



TEST REPORT

Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-70-4904-0113 FAX: 82-505-299-8311 www.kctl.co.kr	Report No.: KR25-SRF0215 Page(1) of (133)	 KCTL
1. Client		
◦ Name : NTL Healthcare Co., LTD. ◦ Address : 710-713, 42, Changeop-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do Republic of Korea ◦ Date of Receipt : 2025-07-23		
2. Use of Report : Certification		
3. Name of Product / Model : External Surgical Camera / Dr.CerviCARE		
4. Manufacturer / Country of Origin : NTL Healthcare Co., LTD. / Korea		
5. FCC ID : 2BRZ6-DRCERVICARE		
6. Date of Test : 2025-09-08 to 2025-10-15		
7. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing (Address:65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)		
8. Test method used : FCC Part 15 Subpart E, 15.407		
9. Test Result : Refer to the test result in the test report		
Affirmation	Tested by	Technical Manager
	Name : Donghun Lee (Signature)	Name : Hyeonsu Jang (Signature)
2025-10-15		
Eurofins KCTL Co.,Ltd.		
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REPORT REVISION HISTORY

Date	Revision	Page No
2025-10-15	Originally issued	-

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General remarks for test reports

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ Statement not required by the standard or client used for type testing

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1. General information

Client : NTL Healthcare Co., LTD.
 Address : 710-713, 42, Changeop-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
 Manufacturer : NTL Healthcare Co., LTD.
 Address : 710-713, 42, Changeop-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
 Laboratory : Eurofins KCTL Co.,Ltd.
 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
 CAB Identifier: KR0040
 ISED Number: 8035A
 KOLAS No.: KT231

2. Device information

Equipment under test : External Surgical Camera
 Model : Dr.CerviCARE
 Modulation technique : WIFI(802.11a/n/ac) : OFDM
 Number of channels : 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 3.7 V
 Antenna specification : Cerimac SMT Antenna
 Antenna gain : UNII 1 : 2.10 dBi
 UNII 2A : 2.10 dBi
 UNII 2C : 2.20 dBi
 UNII 3 : 2.00 dBi
 Frequency range : UNII 1 : 5 180 MHz ~ 5 240 MHz (802.11a/n/ac_HT20/VHT20)
 UNII 1 : 5 190 MHz ~ 5 230 MHz (802.11n/ac_HT40/VHT40)
 UNII 1 : 5 210 MHz (802.11ac_VHT80)
 UNII 2A : 5 260 MHz ~ 5 320 MHz (802.11a/n/ac_HT20/VHT20)
 UNII 2A : 5 270 MHz ~ 5 310 MHz (802.11n/ac_HT40/VHT40)
 UNII 2A : 5 290 MHz (802.11ac_VHT80)
 UNII 2C : 5 500 MHz ~ 5 720 MHz (802.11a/n/ac_HT20/VHT20)
 UNII 2C : 5 510 MHz ~ 5 710 MHz (802.11n/ac_HT40/VHT40)
 UNII 2C : 5 530 MHz ~ 5 690 MHz (802.11ac_VHT80)
 UNII 3 : 5 745 MHz ~ 5 825 MHz (802.11a/n/ac_HT20/VHT20)
 UNII 3 : 5 755 MHz ~ 5 795 MHz (802.11n/ac_HT40/VHT40)
 UNII 3 : 5 775 MHz (802.11ac_VHT80)
 Software version : N/A
 Hardware version : N/A
 Test device serial No. : Conducted : N/A
 Radiated : VT021452504
 Operation temperature : -10 °C ~ 50 °C

2.1. Frequency/channel operations

This device contains the following capabilities:
WLAN (11a/n/ac)

UNII 1

Ch.	Frequency (MHz)
36	5 180
40	5 200
48	5 240

UNII 2A

Ch.	Frequency (MHz)
52	5 260
56	5 280
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 2.1.1. 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 2.1.2. 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 2.1.3. 802.11ac VHT80 mode

Notes:

1. The device supports DFS bands between UNII 2A and UNII 2C and operates as a slave device controlled by master

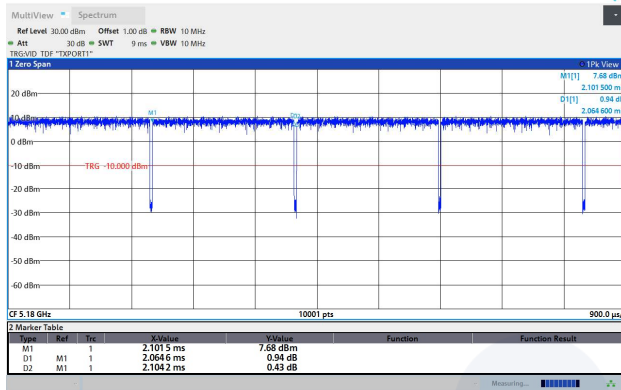
2.2. Duty Cycle Factor

Test mode	Period (ms)	T _{on} time (ms)	Duty cycle		Duty cycle factor (dB)
			(Linear)	(%)	
802.11a	2.104	2.065	0.981 2	98.12	0.08
802.11n_HT20	1.961	1.923	0.980 8	98.08	0.08
802.11n_HT40	0.984	0.948	0.962 6	96.26	0.17
802.11ac_VHT20	1.969	1.932	0.981 3	98.13	0.08
802.11ac_VHT40	0.986	0.948	0.961 5	96.15	0.17
802.11ac_VHT80	0.501	0.464	0.926 2	92.62	0.33

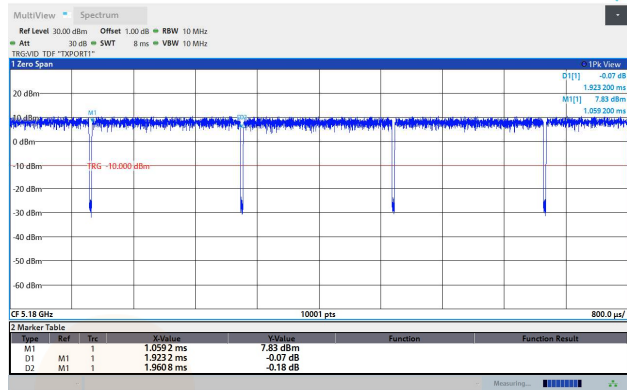
Notes.

1. Duty cycle (Linear) = T_{on} time / Period
2. DCF(Duty cycle factor) = 10log(1/duty cycle)
3. DCF is not compensated to average result if duty cycle is more than 98%

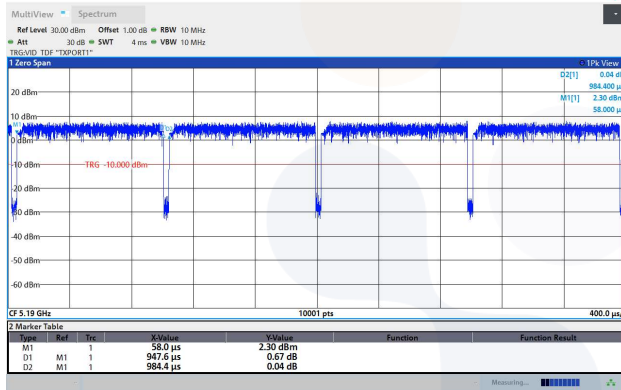
802.11a



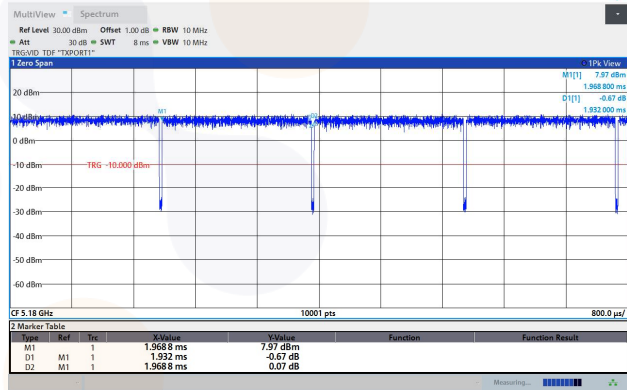
802.11n_HT20



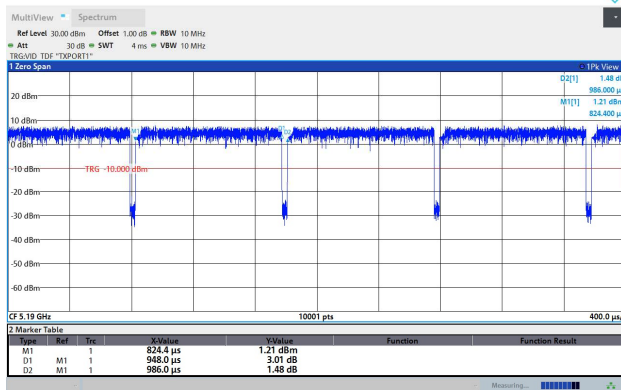
802.11n_HT40



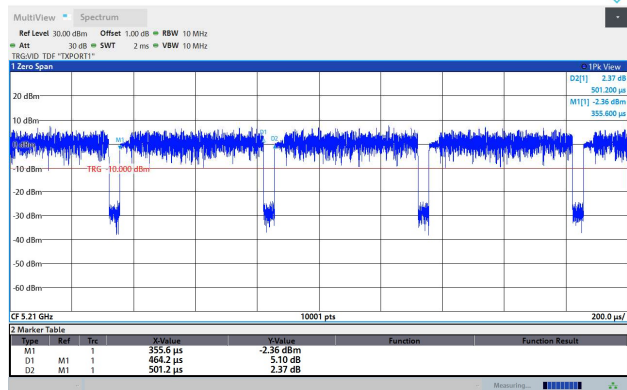
802.11ac_VHT20



802.11ac_VHT40



802.11ac_VHT80



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3. Antenna requirement

Requirement of FCC part section 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. 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 Ceramic SMT Antenna (Internal antenna) on board.
- The E.U.T Complies with the requirement of §15.203, §15.407.



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 Channel Bandwidth		Pass
15.407(e)	6 dB Channel Bandwidth		Pass
-	Occupied Bandwidth		Pass
15.407(g)	Frequency Stability		Pass
15.207(a)	AC Conducted Emissions		Pass
15.407(h)	DFS -Channel closing transmission time -Channel move time -Non occupied period	Conducted	Pass
15.407(b) 15.205(a) 15.209(a)	Spurious emission Band-edge, restricted band	Radiated	Pass 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.
- 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 789033 D02 v02r01
 - KDB 905462 D02 UNII DFS compliance procedure new rules.
 - KDB 905462 D03 UNII client without radar detection new rules.
- Based on the baseline scan, the worst-case data rates were:
 - 802.11a mode: 6Mbps
 - 802.11n HT20 mode: MCS0
 - 802.11n HT40 mode: MCS0
 - 802.11ac VHT20 mode: MCS0
 - 802.11ac VHT40 mode: MCS0
 - 802.11ac VHT80 mode: MCS0

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 ($\pm$)	
Maximum Peak Output Power	0.9 dB	
Peak Power Spectral Density	1.0 dB	
Channel Bandwidth	0.1 %	
Occupied Bandwidth	0.1 %	
Dynamic Frequency Selection	0.1 ms	
Conducted spurious emission	2.0 dB	
Radiated spurious Emissions (Bandedge, restricted band)	Below 30 MHz	2.3 dB
	30 MHz to 1 000 MHz	2.6 dB
	1 000 MHz to 18 000 MHz	4.8 dB
	Above 18 000 MHz	4.8 dB
Conducted Emissions	150 kHz to 30 MHz	2.9 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	10.06	11 000	12.69
50	10.15	12 000	12.69
100	10.33	13 000	13.13
200	9.50	14 000	13.12
300	9.63	15 000	12.97
400	10.75	16 000	13.00
500	10.81	17 000	13.16
600	10.89	18 000	13.18
700	11.00	19 000	13.14
800	11.10	20 000	13.21
900	11.15	21 000	13.81
1 000	11.17	22 000	13.33
2 000	11.74	23 000	13.32
3 000	11.98	24 000	13.54
4 000	12.18	25 000	13.34
5 000	12.23	26 000	13.46
6 000	12.32	26 500	13.89
7 000	12.30	27 000	13.99
8 000	12.05	28 000	14.36
9 000	12.54	29 000	14.23
10 000	12.79	30 000	14.74

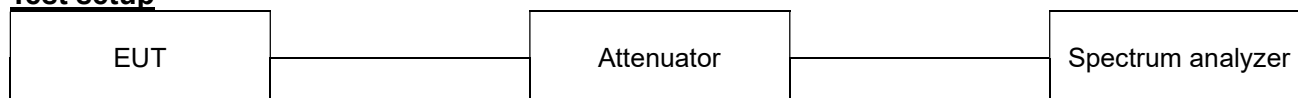
Notes:

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		Conducted output power 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 ¹⁾
UNII-2C	√		250 mW or 11 dBm + 10logB ¹⁾
UNII-3	√		1 W (30 dBm)

Note:

1) Limit B is the 26 dB emission bandwidth.

Test procedure

ANSI C63.10-2013-Section 12.3.2.4 or 12.3.3.1, 14.2
 KDB 789033 D02 v02r01 - Section E.2.d)

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 MHz
- (iv) Set RBW $\geq$ 3 MHz
- (v) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW} / 2$, 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%.

Test results

Conducted Output Power

Test mode	Band	Frequency (MHz)	Measured output power			Limit (dBm)
			Reading (dBm)	DCF (dB)	Result (dBm)	
802.11a	UNII 1	5 180	5.97	-	5.97	23.98
		5 200	6.26		6.26	
		5 240	5.85		5.85	
	UNII 2A	5 260	5.90		5.90	23.98
		5 280	6.06		6.06	
		5 320	6.13		6.13	
	UNII 2C	5 500	7.30		7.30	23.98
		5 600	5.87		5.87	
		5 700	6.22		6.22	
	UNII 3	5 745	4.88		4.88	30.00
		5 785	5.47		5.47	
		5 825	4.64		4.64	
802.11n HT20	UNII 1	5 180	5.64	-	5.64	23.98
		5 200	5.86		5.86	
		5 240	5.28		5.28	
	UNII 2A	5 260	5.76		5.76	23.98
		5 280	5.87		5.87	
		5 320	5.94		5.94	
	UNII 2C	5 500	7.16		7.16	23.98
		5 600	5.73		5.73	
		5 700	6.04		6.04	
	UNII 3	5 745	4.73		4.73	30.00
		5 785	5.30		5.30	
		5 825	4.47		4.47	
802.11n HT40	UNII 1	5 190	5.50	0.17	5.67	23.98
		5 230	4.79		4.96	
	UNII 2A	5 270	5.74		5.91	23.98
		5 310	5.79		5.96	
	UNII 2C	5 510	6.93		7.10	23.98
		5 590	5.58		5.75	
		5 670	6.08		6.25	
	UNII 3	5 755	4.87		5.04	30.00
		5 795	5.37		5.54	

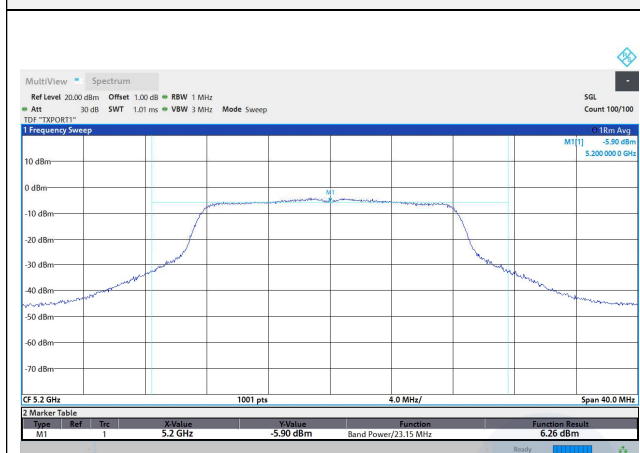
Test mode	Band	Frequency (MHz)	Measured output power			Limit (dBm)
			Reading (dBm)	DCF (dB)	Result (dBm)	
802.11ac VHT20	UNII 1	5 180	5.92	-	5.92	23.98
		5 200	6.12		6.12	
		5 240	5.75		5.75	
	UNII 2A	5 260	5.80		5.80	23.98
		5 280	5.87		5.87	
		5 320	5.91		5.91	
	UNII 2C	5 500	7.12		7.12	23.98
		5 600	5.71		5.71	
		5 700	6.08		6.08	
	UNII 3	5 745	4.59		4.59	30.00
		5 785	5.01		5.01	
		5 825	4.60		4.60	
802.11ac VHT40	UNII 1	5 190	5.43	0.17	5.60	23.98
		5 230	4.97		5.14	
	UNII 2A	5 270	5.62		5.79	23.98
		5 310	5.73		5.90	
	UNII 2C	5 510	7.05		7.22	23.98
		5 590	5.55		5.72	
		5 670	6.07		6.24	
	UNII 3	5 755	4.94		5.11	30.00
		5 795	5.43		5.60	
802.11ac VHT80	UNII 1	5 210	5.67	0.33	6.00	23.98
	UNII 2A	5 290	5.27		5.60	23.98
	UNII 2C	5 530	6.89		7.22	23.98
		5 610	5.34		5.67	
	UNII 3	5 775	5.70		6.03	30.00

Note:

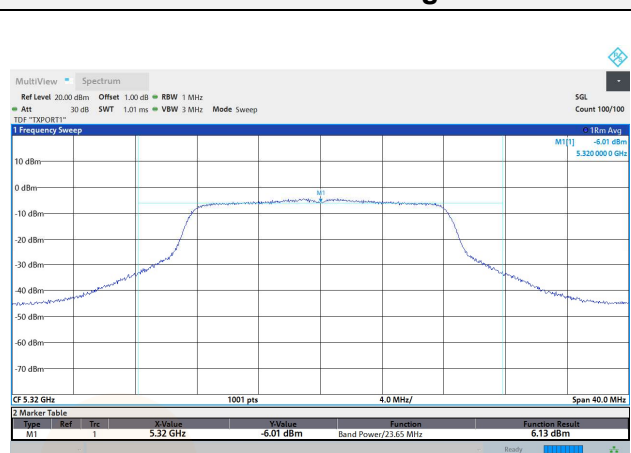
1. Result (dBm) = Reading (dBm) + D.C.F (dB)

In order to simplify the report, attached plots were the worst case per bandwidth

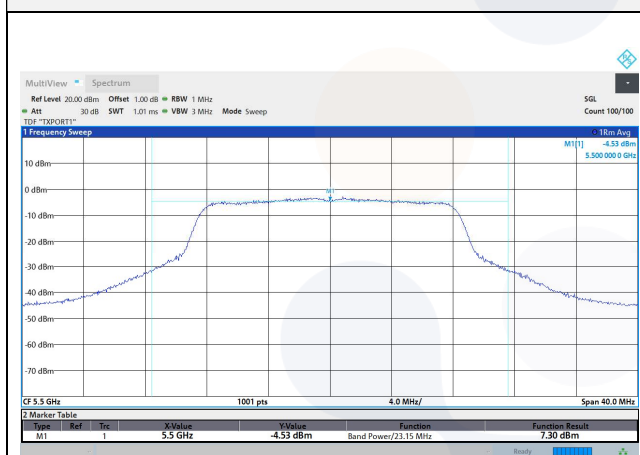
UNII 1 / 802.11a / Mid ch.



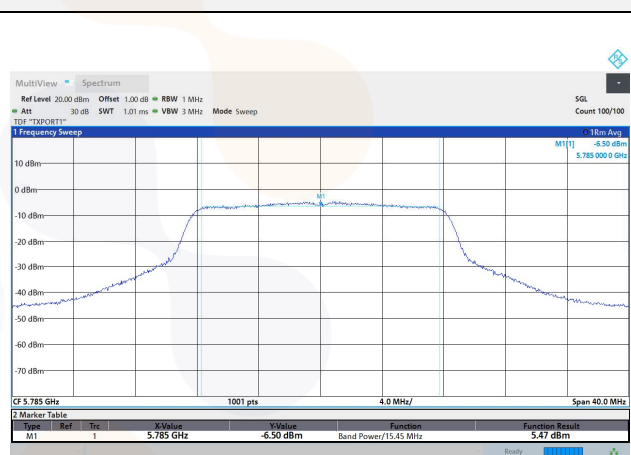
UNII 2A / 802.11a / High ch.



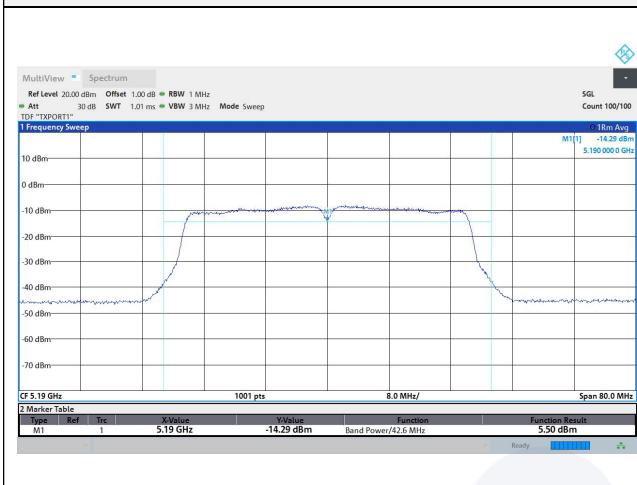
UNII 2C / 802.11a / Low ch.



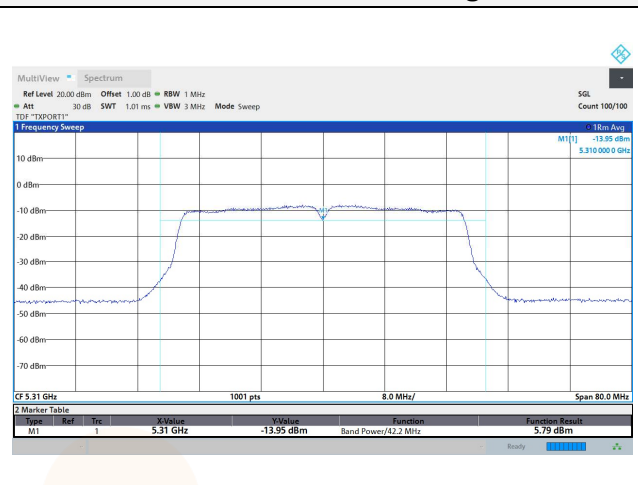
UNII 3 / 802.11a / Mid ch.



UNII 1 / 802.11n HT40 / Low ch.



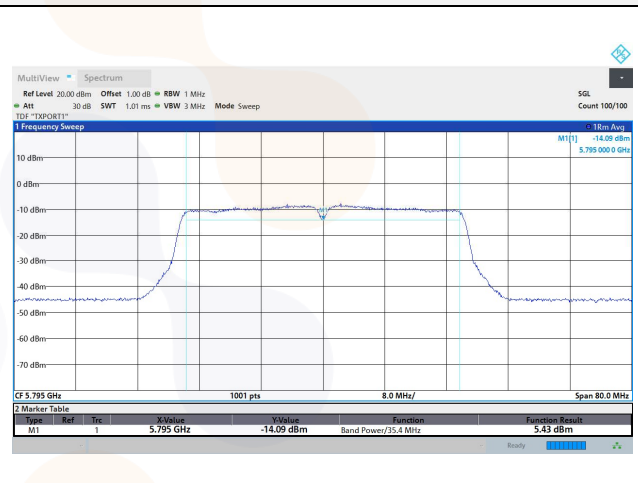
UNII 2A / 802.11n HT40 / High ch.



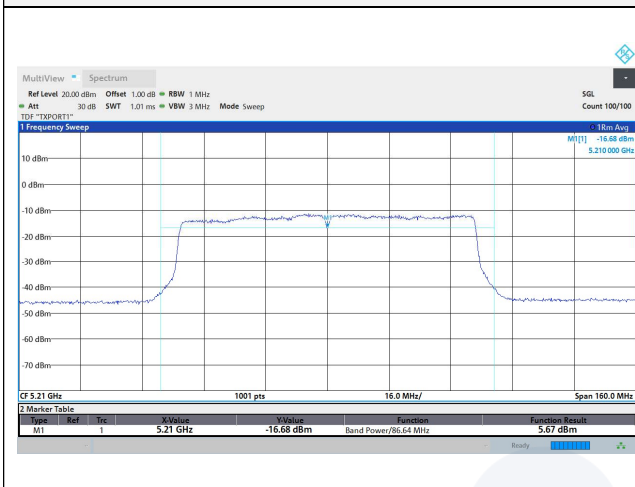
UNII 2C / 802.11ac VHT40 / Low ch.



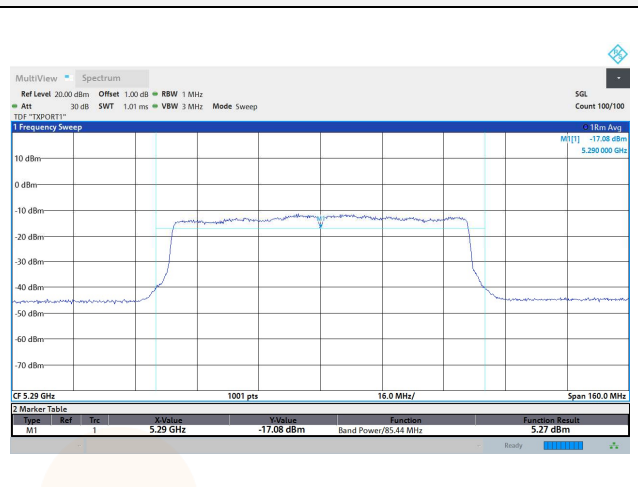
UNII 3 / 802.11ac VHT40 / High ch.



UNII 1 / 802.11ac VHT80 / Mid ch.



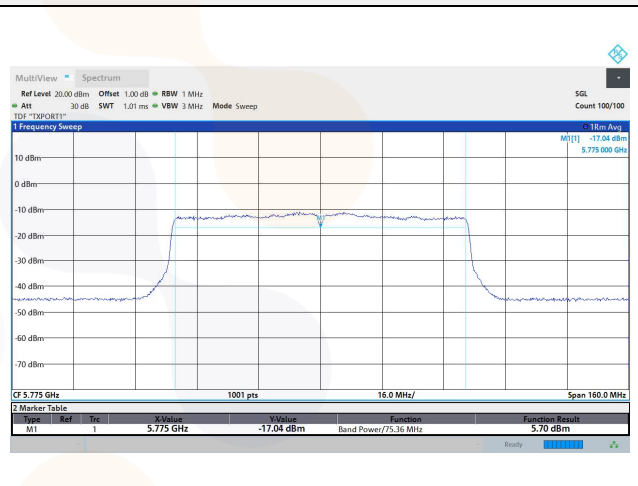
UNII 2A / 802.11ac VHT80 / Mid ch.



UNII 2C / 802.11ac VHT80 / Low ch.

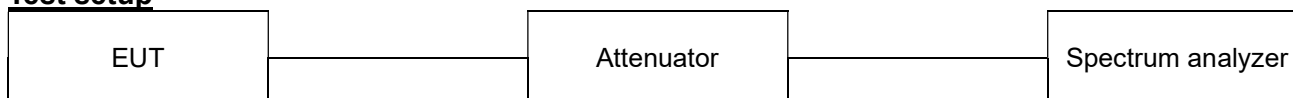


UNII 3 / 802.11ac VHT80 / Mid ch.



7.2. Maximum Power Spectral Density

Test setup



Limit

According to §15.407(a),

Band	EUT category		Limit
UNII-1		Outdoor access point	17 dBm/MHz
		Indoor access point	
		Fixed point-to-point access point	
	√	Client device	11 dBm /MHz
UNII-2A		√	11 dBm /MHz
UNII-2C		√	11 dBm /MHz
UNII-3		√	30 dBm /500 kHz

Notes:

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power And the peak power spectral density shall be reduced by the amount in dB that the directional gain if the antenna exceed 6 dBi

Test procedure

ANSI C63.10-2013 Section 12.3.2.2, 14.3.2.2

KDB 789033 D02 v02r01 - Section E and F

Test settings

Section F

The rules requires “maximum power spectral density” measurements where the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission. Refer to III.A for additional guidance for devices that use channel aggregation.

- Create an average power spectrum for the EUT operating mode being tested by following the instructions in II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power...” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
- Search function on the instrument to find the peak of the spectrum and record its value.
- Adjustments to the peak value of the spectrum, if applicable:
 - If Method SA-2 or SA-2 Alternative was used, add $10 \log (1/x)$, where x is the duty cycle, to the peak of the spectrum.
 - If Method SA-3 Alternative was used and the linear mode was used in II.E.2.g) (viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
- The result is the Maximum PSD over 1 MHz reference bandwidth
- For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the preceding procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference

bandwidth specified in Section 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth(i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in II.B.I.a).
- b) Set $VBW \geq 3 \text{ RBW}$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log (500 \text{ kHz} / \text{RBW})$ to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10 \log (1\text{MHz}/\text{RBW})$ to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note:

1. As a practical matter, it is recommended to use reduced RBW of 100 kHz for the II.F.5.c) and II.F.5.d), since RBW=100 kHz is available on nearly all spectrum analyzers.
2. Method SA-2 is used.

Test results

Power spectral density

Test mode	Band	Frequency (MHz)	Measured PSD (dBm/MHz)	DCF (dB)	Maximum PSD (dB m/MHz)	Limit (dBm/MHz)
802.11a	UNII 1	5 180	-5.97	-	-5.97	11.00
		5 200	-5.86		-5.86	
		5 240	-6.25		-6.25	
	UNII 2A	5 260	-5.21		-5.21	11.00
		5 280	-6.31		-6.31	
		5 320	-4.79		-4.79	
	UNII 2C	5 500	-4.88		-4.88	11.00
		5 600	-6.62		-6.62	
		5 700	-5.85		-5.85	
802.11n HT20	UNII 1	5 180	-5.69	-	-5.69	11.00
		5 200	-5.68		-5.68	
		5 240	-5.39		-5.39	
	UNII 2A	5 260	-6.15		-6.15	11.00
		5 280	-4.90		-4.90	
		5 320	-5.74		-5.74	
	UNII 2C	5 500	-4.21		-4.21	11.00
		5 600	-5.58		-5.58	
		5 700	-6.10		-6.10	
802.11n HT40	UNII 1	5 190	-8.69	0.17	-8.52	11.00
		5 230	-9.63		-9.46	
	UNII 2A	5 270	-8.44		-8.27	11.00
		5 310	-8.91		-8.74	
	UNII 2C	5 510	-8.47		-8.30	11.00
		5 590	-8.80		-8.63	
		5 670	-8.05		-7.88	

Test mode	Band	Frequency (MHz)	Measured PSD (dBm/MHz)	DCF (dB)	Maximum PSD (dB m/MHz)	Limit (dBm/MHz)
802.11ac VHT20	UNII 1	5 180	-5.24	-	-5.24	11.00
		5 200	-6.05		-6.05	
		5 240	-5.63		-5.63	
	UNII 2A	5 260	-6.17		-6.17	11.00
		5 280	-5.24		-5.24	
		5 320	-6.19		-6.19	
	UNII 2C	5 500	-4.23		-4.23	11.00
		5 600	-6.89		-6.89	
		5 700	-5.37		-5.37	
802.11ac VHT40	UNII 1	5 190	-8.65	0.17	-8.48	11.00
		5 230	-9.88		-9.71	
	UNII 2A	5 270	-9.83		-9.66	11.00
		5 310	-10.11		-9.94	
	UNII 2C	5 510	-7.25		-7.08	11.00
		5 590	-9.75		-9.58	
		5 670	-8.46		-8.29	
802.11ac VHT80	UNII 1	5 210	-12.46	0.33	-12.13	11.00
	UNII 2A	5 290	-13.14		-12.81	11.00
	UNII 2C	5 530	-11.78		-11.45	11.00
		5 610	-12.11		-11.78	

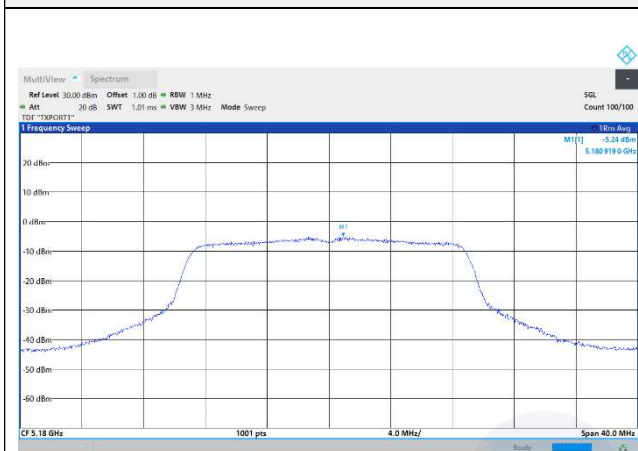
Test mode	Band	Frequency (MHz)	Measured PSD (dBm/500 kHz)	DCF (dB)	Maximum PSD (dB m /500 kHz)	Limit (dBm /500 kHz)
802.11a	UNII 3	5 745	-9.03	-	-9.03	30.00
		5 785	-8.56		-8.56	
		5 825	-9.63		-9.63	
802.11n HT20		5 745	-9.24	-	-9.24	
		5 785	-9.20		-9.20	
		5 825	-9.32		-9.32	
802.11n HT40		5 755	-13.01	0.17	-12.84	
		5 795	-12.26		-12.09	
802.11ac VHT20		5 745	-9.56	-	-9.56	
		5 785	-8.95		-8.95	
		5 825	-10.28		-10.28	
802.11ac VHT40		5 755	-12.71	0.17	-12.54	
		5 795	-12.90		-12.73	
802.11ac VHT80		5 775	-14.25	0.33	-13.92	

Notes:

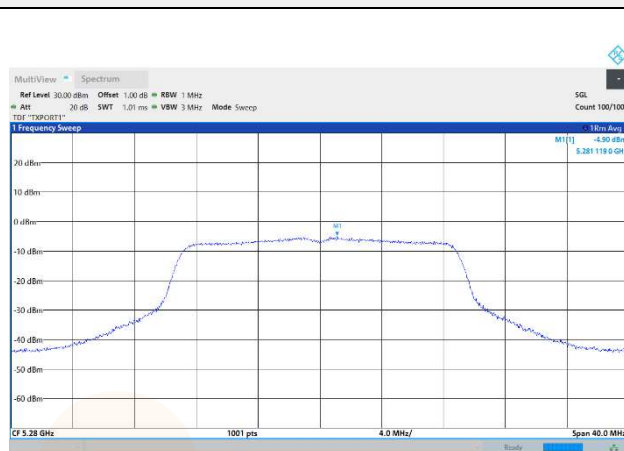
- Maximum PSD(dB m/500 kHz) = Reading (dB m/500 kHz) + D.C.F(dB)

In order to simplify the report, attached plots were the worst case per bandwidth

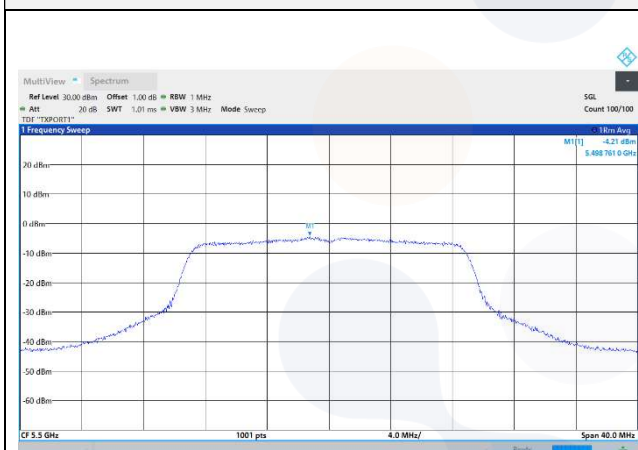
UNII 1 / 802.11ac VHT20 / Low ch.



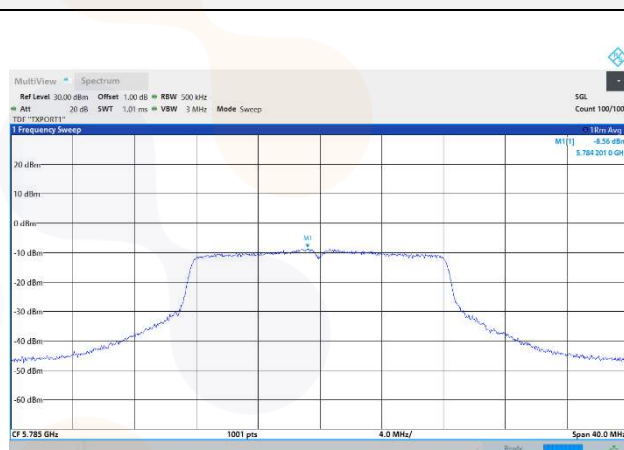
UNII 2A / 802.11n HT20 / Mid ch.



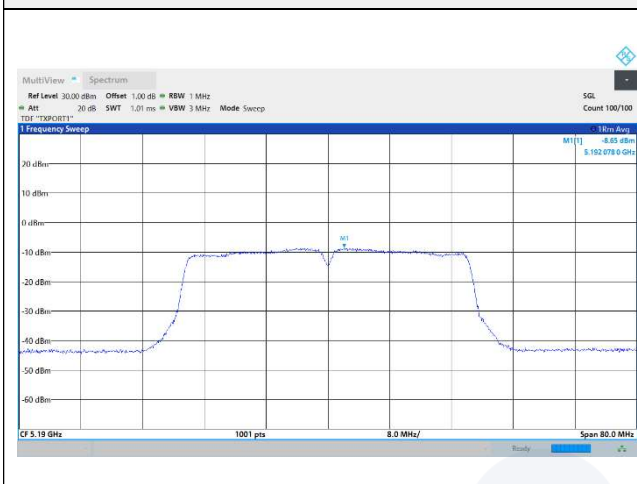
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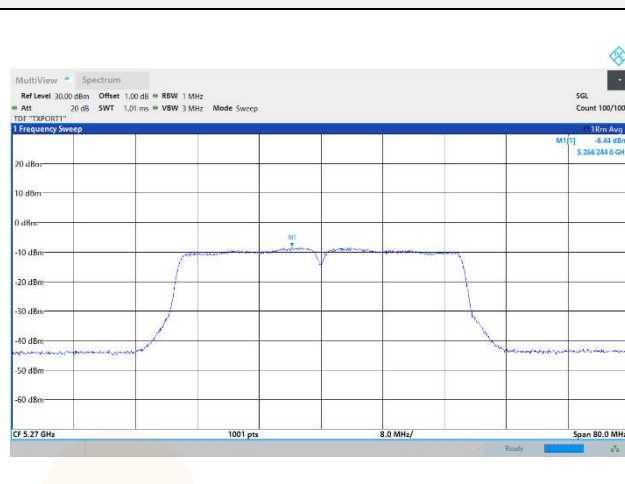
UNII 3 / 802.11a / Mid ch.



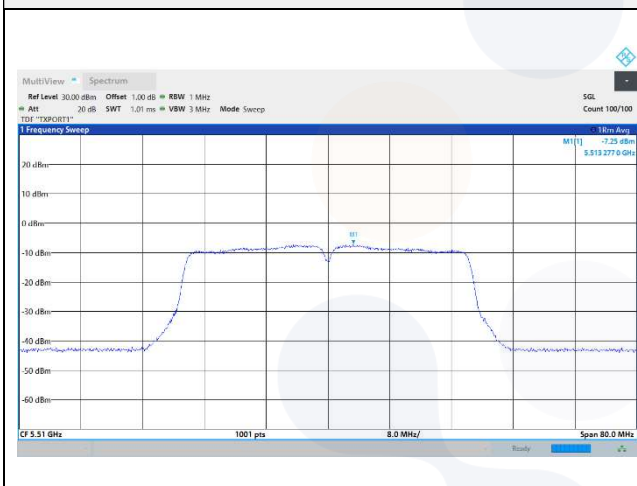
UNII 1 / 802.11 ac VHT40 / Low ch.



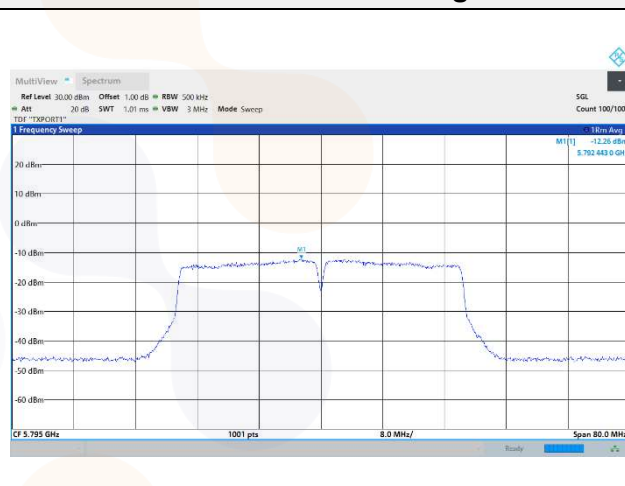
UNII 2A / 802.11n HT40 / Low ch.



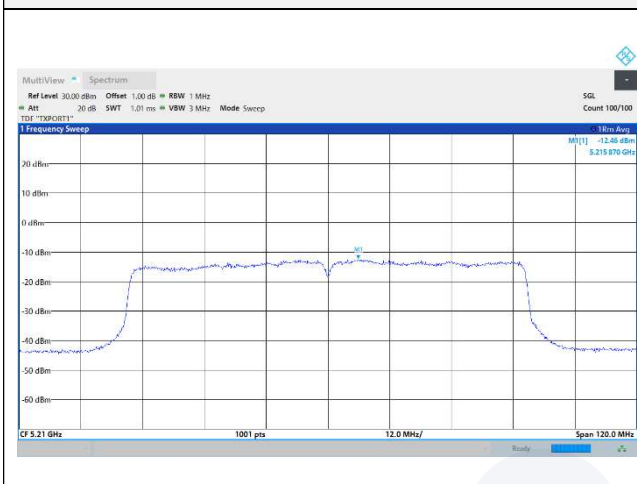
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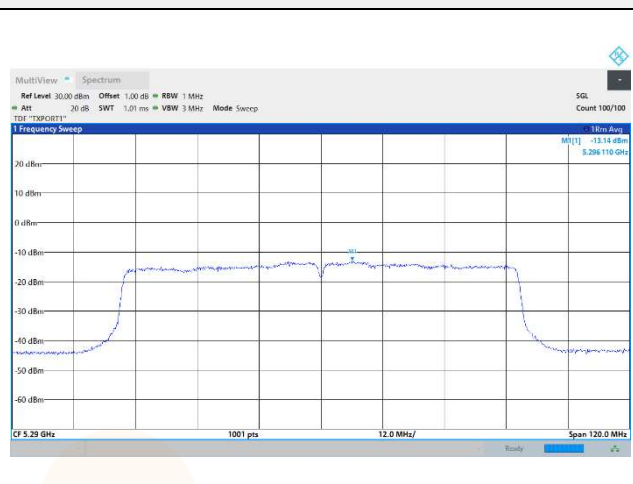
UNII 3 / 802.11n HT40 / High ch.



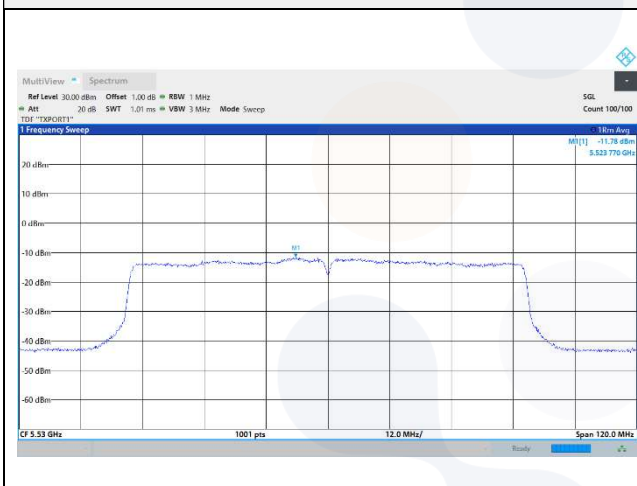
UNII 1 / 802.11ac VHT80 / Mid ch.



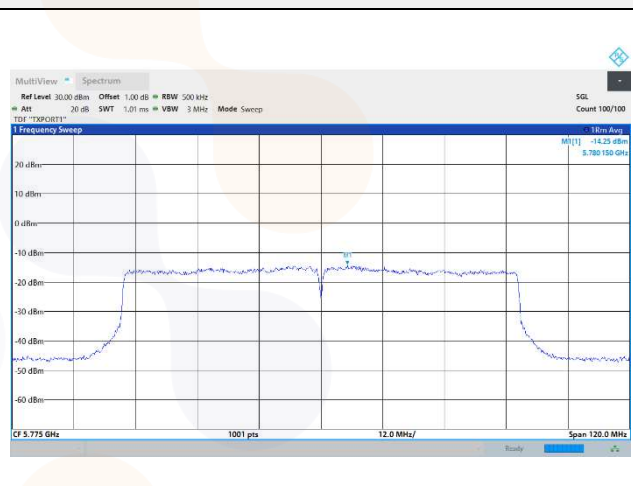
UNII 2A / 802.11ac VHT80 / Mid ch.



UNII 2C / 802.11ac VHT80 / Low ch.

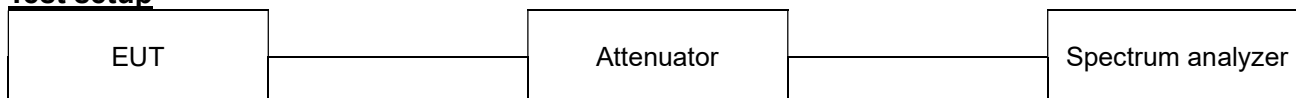


UNII 3 / 802.11ac VHT80 / Mid ch.



7.3. 26 dB Bandwidth & 99% Bandwidth

Test setup



Limit

N/A

Test procedure

ANSI C63.10-2013 Section 12.4

KDB 789033 D02 v02r01 - Section C.1 (26dB bandwidth)

KDB 789033 D02 v02r01 - Section D (99% bandwidth)

Test settings

1. 26 dB Bandwidth

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. 99% Occupied Bandwidth

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1% to 5% of the OBW
- Set VBW $\geq 3 \times$ RBW
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- Use the 99% power bandwidth function of the instrument (if available).
- If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

Test results

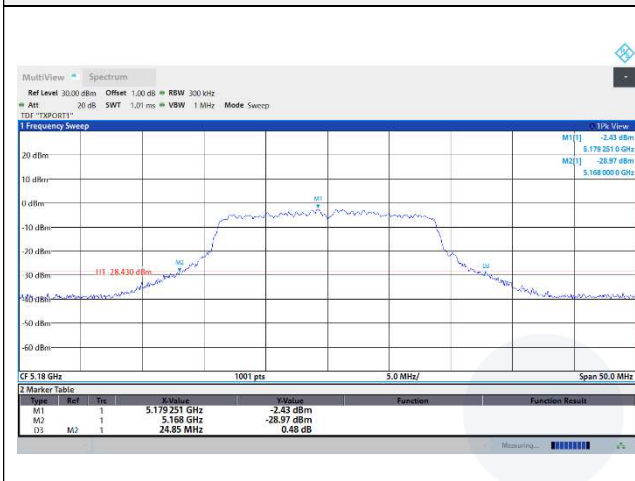
Test mode	Band	Frequency(MHz)	26 dB bandwidth (MHz)	99% bandwidth (MHz)
802.11a	UNII 1	5 180	24.150	16.760
		5 200	23.150	16.810
		5 240	23.750	16.760
802.11n HT20	UNII 1	5 180	24.700	17.990
		5 200	24.450	17.960
		5 240	24.400	17.980
802.11n HT40	UNII 1	5 190	42.600	36.450
		5 230	42.500	36.520
802.11ac VHT20	UNII 1	5 180	24.850	17.960
		5 200	23.650	17.960
		5 240	24.600	17.980
802.11ac VHT40	UNII 1	5 190	42.500	36.440
		5 230	42.100	36.500
802.11ac VHT80	UNII 1	5 210	86.640	75.830

Test mode	Band	Frequency(MHz)	26 dB bandwidth (MHz)
802.11a	UNII 2A	5 260	23.150
		5 280	23.550
		5 320	23.650
	UNII 2C	5 500	23.150
		5 600	23.750
		5 700	23.050
802.11n HT20	UNII 2A	5 260	23.950
		5 280	25.450
		5 320	24.750
	UNII 2C	5 500	23.700
		5 600	24.650
		5 700	24.300
802.11n HT40	UNII 2A	5 270	42.200
		5 310	42.200
	UNII 2C	5 510	42.000
		5 590	42.700
		5 670	42.300
802.11ac VHT20	UNII 2A	5 260	24.250
		5 280	24.800
		5 320	23.950
	UNII 2C	5 500	24.300
		5 600	24.150
		5 700	24.050
802.11ac VHT40	UNII 2A	5 270	42.300
		5 310	41.800
	UNII 2C	5 510	42.600
		5 590	42.700
		5 670	42.400
802.11ac VHT80	UNII 2A	5 290	85.440
	UNII 2C	5 530	86.520
		5 610	86.400

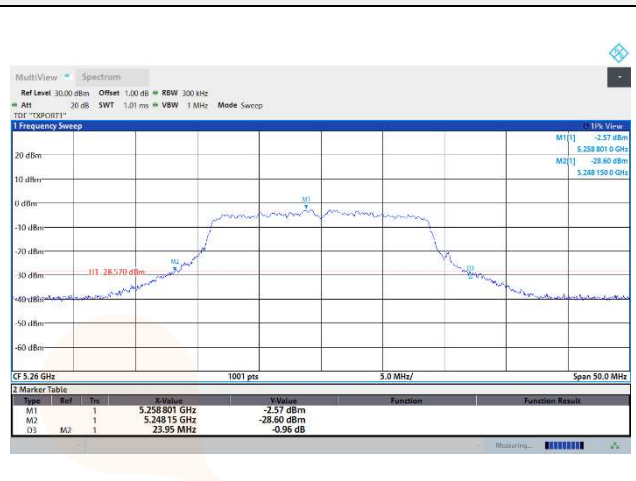
26 dB bandwidth

In order to simplify the report, attached plots were the worst case per bandwidth

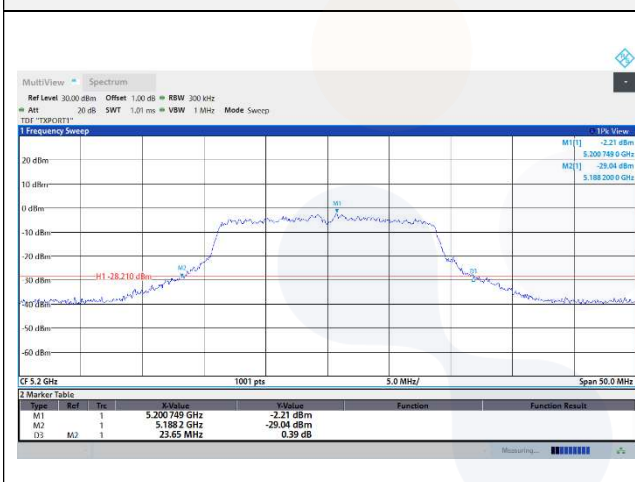
UNII 1 / 802.11ac VHT20 / Low ch.



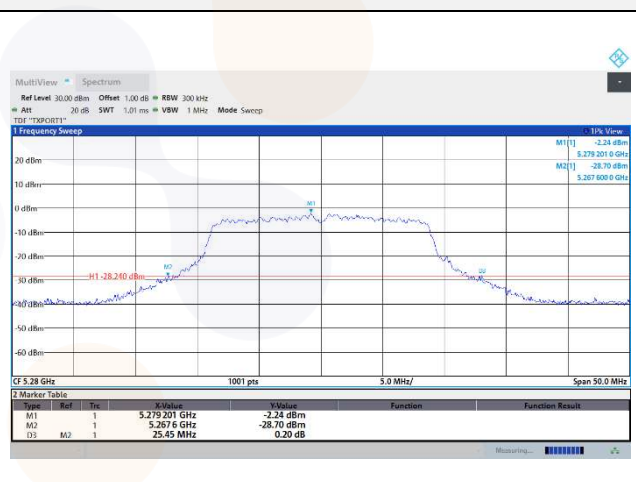
UNII 2A / 802.11n HT20 / Low ch.



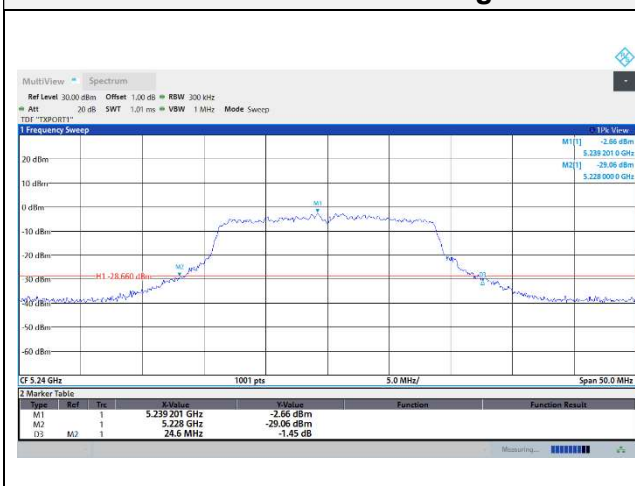
UNII 1 / 802.11ac VHT20 / Mid ch.



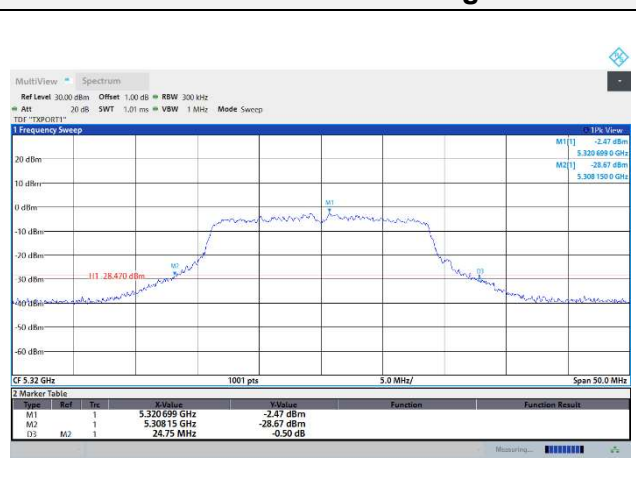
UNII 2A / 802.11n HT20 / Mid ch.



UNII 1 / 802.11ac VHT20 / High ch.



UNII 2A / 802.11n HT20 / High ch.



UNII 2C / 802.11n HT20 / Low ch.



UNII 2C / 802.11n HT20 / Mid ch.



UNII 2C / 802.11n HT20 / High ch.



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