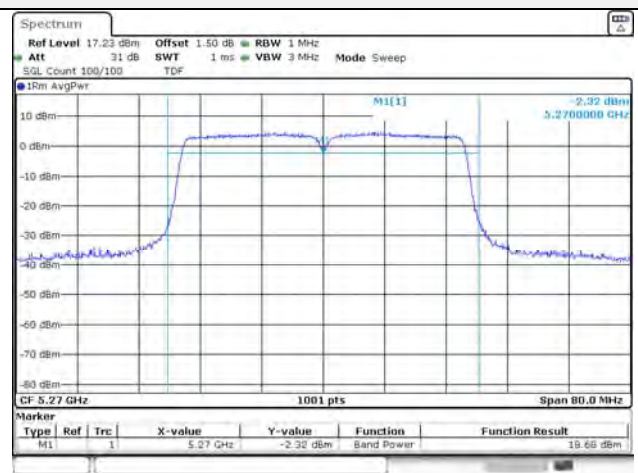
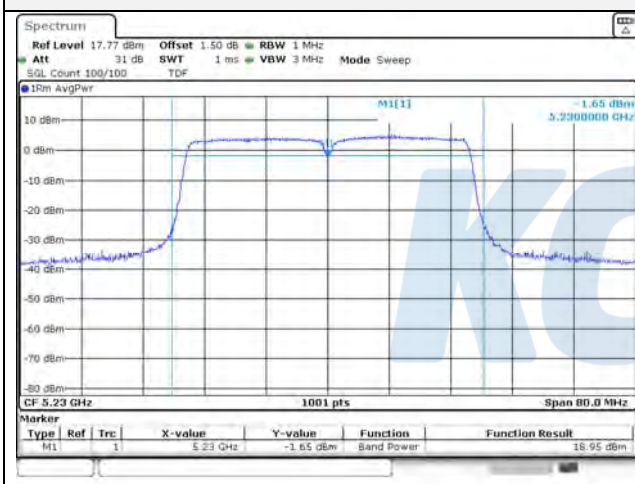
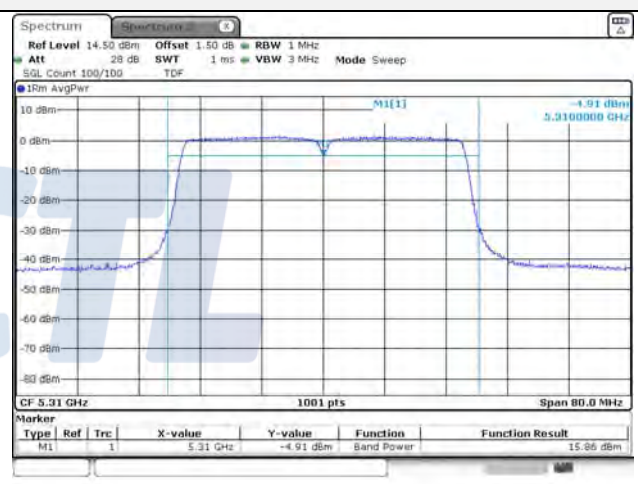
1. Result(dBm) = $10\log(10^{(\text{ANT } 0/10)} + 10^{(\text{ANT } 1/10)} + 10^{(\text{ANT } 2/10)} + 10^{(\text{ANT } 3/10)}) + \text{Duty Cycle Factor (dB)}$

SISO ANT 0**UNII-1 / 802.11a / 5 180 MHz****UNII-2A / 802.11a / 5 260 MHz****UNII-1 / 802.11a / 5 220 MHz****UNII-2A / 802.11a / 5 300 MHz****UNII-1 / 802.11a / 5 240 MHz****UNII-2A / 802.11a / 5 320 MHz**

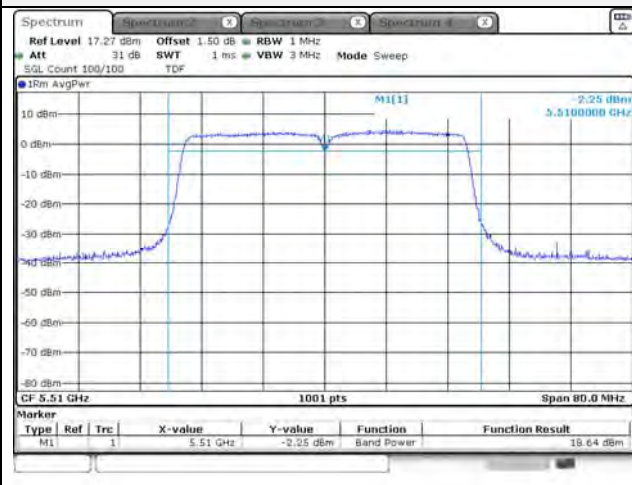
UNII-2C / 802.11a / 5 500 MHz**UNII-3 / 802.11a / 5 745 MHz****UNII-2C / 802.11a / 5 600 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-2C / 802.11a / 5 700 MHz****UNII-3 / 802.11a / 5 825 MHz**

UNII-1 / 802.11n HT20 / 5 180 MHz**UNII-2A / 802.11n HT20 / 5 260 MHz****UNII-1 / 802.11n HT20 / 5 220 MHz****UNII-2A / 802.11n HT20 / 5 300 MHz****UNII-1 / 802.11n HT20 / 5 240 MHz****UNII-2A / 802.11n HT20 / 5 320 MHz**

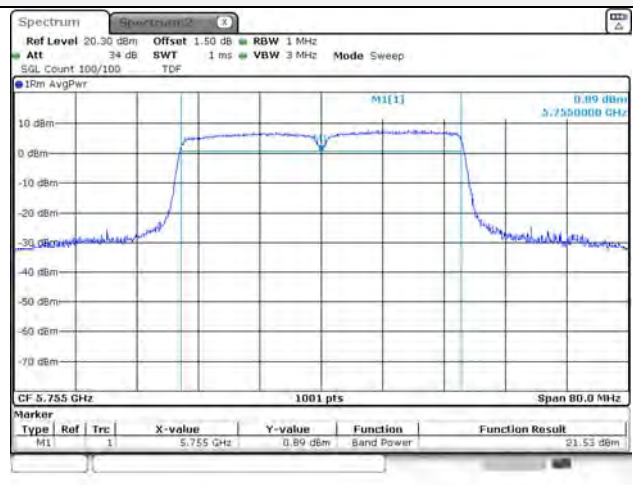
UNII-2C / 802.11n HT20 / 5 500 MHz**UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-2C / 802.11n HT20 / 5 600 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-2C / 802.11n HT20 / 5 700 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

UNII-1 / 802.11n HT40 / 5 190 MHz**UNII-2A / 802.11n HT40 / 5 270 MHz****UNII-1 / 802.11n HT40 / 5 230 MHz****UNII-2A / 802.11n HT40 / 5 310 MHz**

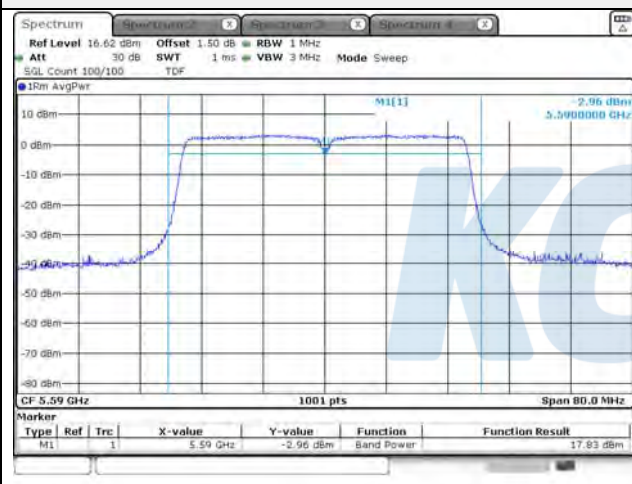
UNII-2C / 802.11n HT40 / 5 510 MHz



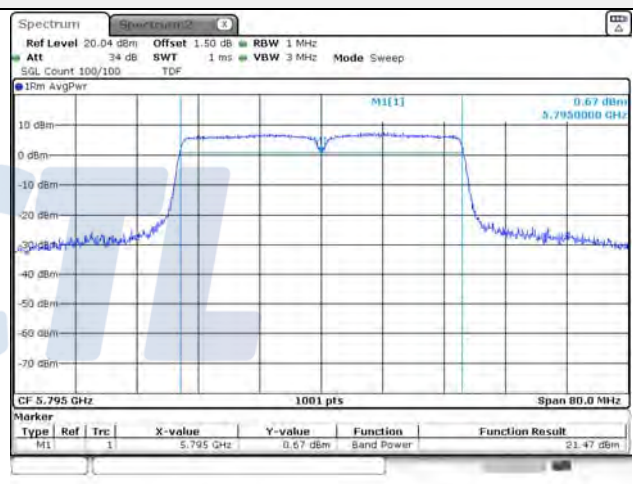
UNII-3 / 802.11n HT40 / 5 755 MHz



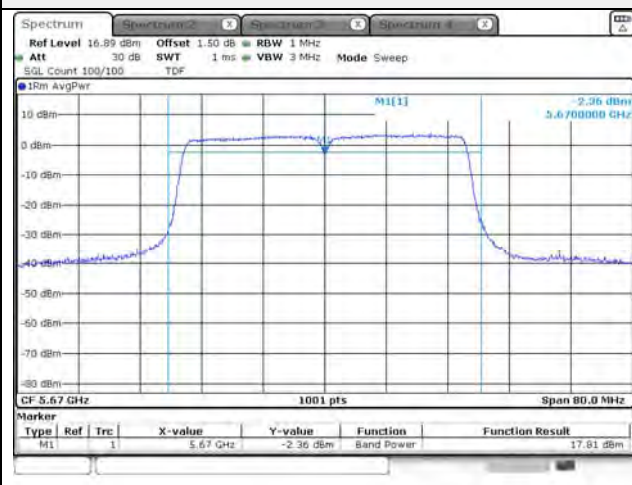
UNII-2C / 802.11n HT40 / 5 590 MHz



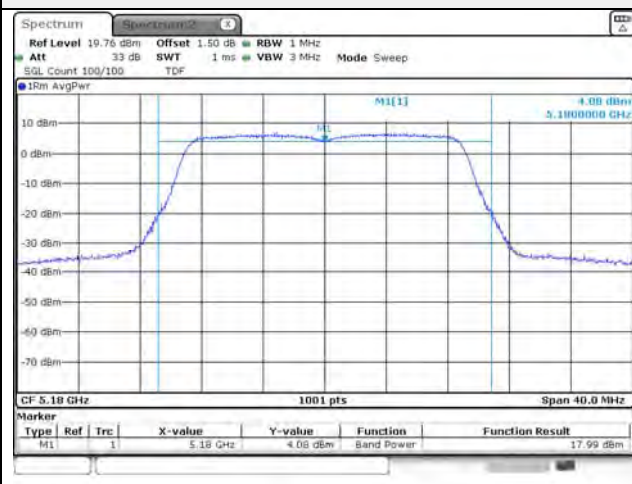
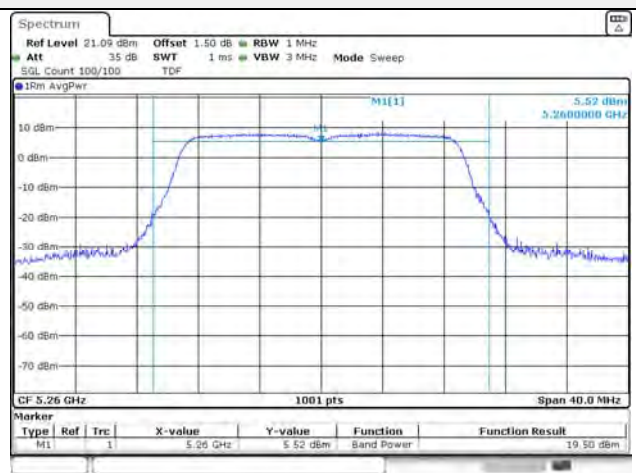
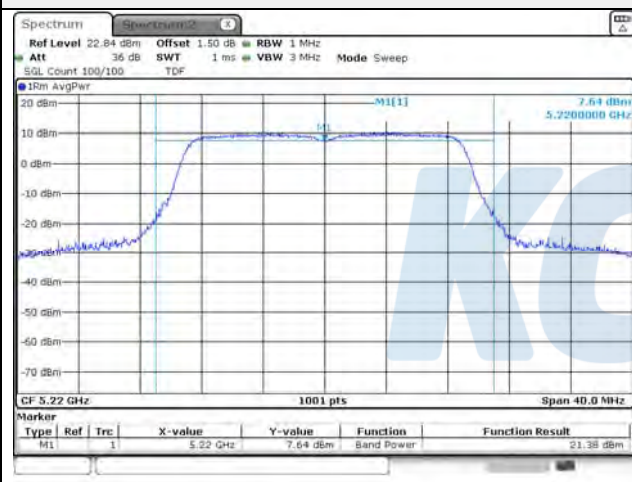
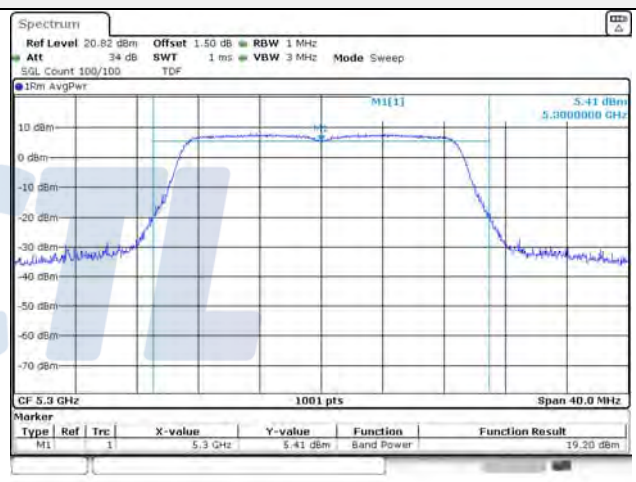
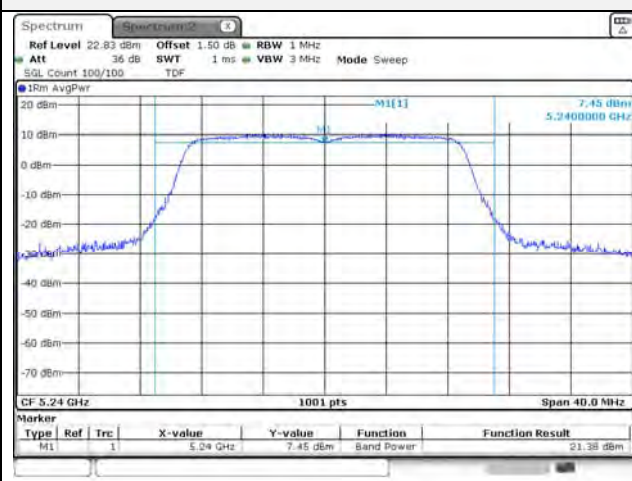
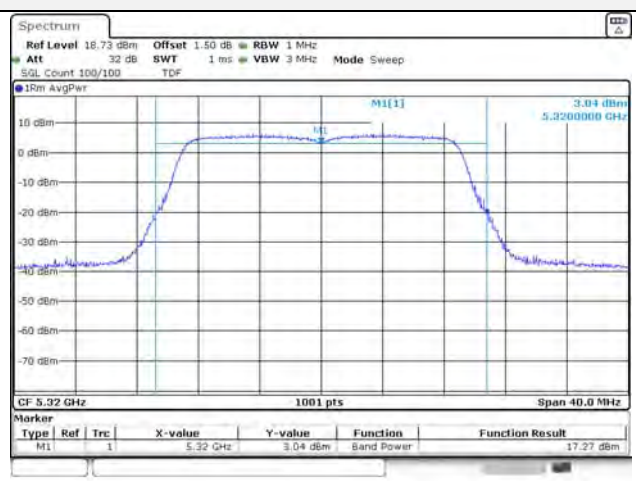
UNII-3 / 802.11n HT40 / 5 795 MHz

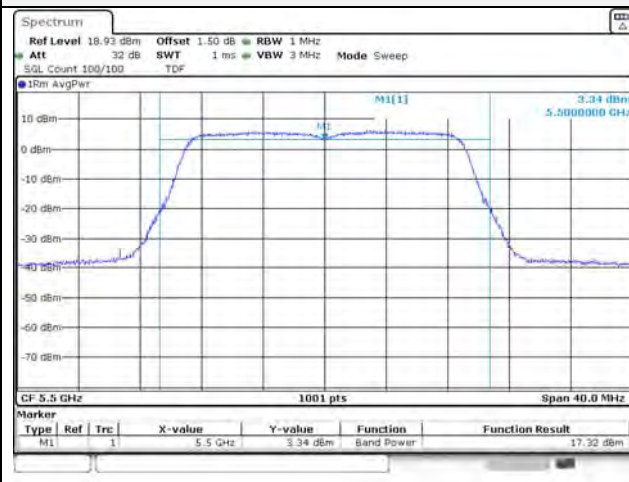
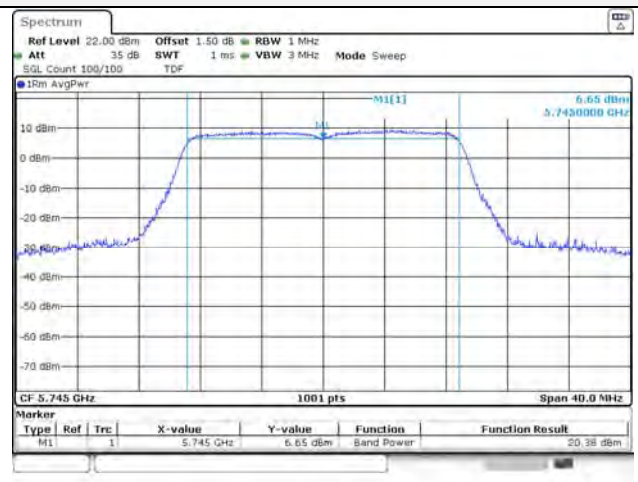
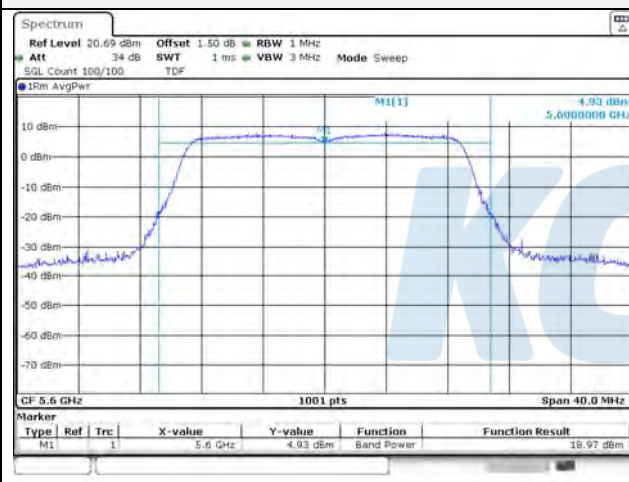
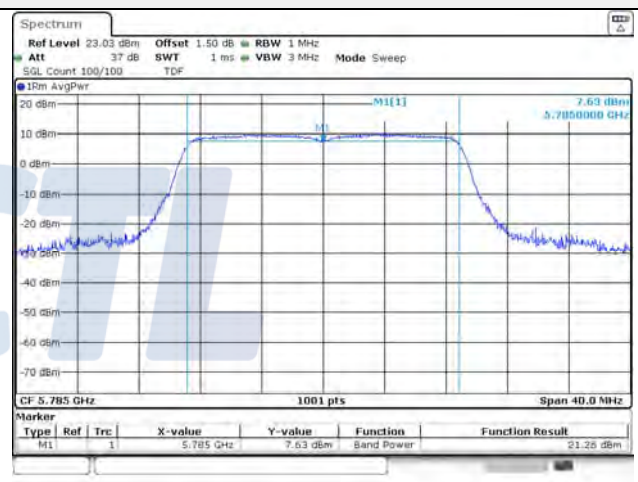
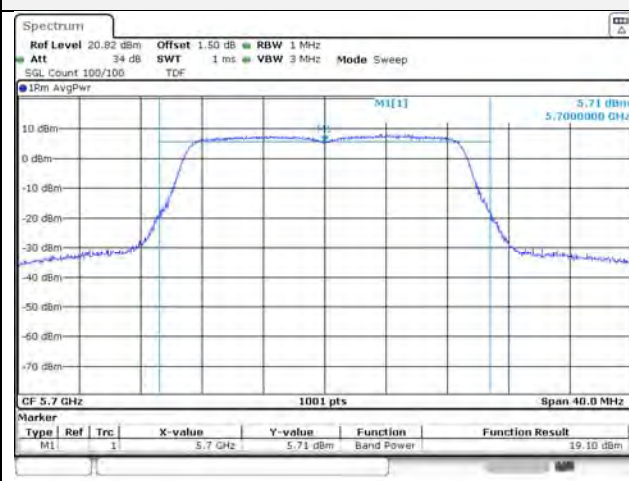
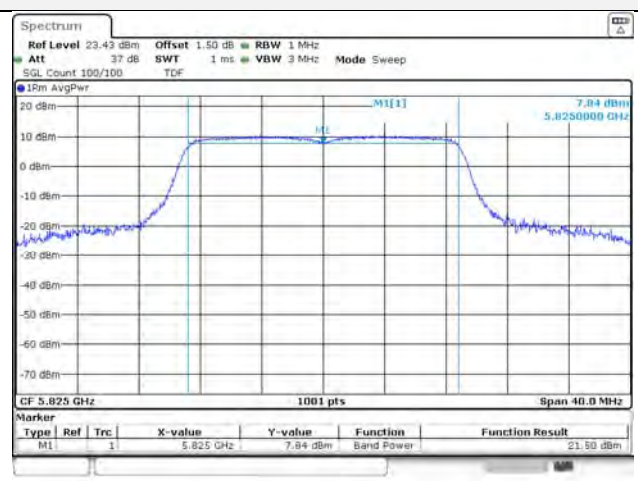


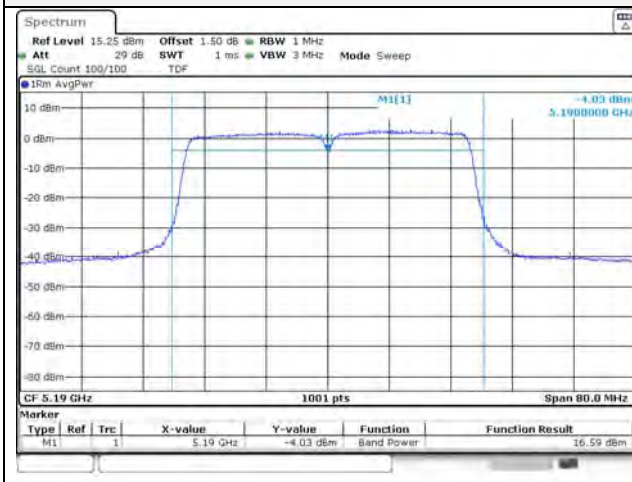
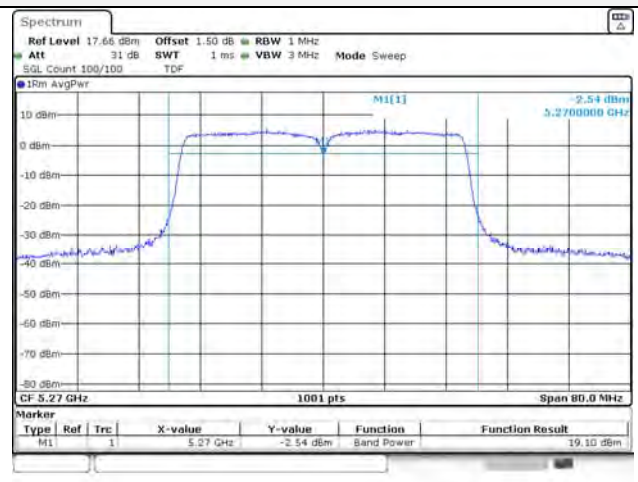
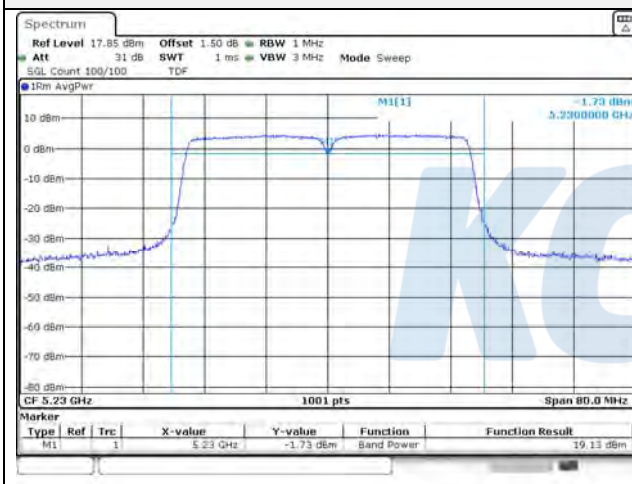
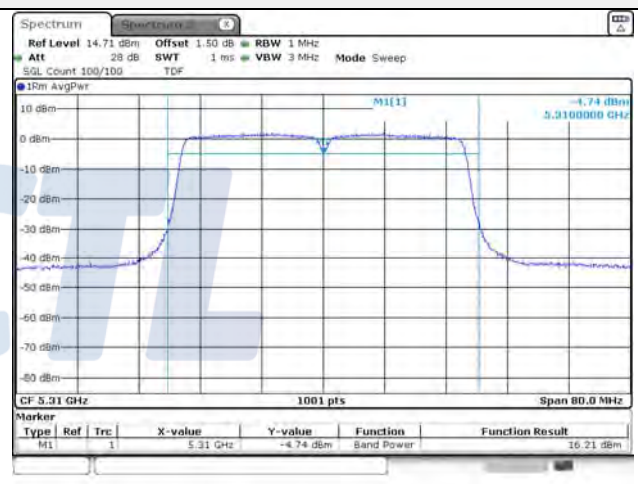
UNII-2C / 802.11n HT40 / 5 670 MHz



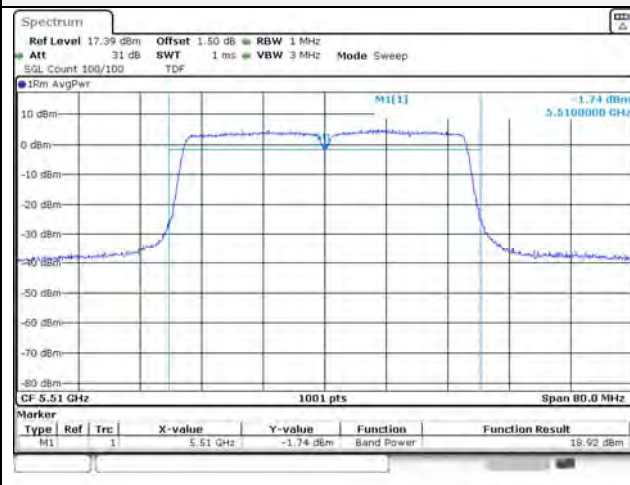
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UNII-1 / 802.11ac VHT20 / 5 180 MHz**UNII-2A / 802.11ac VHT20 / 5 260 MHz****UNII-1 / 802.11ac VHT20 / 5 220 MHz****UNII-2A / 802.11ac VHT20 / 5 300 MHz****UNII-1 / 802.11ac VHT20 / 5 240 MHz****UNII-2A / 802.11ac VHT20 / 5 320 MHz**

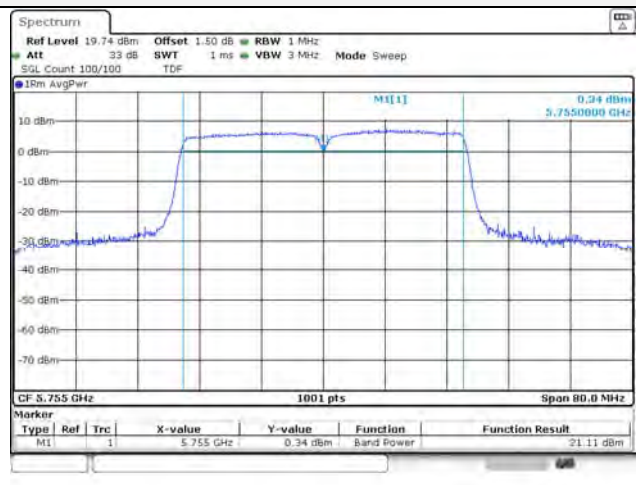
UNII-2C / 802.11ac VHT20 / 5 500 MHz**UNII-3 / 802.11ac VHT20 / 5 745 MHz****UNII-2C / 802.11ac VHT20 / 5 600 MHz****UNII-3 / 802.11ac VHT20 / 5 785 MHz****UNII-2C / 802.11ac VHT20 / 5 700 MHz****UNII-3 / 802.11ac VHT20 / 5 825 MHz**

UNII-1 / 802.11ac VHT40 / 5 190 MHz**UNII-2A / 802.11ac VHT40 / 5 270 MHz****UNII-1 / 802.11ac VHT40 / 5 230 MHz****UNII-2A / 802.11ac VHT40 / 5 310 MHz**

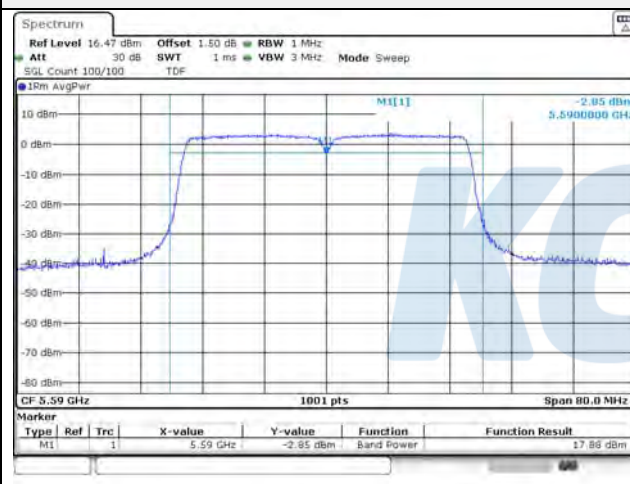
UNII-2C / 802.11ac VHT40 / 5 510 MHz



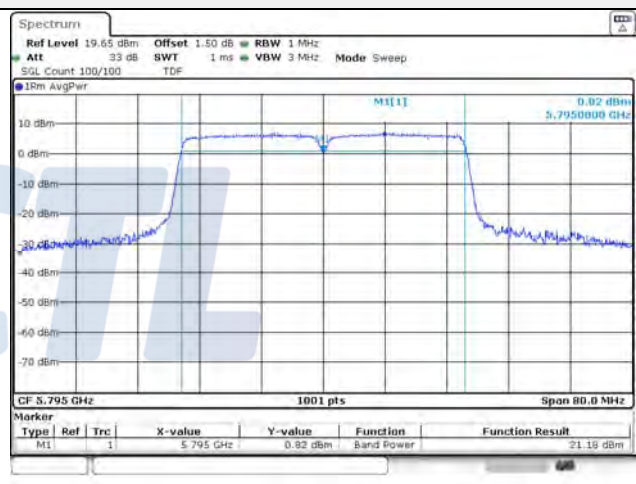
UNII-3 / 802.11ac VHT40 / 5 755 MHz



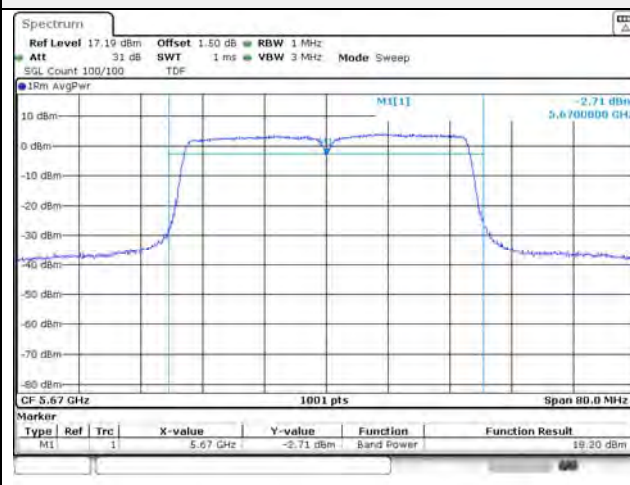
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UNII-3 / 802.11ac VHT40 / 5 795 MHz

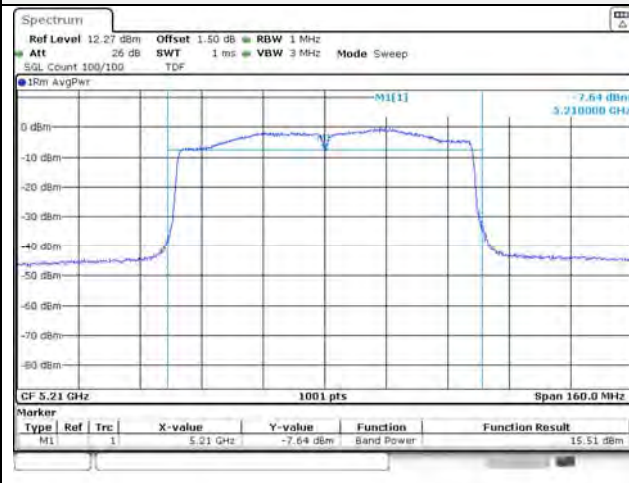


UNII-2C / 802.11ac VHT40 / 5 670 MHz

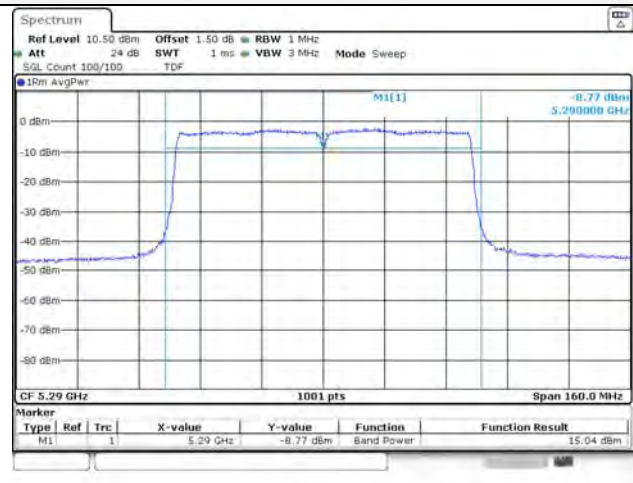


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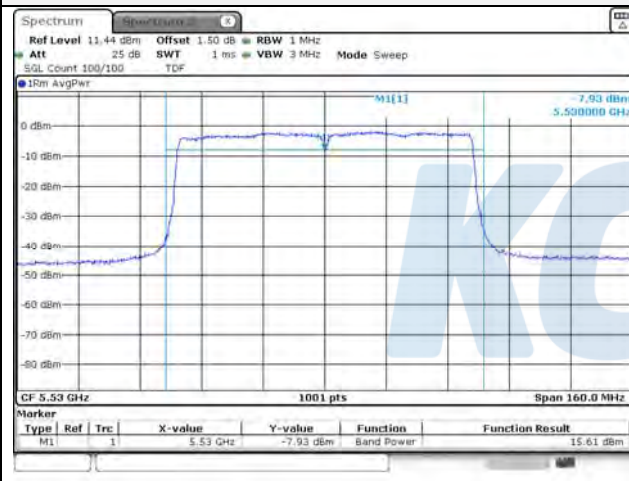
UNII-1 / 802.11ac VHT80 / 5 210 MHz



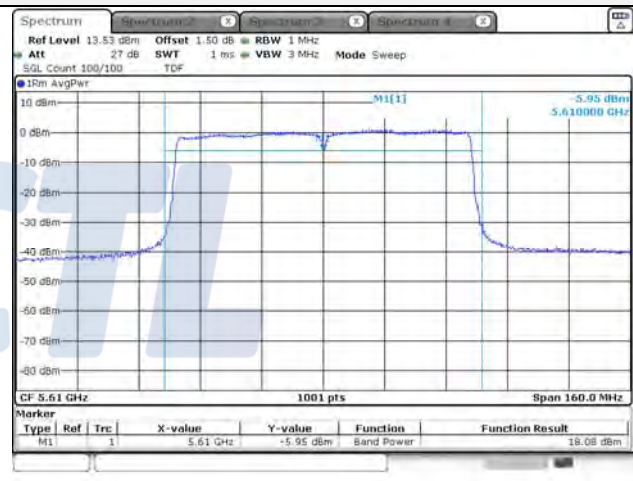
UNII-2A / 802.11ac VHT80 / 5 290 MHz



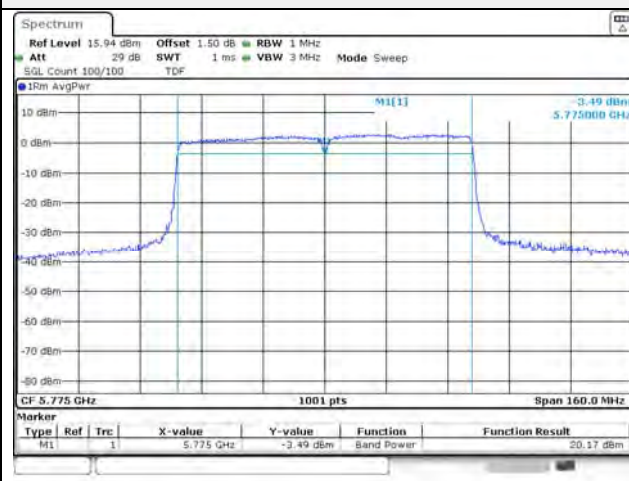
UNII-2C / 802.11ac VHT80 / 5 530 MHz



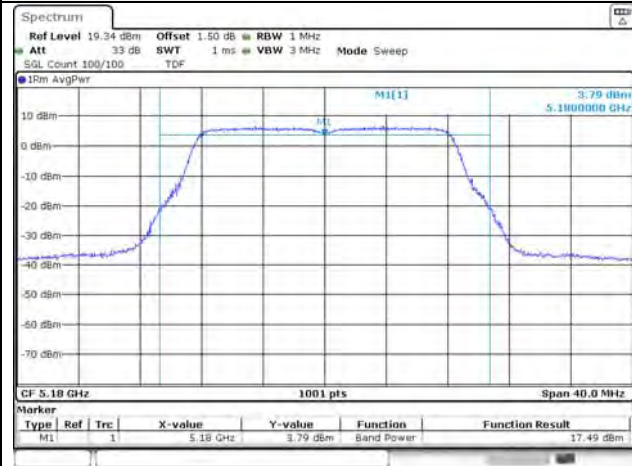
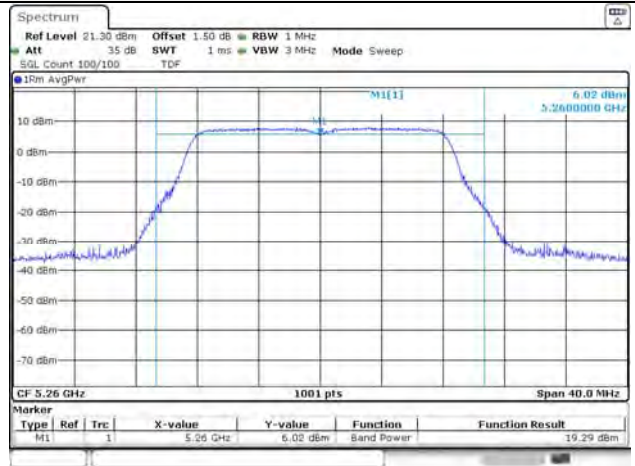
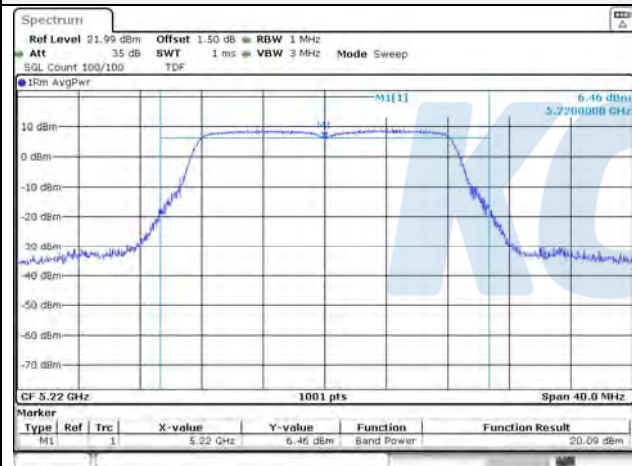
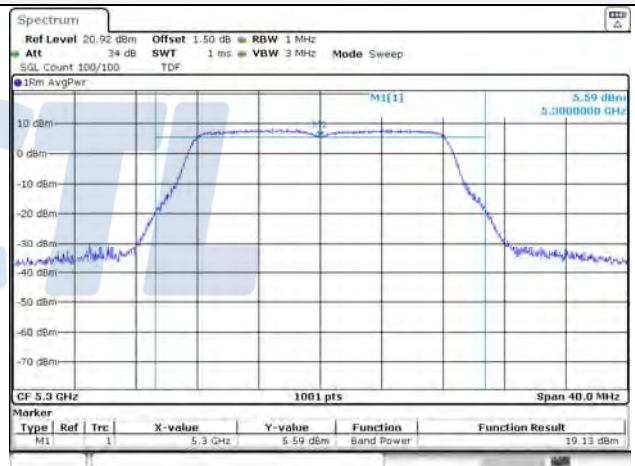
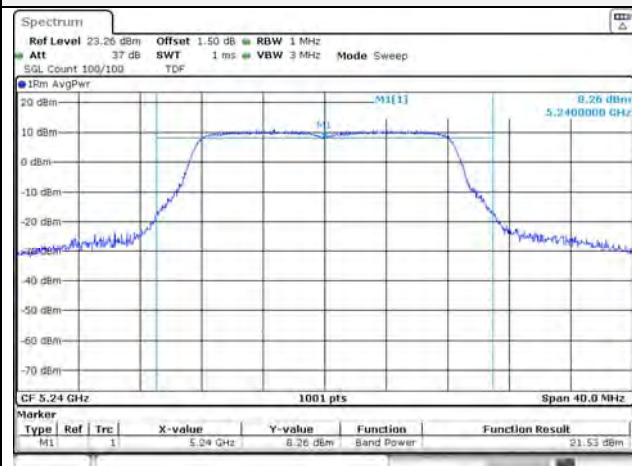
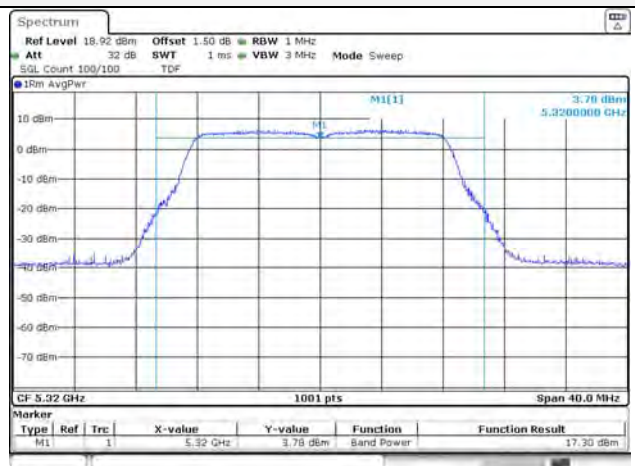
UNII-2C / 802.11ac VHT80 / 5 610 MHz

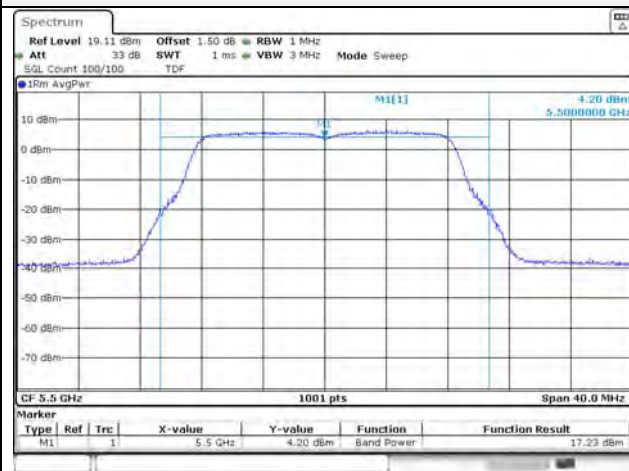
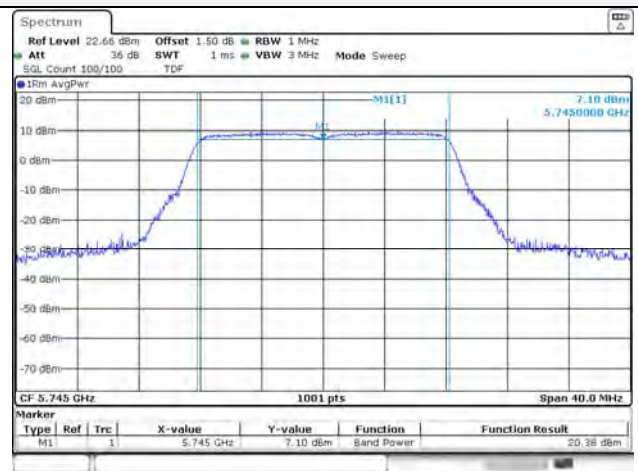
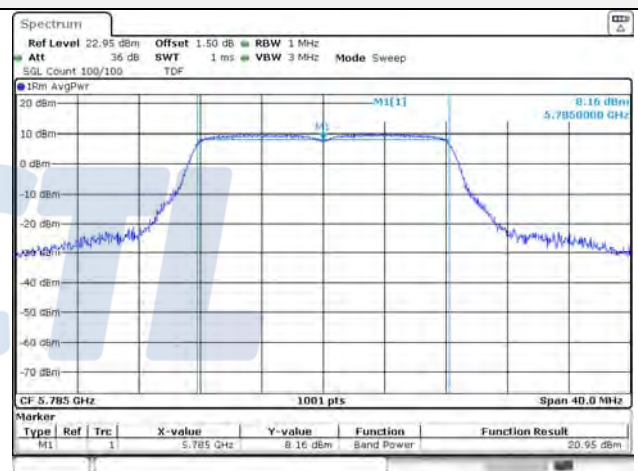
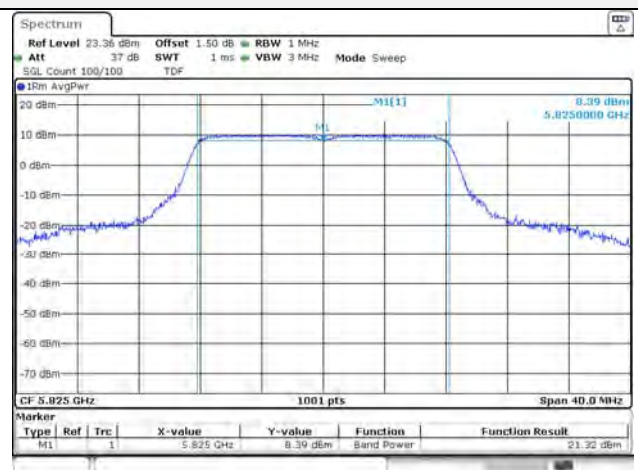


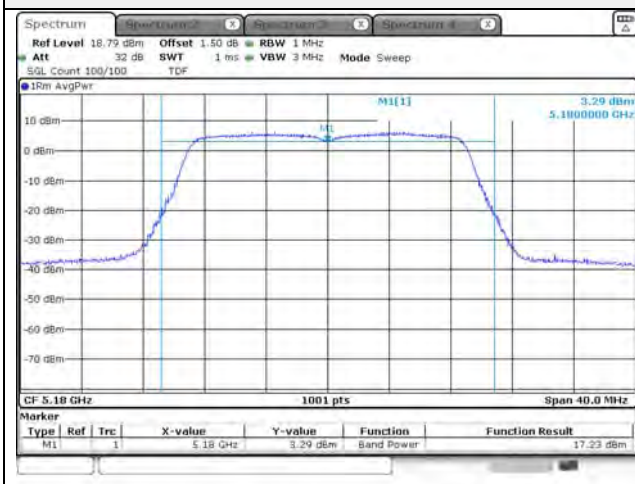
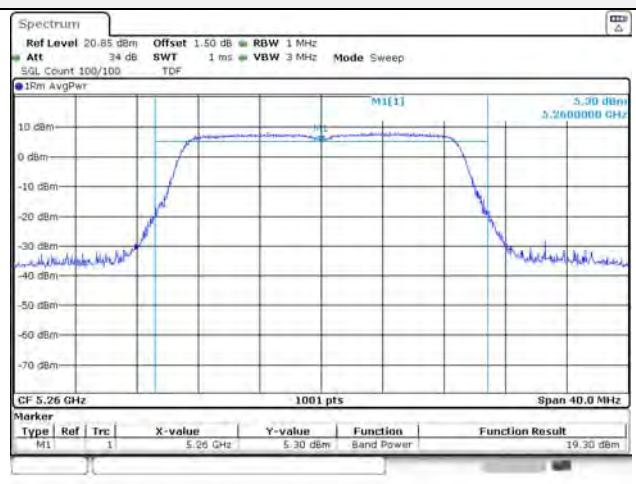
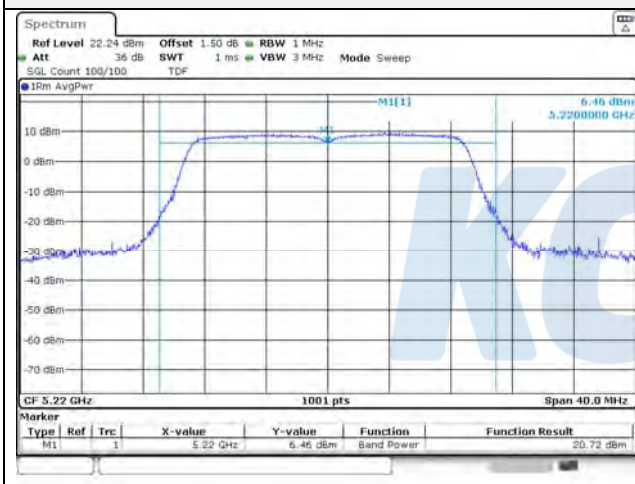
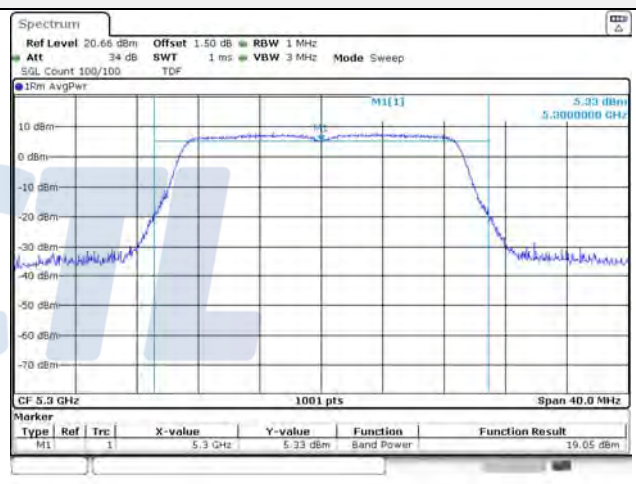
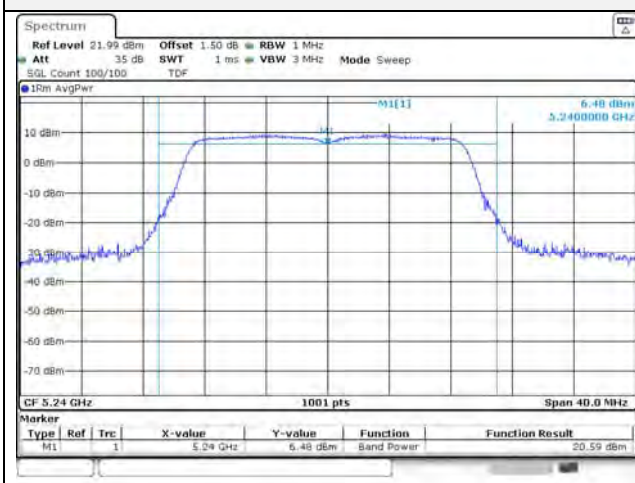
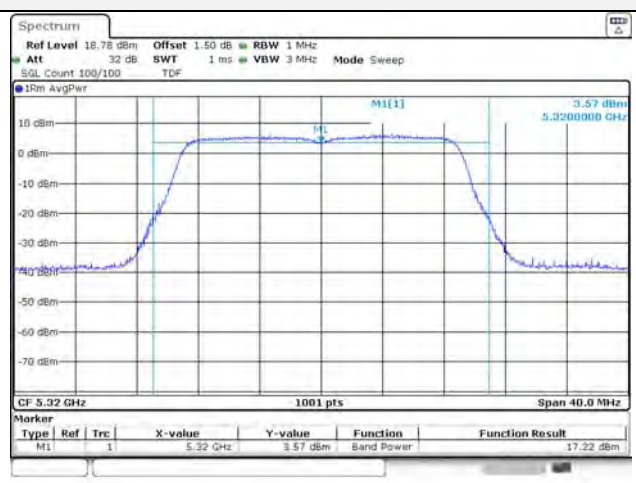
UNII-3 / 802.11ac VHT80 / 5 775 MHz

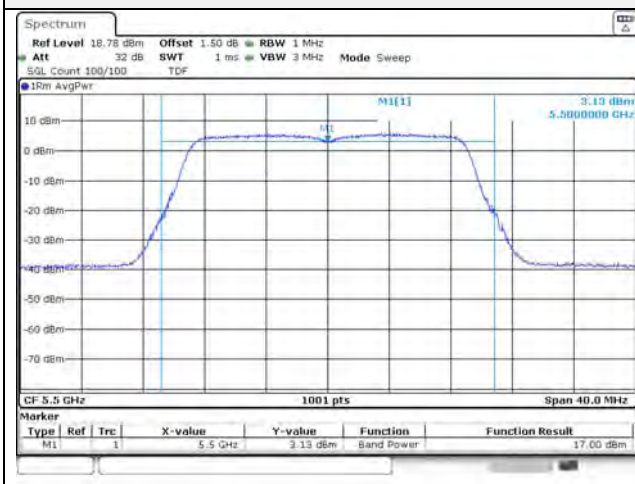
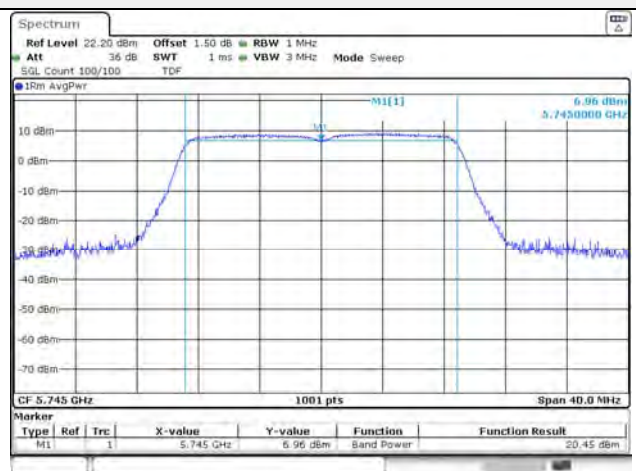
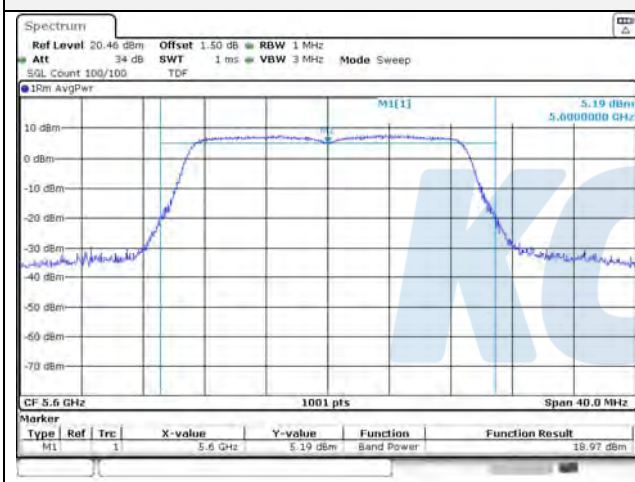
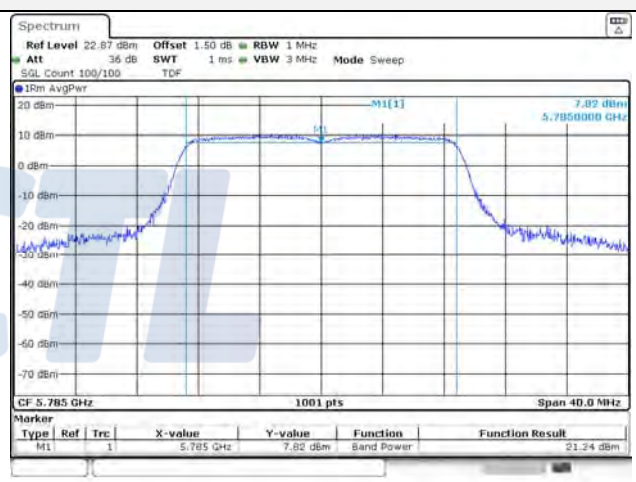
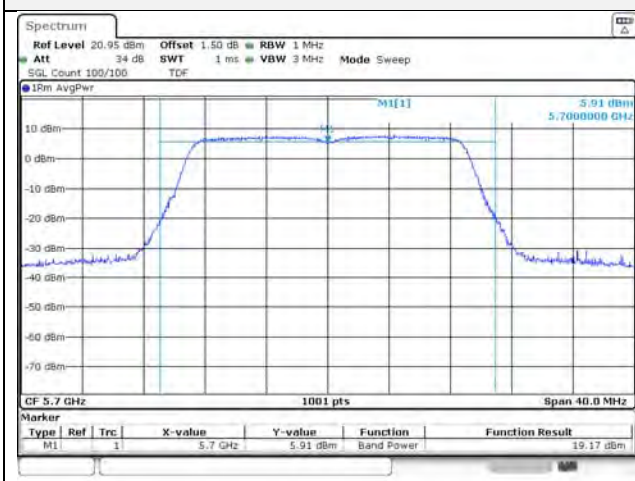
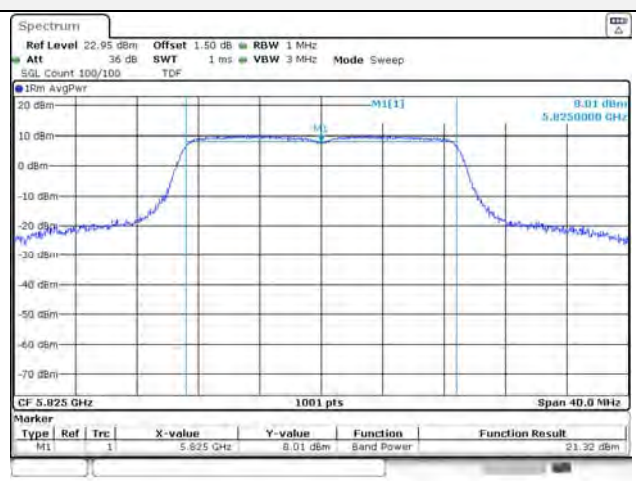


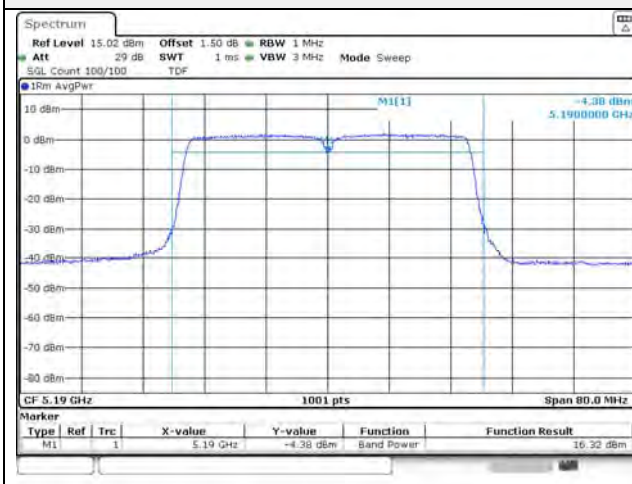
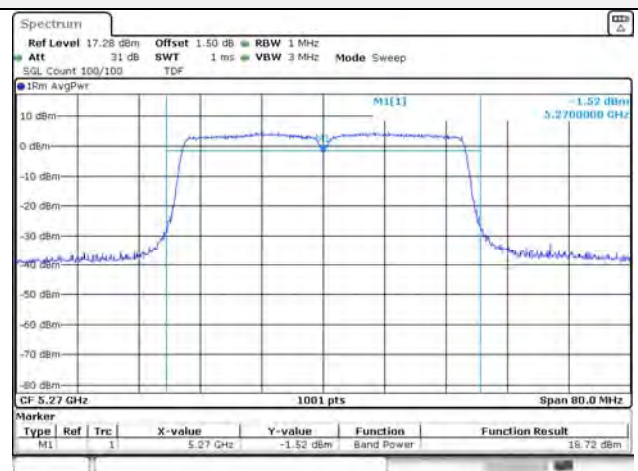
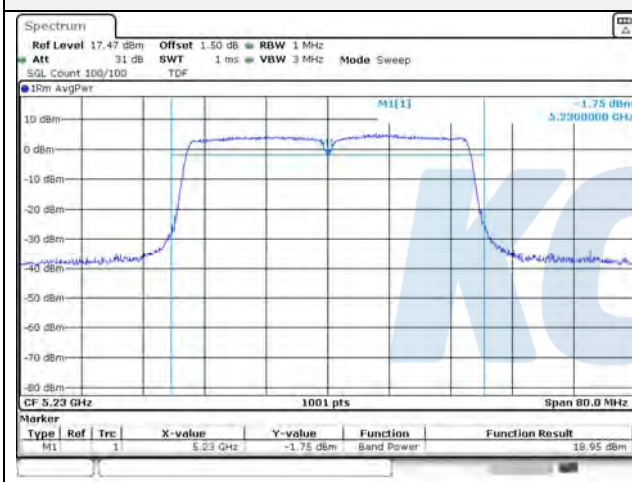
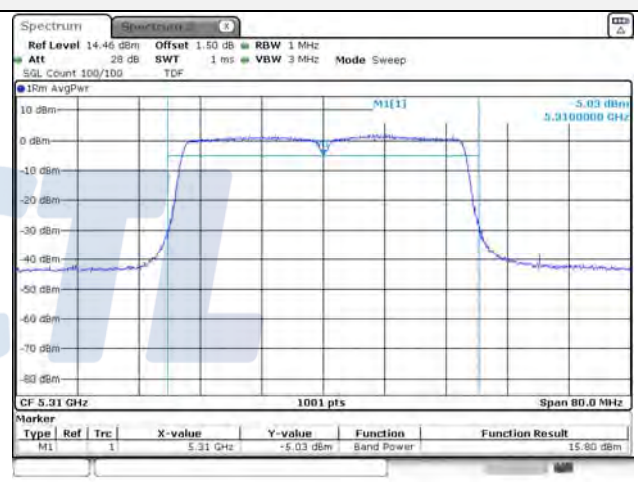
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SISO ANT 1**UNII-1 / 802.11a / 5 180 MHz****UNII-2A / 802.11a / 5 260 MHz****UNII-1 / 802.11a / 5 220 MHz****UNII-2A / 802.11a / 5 300 MHz****UNII-1 / 802.11a / 5 240 MHz****UNII-2A / 802.11a / 5 320 MHz**

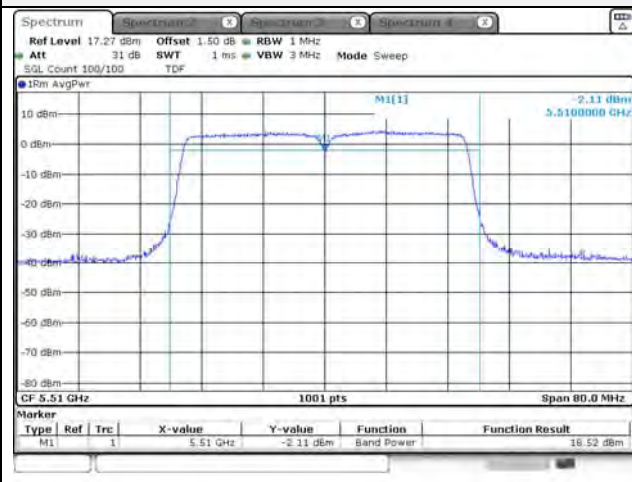
UNII-2C / 802.11a / 5 500 MHz**UNII-3 / 802.11a / 5 745 MHz****UNII-2C / 802.11a / 5 600 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-2C / 802.11a / 5 700 MHz****UNII-3 / 802.11a / 5 825 MHz**

UNII-1 / 802.11n HT20 / 5 180 MHz**UNII-2A / 802.11n HT20 / 5 260 MHz****UNII-1 / 802.11n HT20 / 5 220 MHz****UNII-2A / 802.11n HT20 / 5 300 MHz****UNII-1 / 802.11n HT20 / 5 240 MHz****UNII-2A / 802.11n HT20 / 5 320 MHz**

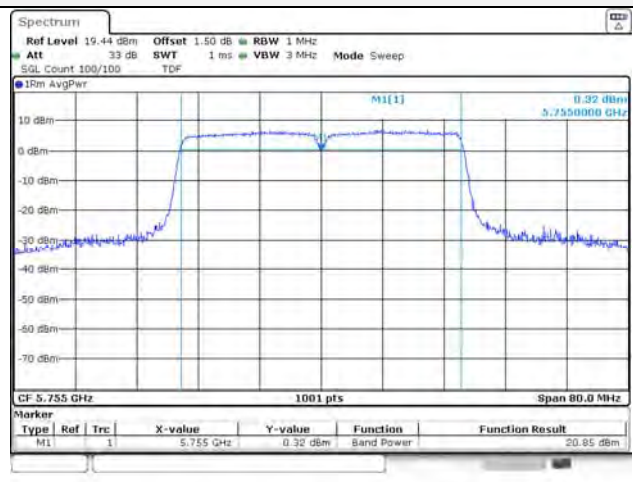
UNII-2C / 802.11n HT20 / 5 500 MHz**UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-2C / 802.11n HT20 / 5 600 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-2C / 802.11n HT20 / 5 700 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

UNII-1 / 802.11n HT40 / 5 190 MHz**UNII-2A / 802.11n HT40 / 5 270 MHz****UNII-1 / 802.11n HT40 / 5 230 MHz****UNII-2A / 802.11n HT40 / 5 310 MHz**

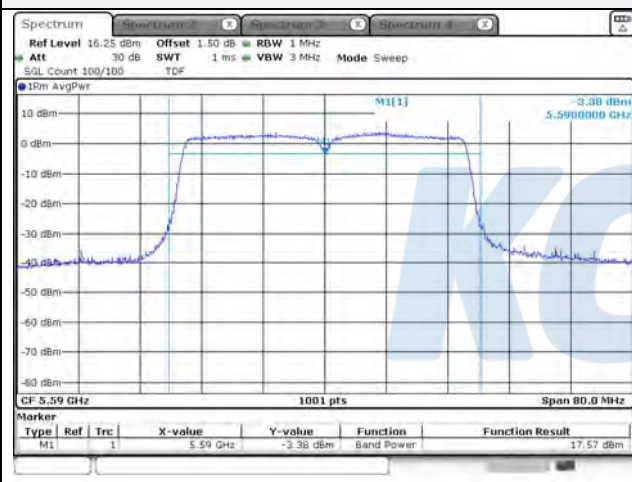
UNII-2C / 802.11n HT40 / 5 510 MHz



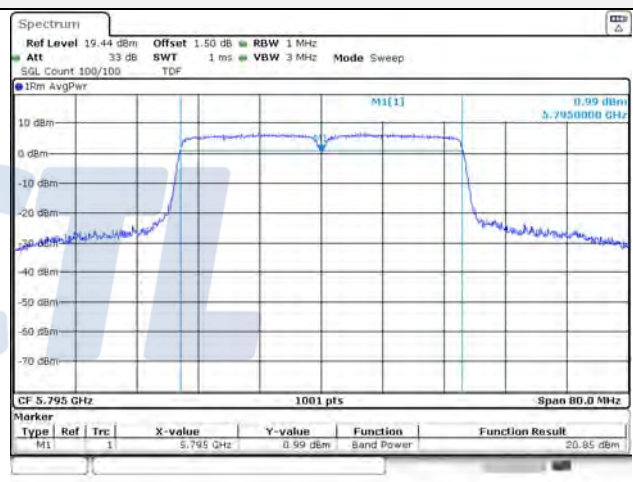
UNII-3 / 802.11n HT40 / 5 755 MHz



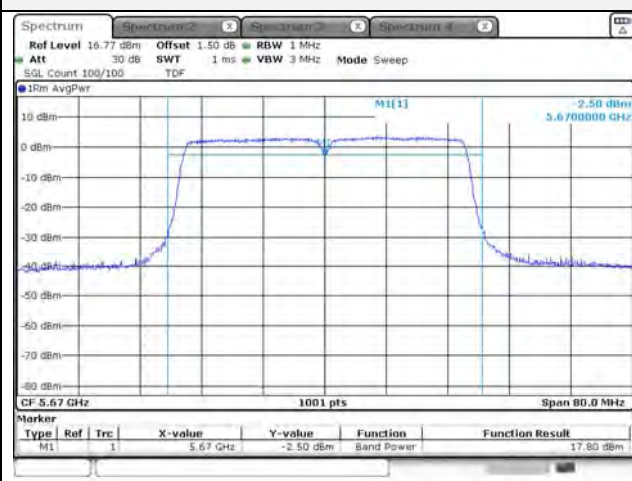
UNII-2C / 802.11n HT40 / 5 590 MHz



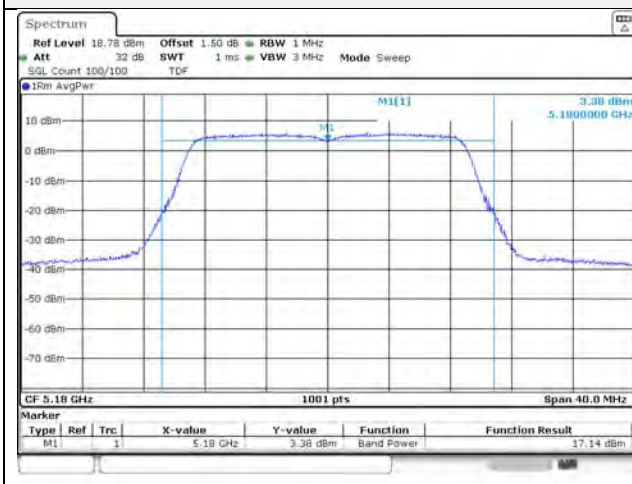
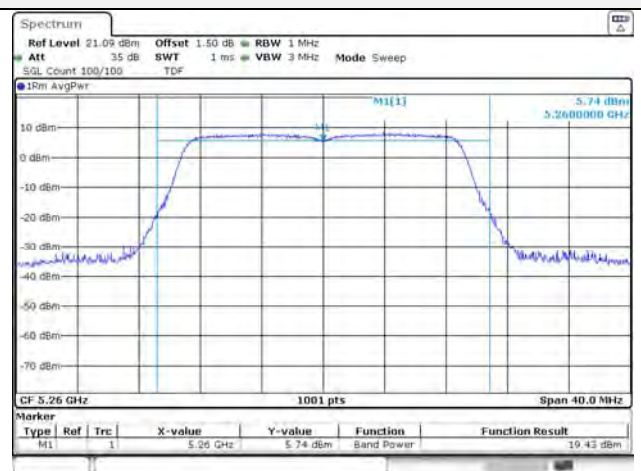
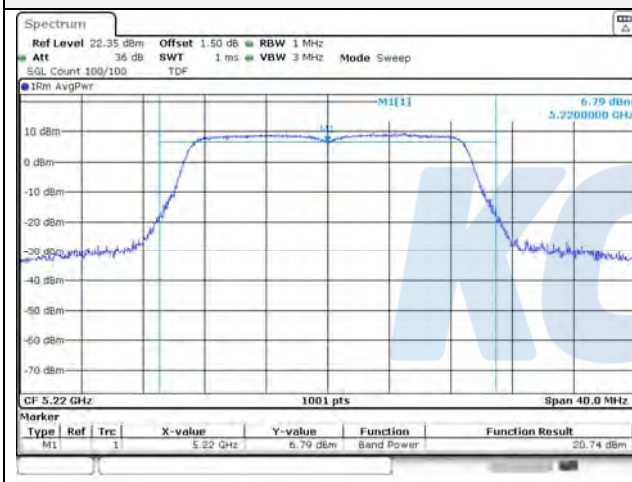
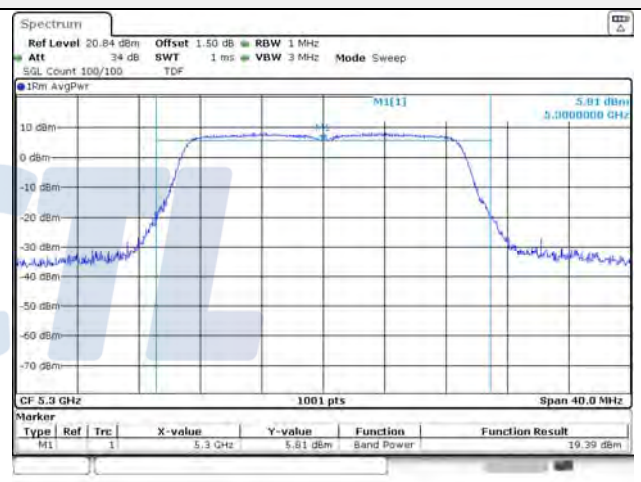
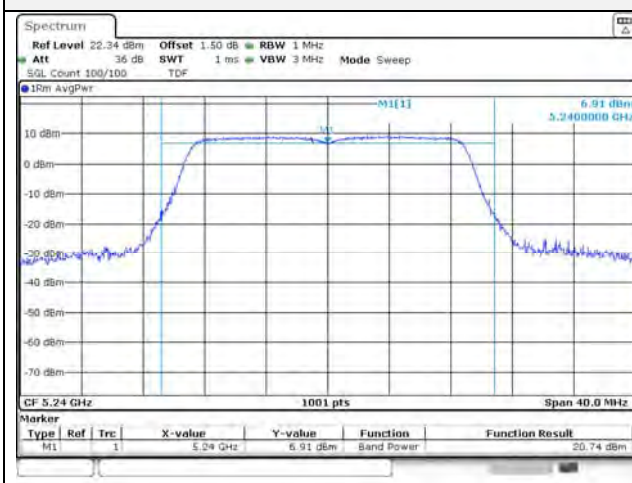
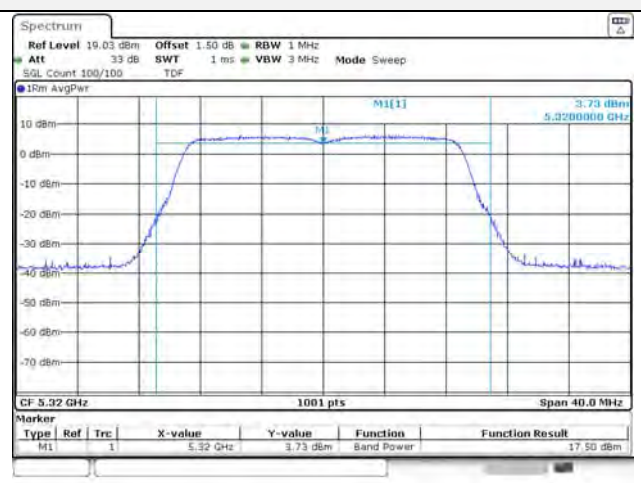
UNII-3 / 802.11n HT40 / 5 795 MHz

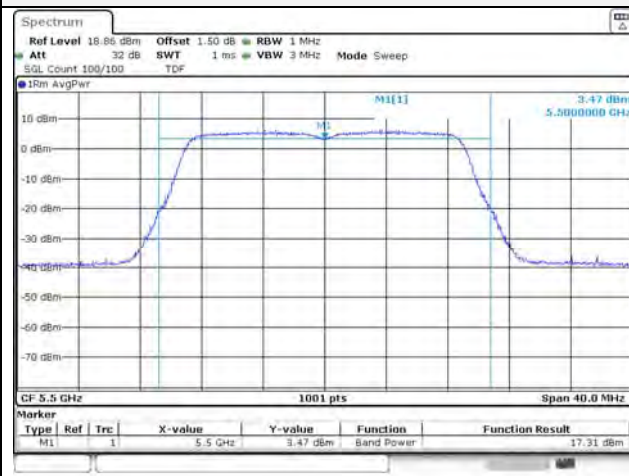
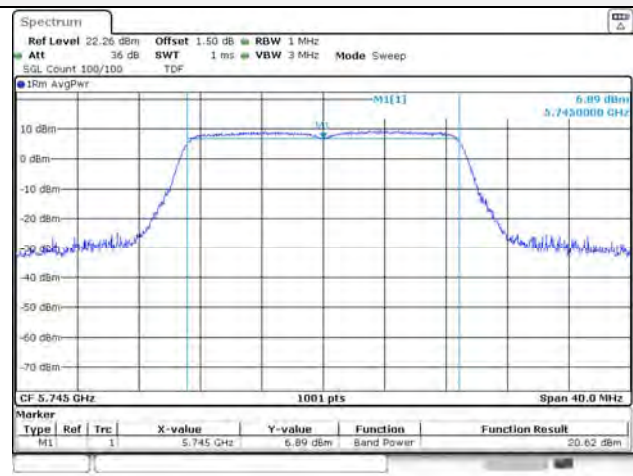
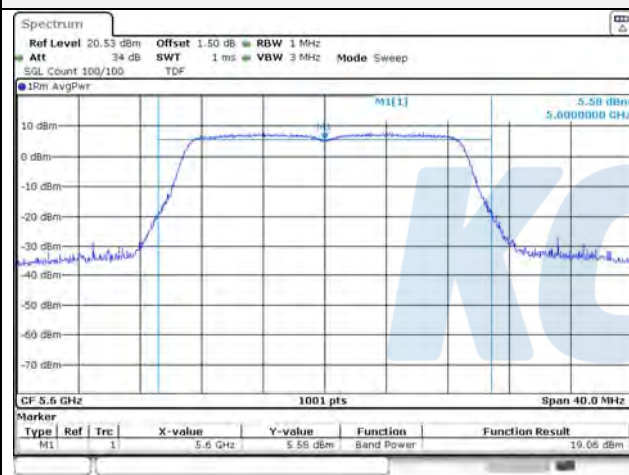
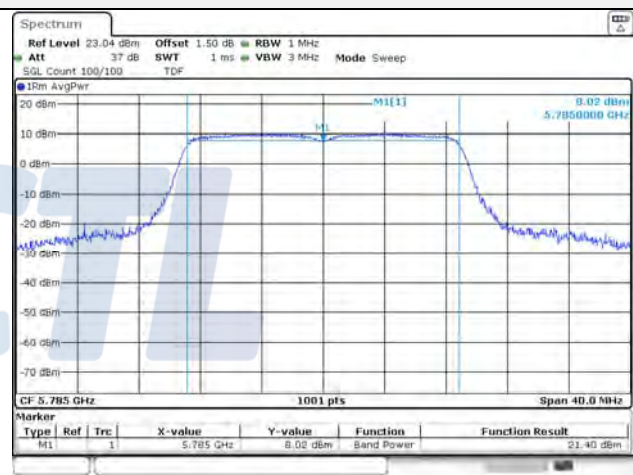
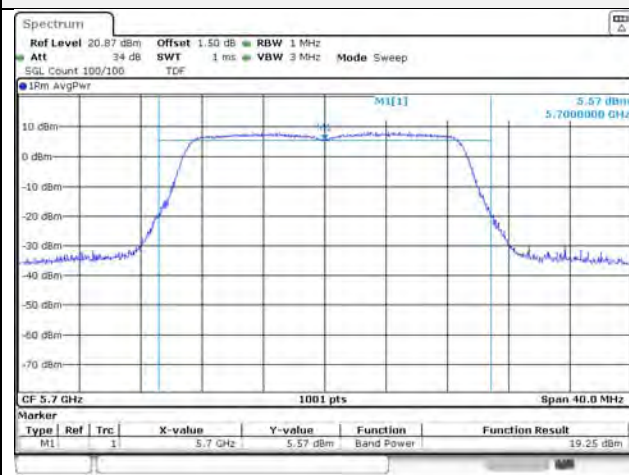
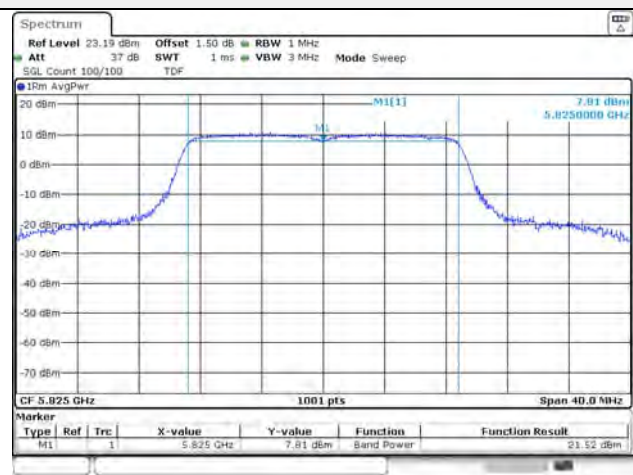


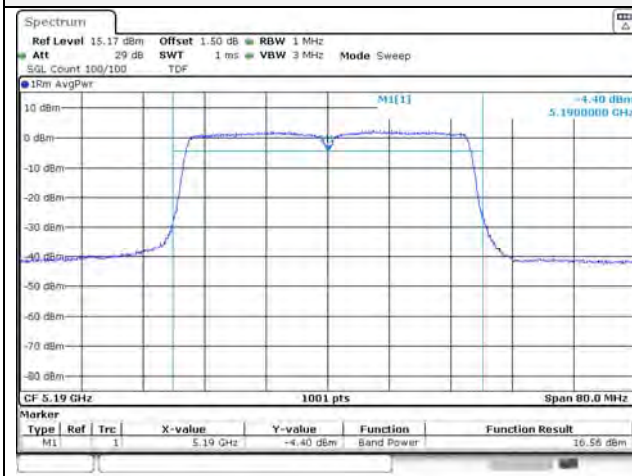
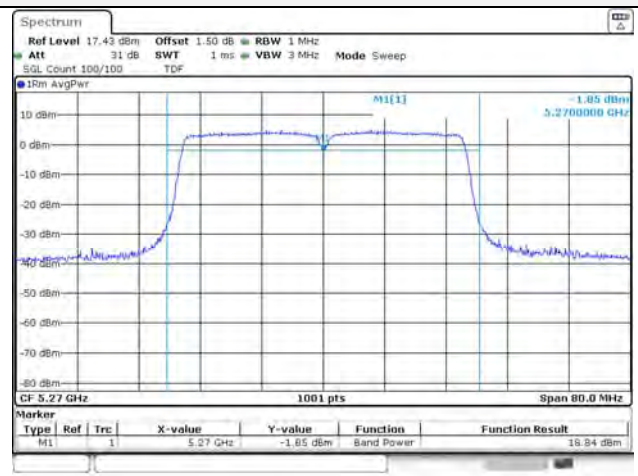
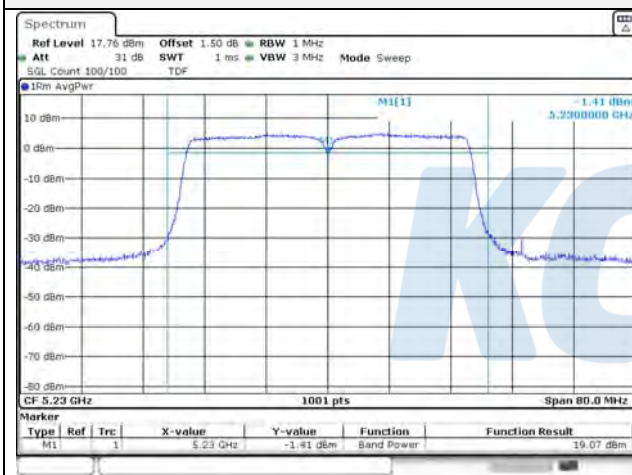
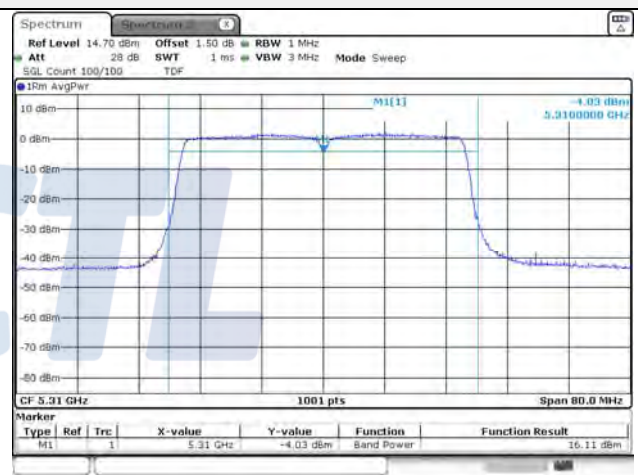
UNII-2C / 802.11n HT40 / 5 670 MHz



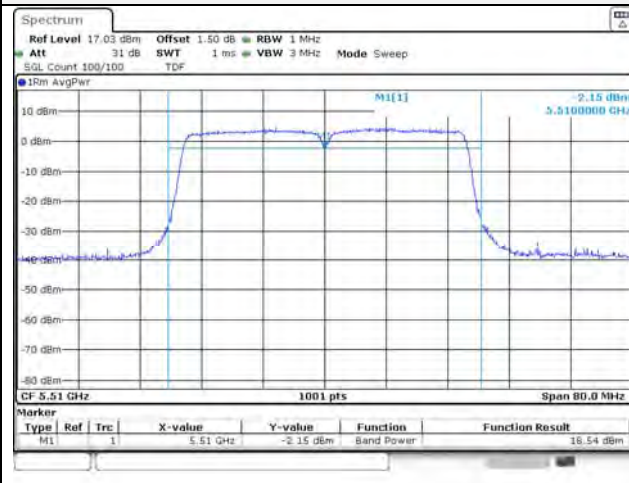
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UNII-1 / 802.11ac VHT20 / 5 180 MHz**UNII-2A / 802.11ac VHT20 / 5 260 MHz****UNII-1 / 802.11ac VHT20 / 5 220 MHz****UNII-2A / 802.11ac VHT20 / 5 300 MHz****UNII-1 / 802.11ac VHT20 / 5 240 MHz****UNII-2A / 802.11ac VHT20 / 5 320 MHz**

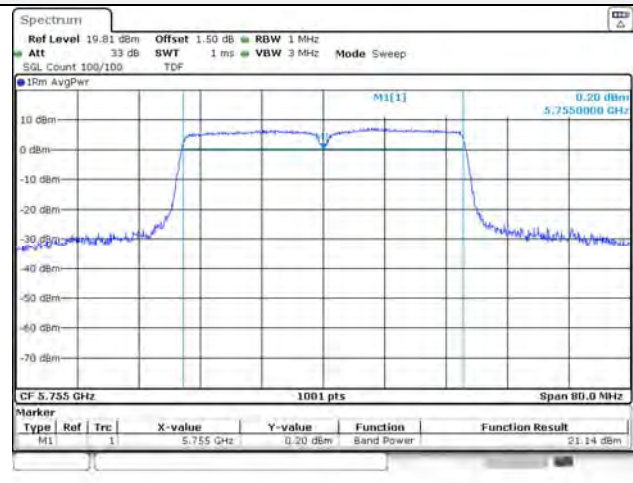
UNII-2C / 802.11ac VHT20 / 5 500 MHz**UNII-3 / 802.11ac VHT20 / 5 745 MHz****UNII-2C / 802.11ac VHT20 / 5 600 MHz****UNII-3 / 802.11ac VHT20 / 5 785 MHz****UNII-2C / 802.11ac VHT20 / 5 700 MHz****UNII-3 / 802.11ac VHT20 / 5 825 MHz**

UNII-1 / 802.11ac VHT40 / 5 190 MHz**UNII-2A / 802.11ac VHT40 / 5 270 MHz****UNII-1 / 802.11ac VHT40 / 5 230 MHz****UNII-2A / 802.11ac VHT40 / 5 310 MHz**

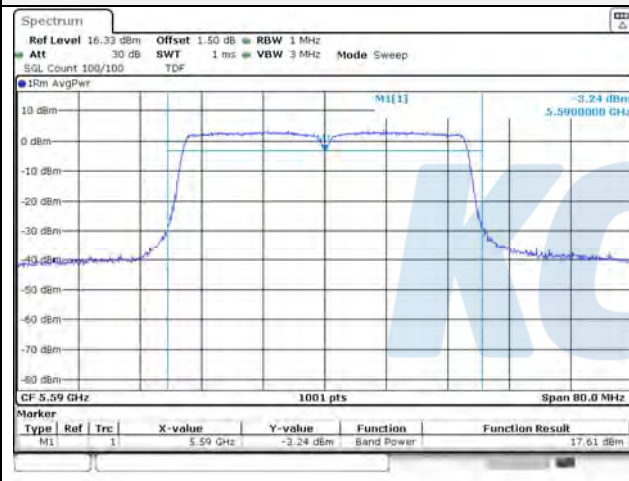
UNII-2C / 802.11ac VHT40 / 5 510 MHz



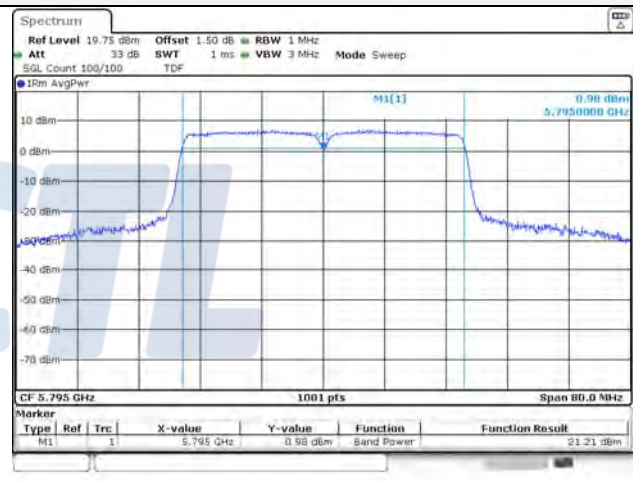
UNII-3 / 802.11ac VHT40 / 5 755 MHz



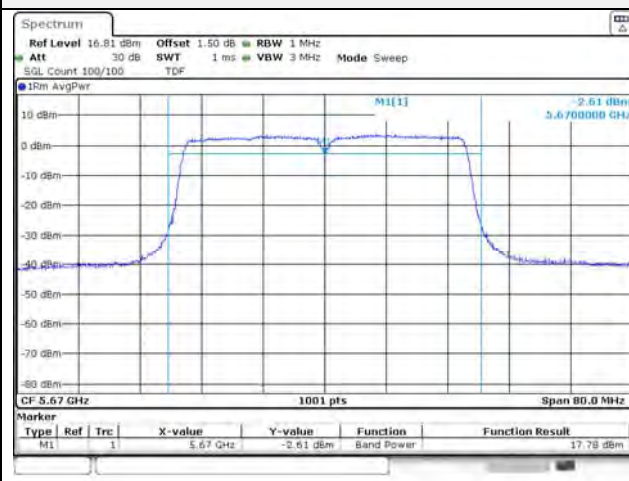
UNII-2C / 802.11ac VHT40 / 5 590 MHz



UNII-3 / 802.11ac VHT40 / 5 795 MHz



UNII-2C / 802.11ac VHT40 / 5 670 MHz

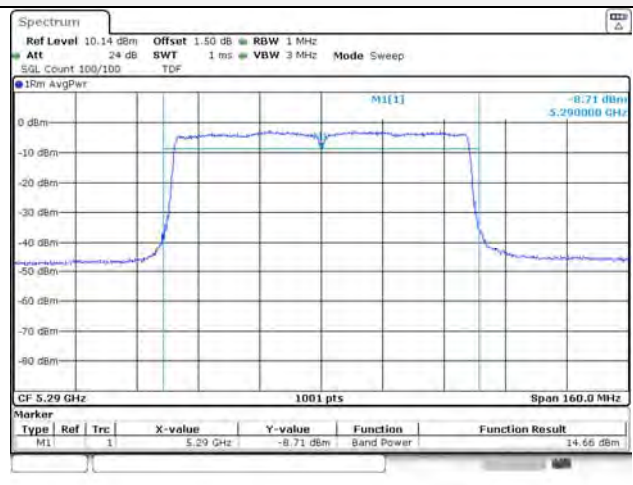


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UNII-1 / 802.11ac VHT80 / 5 210 MHz



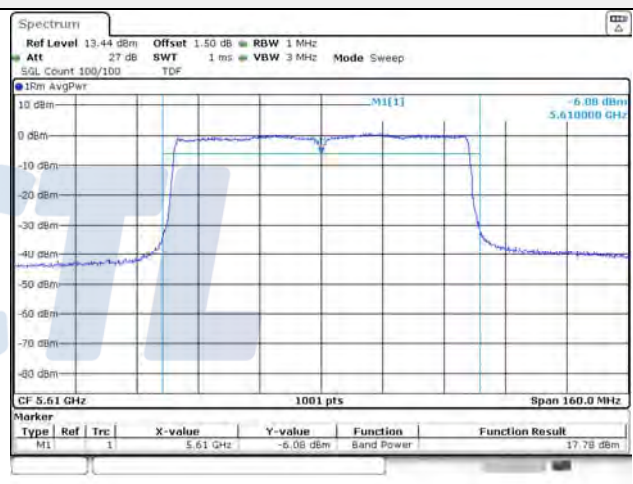
UNII-2A / 802.11ac VHT80 / 5 290 MHz



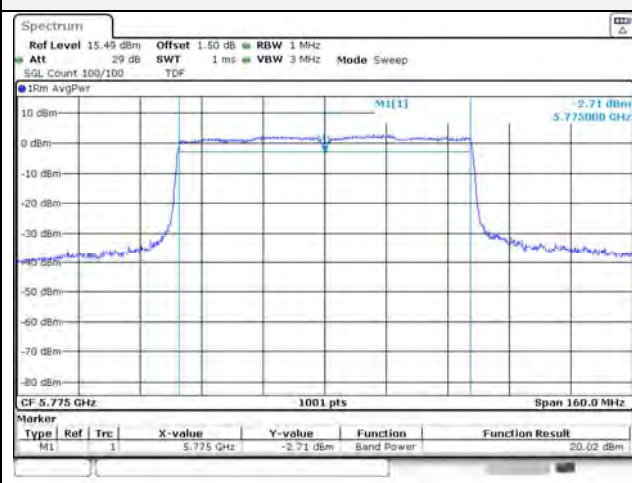
UNII-2C / 802.11ac VHT80 / 5 530 MHz



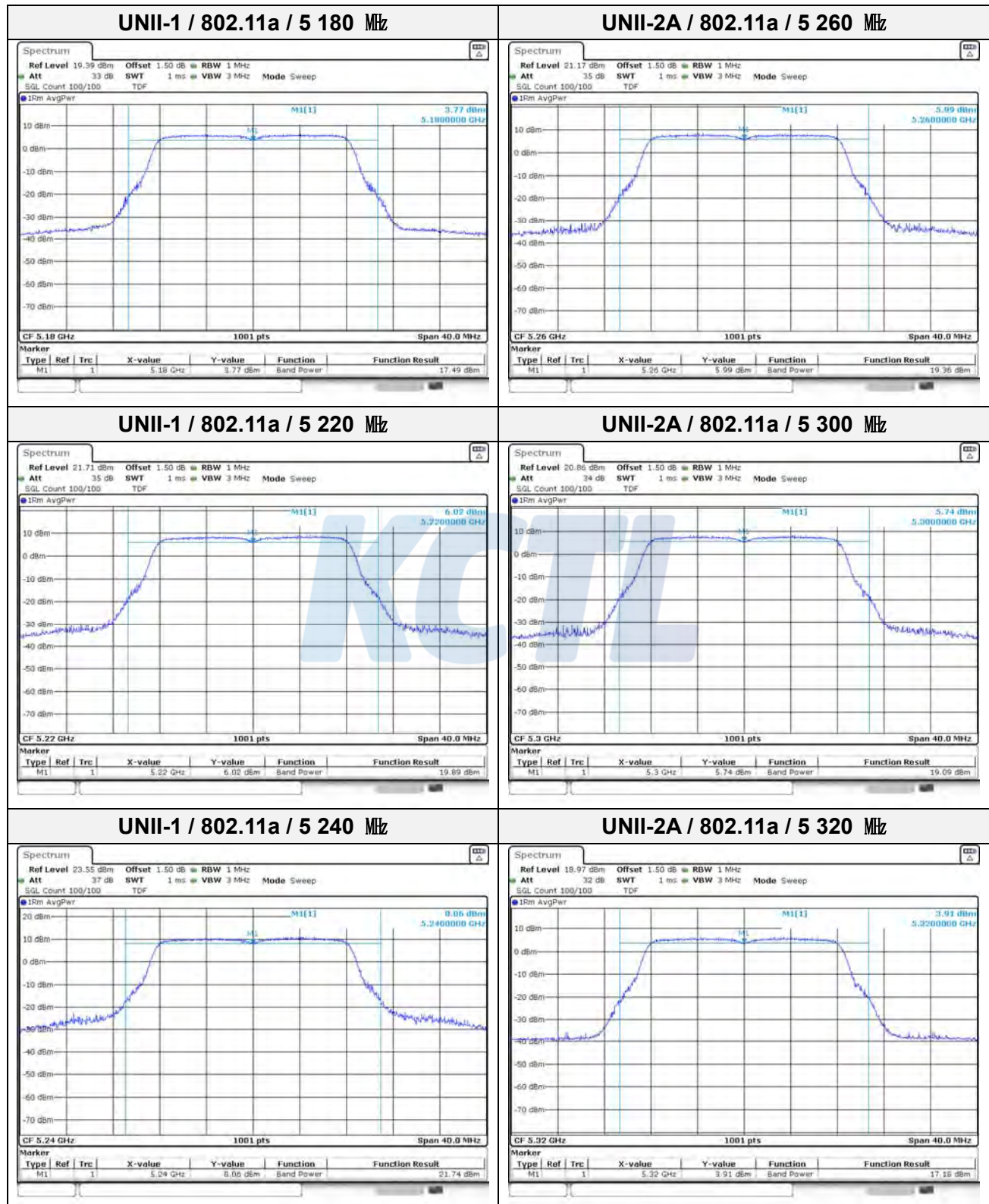
UNII-2C / 802.11ac VHT80 / 5 610 MHz

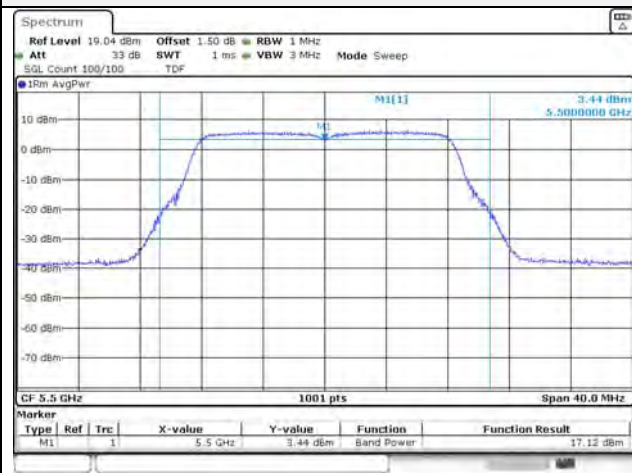
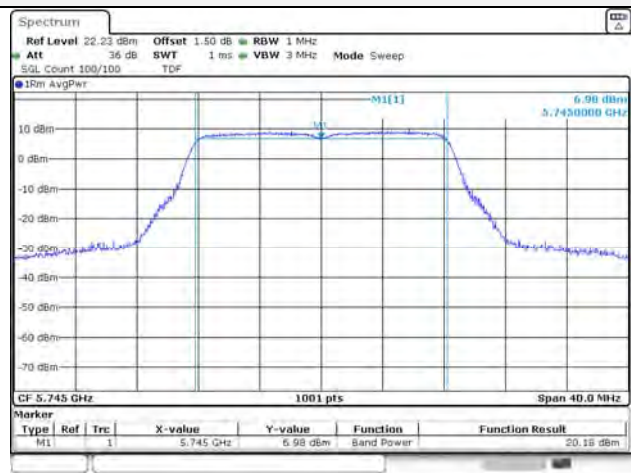
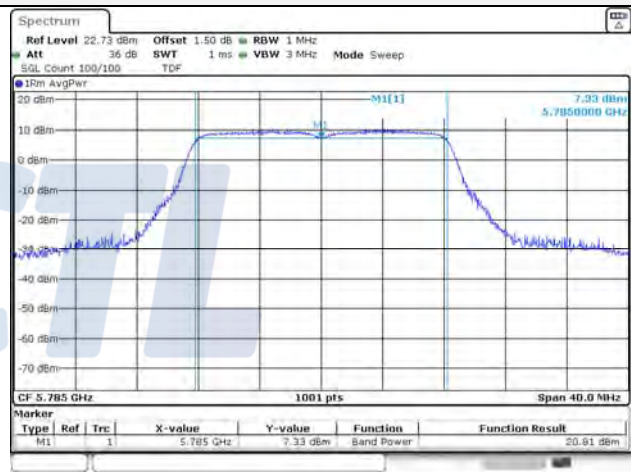
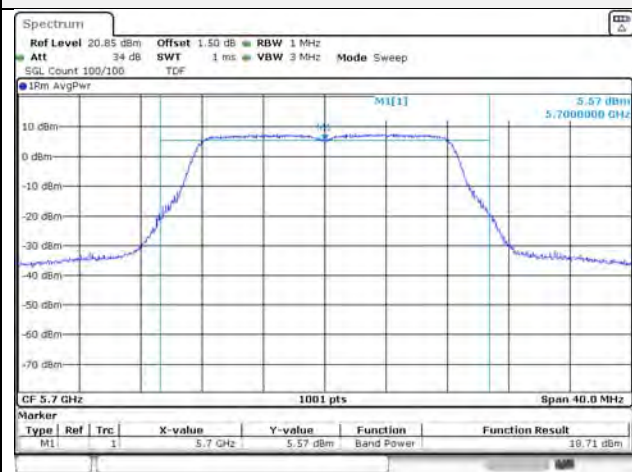
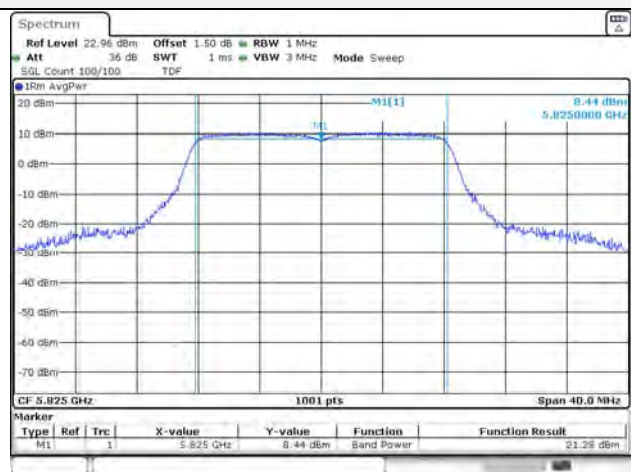


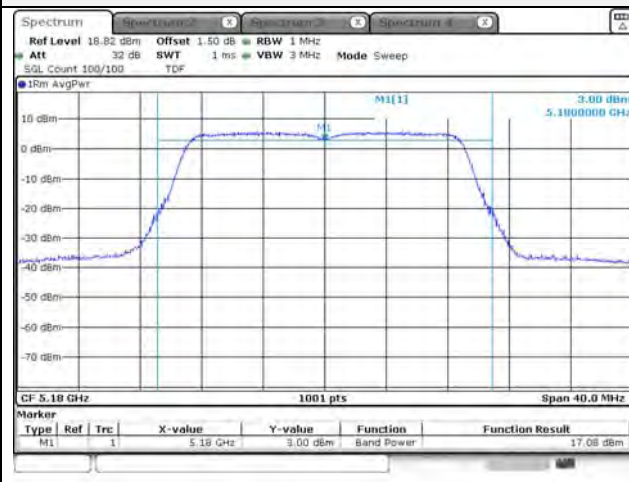
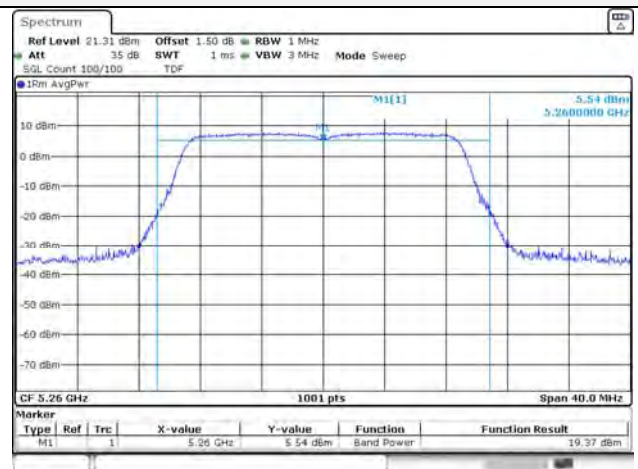
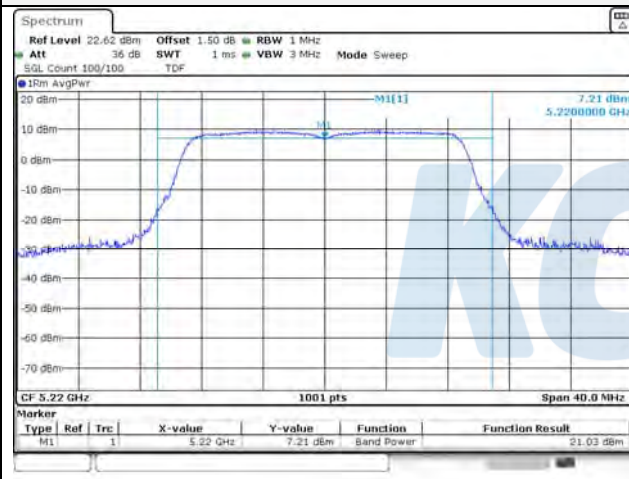
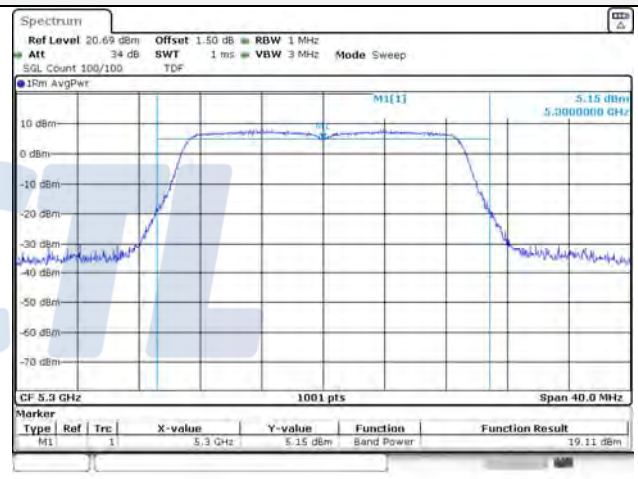
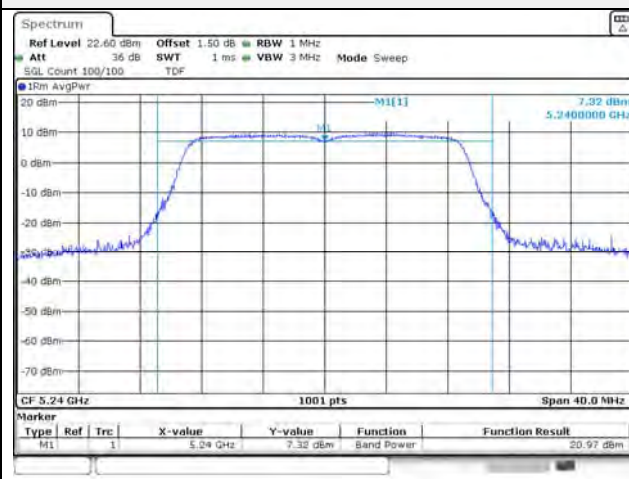
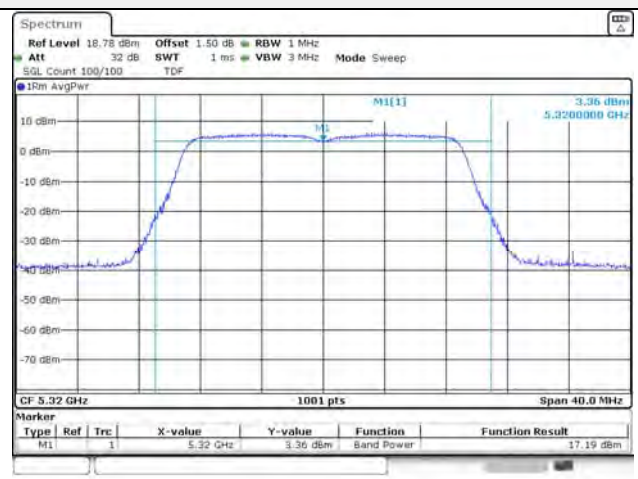
UNII-3 / 802.11ac VHT80 / 5 775 MHz

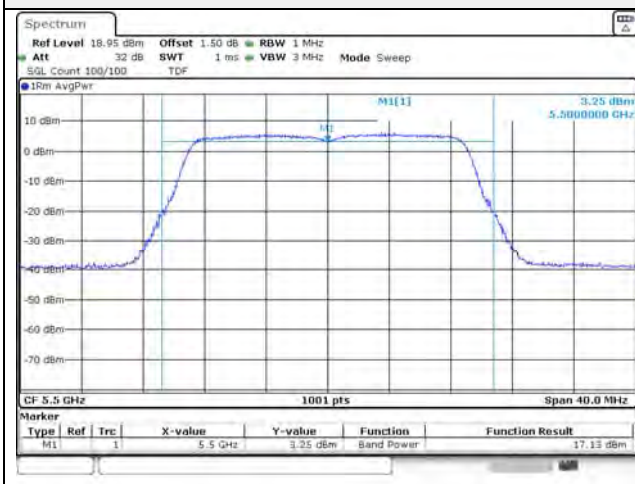
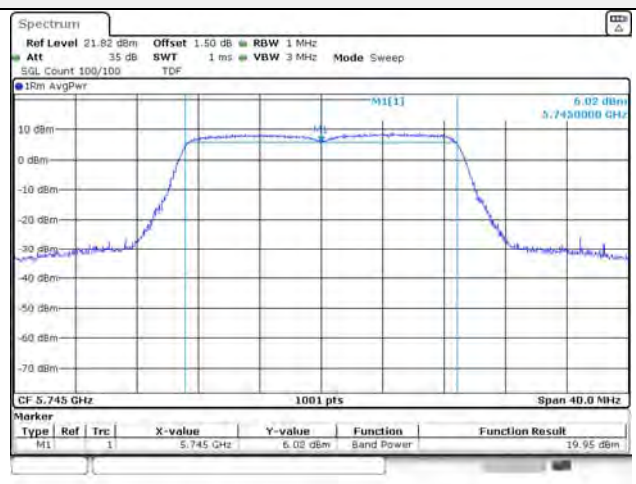
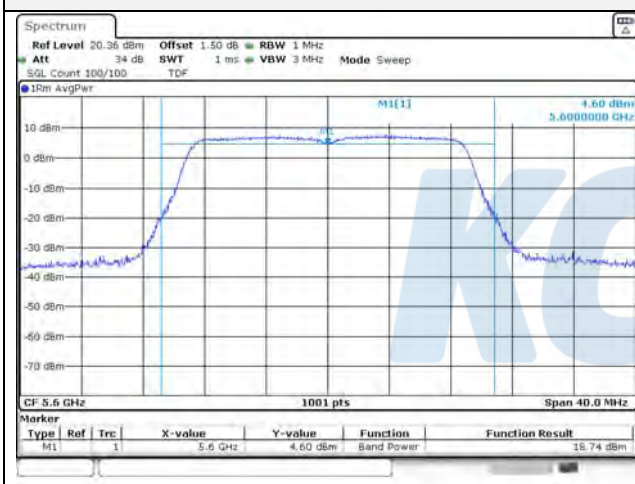
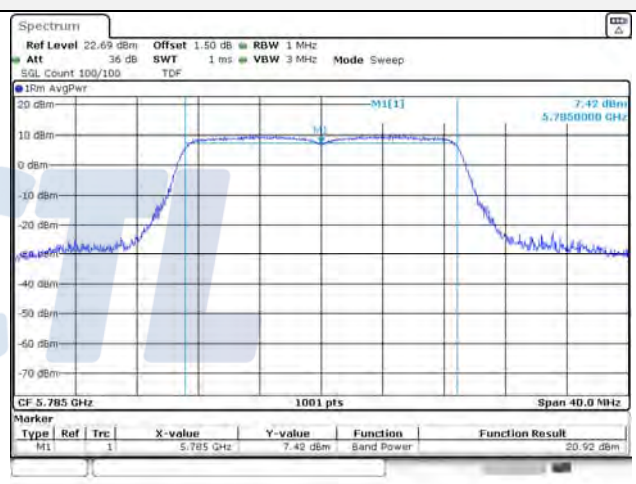
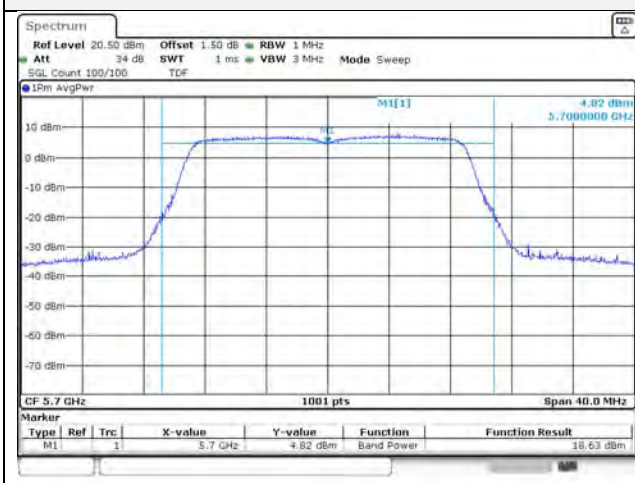
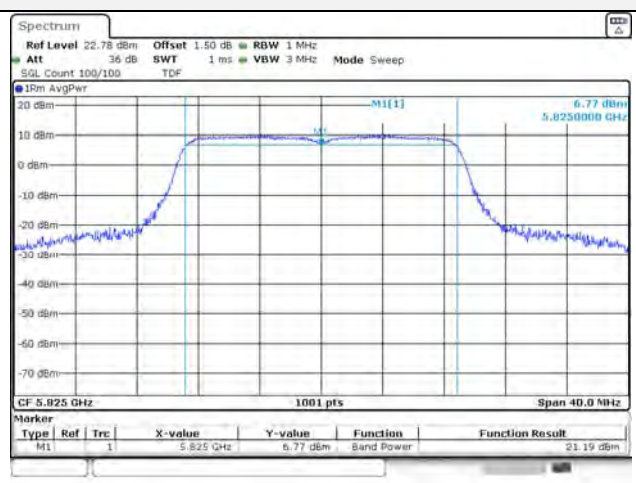


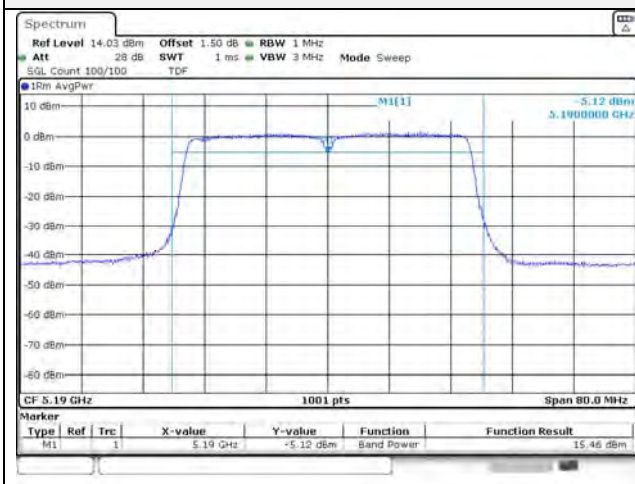
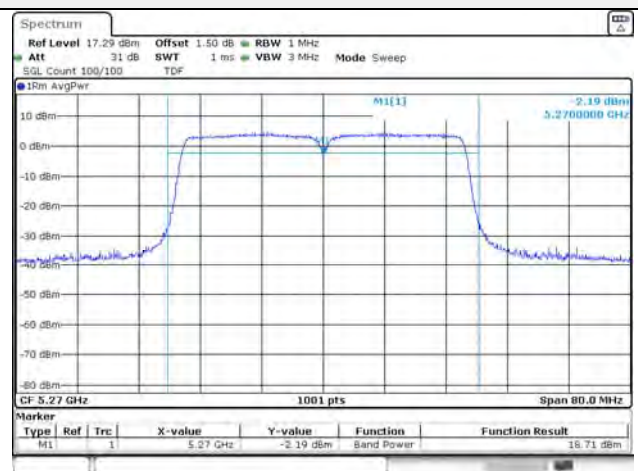
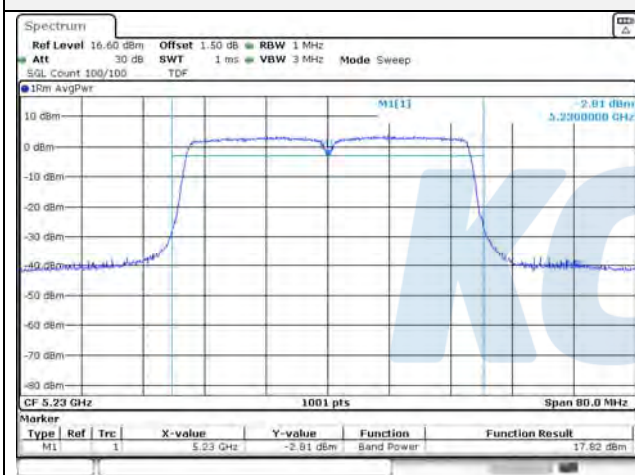
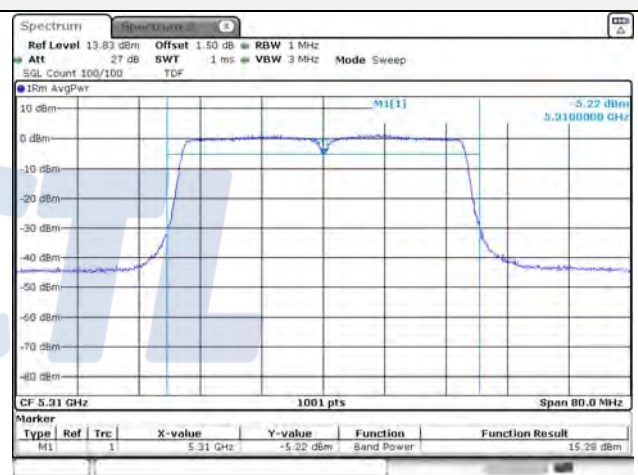
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SISO ANT 2

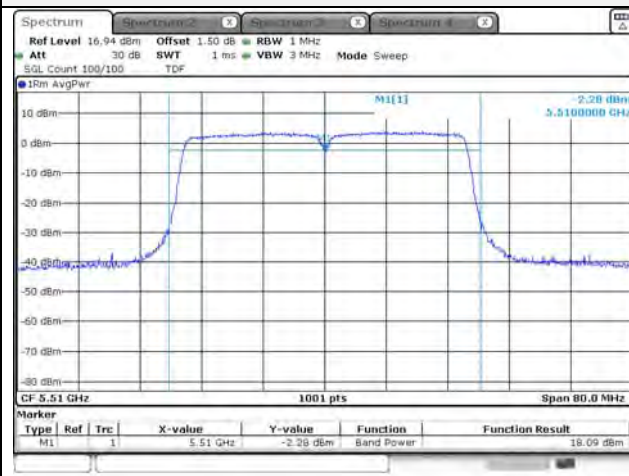
UNII-2C / 802.11a / 5 500 MHz**UNII-3 / 802.11a / 5 745 MHz****UNII-2C / 802.11a / 5 600 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-2C / 802.11a / 5 700 MHz****UNII-3 / 802.11a / 5 825 MHz**

UNII-1 / 802.11n HT20 / 5 180 MHz**UNII-2A / 802.11n HT20 / 5 260 MHz****UNII-1 / 802.11n HT20 / 5 220 MHz****UNII-2A / 802.11n HT20 / 5 300 MHz****UNII-1 / 802.11n HT20 / 5 240 MHz****UNII-2A / 802.11n HT20 / 5 320 MHz**

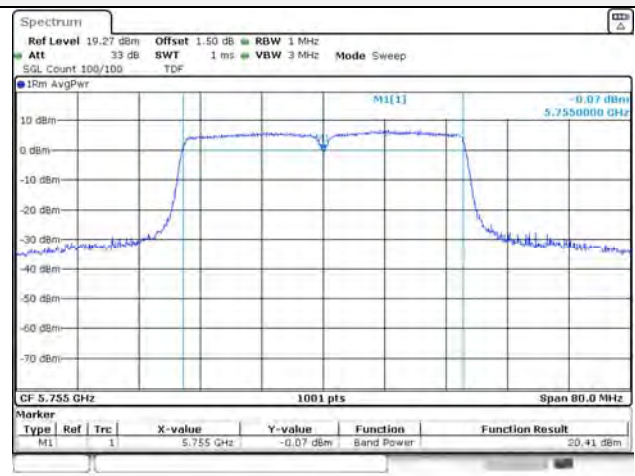
UNII-2C / 802.11n HT20 / 5 500 MHz**UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-2C / 802.11n HT20 / 5 600 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-2C / 802.11n HT20 / 5 700 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

UNII-1 / 802.11n HT40 / 5 190 MHz**UNII-2A / 802.11n HT40 / 5 270 MHz****UNII-1 / 802.11n HT40 / 5 230 MHz****UNII-2A / 802.11n HT40 / 5 310 MHz**

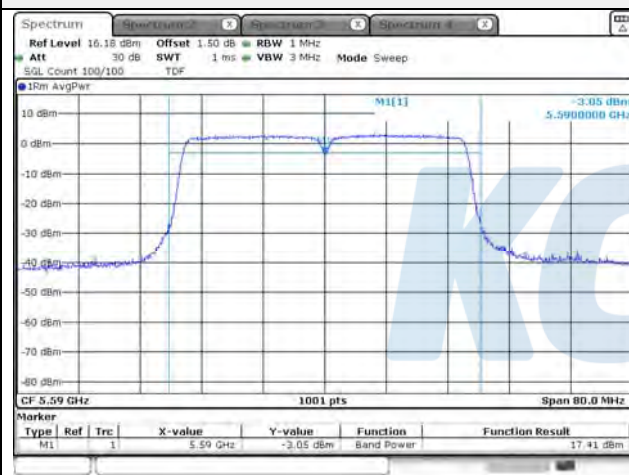
UNII-2C / 802.11n HT40 / 5 510 MHz



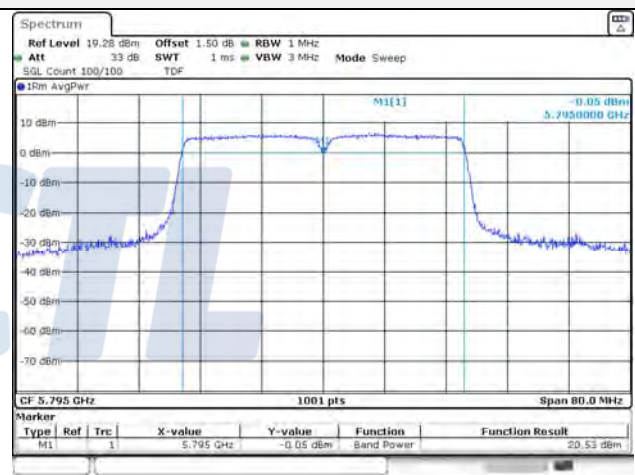
UNII-3 / 802.11n HT40 / 5 755 MHz



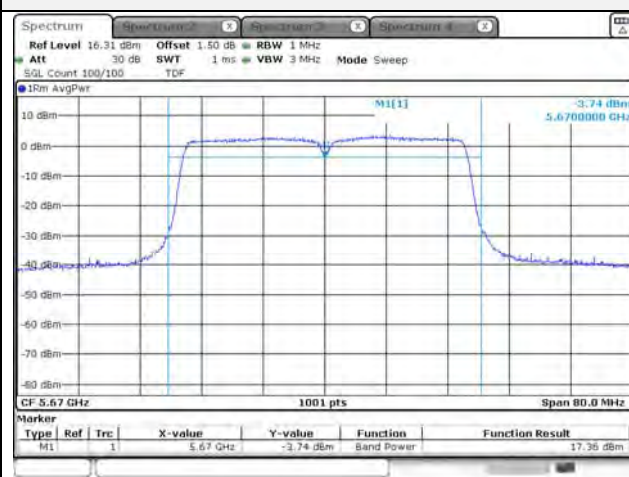
UNII-2C / 802.11n HT40 / 5 590 MHz



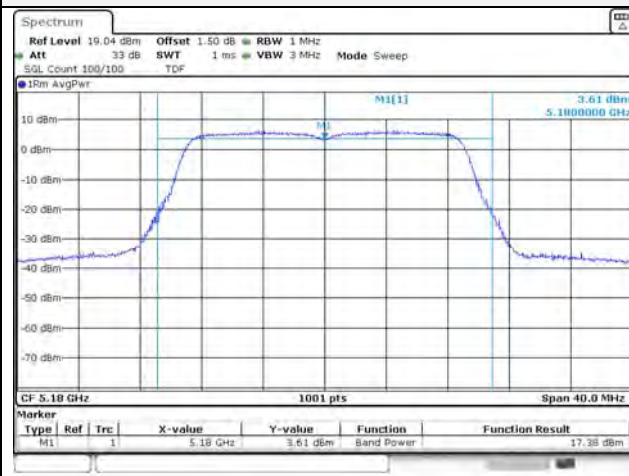
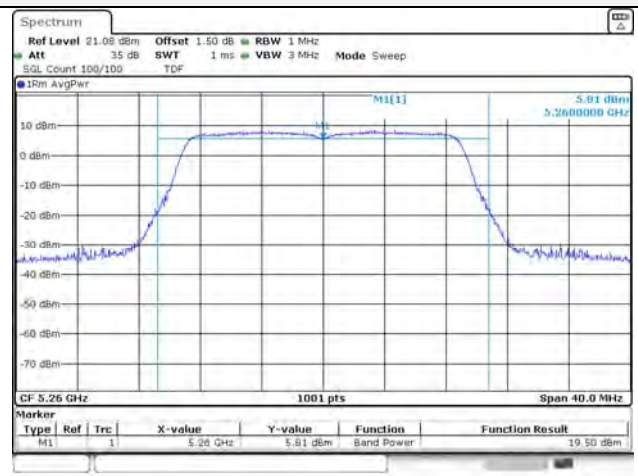
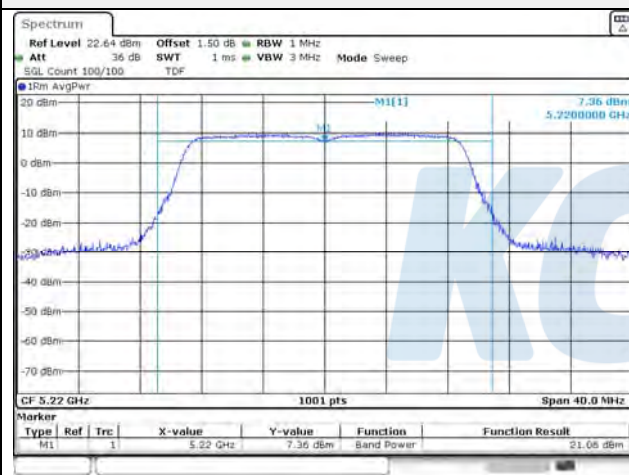
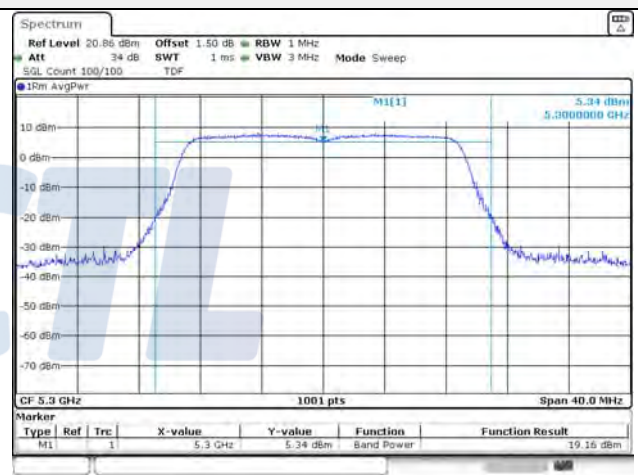
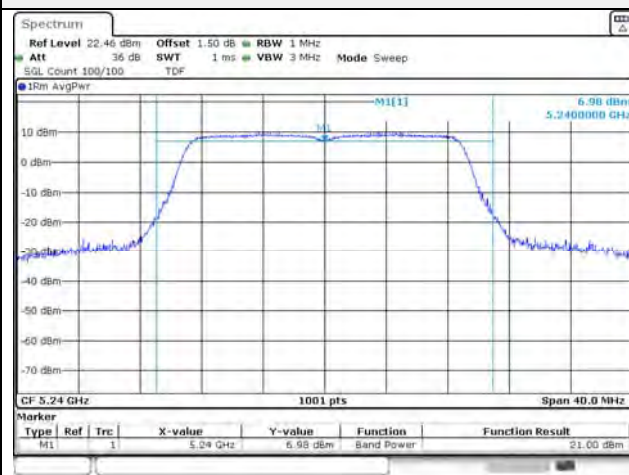
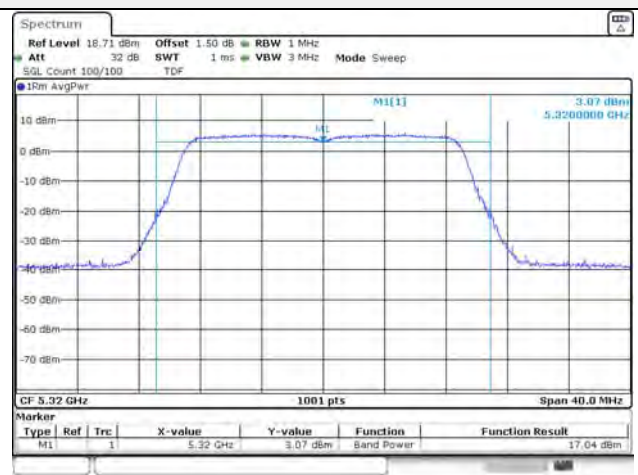
UNII-3 / 802.11n HT40 / 5 795 MHz

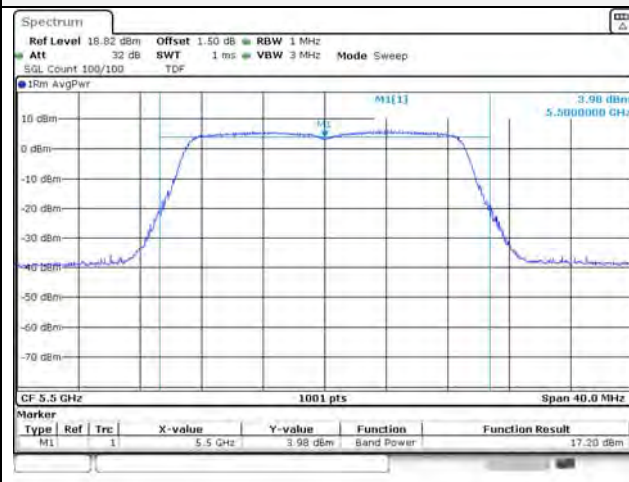
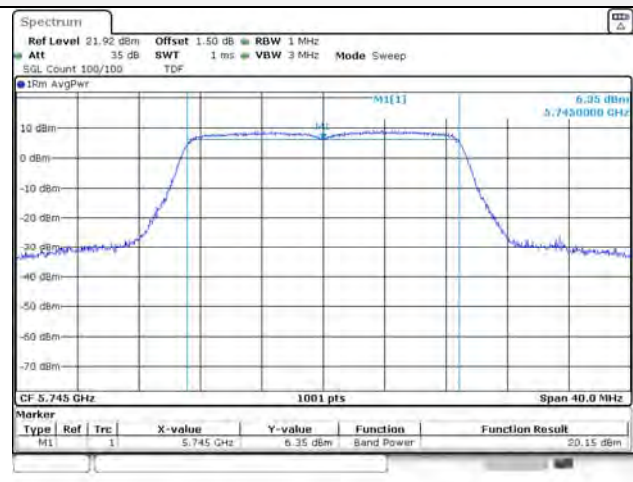
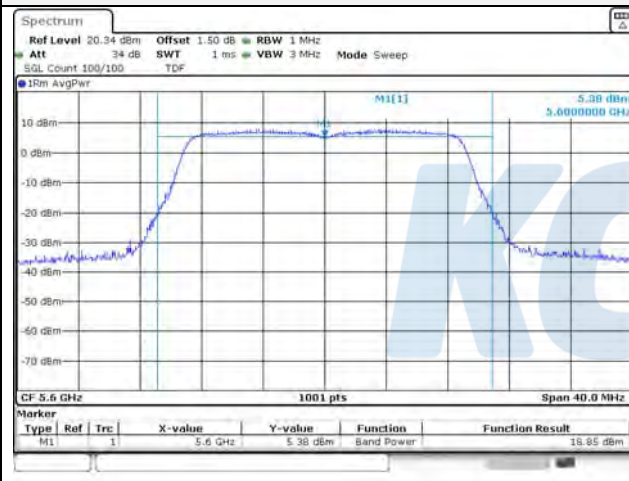
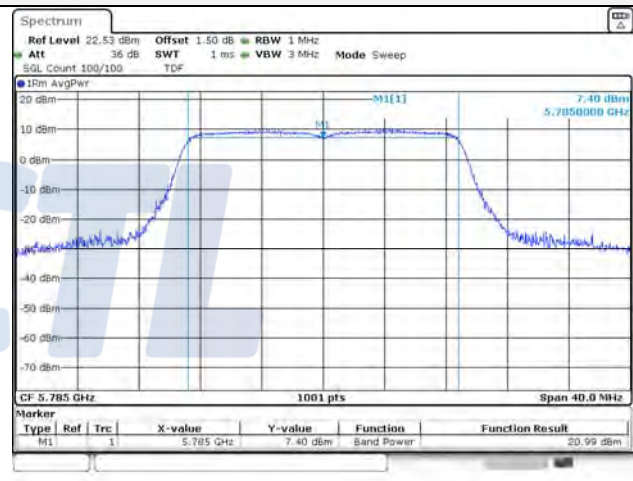
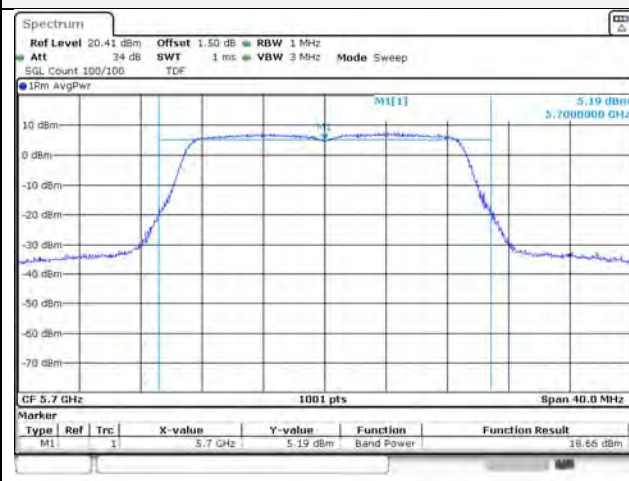
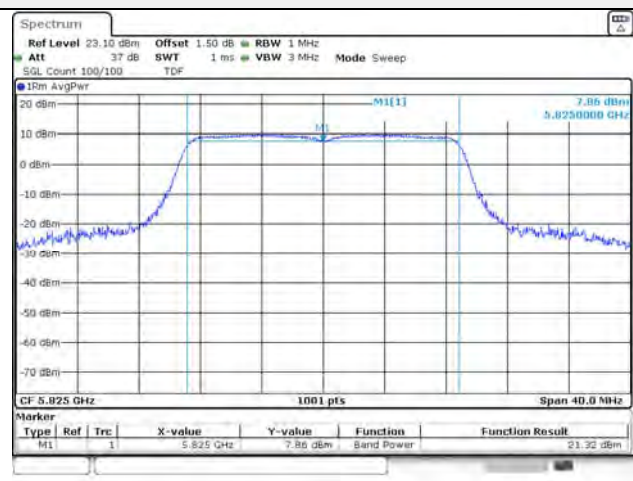


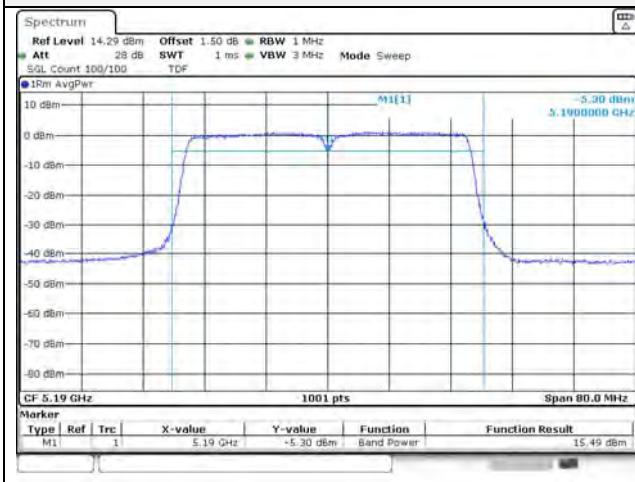
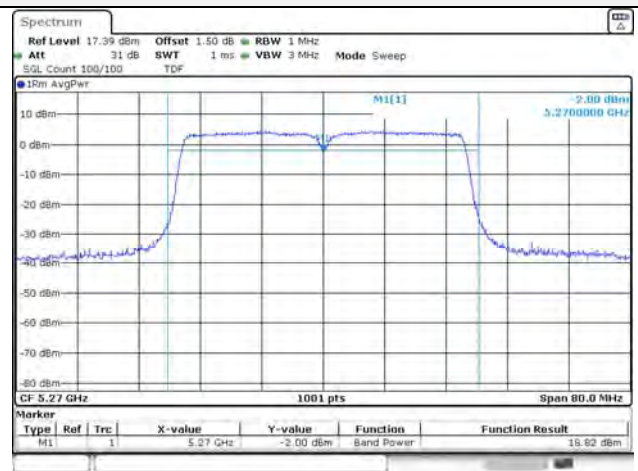
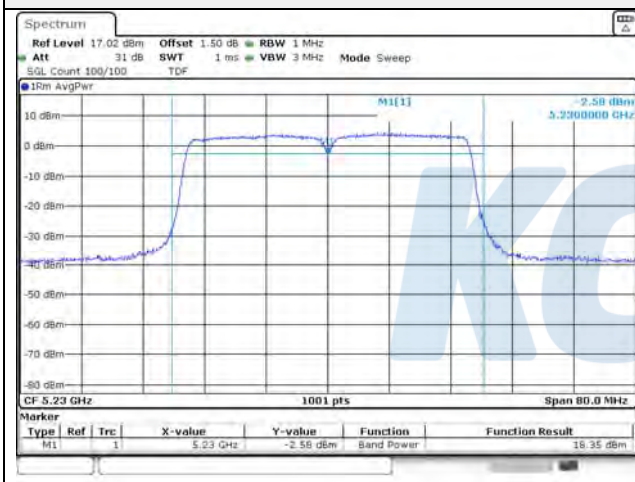
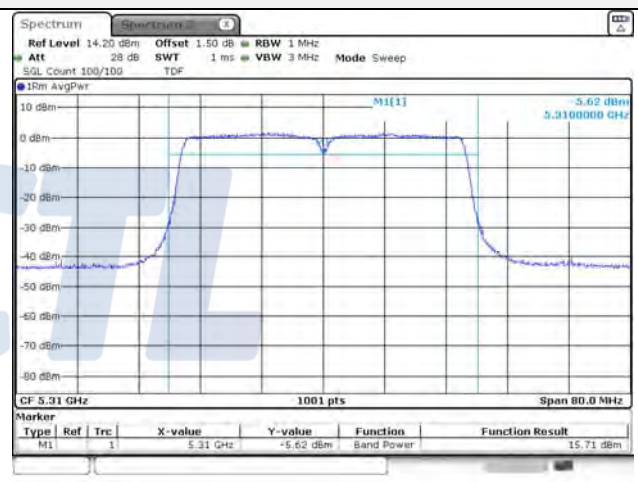
UNII-2C / 802.11n HT40 / 5 670 MHz



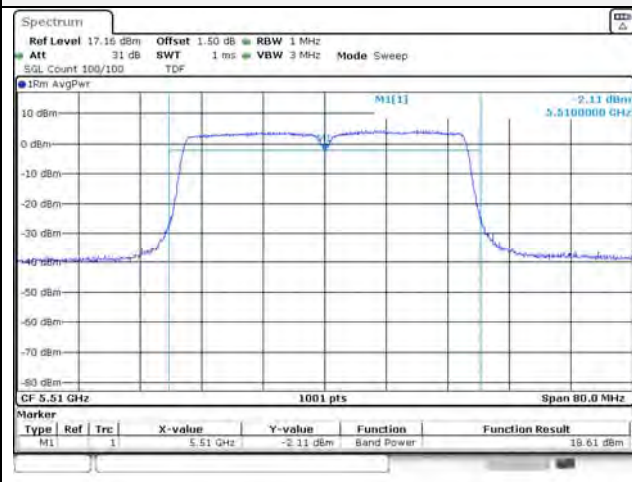
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UNII-1 / 802.11ac VHT20 / 5 180 MHz**UNII-2A / 802.11ac VHT20 / 5 260 MHz****UNII-1 / 802.11ac VHT20 / 5 220 MHz****UNII-2A / 802.11ac VHT20 / 5 300 MHz****UNII-1 / 802.11ac VHT20 / 5 240 MHz****UNII-2A / 802.11ac VHT20 / 5 320 MHz**

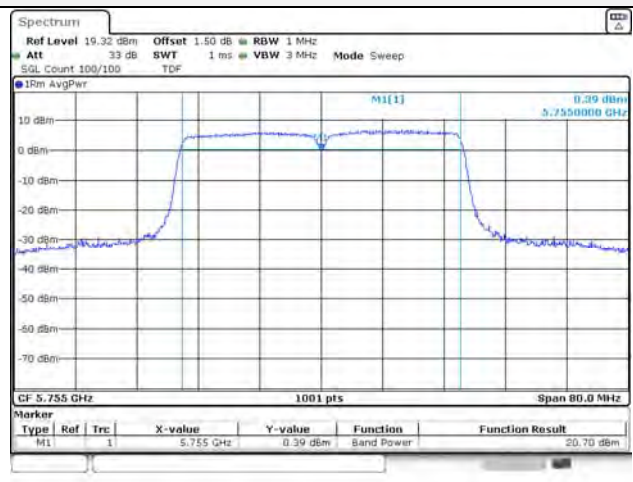
UNII-2C / 802.11ac VHT20 / 5 500 MHz**UNII-3 / 802.11ac VHT20 / 5 745 MHz****UNII-2C / 802.11ac VHT20 / 5 600 MHz****UNII-3 / 802.11ac VHT20 / 5 785 MHz****UNII-2C / 802.11ac VHT20 / 5 700 MHz****UNII-3 / 802.11ac VHT20 / 5 825 MHz**

UNII-1 / 802.11ac VHT40 / 5 190 MHz**UNII-2A / 802.11ac VHT40 / 5 270 MHz****UNII-1 / 802.11ac VHT40 / 5 230 MHz****UNII-2A / 802.11ac VHT40 / 5 310 MHz**

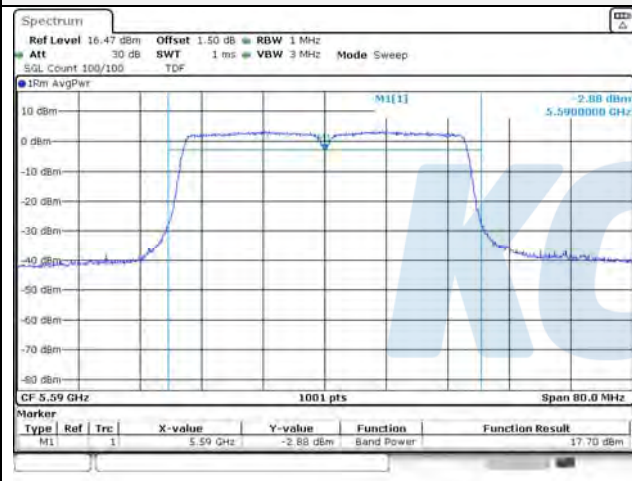
UNII-2C / 802.11ac VHT40 / 5 510 MHz



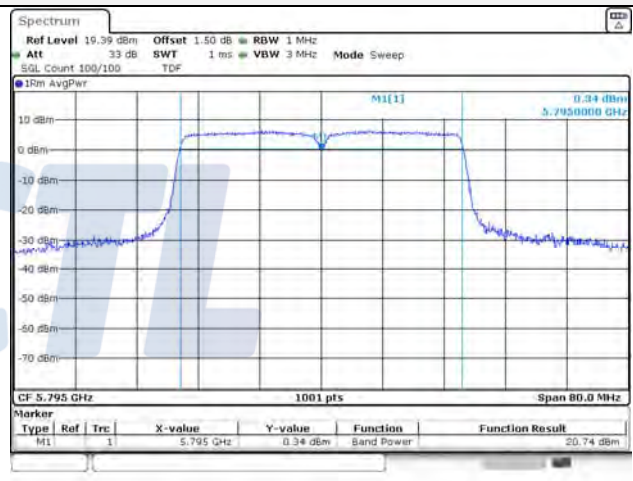
UNII-3 / 802.11ac VHT40 / 5 755 MHz



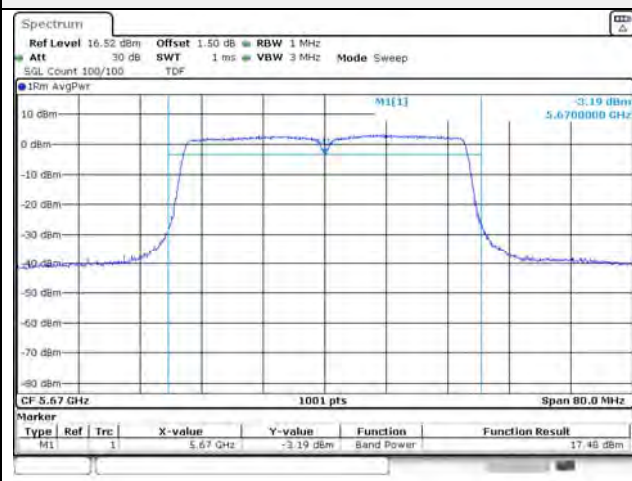
UNII-2C / 802.11ac VHT40 / 5 590 MHz



UNII-3 / 802.11ac VHT40 / 5 795 MHz

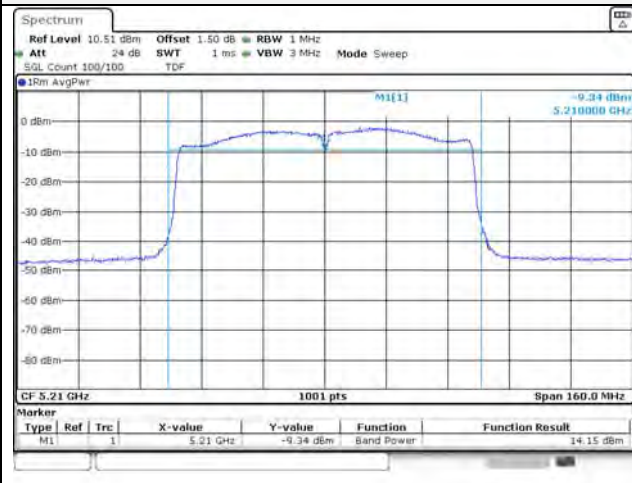


UNII-2C / 802.11ac VHT40 / 5 670 MHz

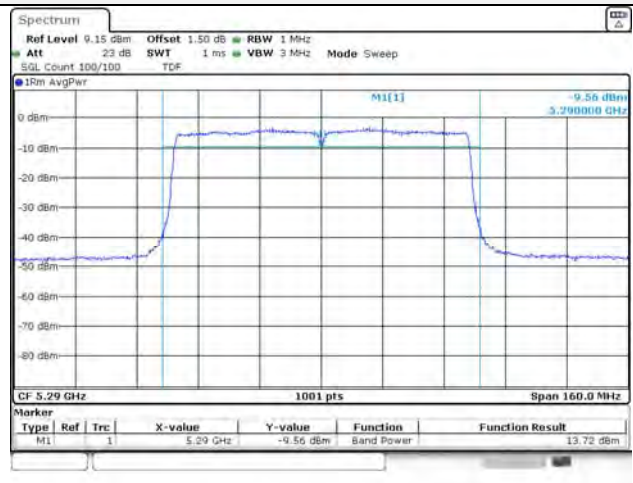


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UNII-1 / 802.11ac VHT80 / 5 210 MHz



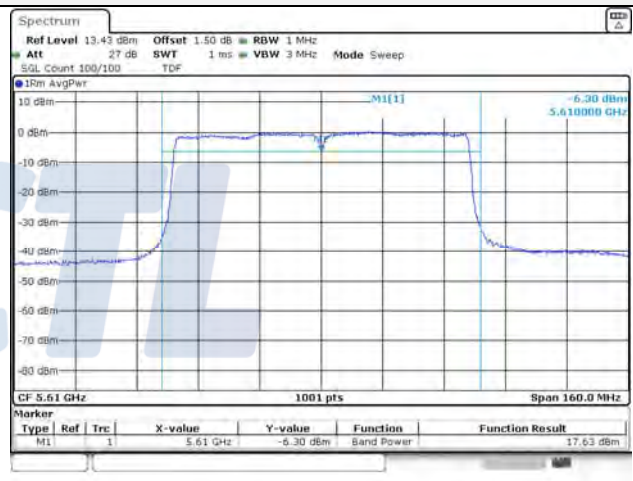
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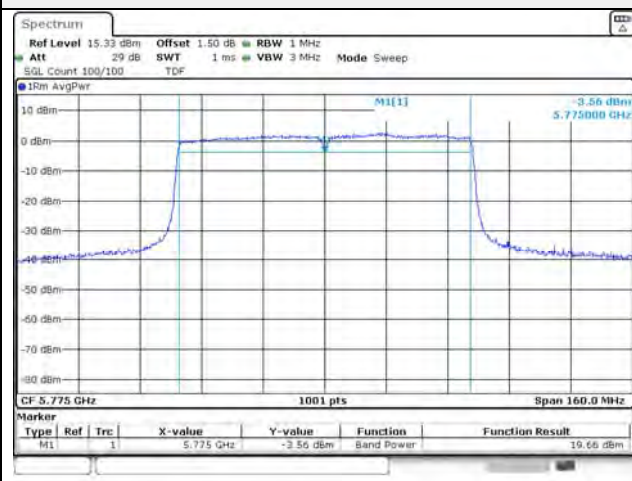
UNII-2C / 802.11ac VHT80 / 5 530 MHz



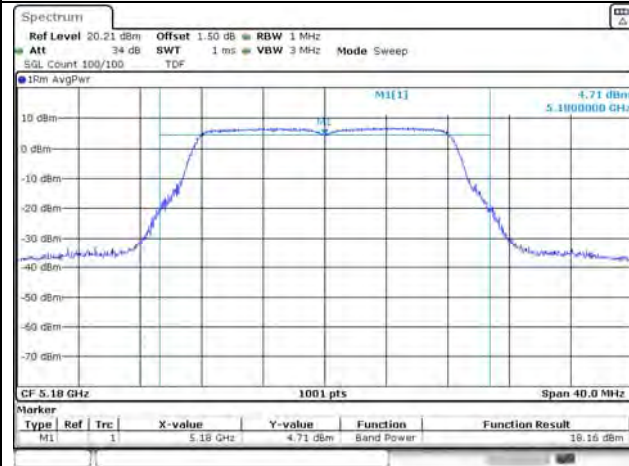
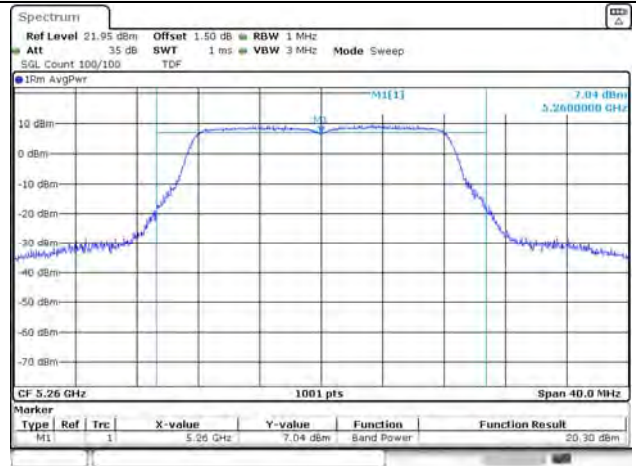
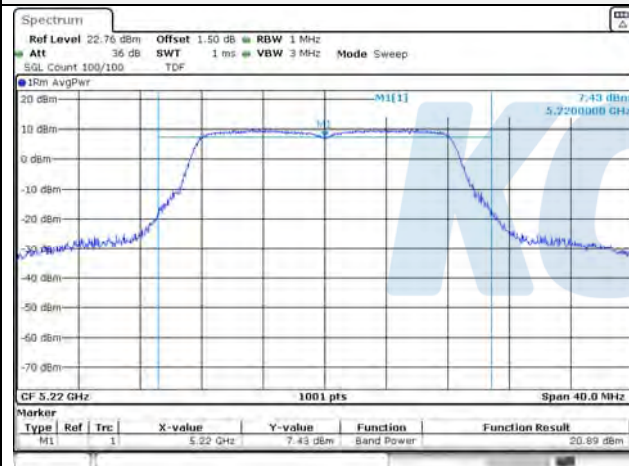
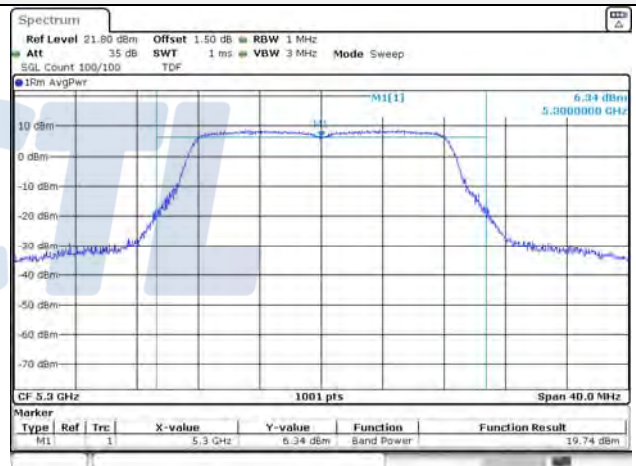
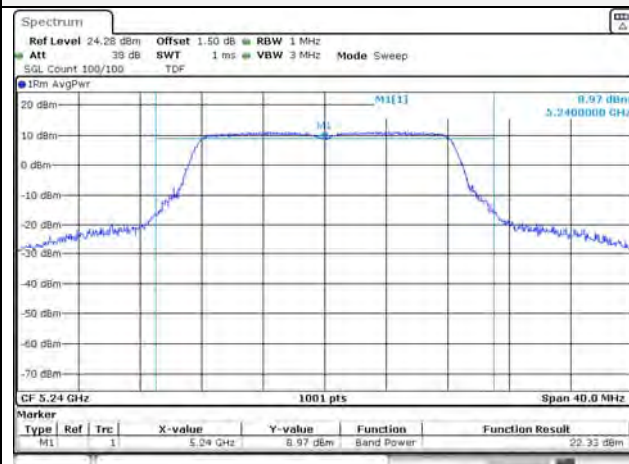
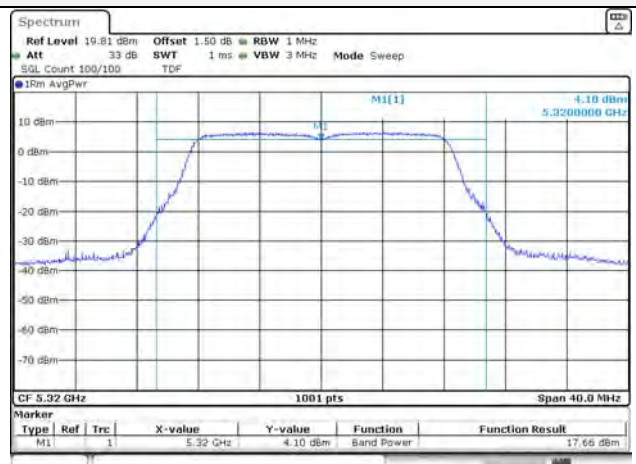
UNII-2C / 802.11ac VHT80 / 5 610 MHz

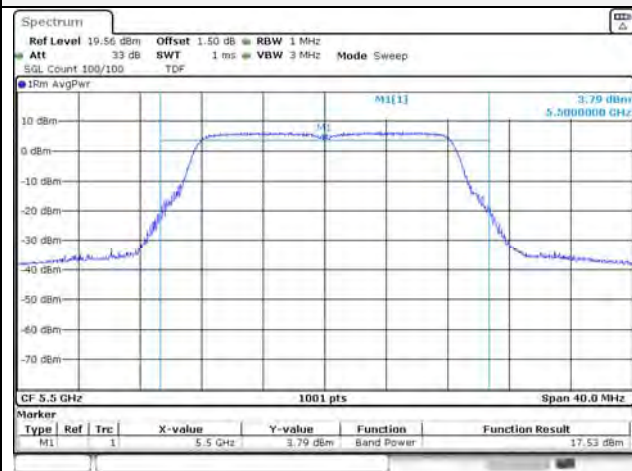
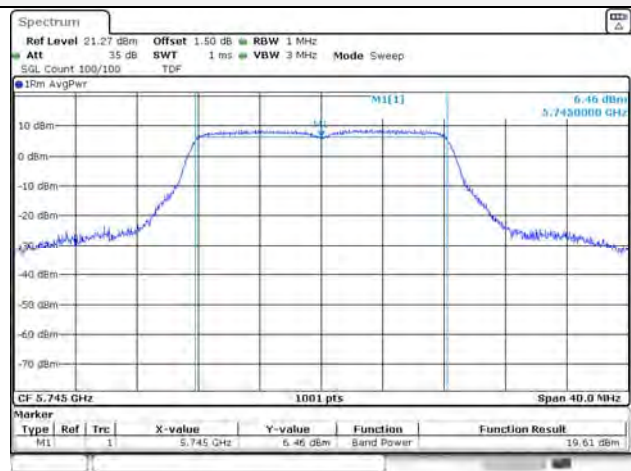
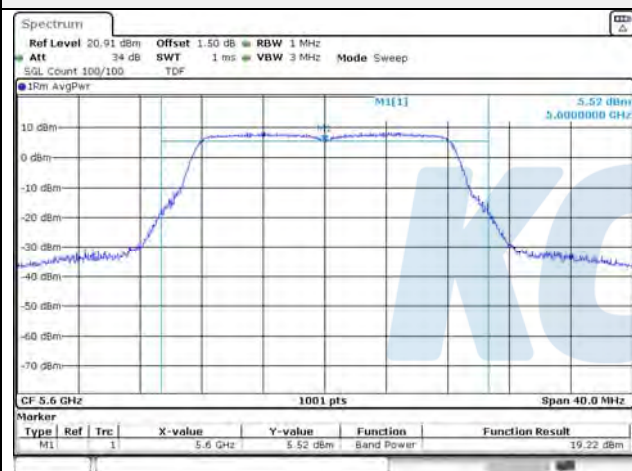
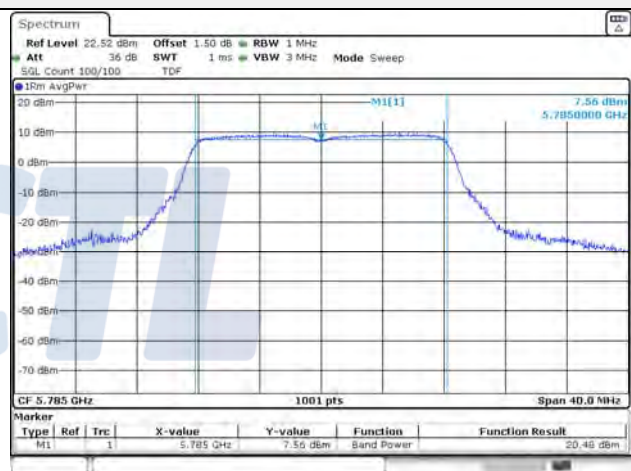
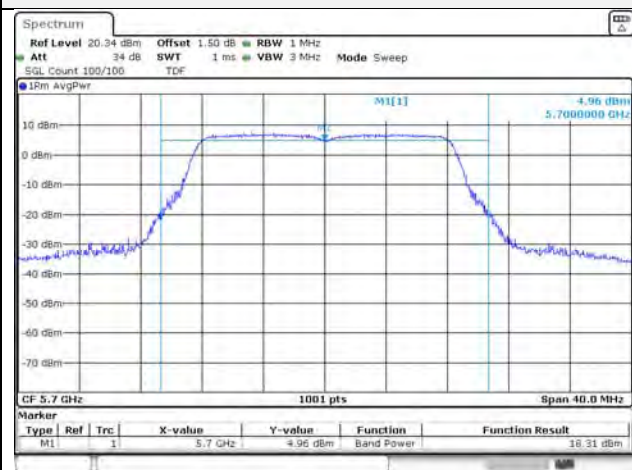
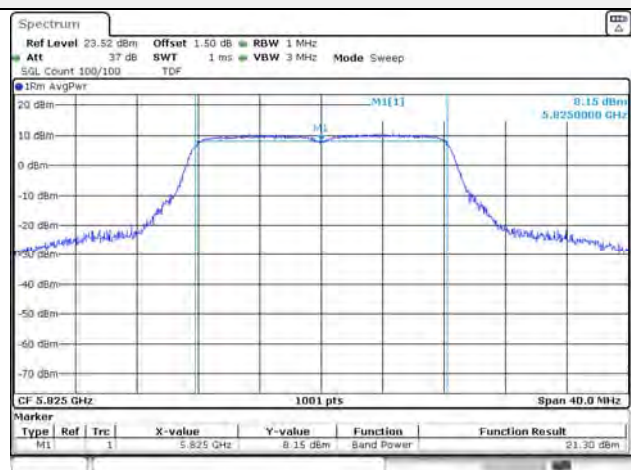


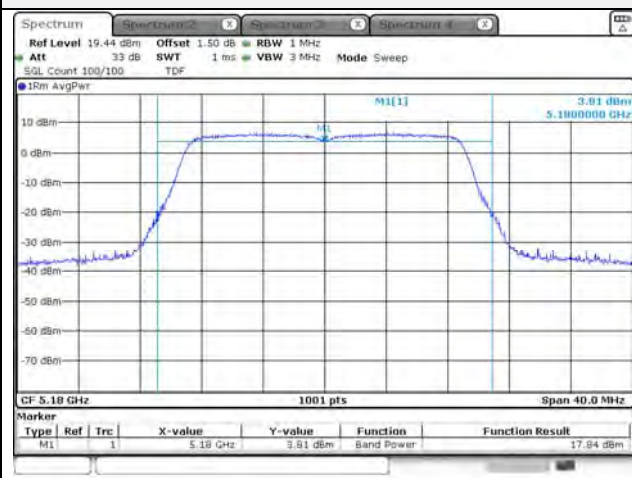
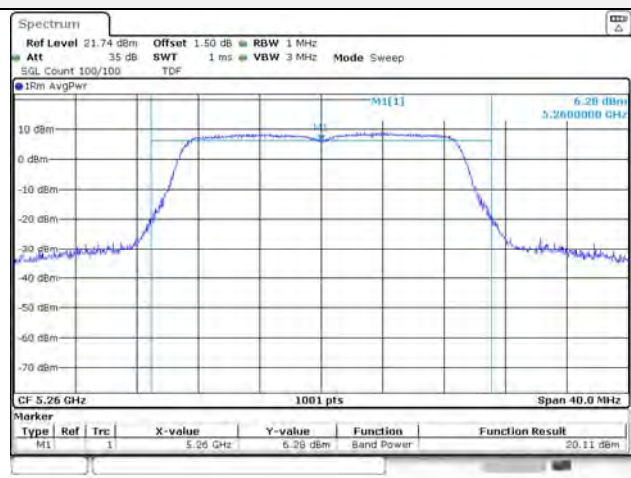
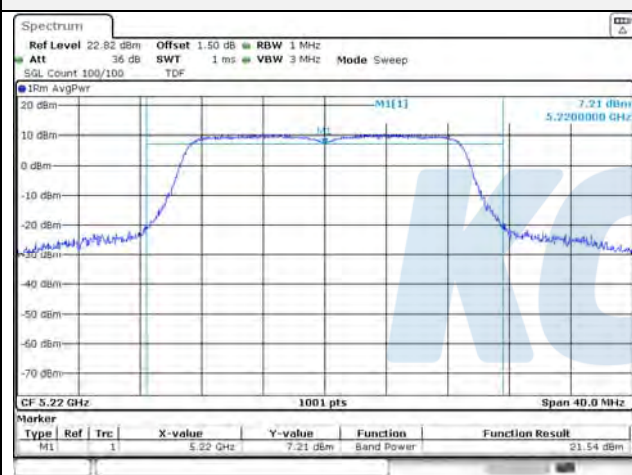
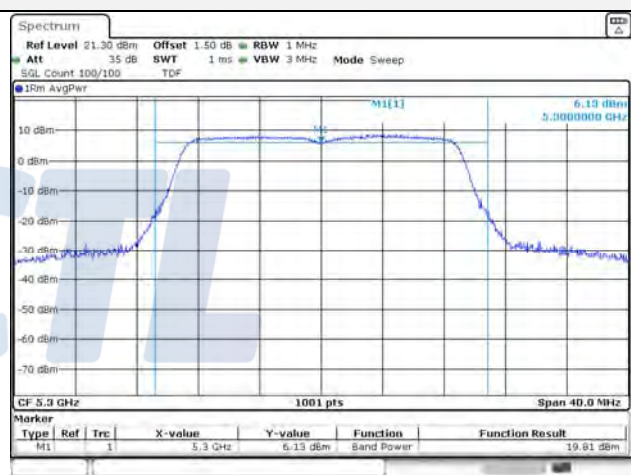
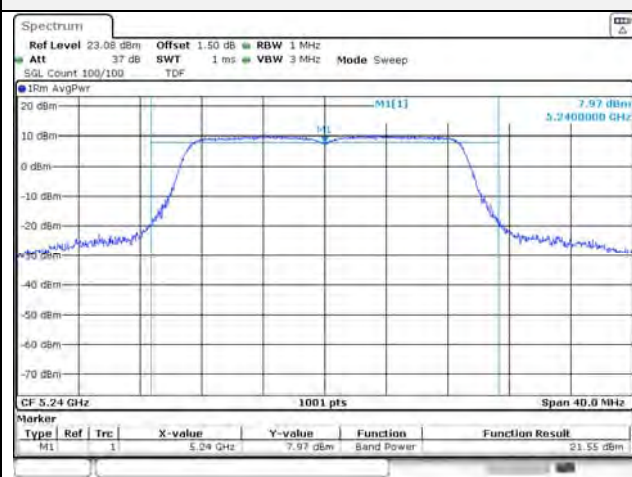
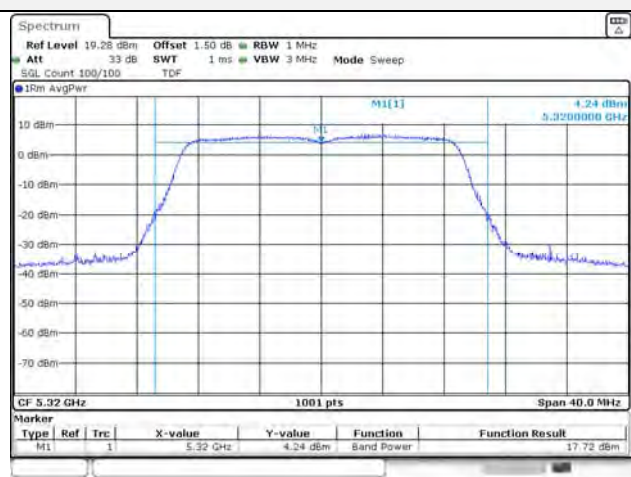
UNII-3 / 802.11ac VHT80 / 5 775 MHz

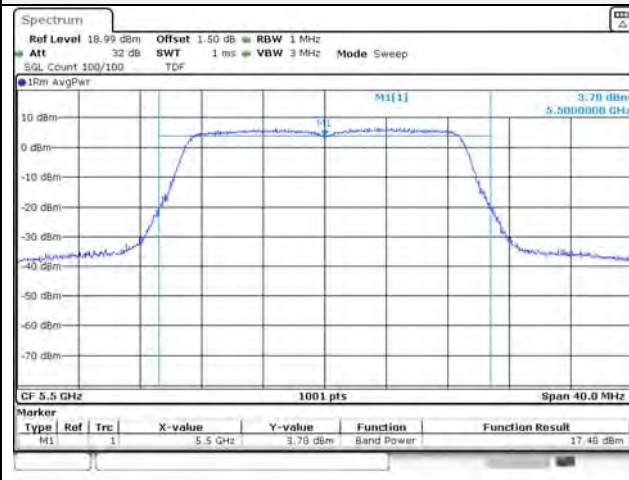
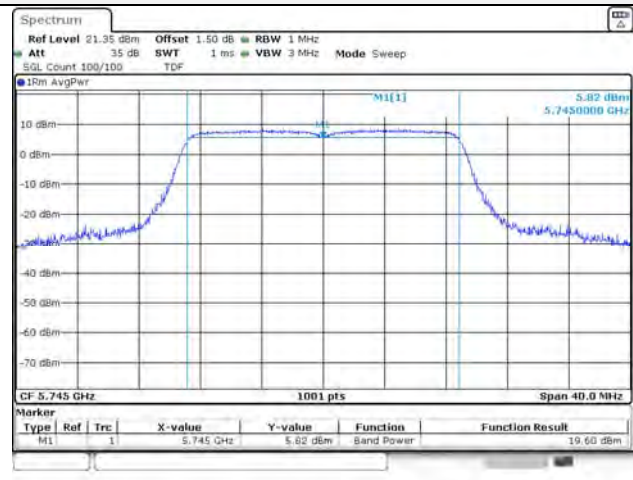
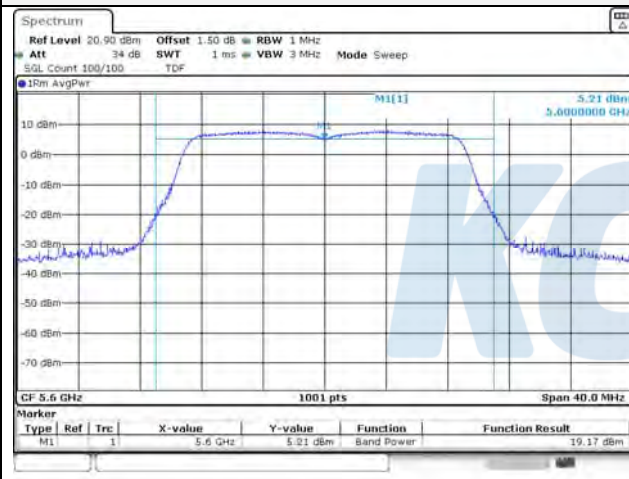
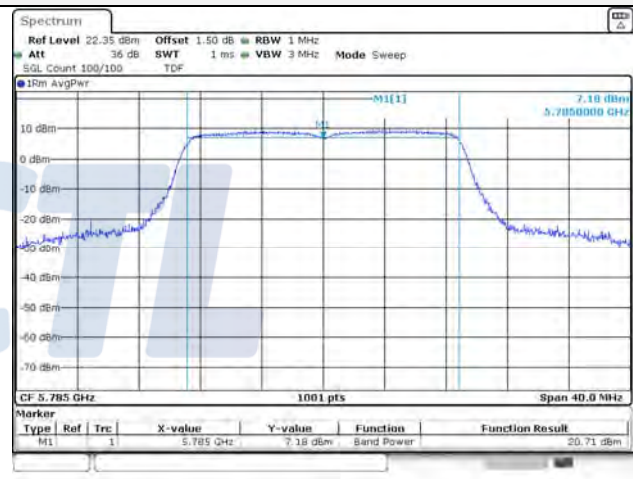
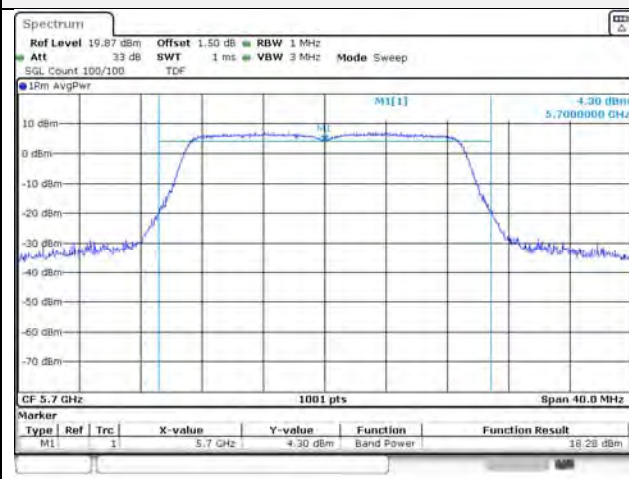
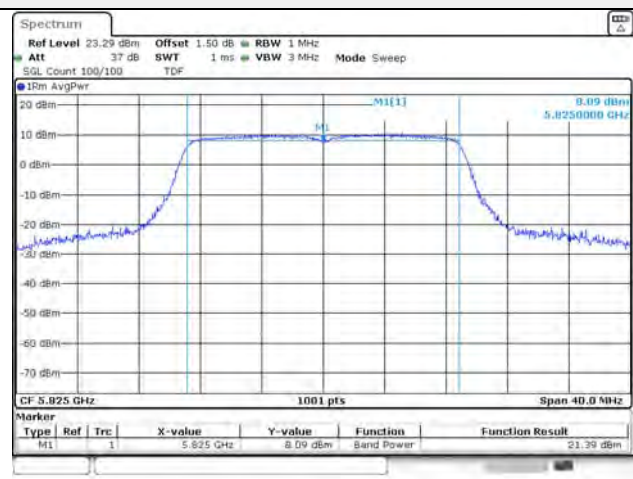


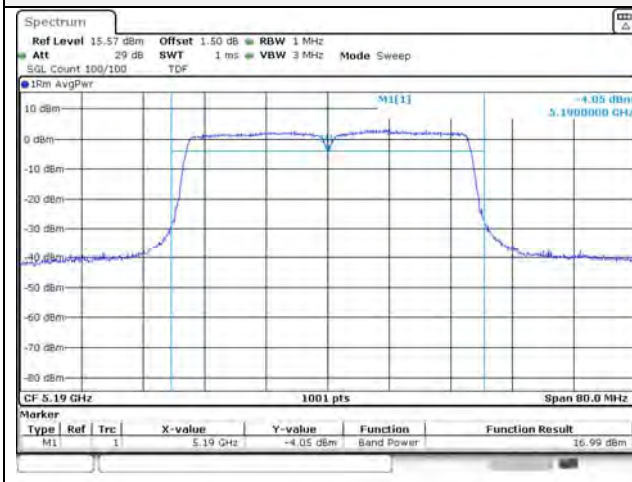
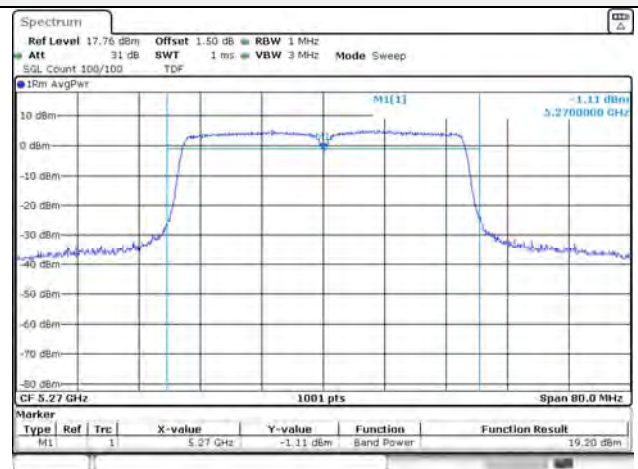
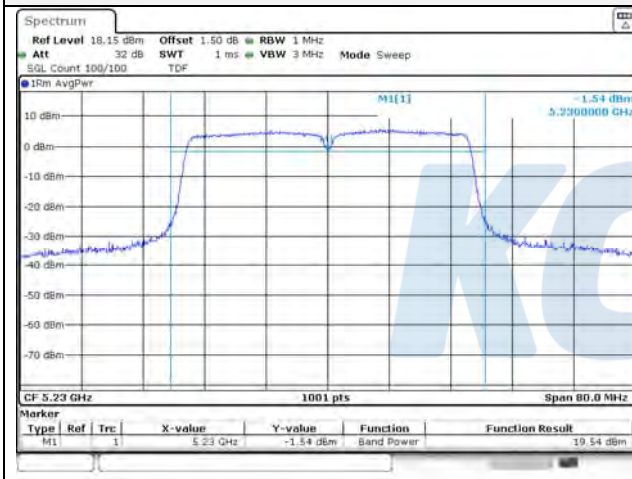
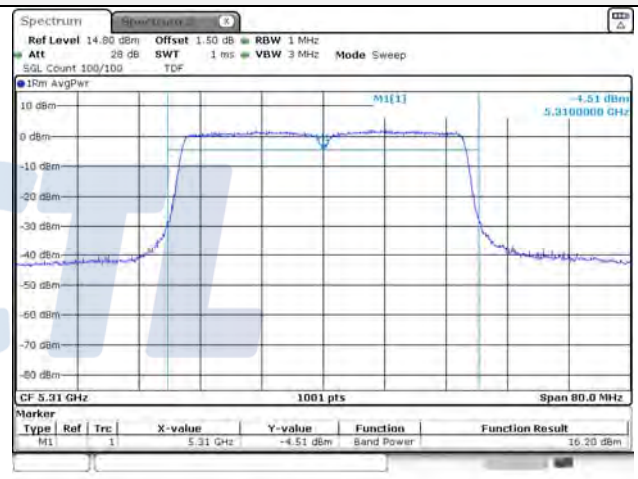
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SISO ANT 3**UNII-1 / 802.11a / 5 180 MHz****UNII-2A / 802.11a / 5 260 MHz****UNII-1 / 802.11a / 5 220 MHz****UNII-2A / 802.11a / 5 300 MHz****UNII-1 / 802.11a / 5 240 MHz****UNII-2A / 802.11a / 5 320 MHz**

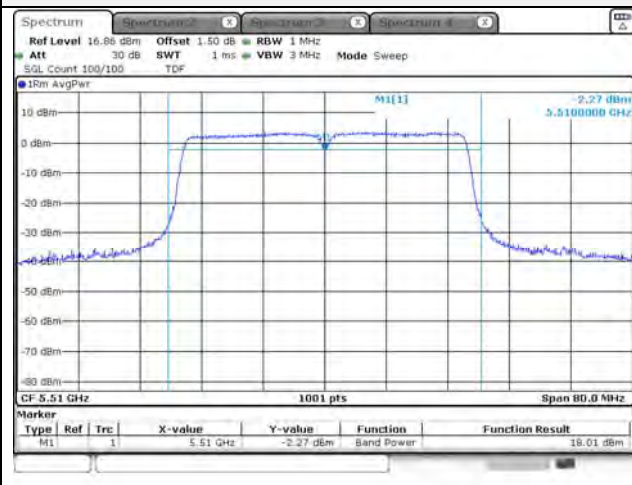
UNII-2C / 802.11a / 5 500 MHz**UNII-3 / 802.11a / 5 745 MHz****UNII-2C / 802.11a / 5 600 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-2C / 802.11a / 5 700 MHz****UNII-3 / 802.11a / 5 825 MHz**

UNII-1 / 802.11n HT20 / 5 180 MHz**UNII-2A / 802.11n HT20 / 5 260 MHz****UNII-1 / 802.11n HT20 / 5 220 MHz****UNII-2A / 802.11n HT20 / 5 300 MHz****UNII-1 / 802.11n HT20 / 5 240 MHz****UNII-2A / 802.11n HT20 / 5 320 MHz**

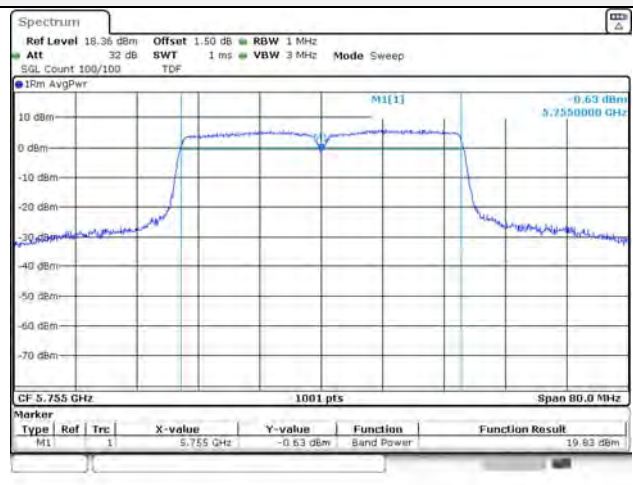
UNII-2C / 802.11n HT20 / 5 500 MHz**UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-2C / 802.11n HT20 / 5 600 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-2C / 802.11n HT20 / 5 700 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

UNII-1 / 802.11n HT40 / 5 190 MHz**UNII-2A / 802.11n HT40 / 5 270 MHz****UNII-1 / 802.11n HT40 / 5 230 MHz****UNII-2A / 802.11n HT40 / 5 310 MHz**

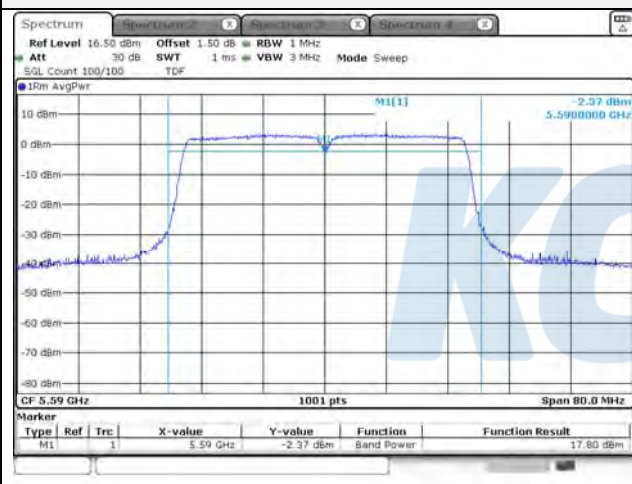
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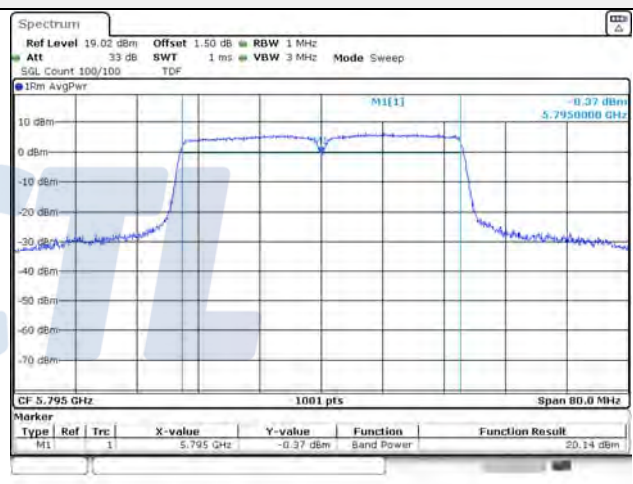
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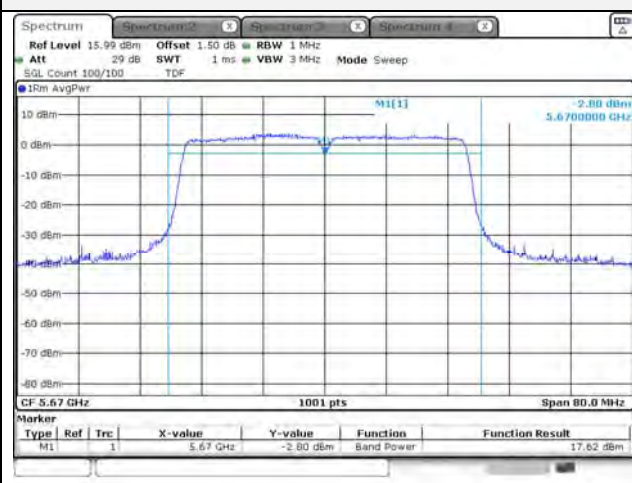
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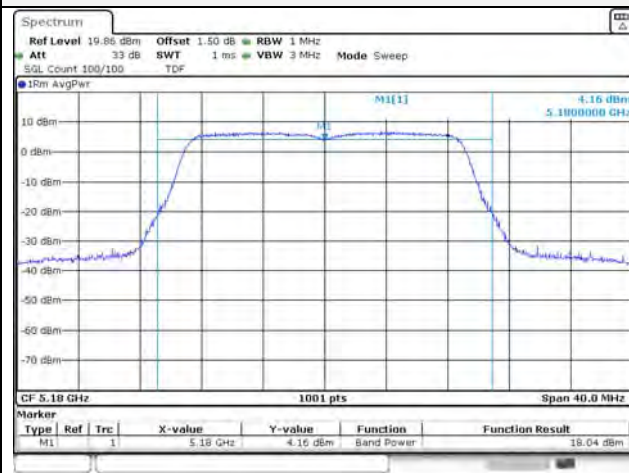
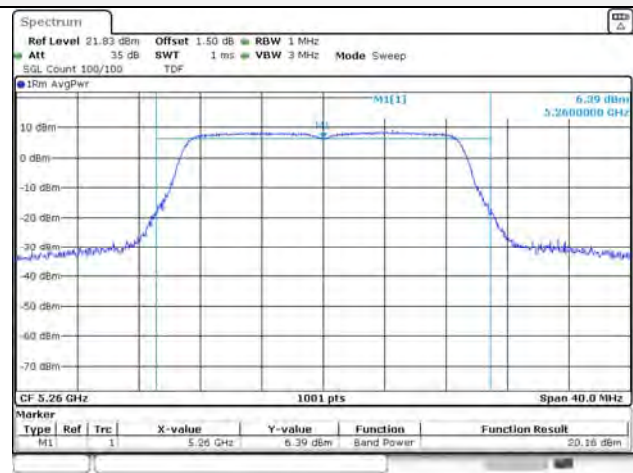
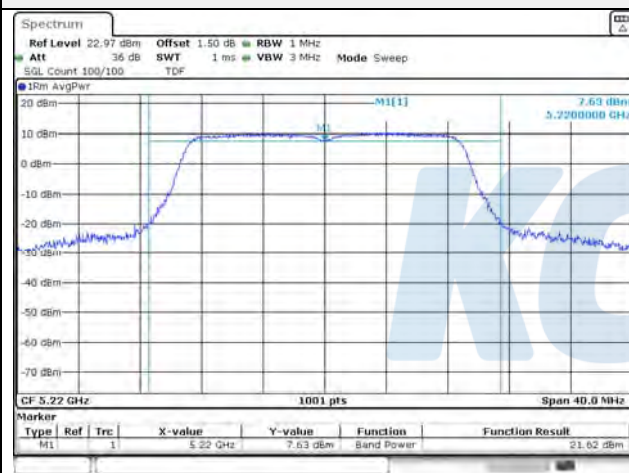
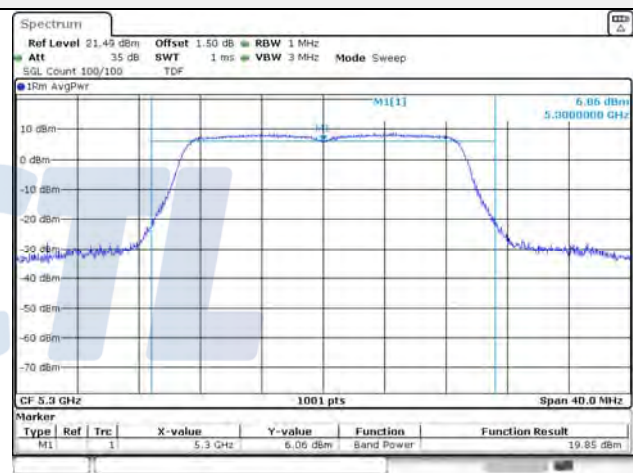
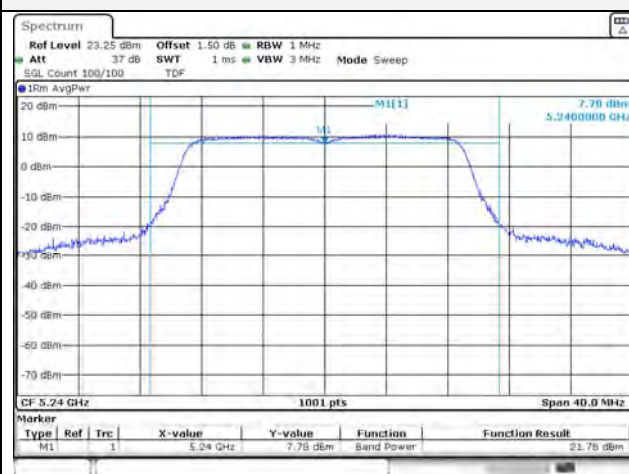
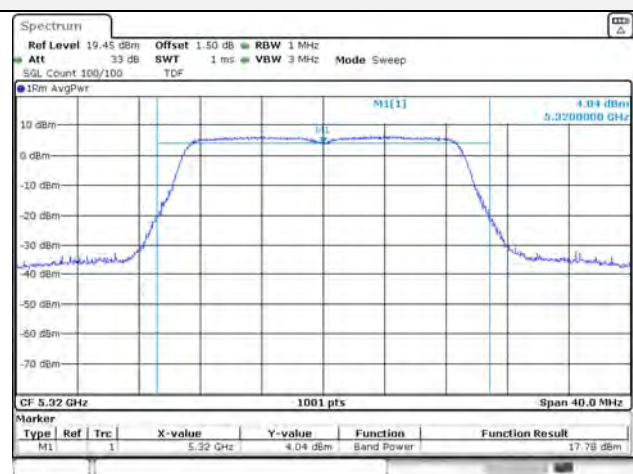
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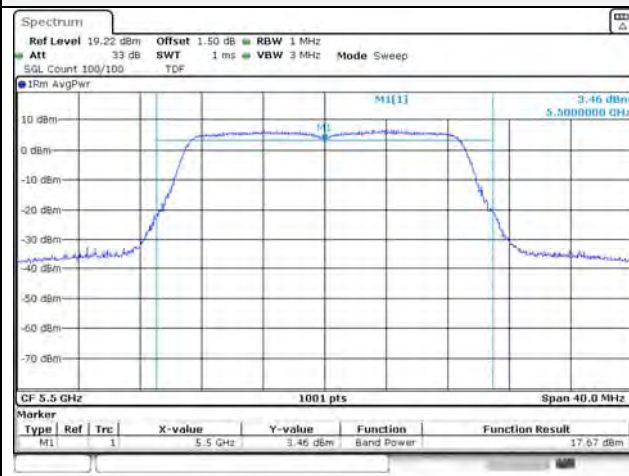
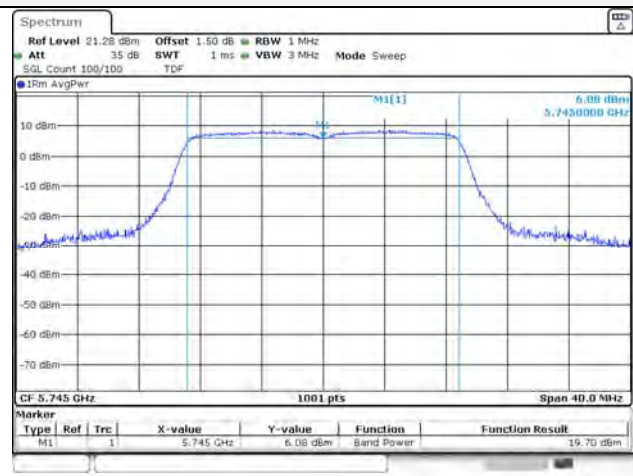
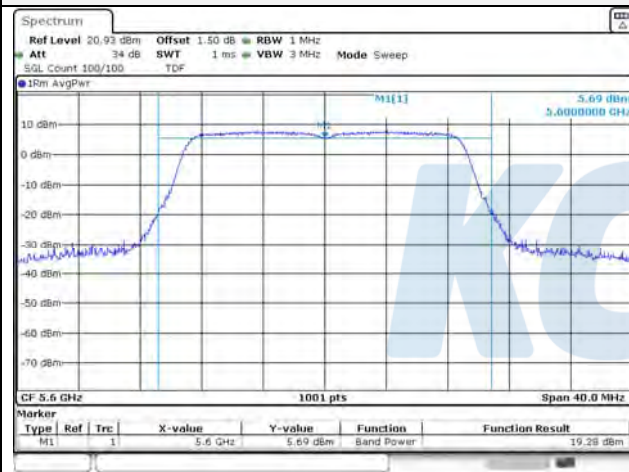
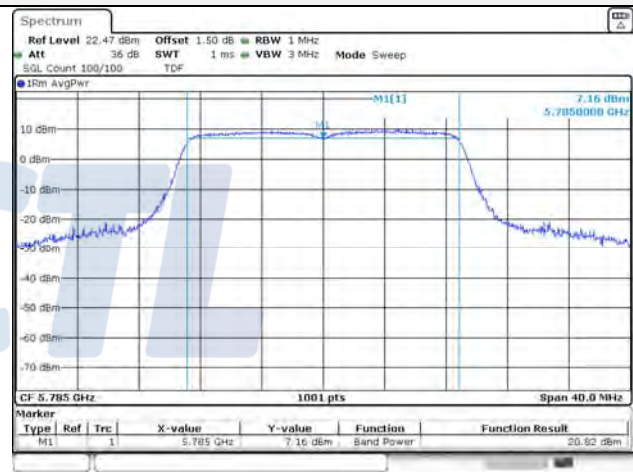
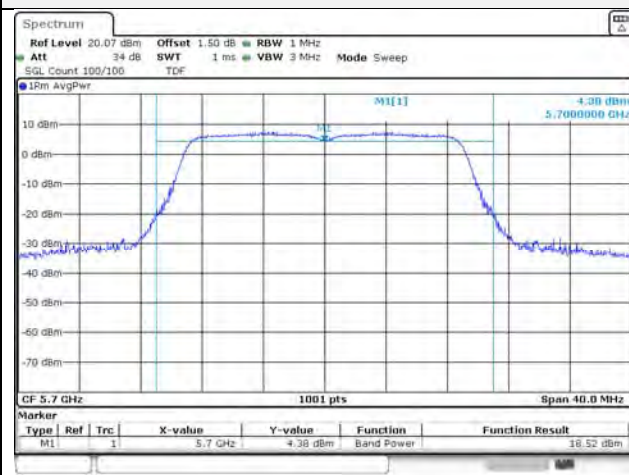
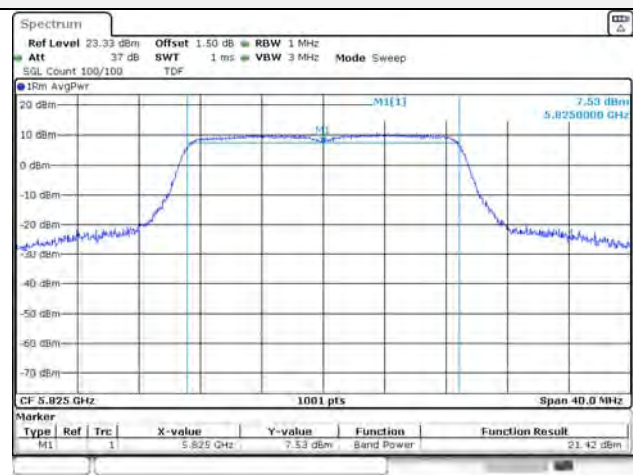


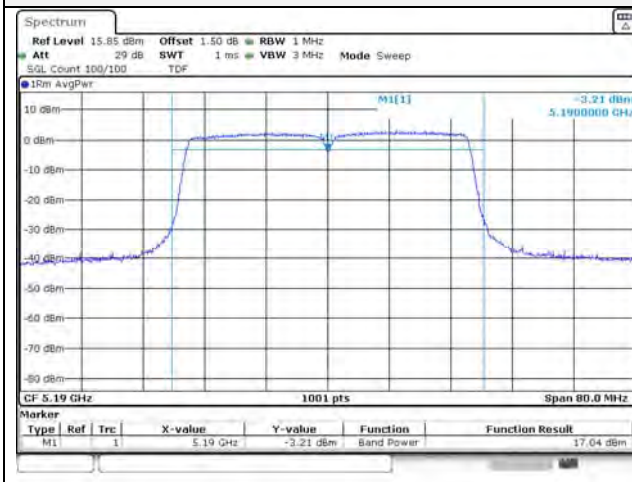
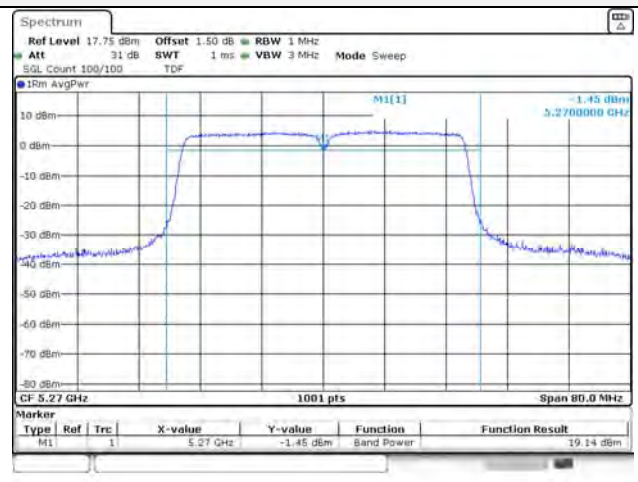
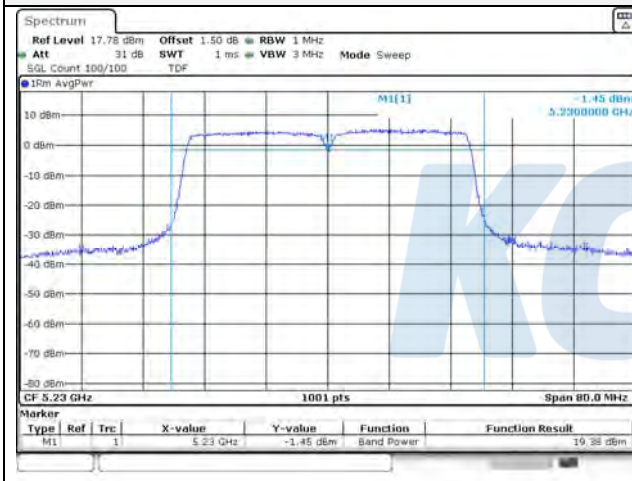
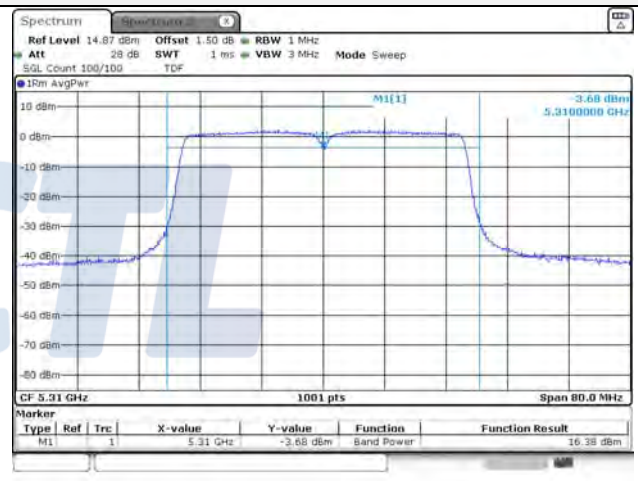
UNII-2C / 802.11n HT40 / 5 670 MHz



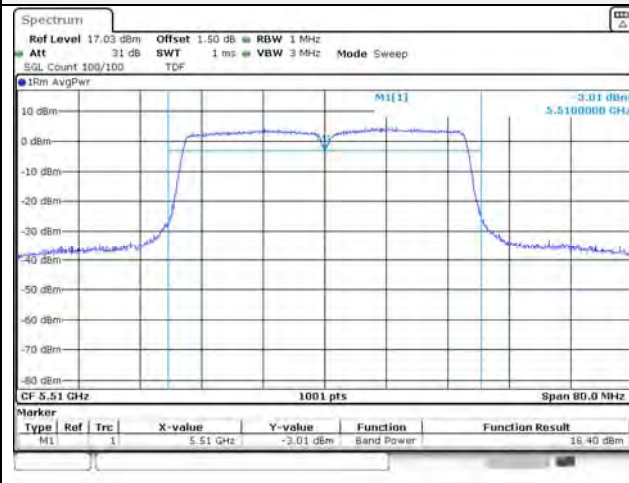
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UNII-1 / 802.11ac VHT20 / 5 180 MHz**UNII-2A / 802.11ac VHT20 / 5 260 MHz****UNII-1 / 802.11ac VHT20 / 5 220 MHz****UNII-2A / 802.11ac VHT20 / 5 300 MHz****UNII-1 / 802.11ac VHT20 / 5 240 MHz****UNII-2A / 802.11ac VHT20 / 5 320 MHz**

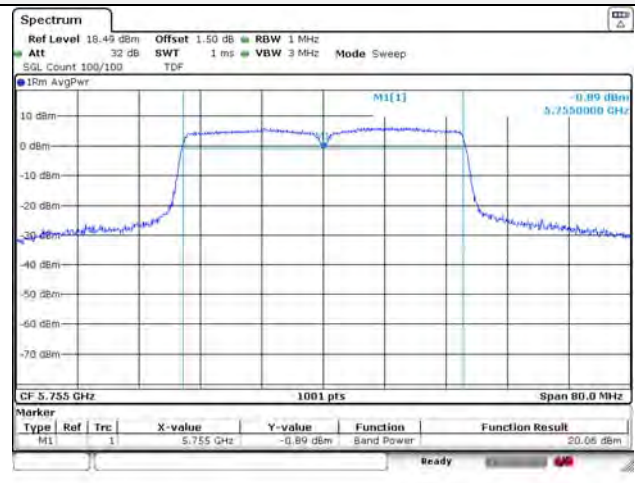
UNII-2C / 802.11ac VHT20 / 5 500 MHz**UNII-3 / 802.11ac VHT20 / 5 745 MHz****UNII-2C / 802.11ac VHT20 / 5 600 MHz****UNII-3 / 802.11ac VHT20 / 5 785 MHz****UNII-2C / 802.11ac VHT20 / 5 700 MHz****UNII-3 / 802.11ac VHT20 / 5 825 MHz**

UNII-1 / 802.11ac VHT40 / 5 190 MHz**UNII-2A / 802.11ac VHT40 / 5 270 MHz****UNII-1 / 802.11ac VHT40 / 5 230 MHz****UNII-2A / 802.11ac VHT40 / 5 310 MHz**

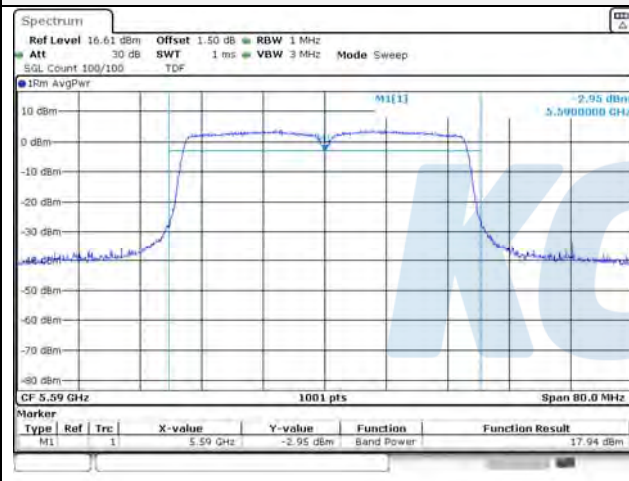
UNII-2C / 802.11ac VHT40 / 5 510 MHz



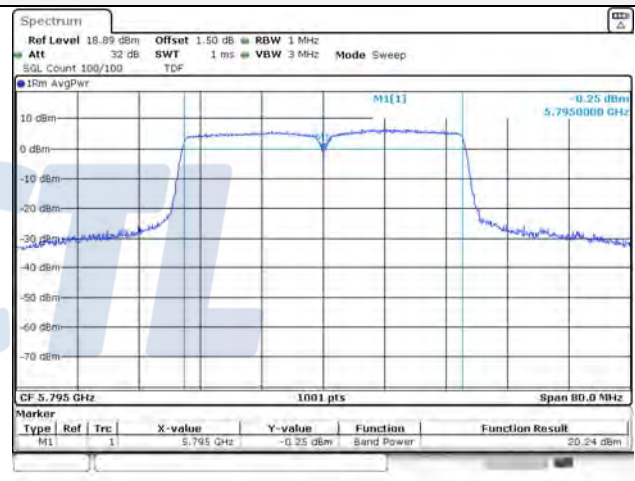
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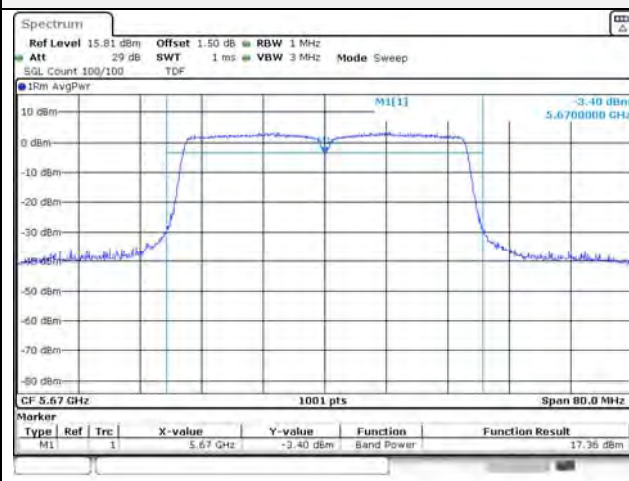
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UNII-3 / 802.11ac VHT40 / 5 795 MHz

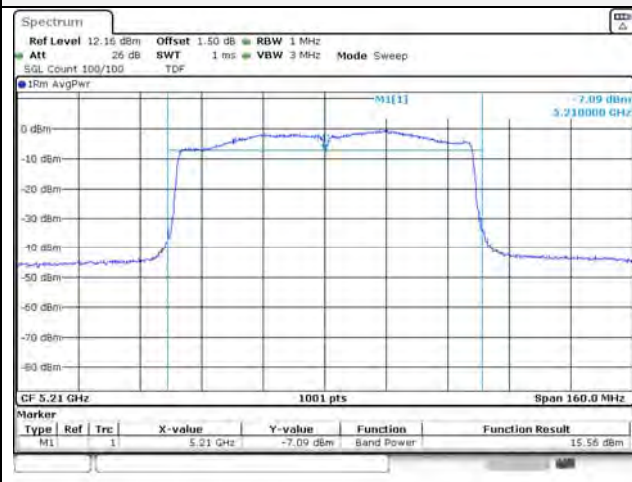


UNII-2C / 802.11ac VHT40 / 5 670 MHz

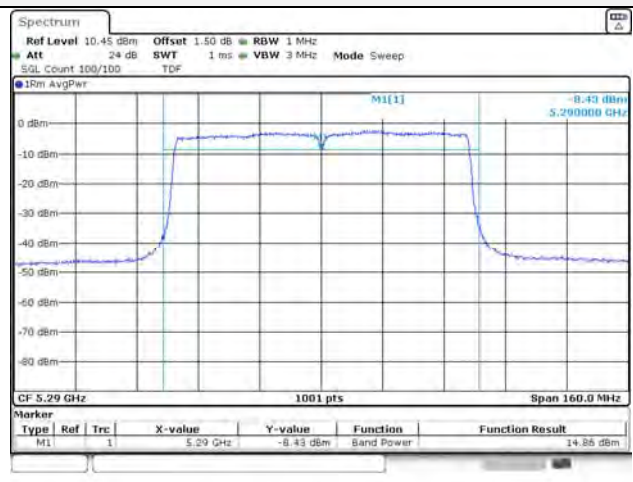


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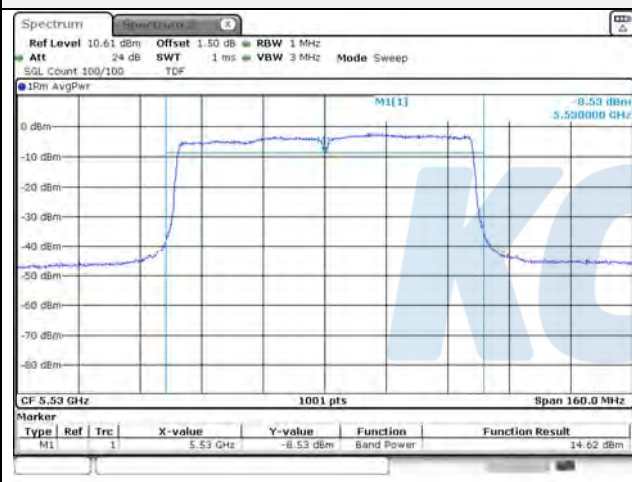
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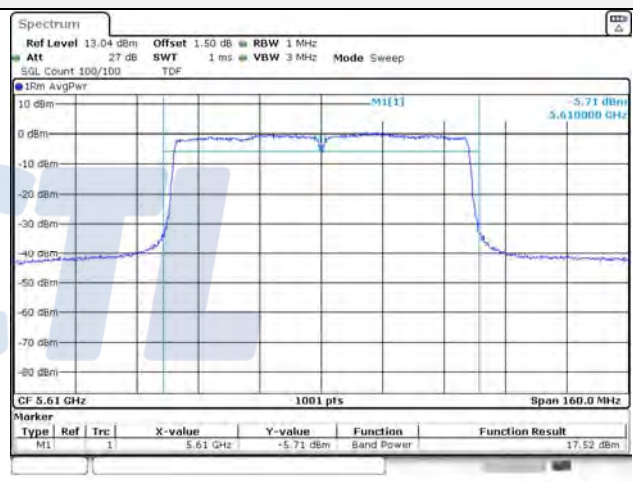
UNII-2A / 802.11ac VHT80 / 5 290 MHz



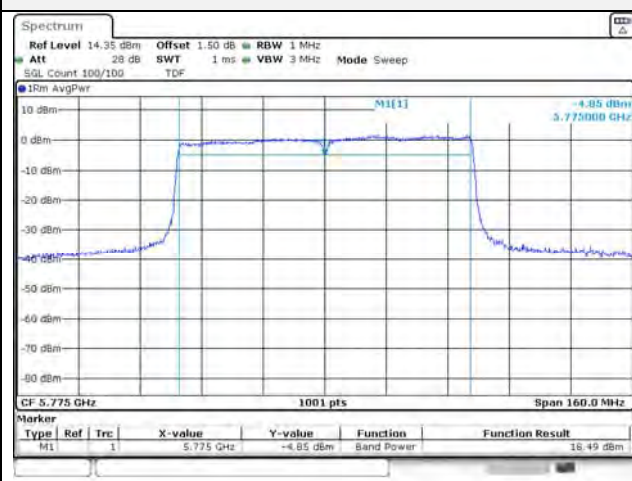
UNII-2C / 802.11ac VHT80 / 5 530 MHz



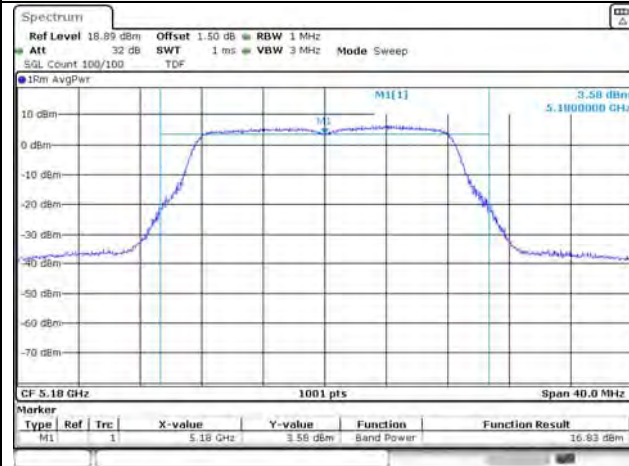
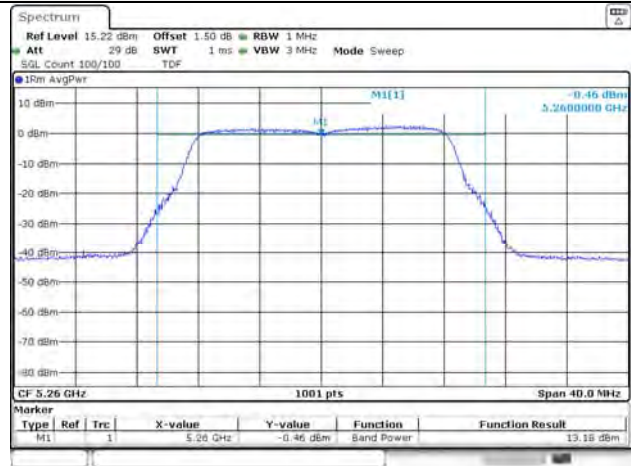
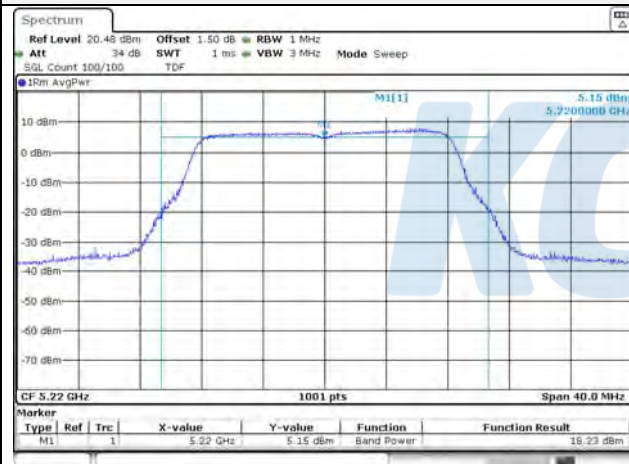
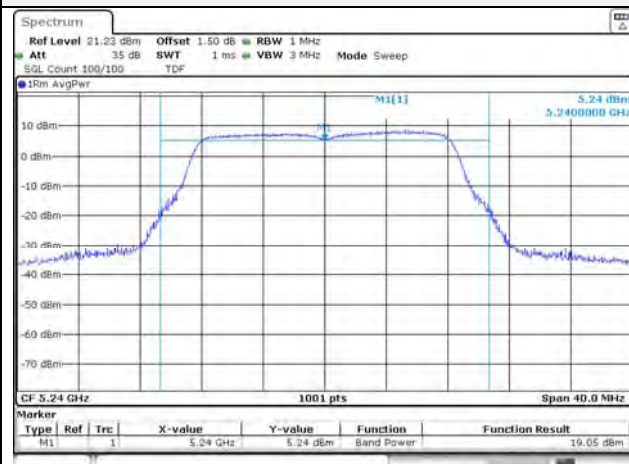
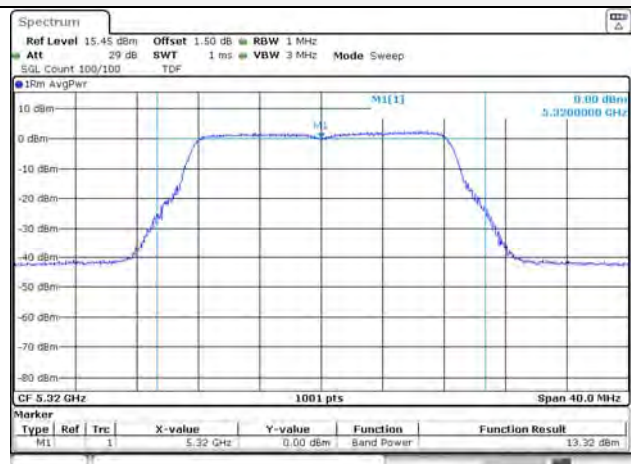
UNII-2C / 802.11ac VHT80 / 5 610 MHz

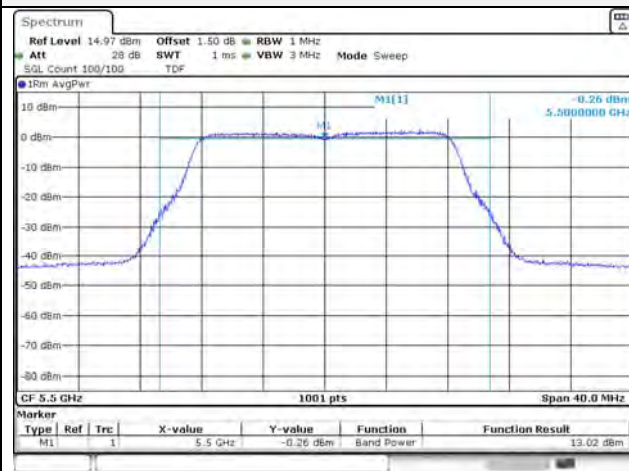
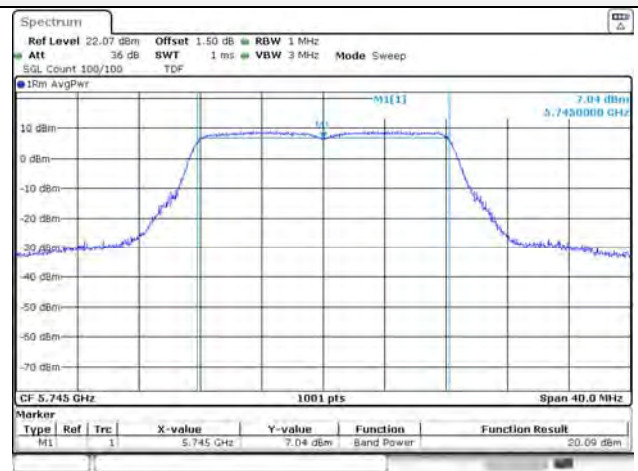
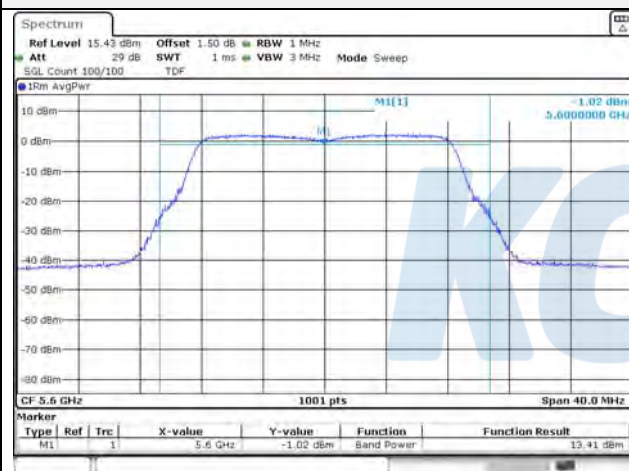
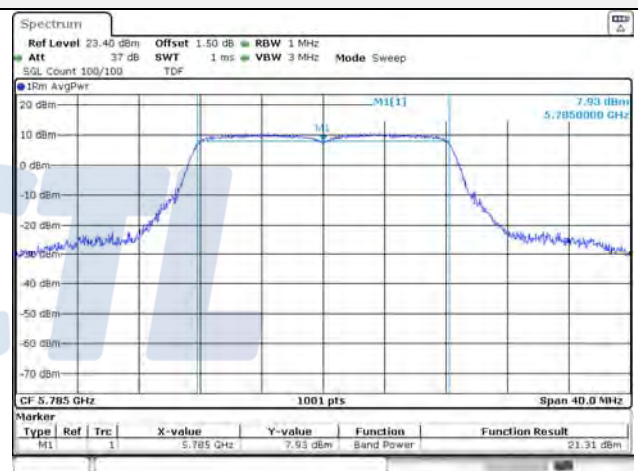
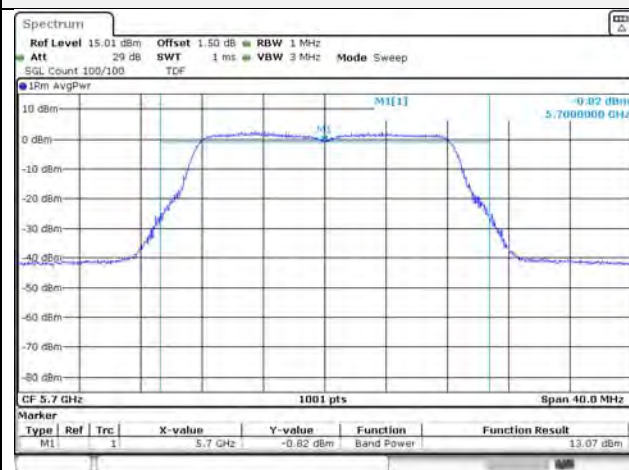
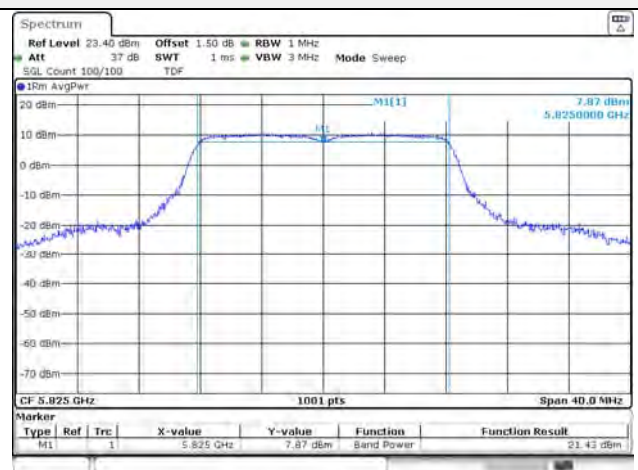


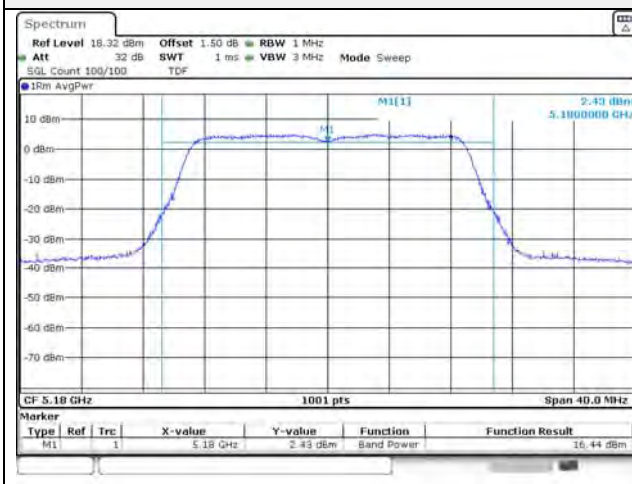
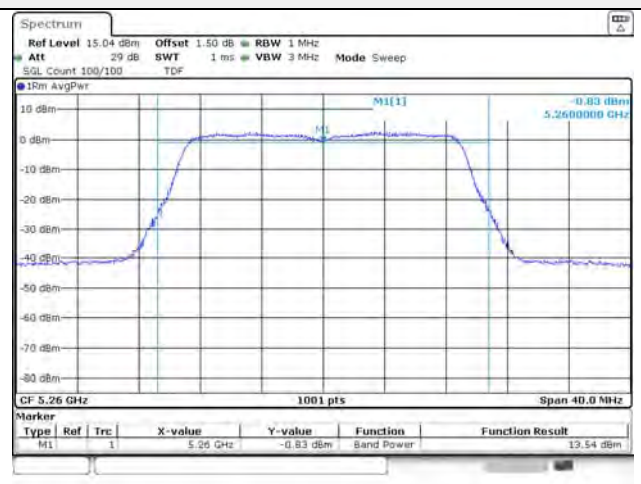
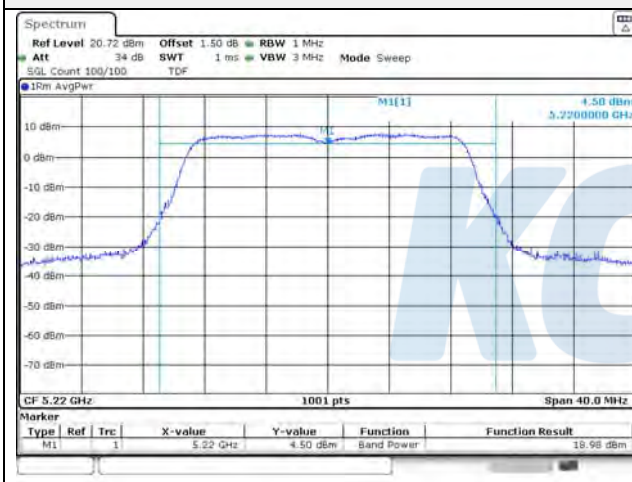
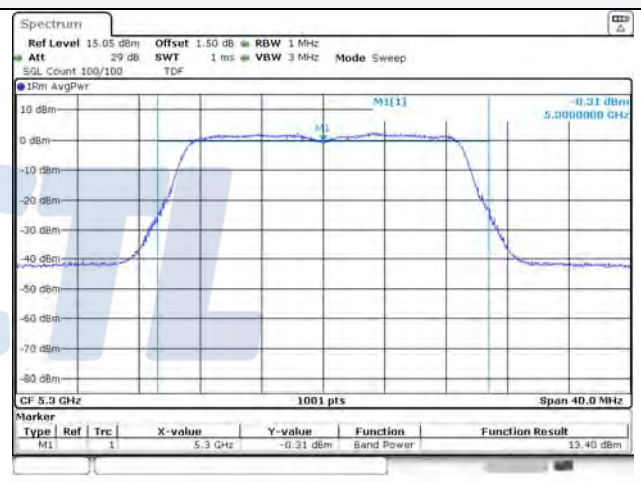
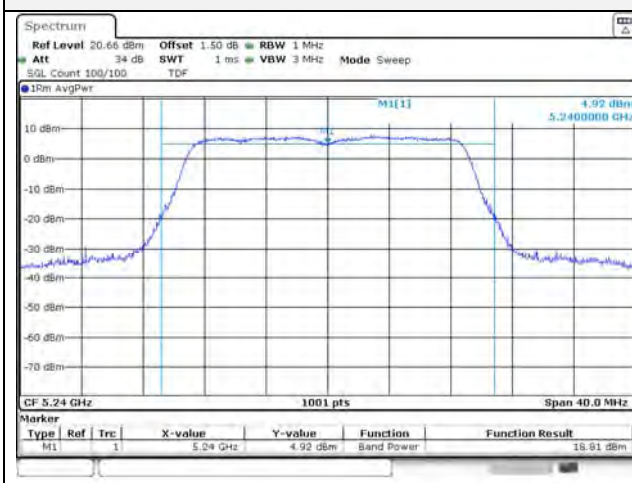
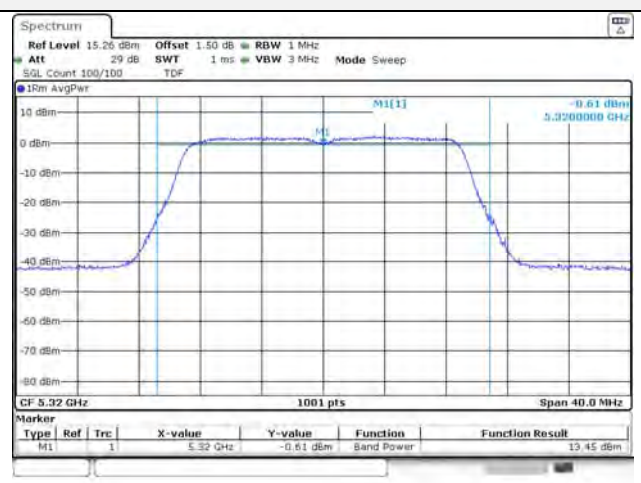
UNII-3 / 802.11ac VHT80 / 5 775 MHz

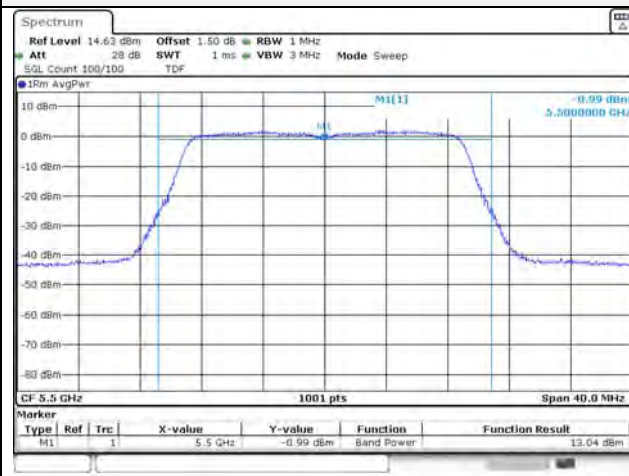
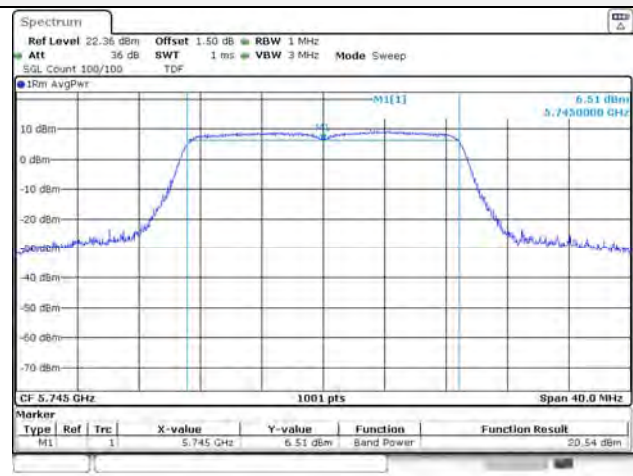
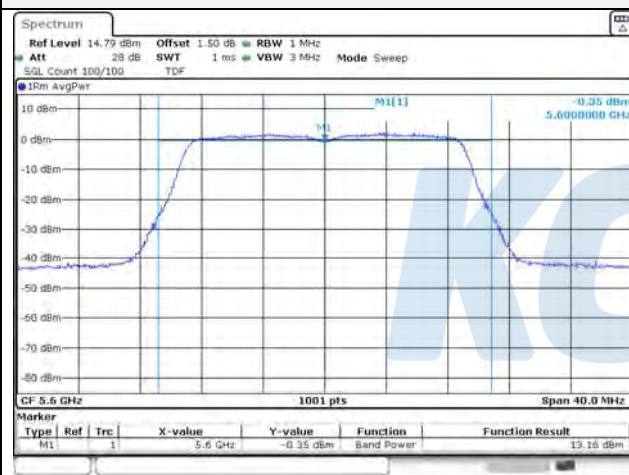
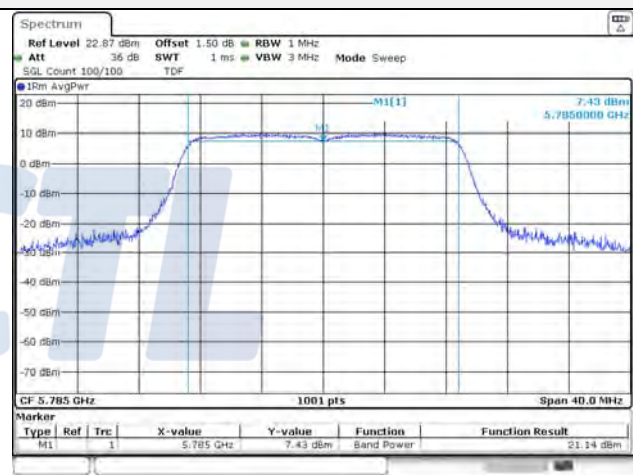
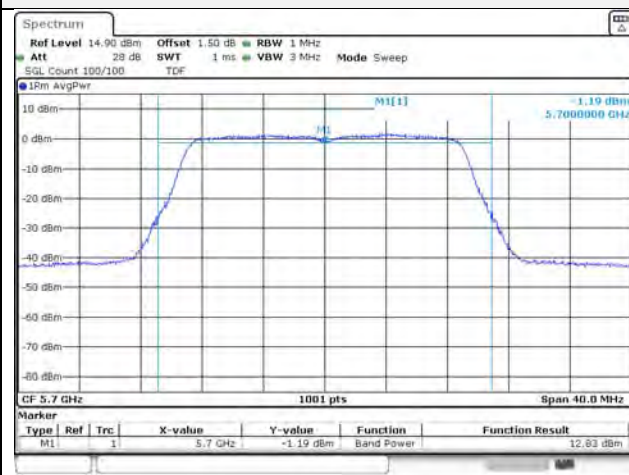
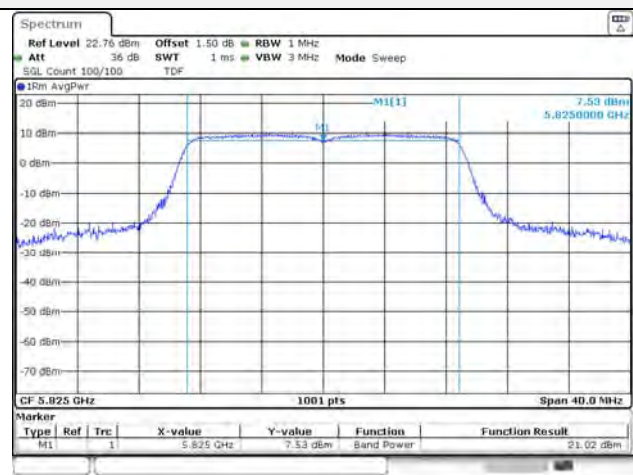


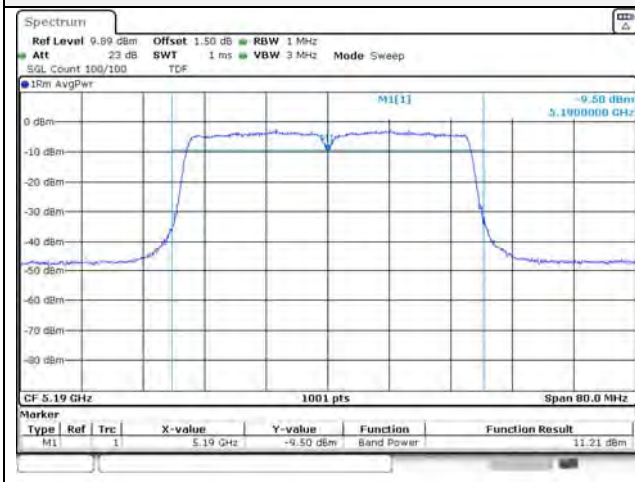
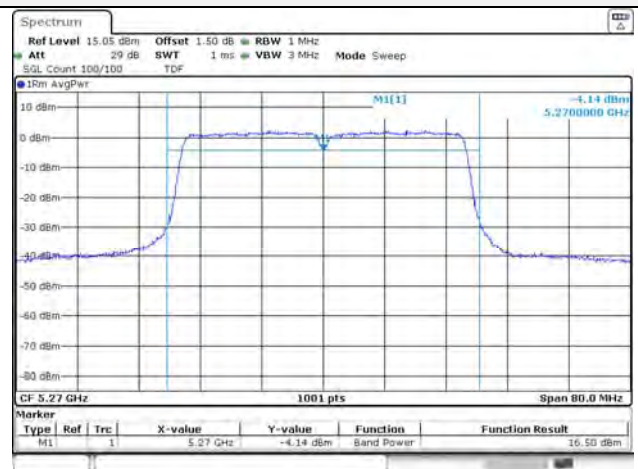
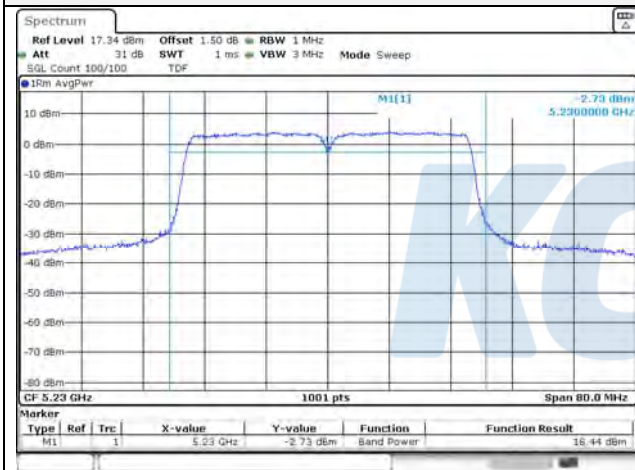
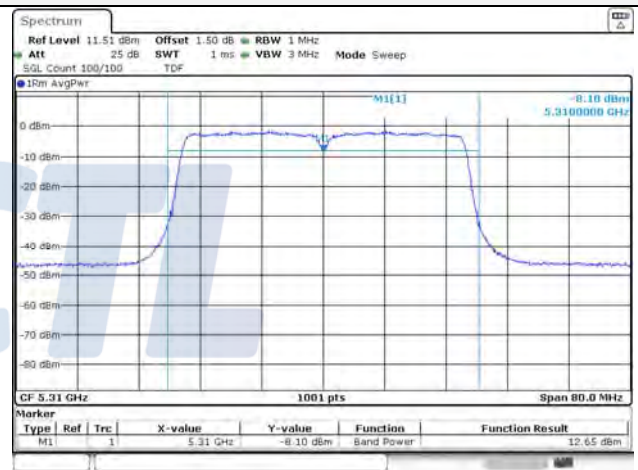
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4TX MIMO ANT 0**UNII-1 / 802.11a / 5 180 MHz****UNII-2A / 802.11a / 5 260 MHz****UNII-1 / 802.11a / 5 220 MHz****UNII-2A / 802.11a / 5 300 MHz****UNII-1 / 802.11a / 5 240 MHz****UNII-2A / 802.11a / 5 320 MHz**

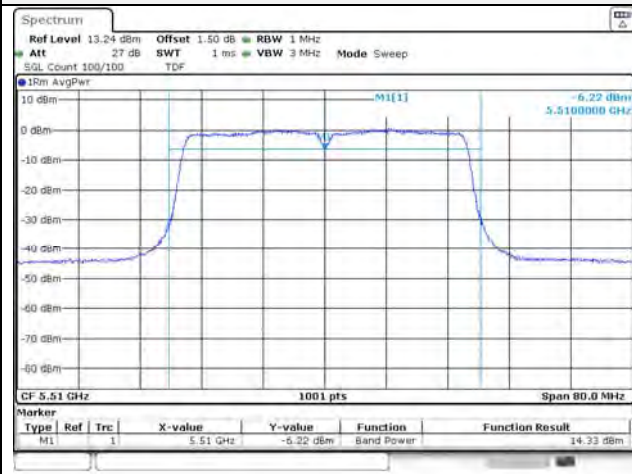
UNII-2C / 802.11a / 5 500 MHz**UNII-3 / 802.11a / 5 745 MHz****UNII-2C / 802.11a / 5 600 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-2C / 802.11a / 5 700 MHz****UNII-3 / 802.11a / 5 825 MHz**

UNII-1 / 802.11n HT20 / 5 180 MHz**UNII-2A / 802.11n HT20 / 5 260 MHz****UNII-1 / 802.11n HT20 / 5 220 MHz****UNII-2A / 802.11n HT20 / 5 300 MHz****UNII-1 / 802.11n HT20 / 5 240 MHz****UNII-2A / 802.11n HT20 / 5 320 MHz**

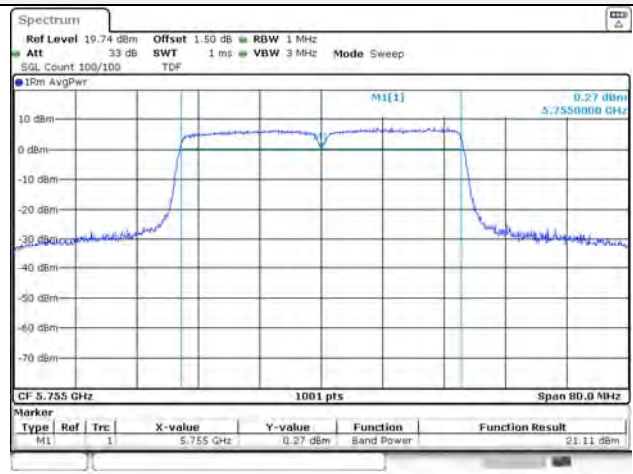
UNII-2C / 802.11n HT20 / 5 500 MHz**UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-2C / 802.11n HT20 / 5 600 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-2C / 802.11n HT20 / 5 700 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

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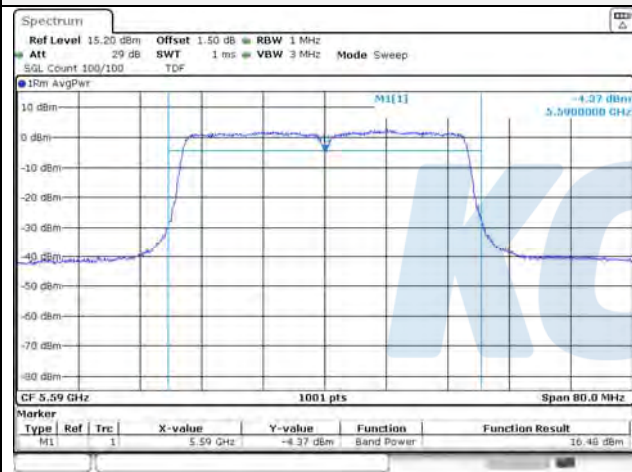
UNII-2C / 802.11n HT40 / 5 510 MHz



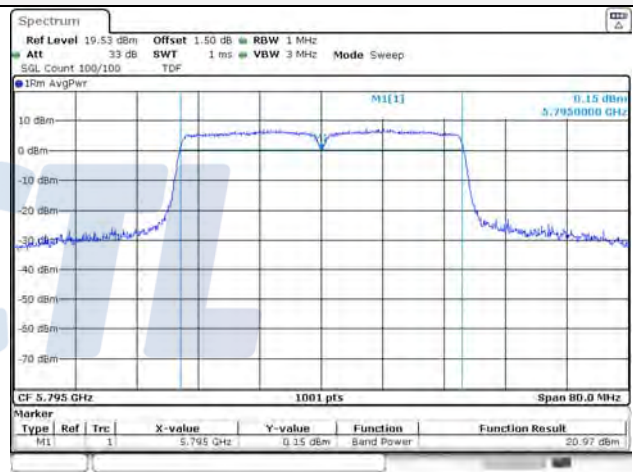
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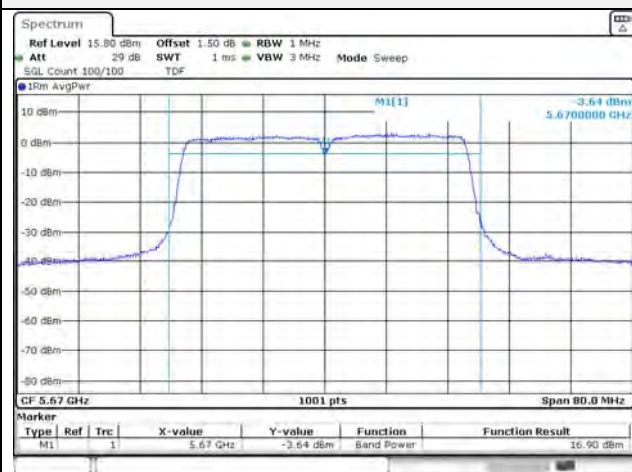
UNII-2C / 802.11n HT40 / 5 590 MHz



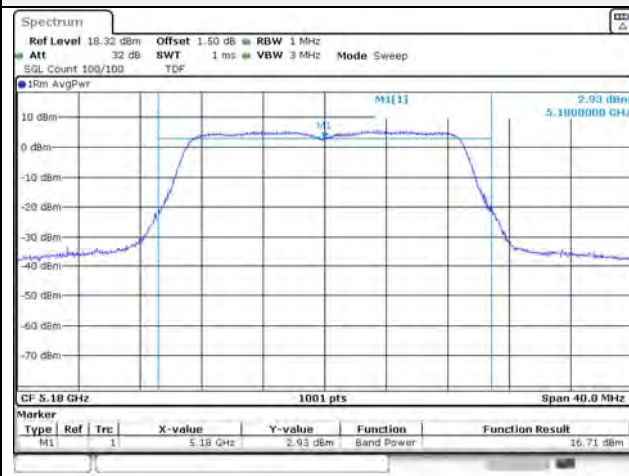
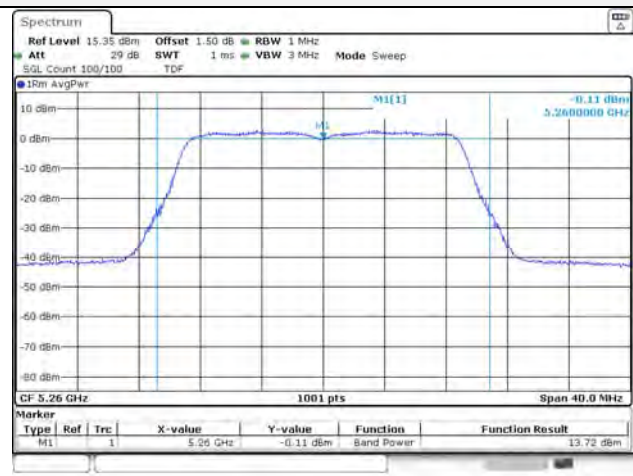
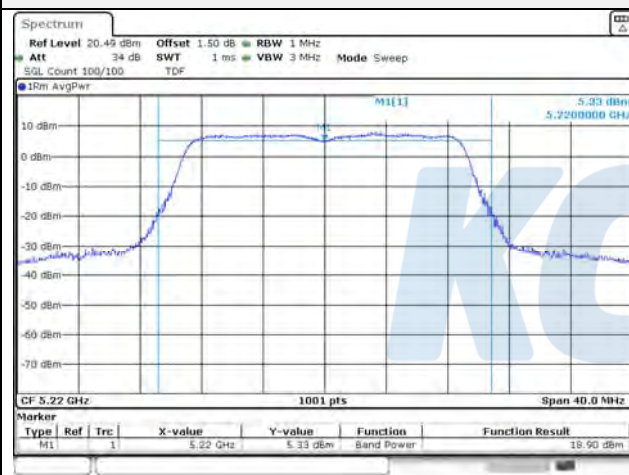
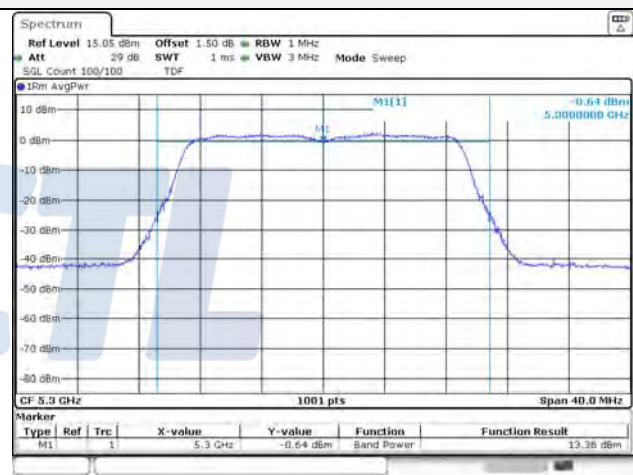
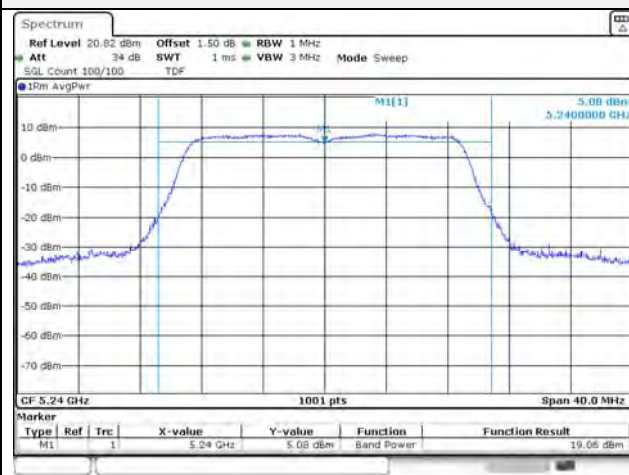
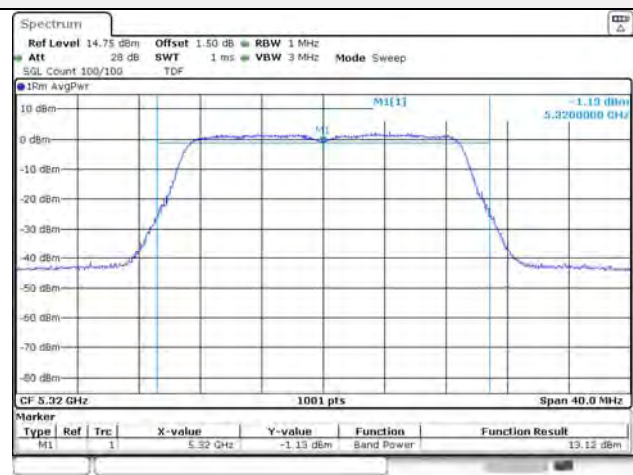
UNII-3 / 802.11n HT40 / 5 795 MHz

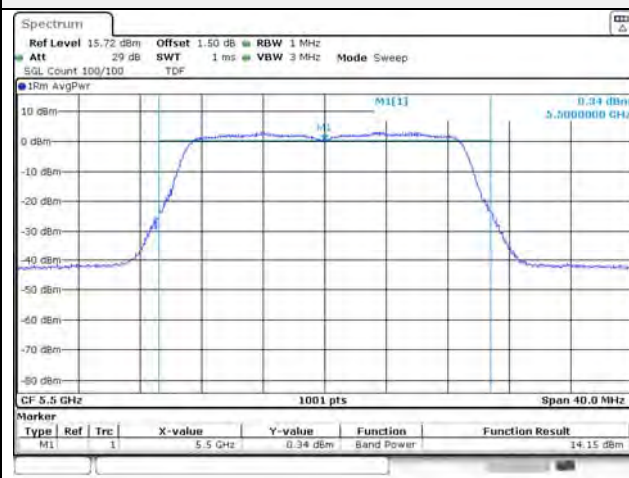
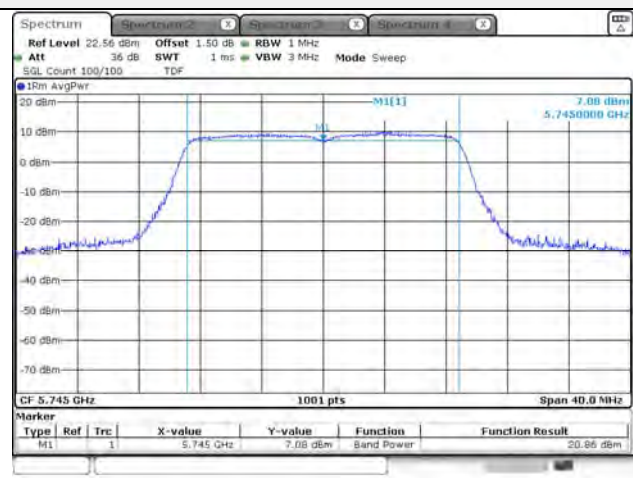
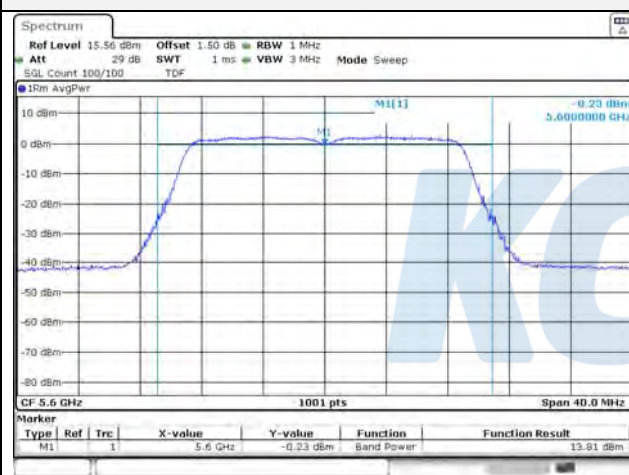
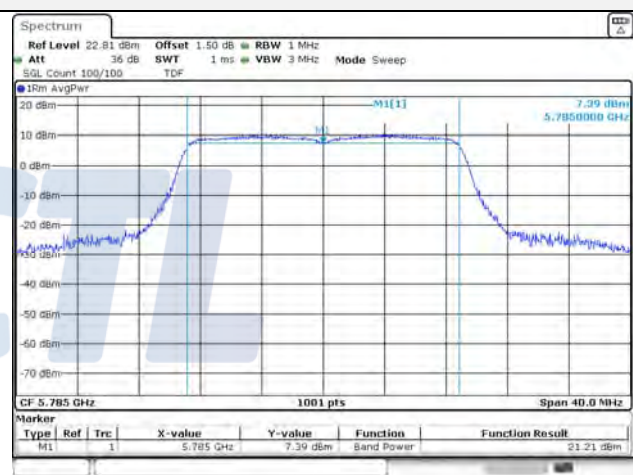
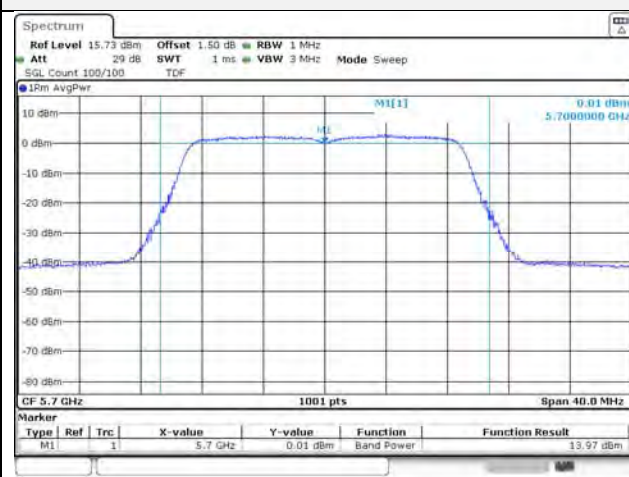
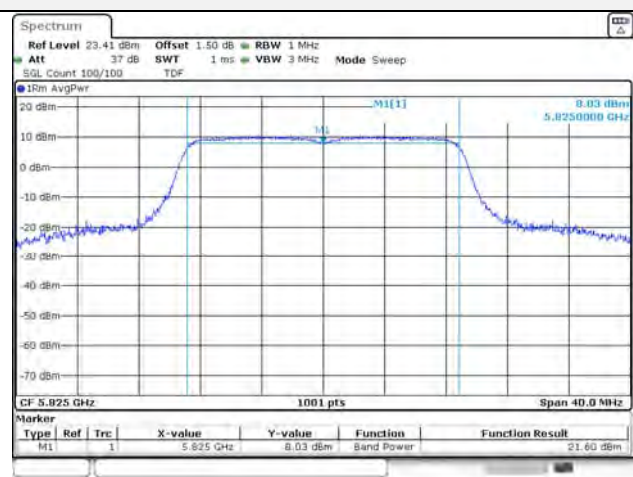


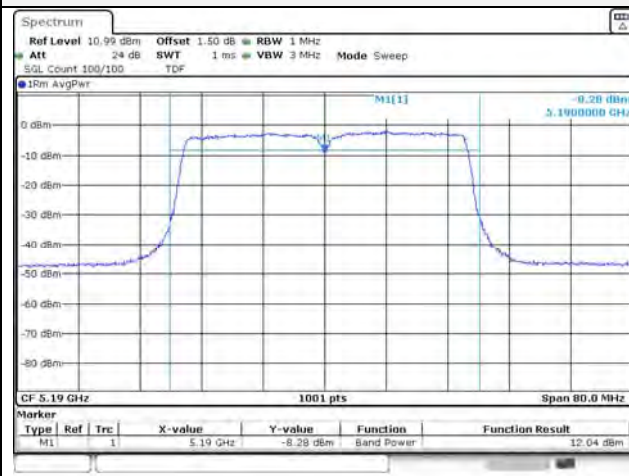
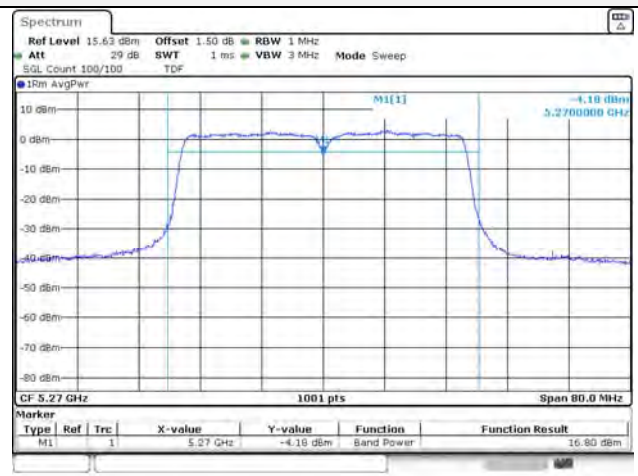
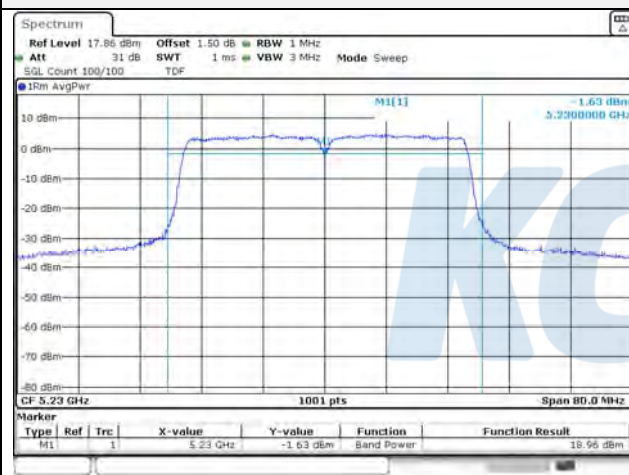
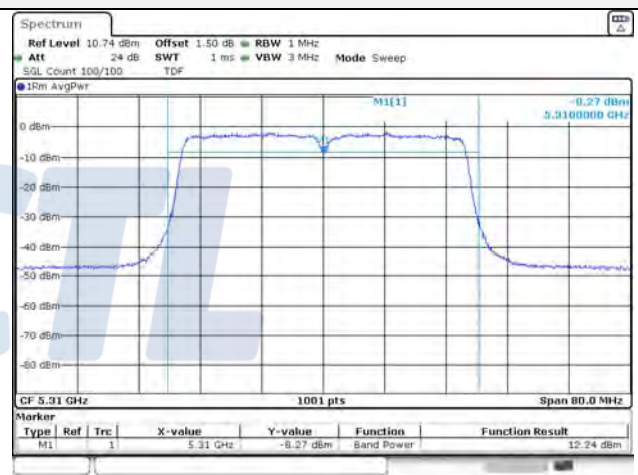
UNII-2C / 802.11n HT40 / 5 670 MHz



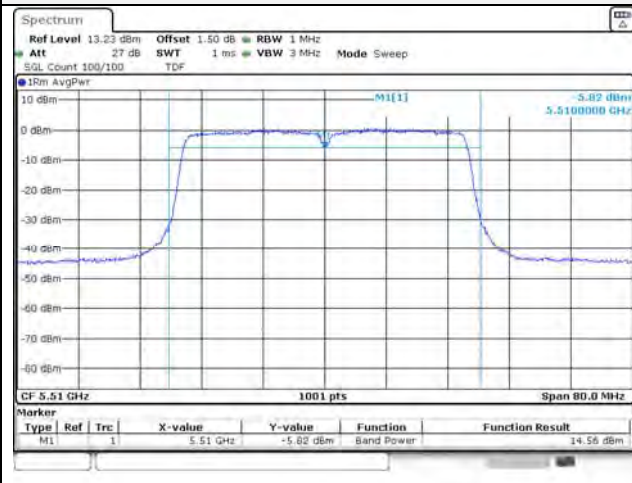
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UNII-1 / 802.11ac VHT20 / 5 180 MHz**UNII-2A / 802.11ac VHT20 / 5 260 MHz****UNII-1 / 802.11ac VHT20 / 5 220 MHz****UNII-2A / 802.11ac VHT20 / 5 300 MHz****UNII-1 / 802.11ac VHT20 / 5 240 MHz****UNII-2A / 802.11ac VHT20 / 5 320 MHz**

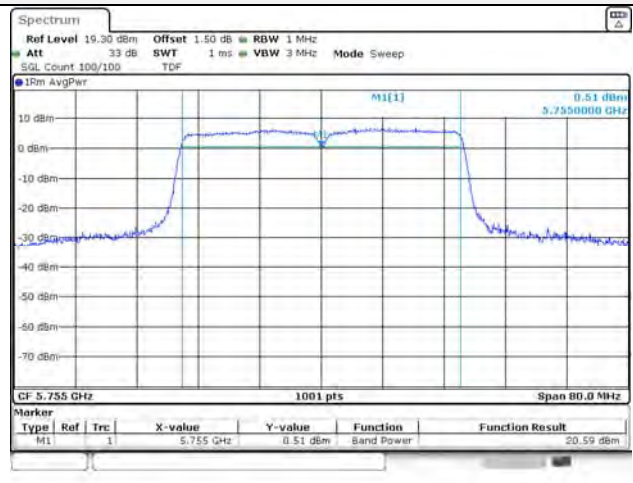
UNII-2C / 802.11ac VHT20 / 5 500 MHz**UNII-3 / 802.11ac VHT20 / 5 745 MHz****UNII-2C / 802.11ac VHT20 / 5 600 MHz****UNII-3 / 802.11ac VHT20 / 5 785 MHz****UNII-2C / 802.11ac VHT20 / 5 700 MHz****UNII-3 / 802.11ac VHT20 / 5 825 MHz**

UNII-1 / 802.11ac VHT40 / 5 190 MHz**UNII-2A / 802.11ac VHT40 / 5 270 MHz****UNII-1 / 802.11ac VHT40 / 5 230 MHz****UNII-2A / 802.11ac VHT40 / 5 310 MHz**

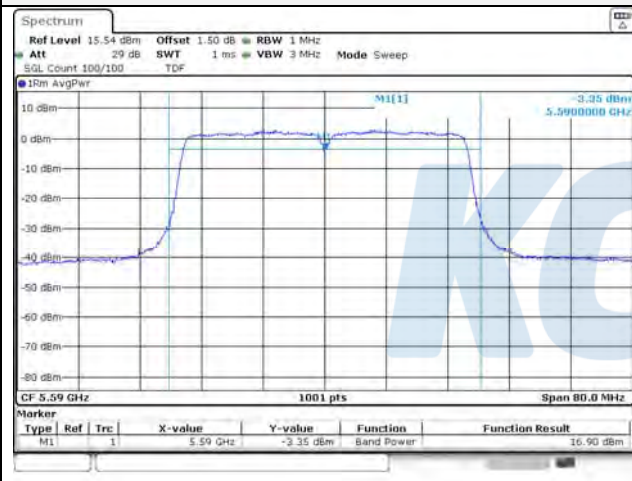
UNII-2C / 802.11ac VHT40 / 5 510 MHz



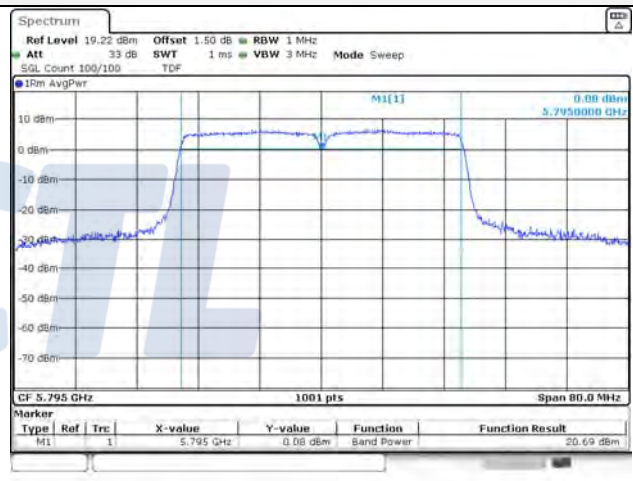
UNII-3 / 802.11ac VHT40 / 5 755 MHz



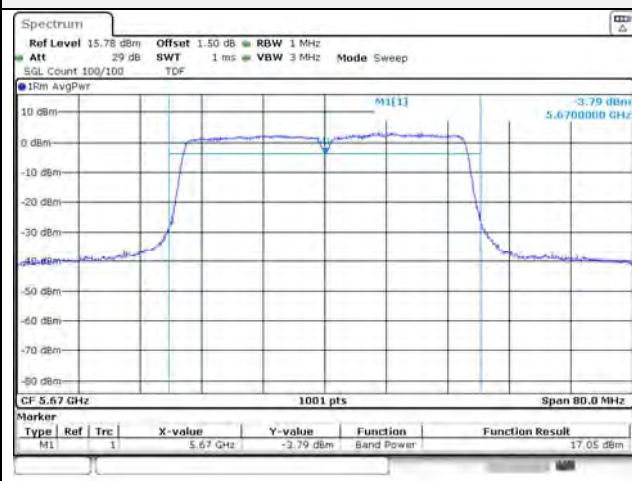
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UNII-3 / 802.11ac VHT40 / 5 795 MHz

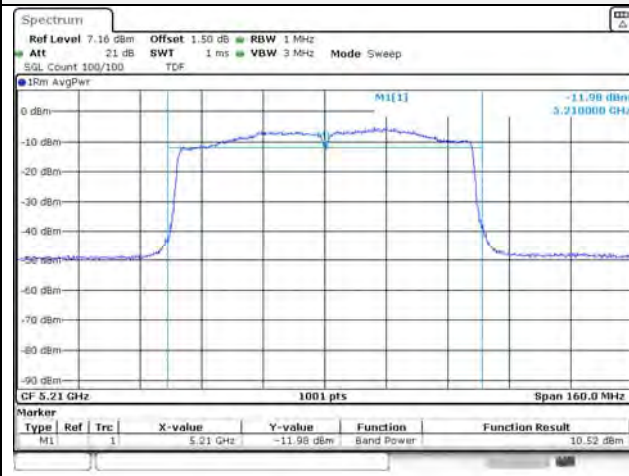


UNII-2C / 802.11ac VHT40 / 5 670 MHz

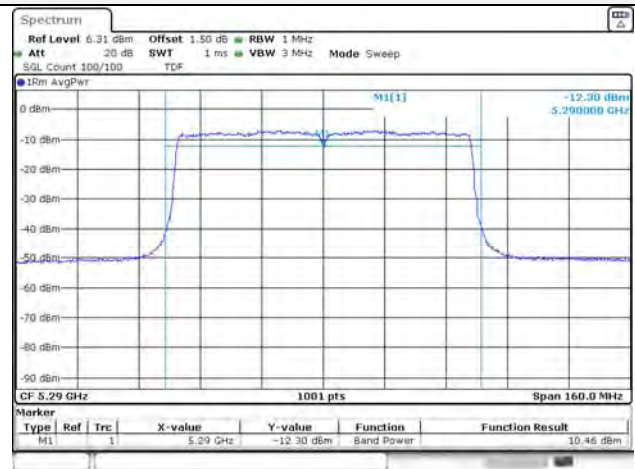


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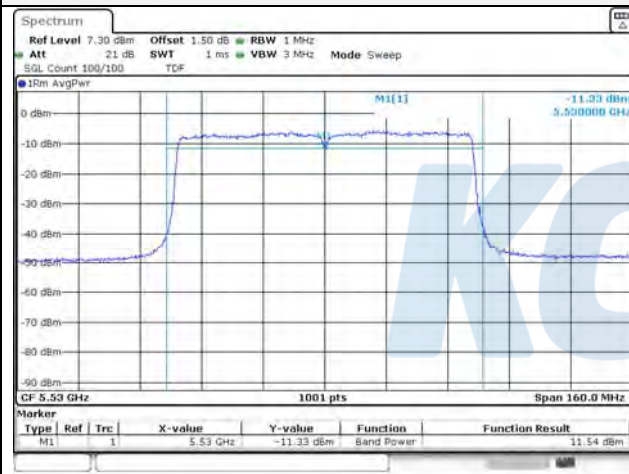
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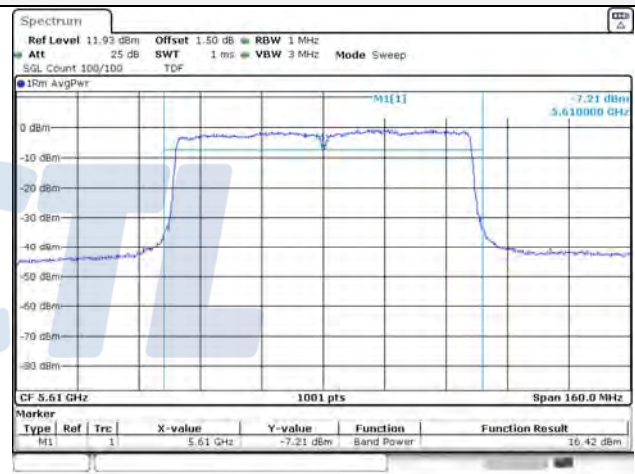
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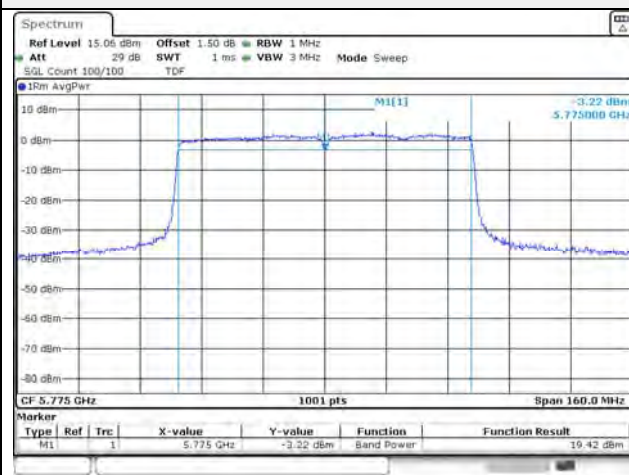
UNII-2C / 802.11ac VHT80 / 5 530 MHz



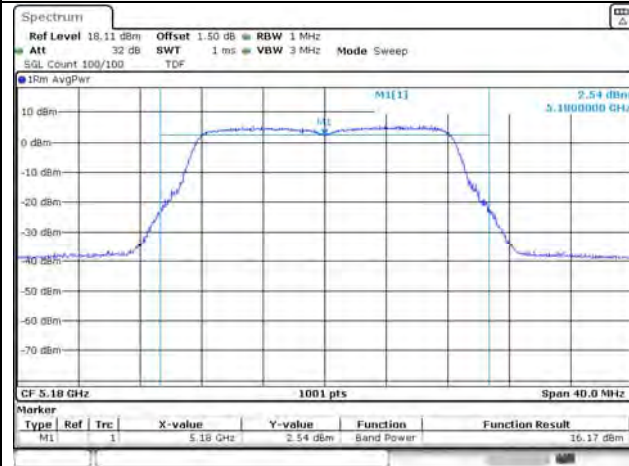
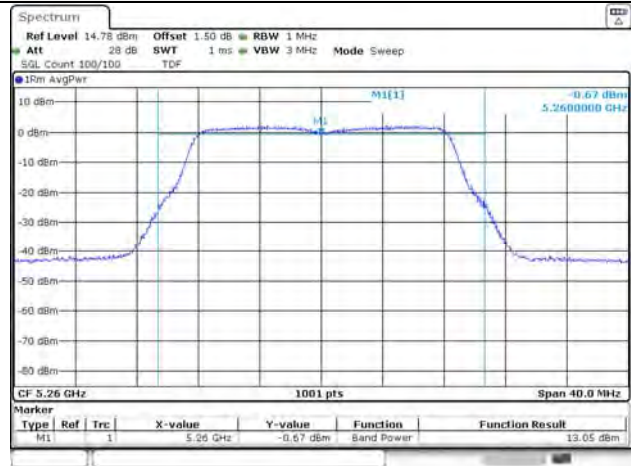
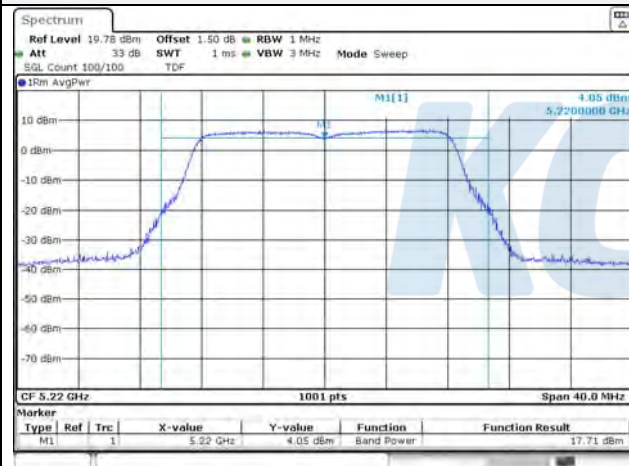
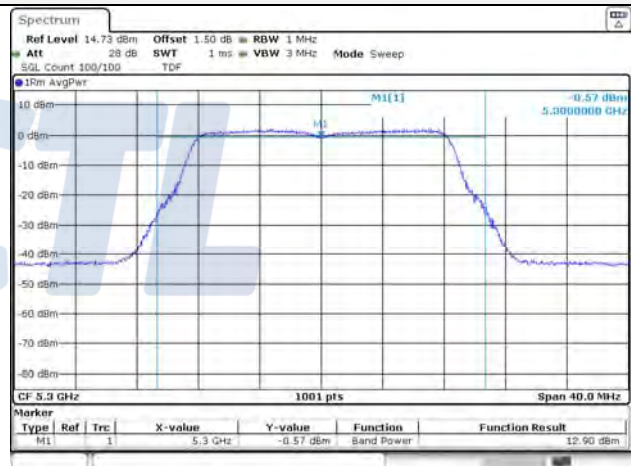
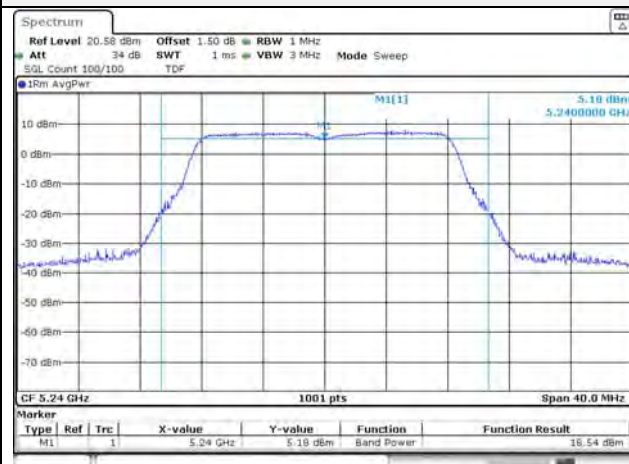
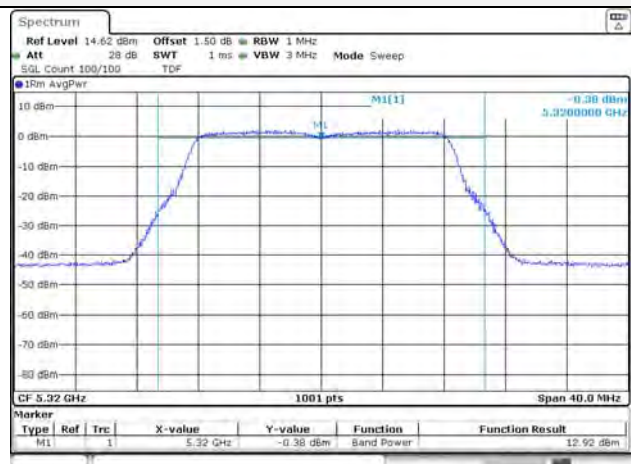
UNII-2C / 802.11ac VHT80 / 5 610 MHz

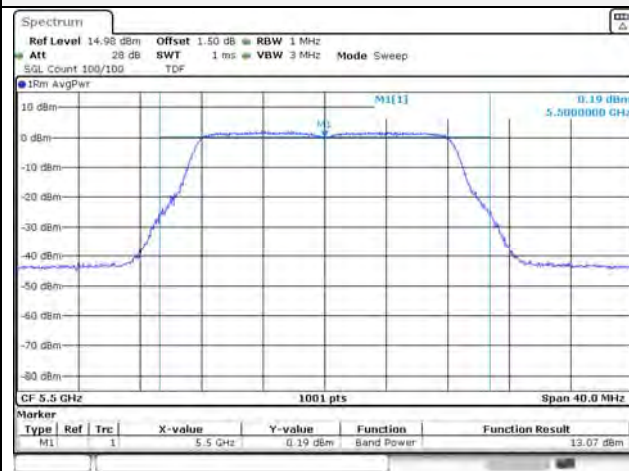
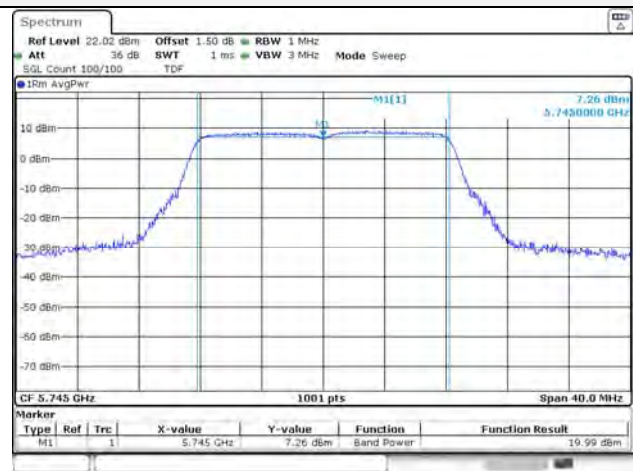
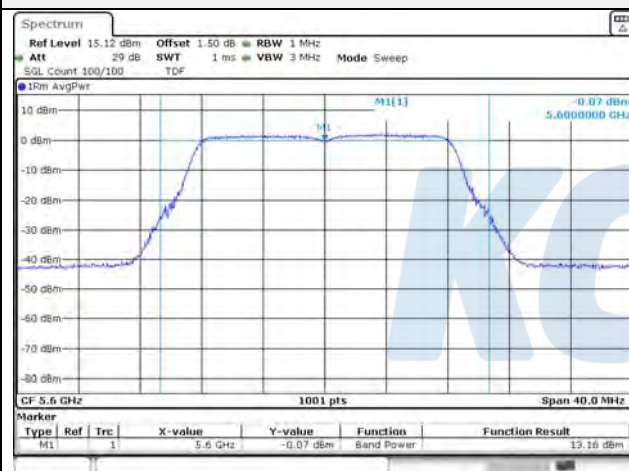
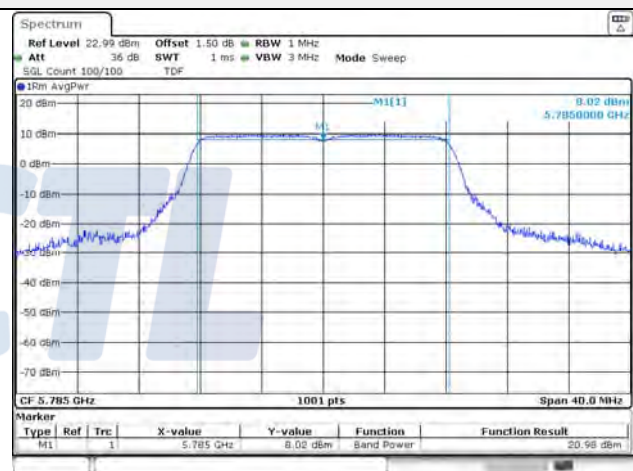
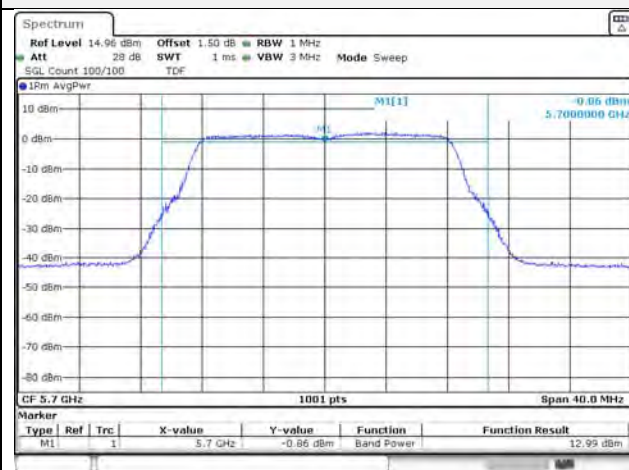
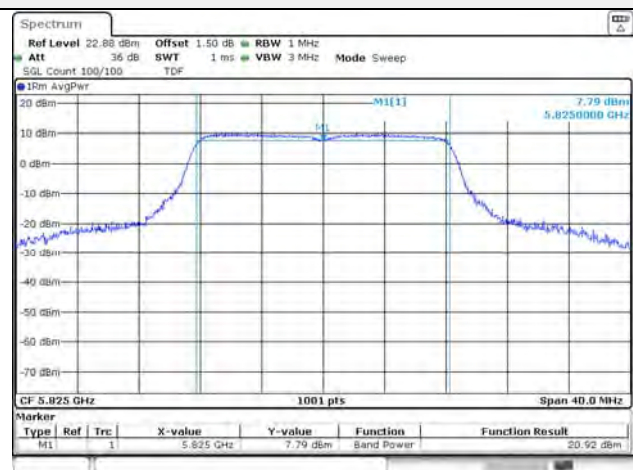


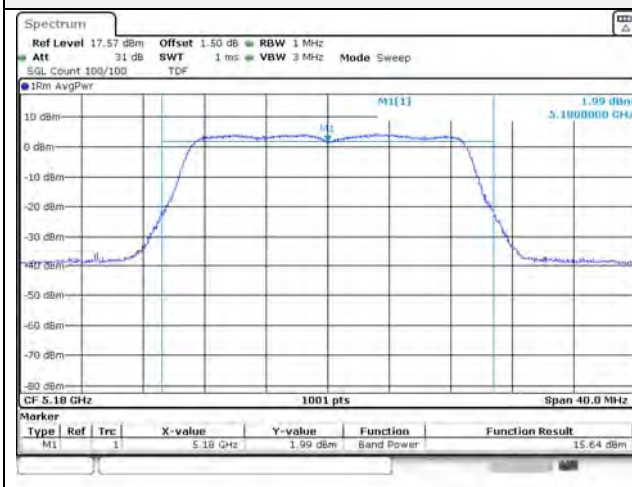
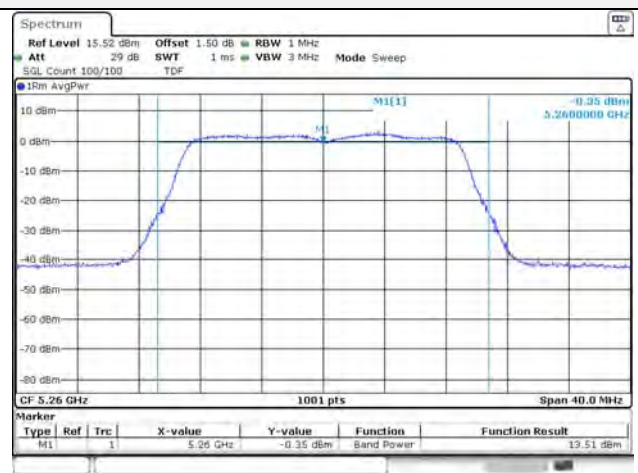
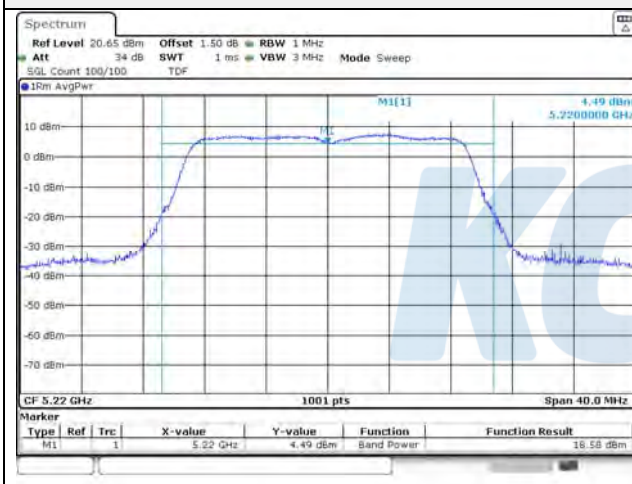
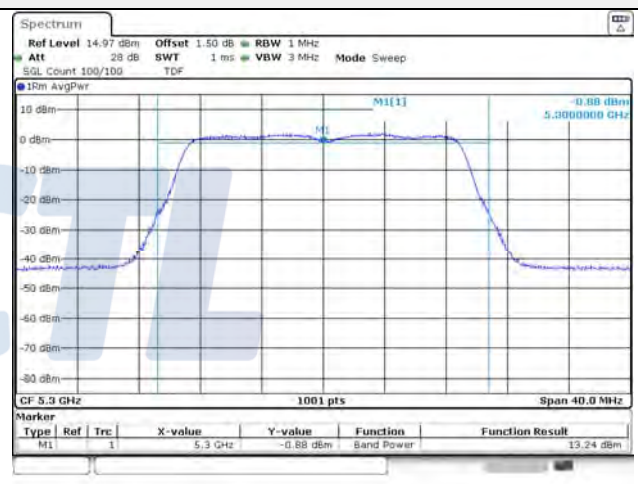
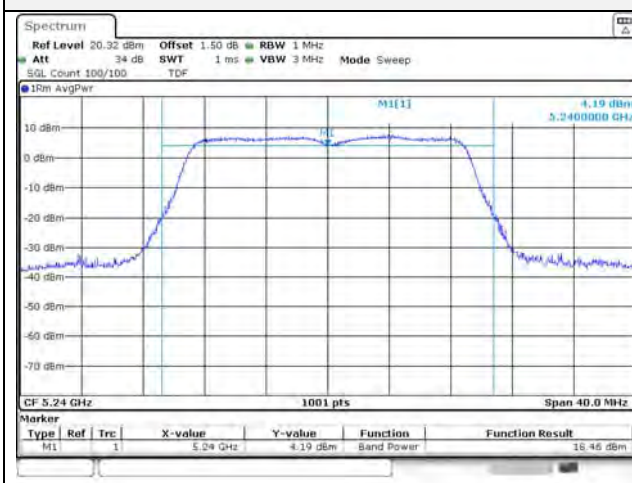
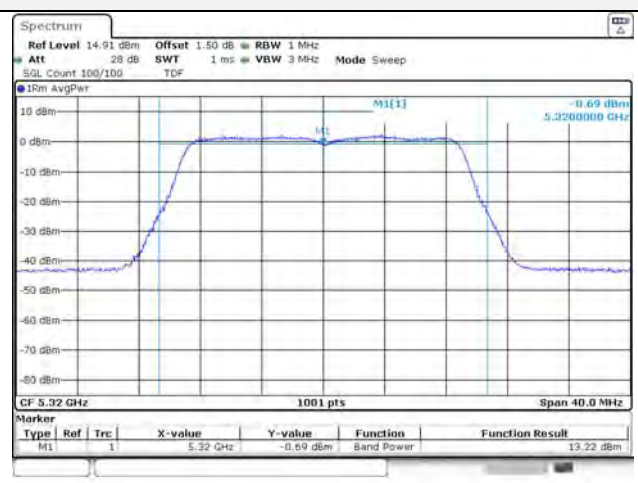
UNII-2C / 802.11ac VHT80 / 5 775 MHz

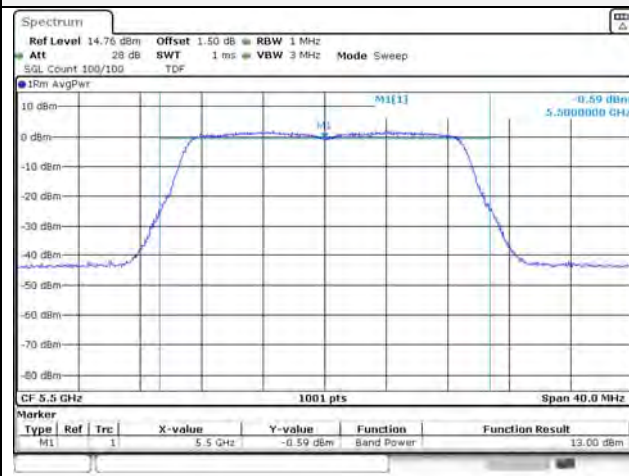
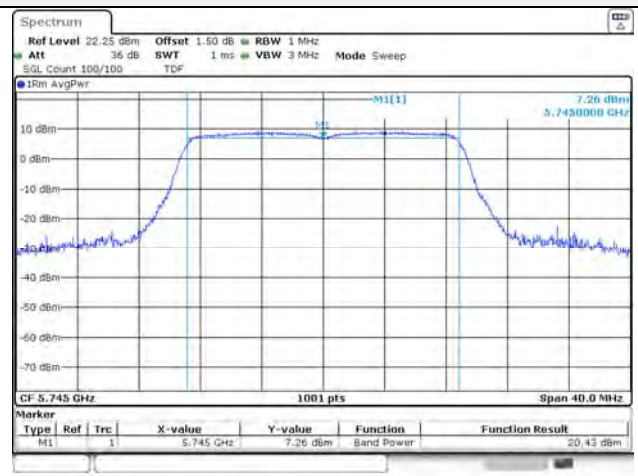
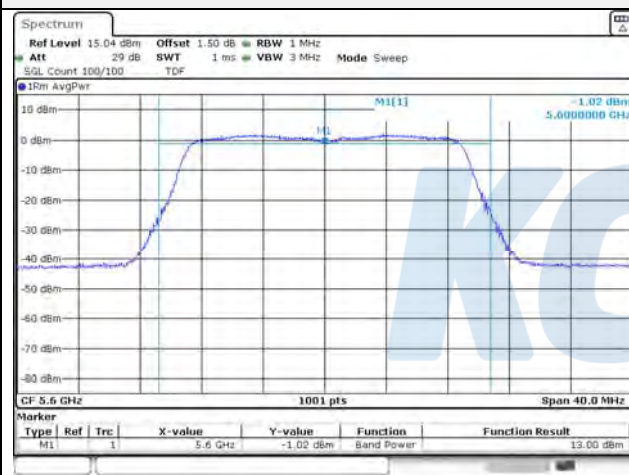
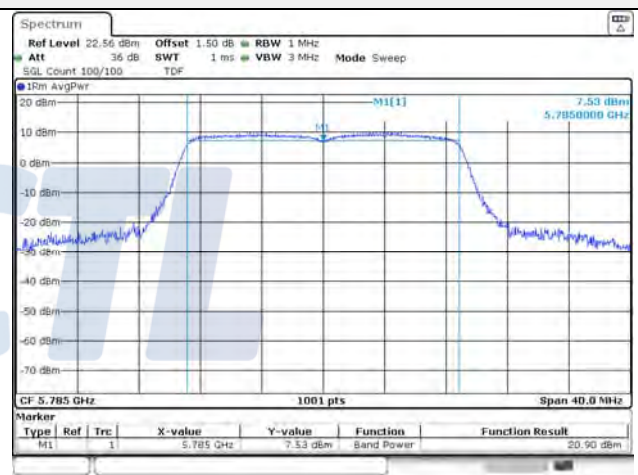
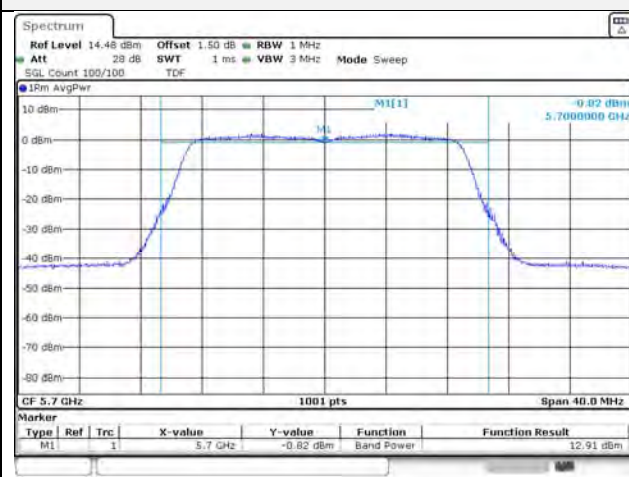
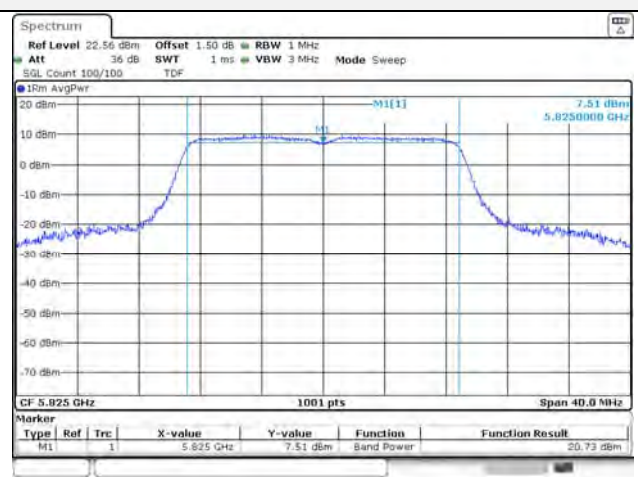


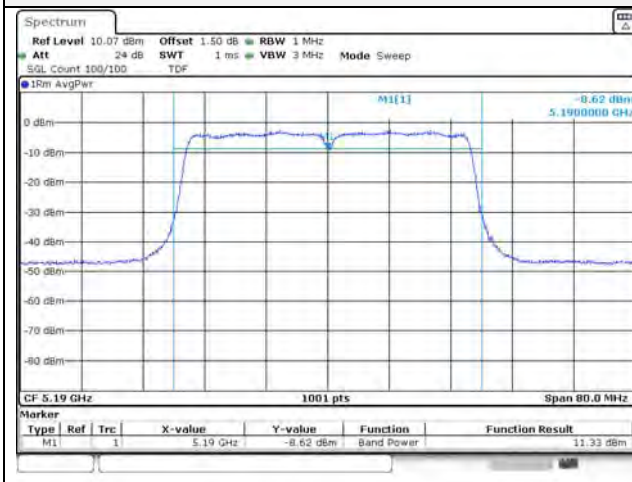
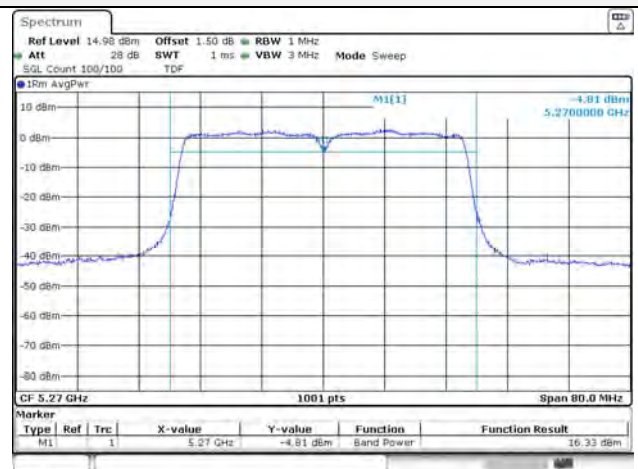
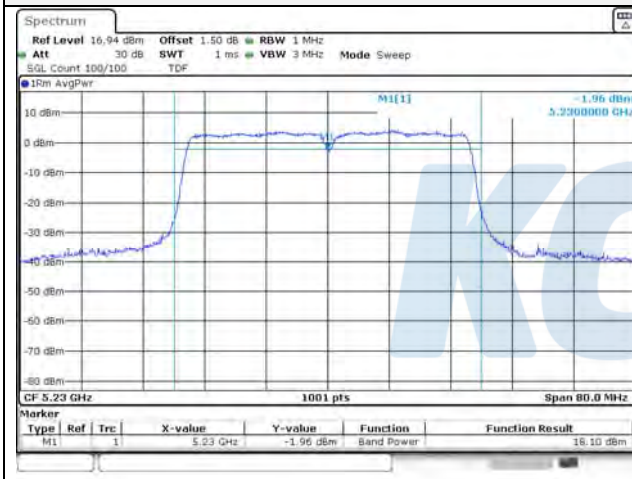
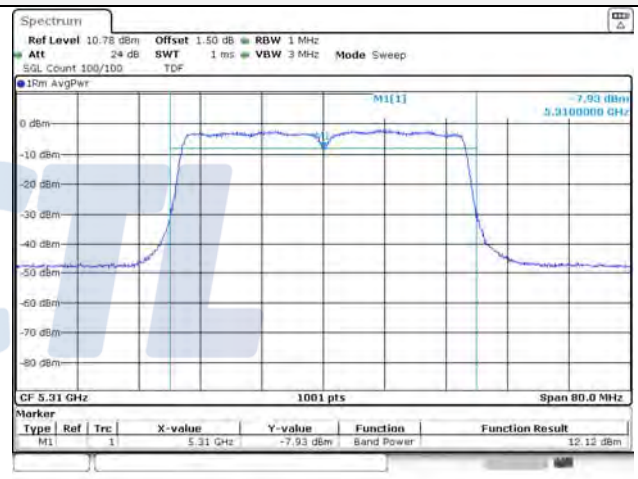
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4TX MIMO ANT 1**UNII-1 / 802.11a / 5 180 MHz****UNII-2A / 802.11a / 5 260 MHz****UNII-1 / 802.11a / 5 220 MHz****UNII-2A / 802.11a / 5 300 MHz****UNII-1 / 802.11a / 5 240 MHz****UNII-2A / 802.11a / 5 320 MHz**

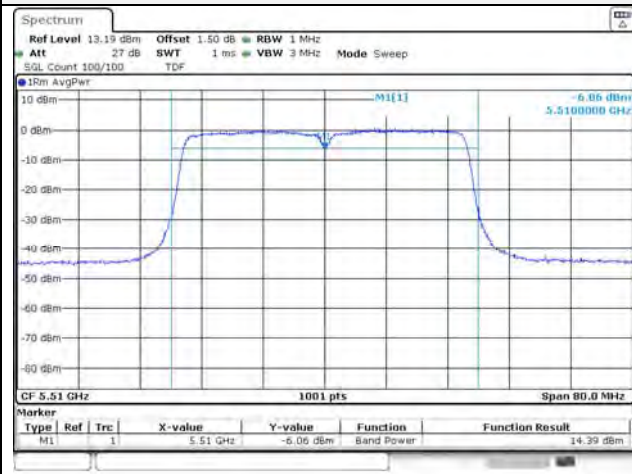
UNII-2C / 802.11a / 5 500 MHz**UNII-3 / 802.11a / 5 745 MHz****UNII-2C / 802.11a / 5 600 MHz****UNII-3 / 802.11a / 5 785 MHz****UNII-2C / 802.11a / 5 700 MHz****UNII-3 / 802.11a / 5 825 MHz**

UNII-1 / 802.11n HT20 / 5 180 MHz**UNII-2A / 802.11n HT20 / 5 260 MHz****UNII-1 / 802.11n HT20 / 5 220 MHz****UNII-2A / 802.11n HT20 / 5 300 MHz****UNII-1 / 802.11n HT20 / 5 240 MHz****UNII-2A / 802.11n HT20 / 5 320 MHz**

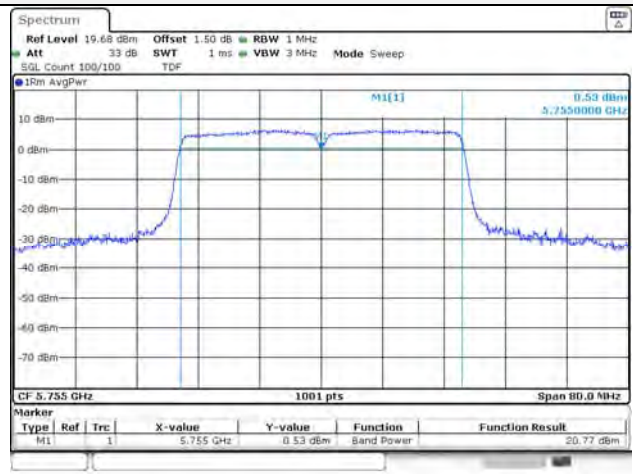
UNII-2C / 802.11n HT20 / 5 500 MHz**UNII-3 / 802.11n HT20 / 5 745 MHz****UNII-2C / 802.11n HT20 / 5 600 MHz****UNII-3 / 802.11n HT20 / 5 785 MHz****UNII-2C / 802.11n HT20 / 5 700 MHz****UNII-3 / 802.11n HT20 / 5 825 MHz**

UNII-1 / 802.11n HT40 / 5 190 MHz**UNII-2A / 802.11n HT40 / 5 270 MHz****UNII-1 / 802.11n HT40 / 5 230 MHz****UNII-2A / 802.11n HT40 / 5 310 MHz**

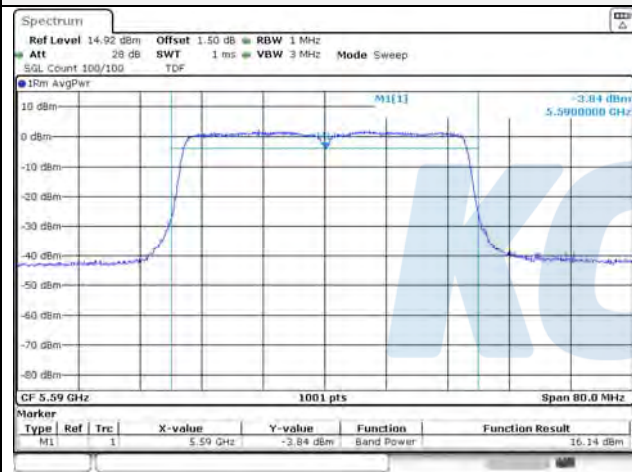
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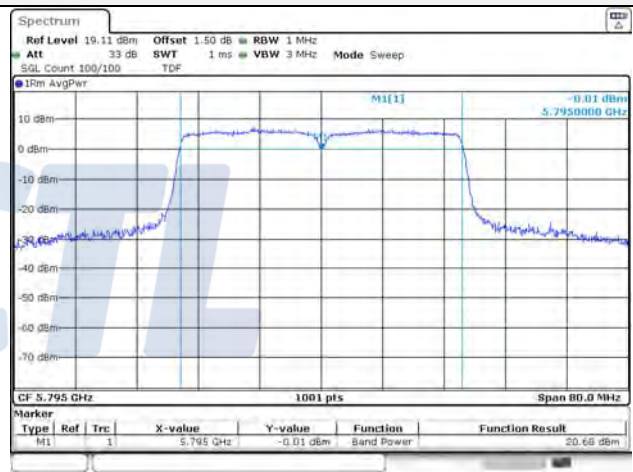
UNII-3 / 802.11n HT40 / 5 755 MHz



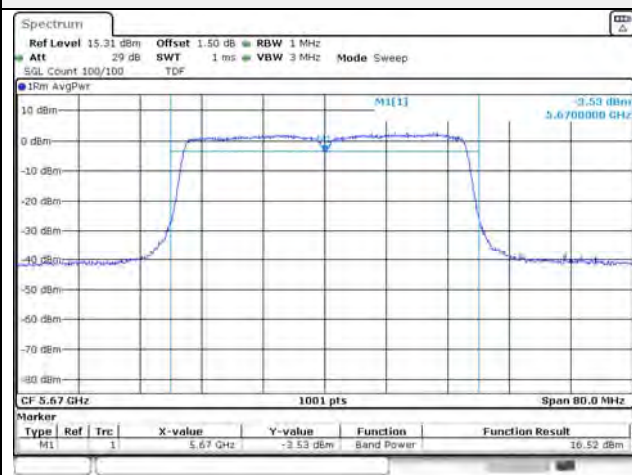
UNII-2C / 802.11n HT40 / 5 590 MHz



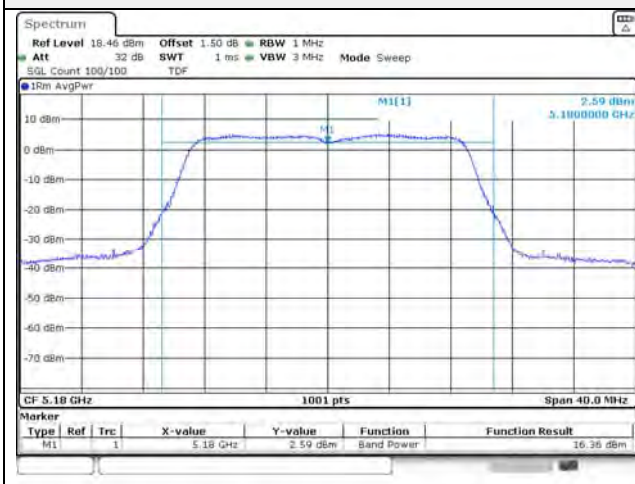
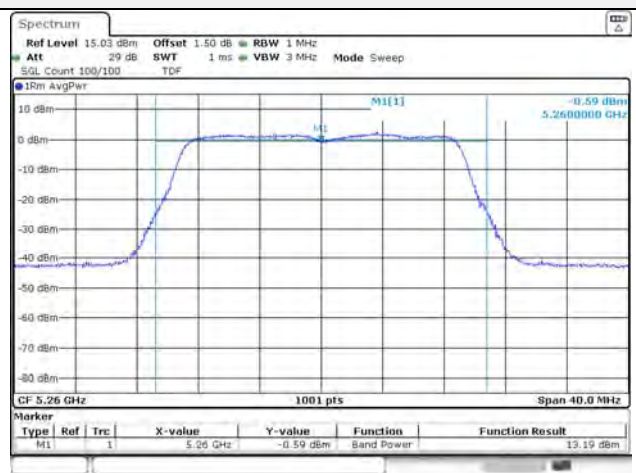
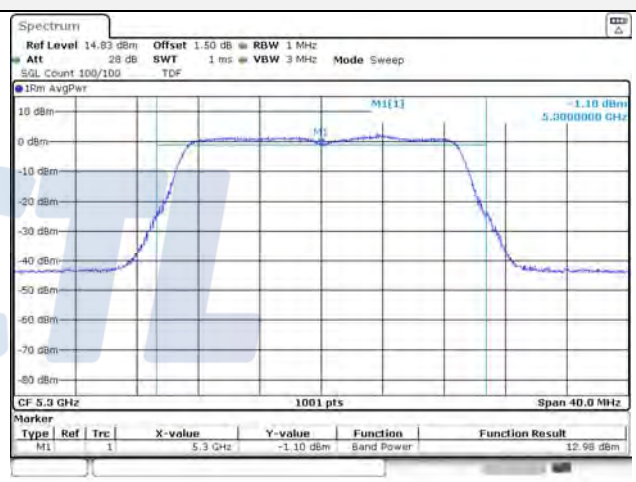
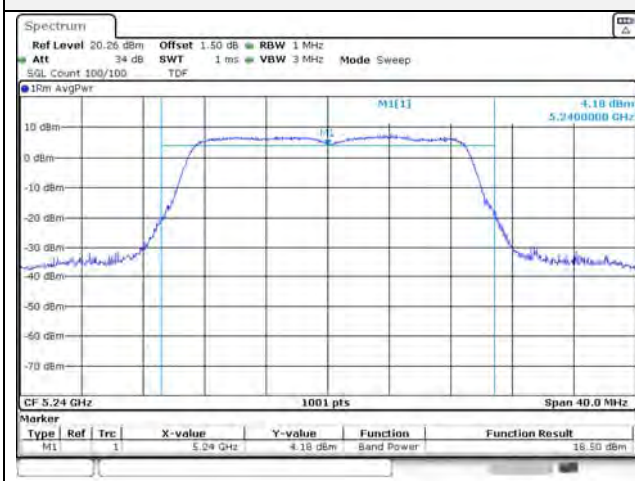
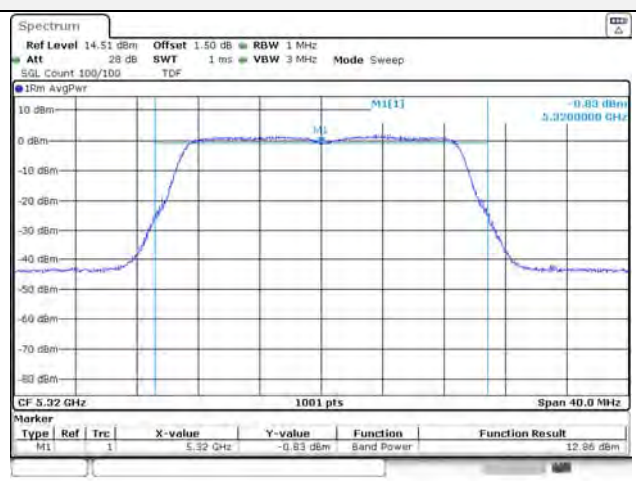
UNII-3 / 802.11n HT40 / 5 795 MHz

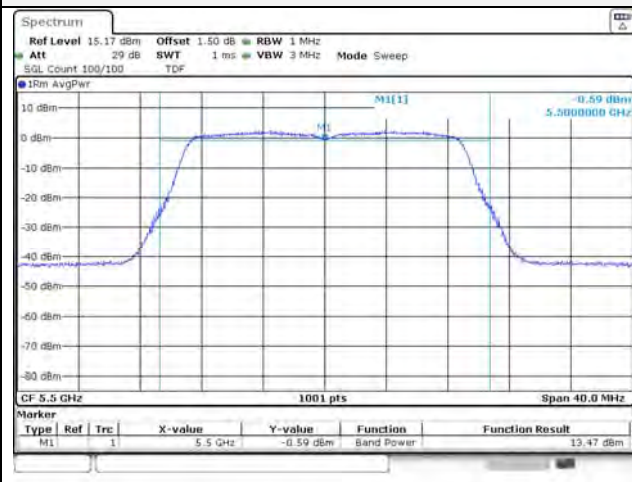
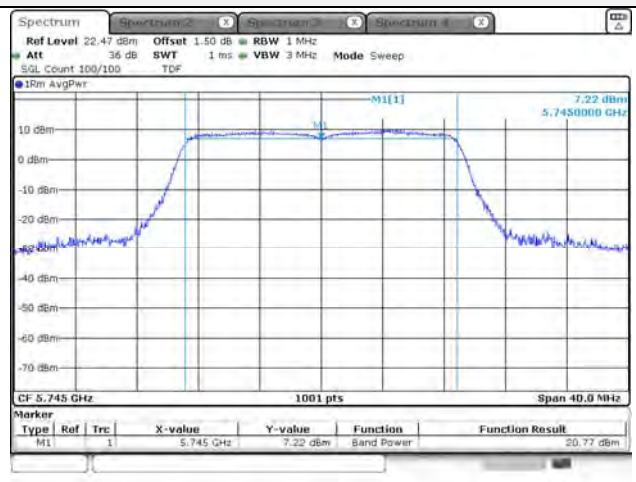
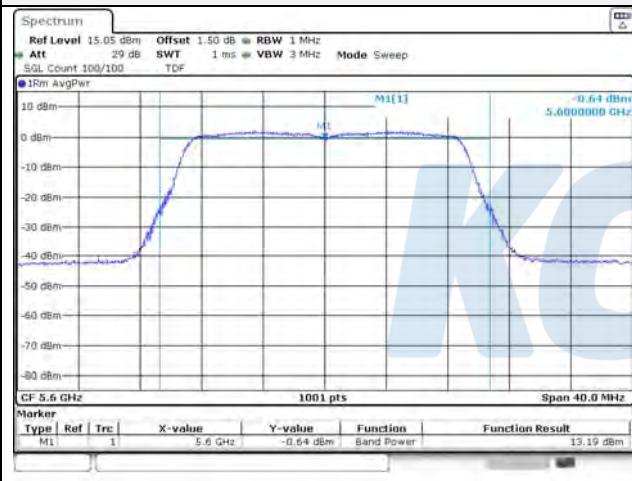
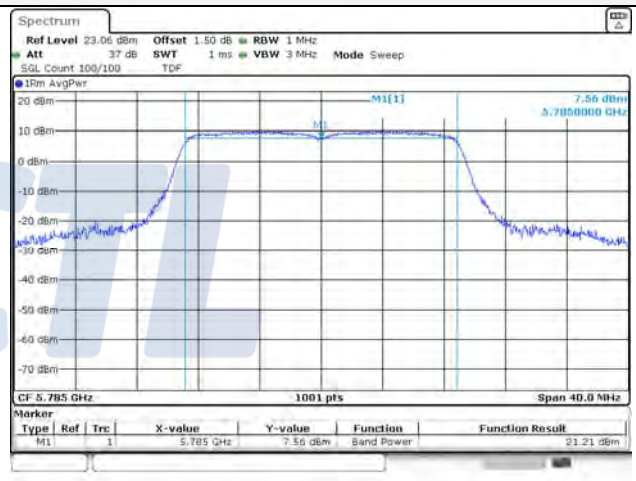
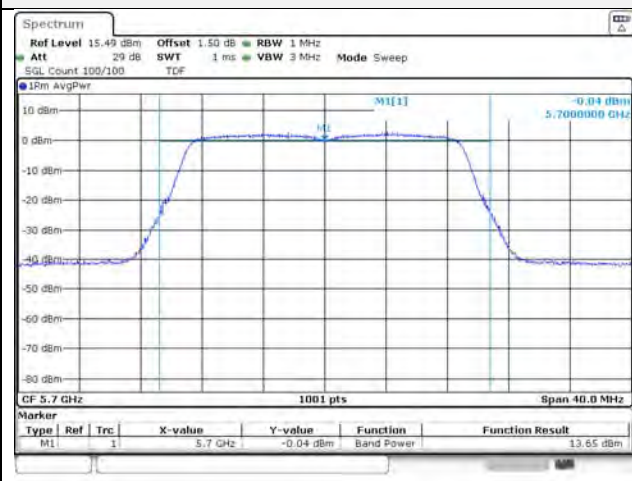
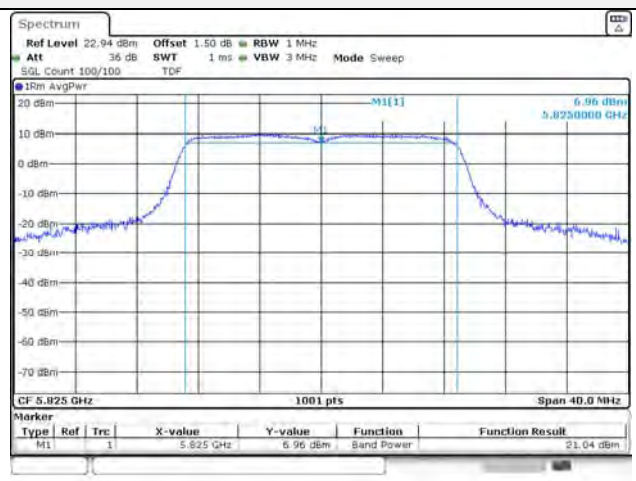


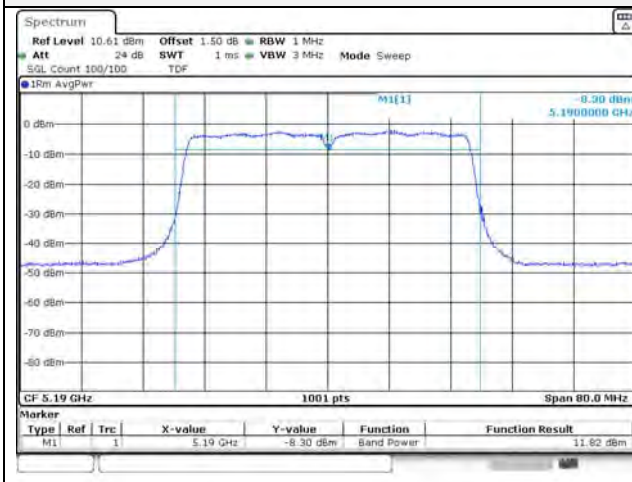
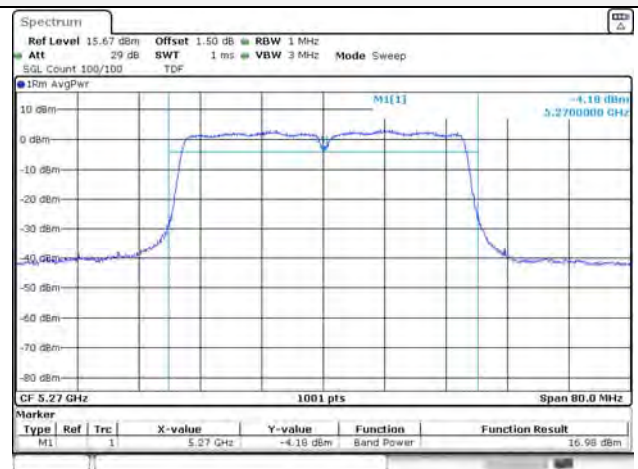
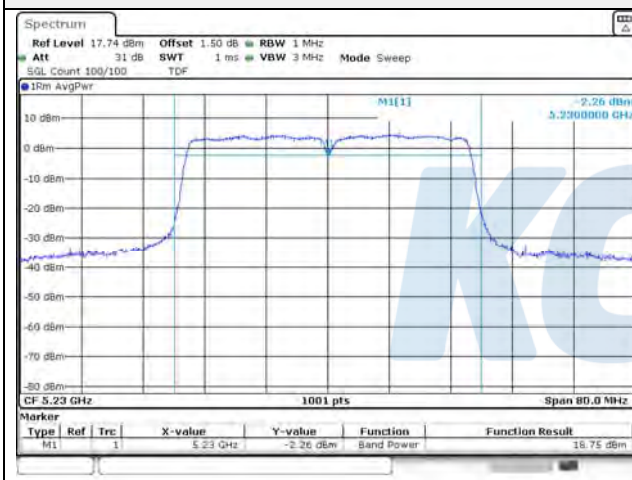
UNII-2C / 802.11n HT40 / 5 670 MHz



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UNII-1 / 802.11ac VHT20 / 5 180 MHz**UNII-2A / 802.11ac VHT20 / 5 260 MHz****UNII-1 / 802.11ac VHT20 / 5 220 MHz****UNII-2A / 802.11ac VHT20 / 5 300 MHz****UNII-1 / 802.11ac VHT20 / 5 240 MHz****UNII-2A / 802.11ac VHT20 / 5 320 MHz**

UNII-2C / 802.11ac VHT20 / 5 500 MHz**UNII-3 / 802.11ac VHT20 / 5 745 MHz****UNII-2C / 802.11ac VHT20 / 5 600 MHz****UNII-3 / 802.11ac VHT20 / 5 785 MHz****UNII-2C / 802.11ac VHT20 / 5 700 MHz****UNII-3 / 802.11ac VHT20 / 5 825 MHz**

UNII-1 / 802.11ac VHT40 / 5 190 MHz**UNII-2A / 802.11ac VHT40 / 5 270 MHz****UNII-1 / 802.11ac VHT40 / 5 230 MHz****UNII-2A / 802.11ac VHT40 / 5 310 MHz**