

# KCTL Inc.

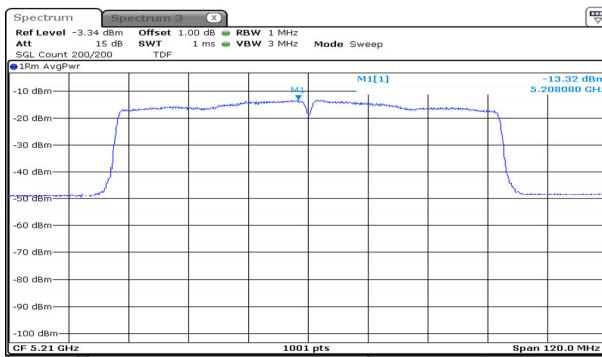
65, Sinwon-ro, Yeongtong-gu,  
Suwon-si, Gyeonggi-do, 16677, Korea  
TEL: 82-31-285-0894 FAX: 82-505-299-8311  
[www.kctl.co.kr](http://www.kctl.co.kr)

Report No.:  
KR20-SRF0051

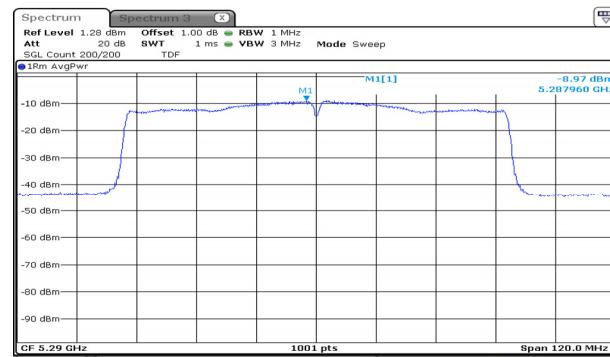
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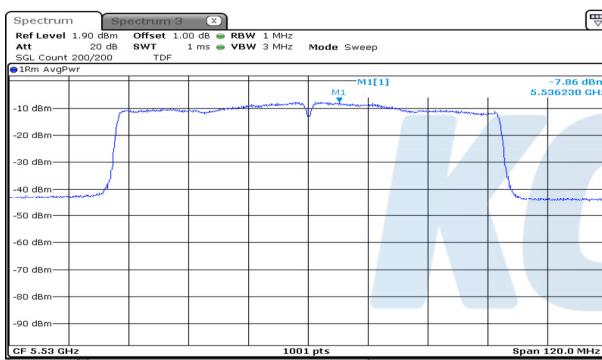
## UNII-1 / 802.11ac VHT80 / Low ch.



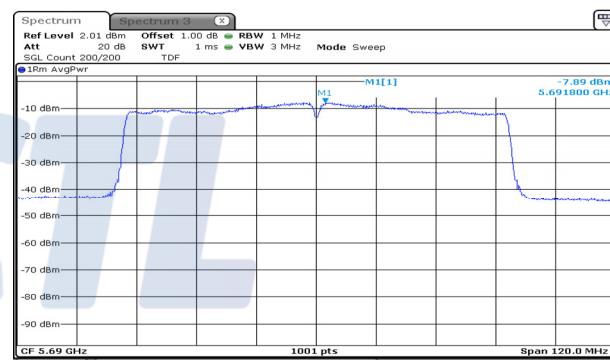
## UNII-2A / 802.11ac VHT80 / Low ch.



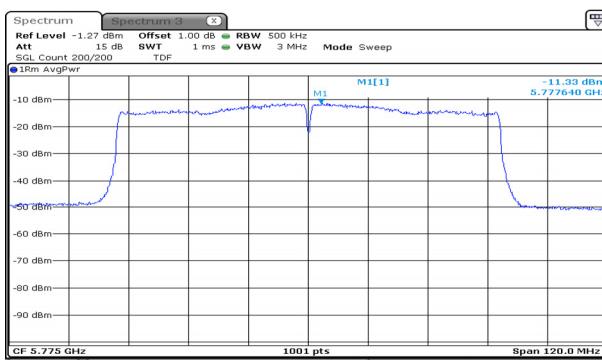
## UNII-2C / 802.11ac VHT80 / Low ch.



## UNII-2C / 802.11ac VHT80 / High ch.

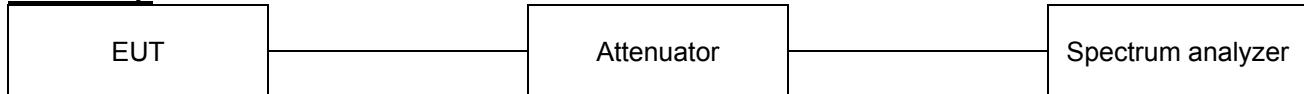


## UNII-3 / 802.11ac VHT80 / Low ch.



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### 7.3. 26 dB Bandwidth & 99% Occupied 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**

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. 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**

- a. Set center frequency to the nominal EUT channel center frequency.
- b. Set span = 1.5 times to 5.0 times the OBW.
- c. Set RBW = 1% to 5% of the OBW
- d. Set VBW  $\geq$  3 x RBW
- e. 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.
- f. Use the 99% power bandwidth function of the instrument (if available).
- g. 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.

**Notes:**

1. <sup>1)</sup> means Band-crossing channels.

**Test results****26 dB bandwidth**

Test mode	Band	Frequency(MHz)	Measured Bandwidth (MHz)
802.11a	UNII-1	5 180	21.23
		5 200	21.13
		5 240	21.23
	UNII-2A	5 260	21.28
		5 280	21.03
		5 320	21.13
	UNII-2C	5 500	21.23
		5 580	21.23
		5 7201)	15.59
802.11n HT20	UNII-1	5 180	21.48
		5 200	21.68
		5 240	21.48
	UNII-2A	5 260	21.58
		5 280	21.38
		5 320	21.43
	UNII-2C	5 500	21.43
		5 580	21.63
		5 7201)	15.64
802.11n HT40	UNII-1	5 190	40.26
		5 230	40.16
	UNII-2A	5 270	40.26
		5 310	40.36
	UNII-2C	5 510	40.36
		5 550	40.26
		5 7101)	34.98

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Test mode	Band	Frequency(MHz)	Measured Bandwidth (MHz)
802.11ac VHT20	UNII-1	5 180	21.53
		5 200	21.68
		5 240	21.63
	UNII-2A	5 260	21.43
		5 280	21.48
		5 320	21.53
	UNII-2C	5 500	21.48
		5 580	21.48
		5 7201)	15.74
802.11ac VHT40	UNII-1	5 190	39.96
		5 230	40.06
	UNII-2A	5 270	39.96
		5 310	40.16
	UNII-2C	5 510	40.26
		5 590	40.06
		5 7101)	35.08
802.11ac VHT80	UNII-1	5 210	82.12
	UNII-2A	5 290	81.64
	UNII-2C	5 530	82.84
		5 6901)	76.60

**99% bandwidth**

<b>Test mode</b>	<b>Band</b>	<b>Frequency(MHz)</b>	<b>Measured Bandwidth (MHz)</b>
802.11a	UNII-1	5 180	16.68
		5 200	16.68
		5 240	16.68
	UNII-2A	5 260	16.73
		5 280	16.68
		5 320	16.73
	UNII-2C	5 500	16.68
		5 580	16.68
		5 720	16.78
	UNII-3	5 745	16.63
		5 785	16.73
		5 825	16.73
802.11n HT20	UNII-1	5 180	17.83
		5 200	17.83
		5 240	17.83
	UNII-2A	5 260	21.58
		5 280	21.38
		5 320	21.43
	UNII-2C	5 500	17.83
		5 580	17.88
		5 720	17.83
	UNII-3	5 745	17.88
		5 785	17.83
		5 825	17.88
802.11n HT40	UNII-1	5 190	36.36
		5 230	36.26
	UNII-2A	5 270	40.26
		5 310	40.36
	UNII-2C	5 510	36.36
		5 590	36.46
		5 710	36.46
	UNII-3	5 755	36.46
		5 795	36.46

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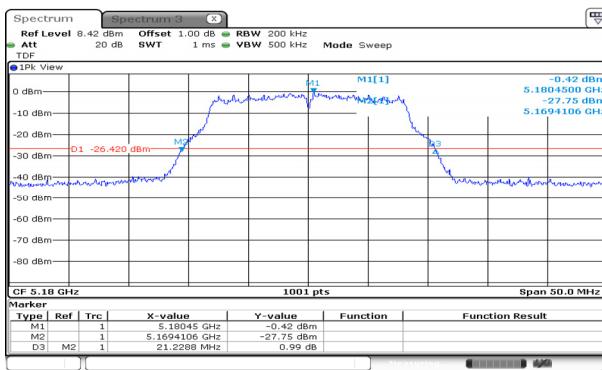
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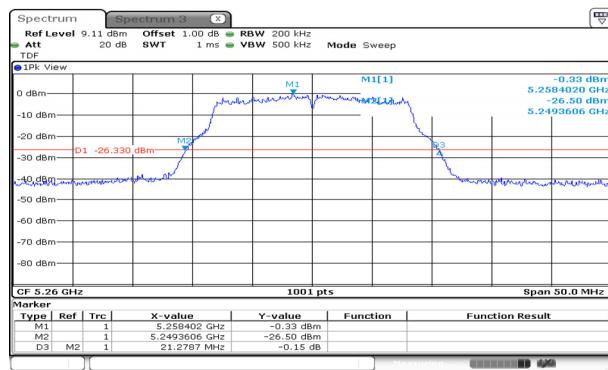
<b>Test mode</b>	<b>Band</b>	<b>Frequency(MHz)</b>	<b>Measured Bandwidth (MHz)</b>
802.11ac VHT20	UNII-1	5 180	17.83
		5 200	17.83
		5 240	17.83
	UNII-2A	5 260	17.83
		5 280	17.83
		5 320	17.83
	UNII-2C	5 500	17.83
		5 580	17.83
		5 720	17.83
	UNII-3	5 745	17.88
		5 785	17.88
		5 825	17.88
802.11ac VHT40	UNII-1	5 190	36.26
		5 230	36.26
	UNII-2A	5 270	36.36
		5 310	36.46
	UNII-2C	5 510	36.36
		5 590	36.26
		5 710	36.36
	UNII-3	5 755	36.36
		5 795	36.46
802.11ac VHT80	UNII-1	5 210	76.00
	UNII-2A	5 290	75.76
	UNII-2C	5 530	75.76
		5 690	75.76
	UNII-3	5 775	75.76

## 26 dB bandwidth

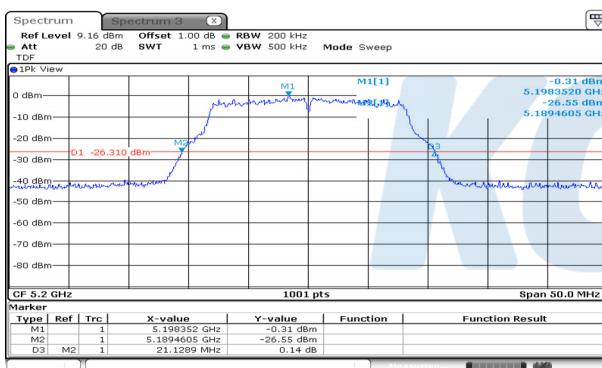
**UNII-1 / 802.11a / Low ch.**



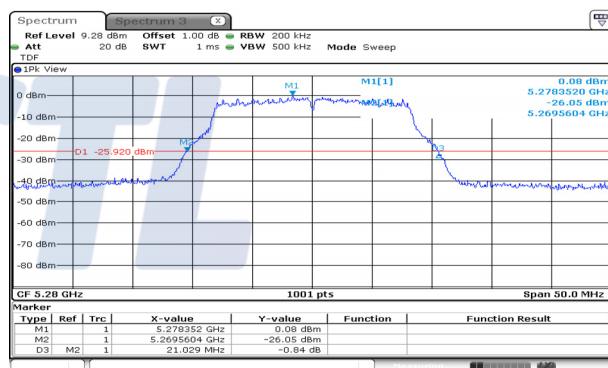
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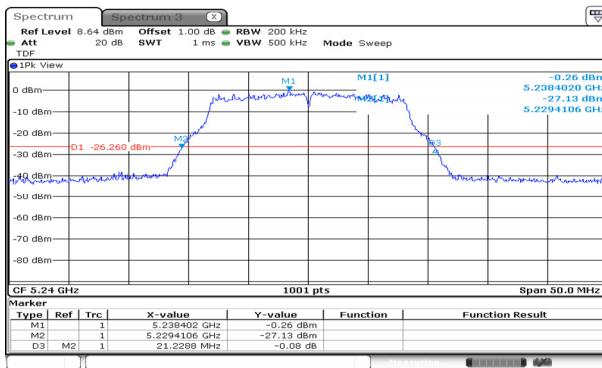
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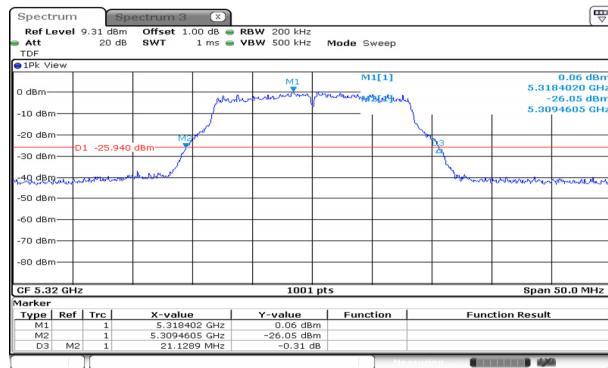
**UNII-2A / 802.11a / Mid ch.**



**UNII-1 / 802.11a / High ch.**



**UNII-2A / 802.11a / High ch.**



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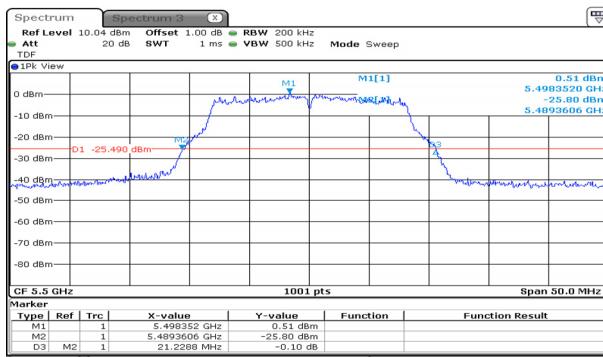
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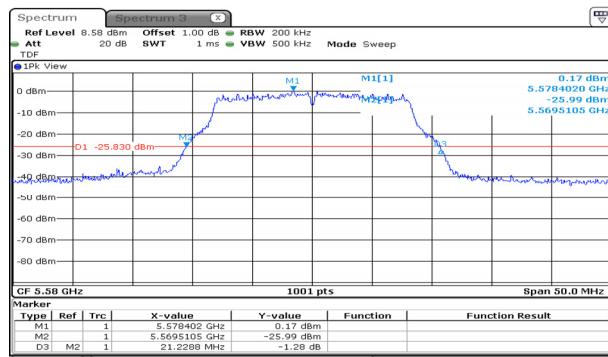
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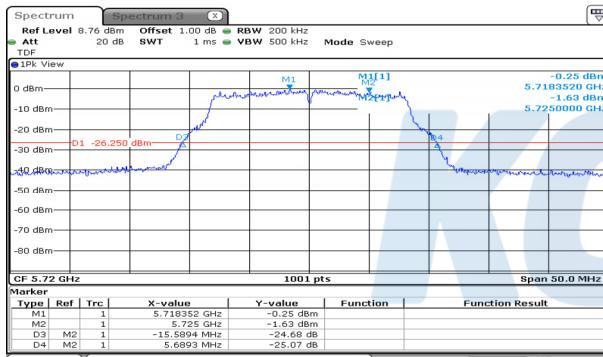
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## UNII-2C / 802.11a / Mid ch.



## UNII-2C / 802.11a / High ch.



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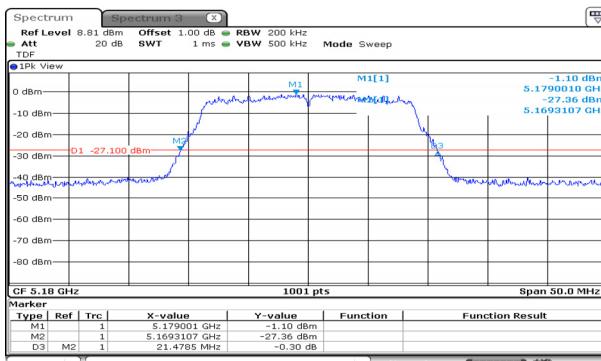
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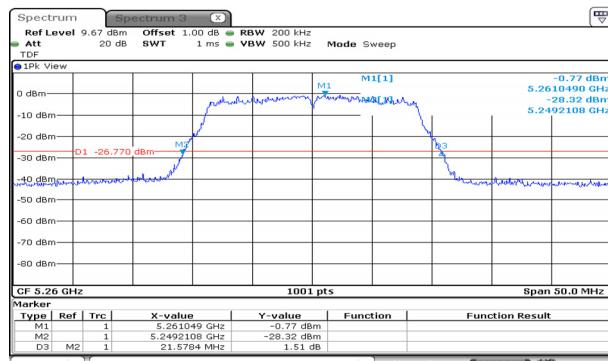
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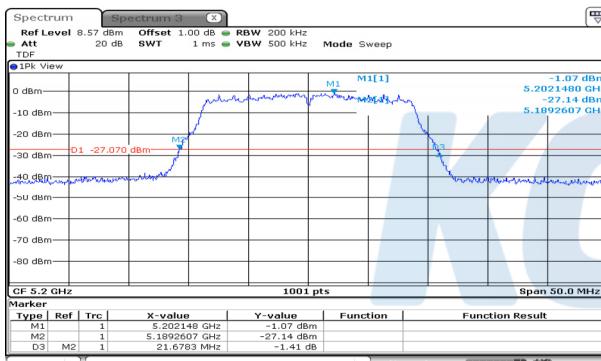
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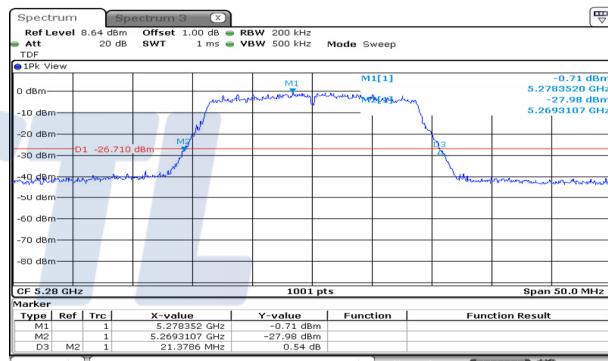
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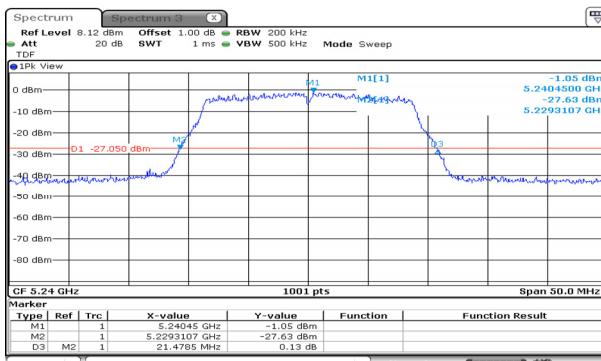
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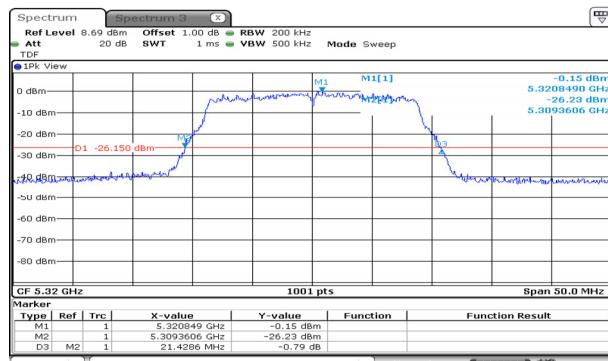
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## UNII-1 / 802.11n HT20 / High ch.



## UNII-2A / 802.11n HT20 / High ch.



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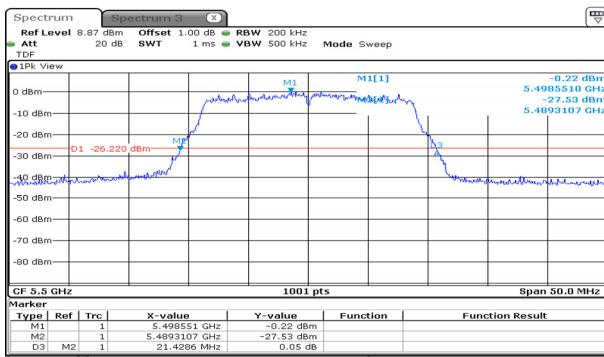
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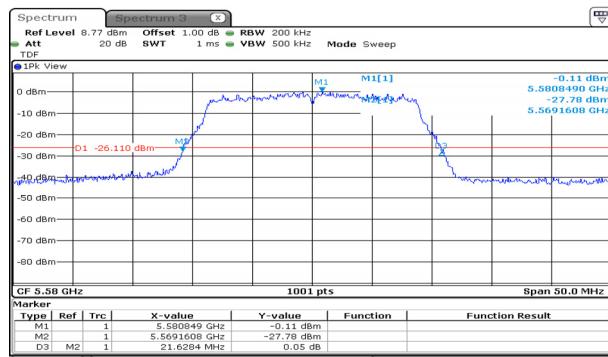
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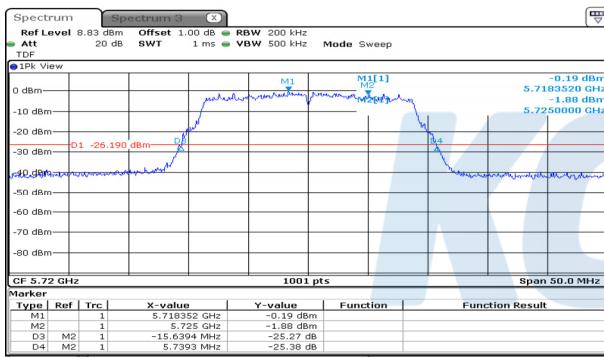
## UNII-2C / 802.11n HT20 / Low ch.



## UNII-2C / 802.11n HT20 / Mid ch.



## UNII-2C / 802.11n HT20 / High ch.



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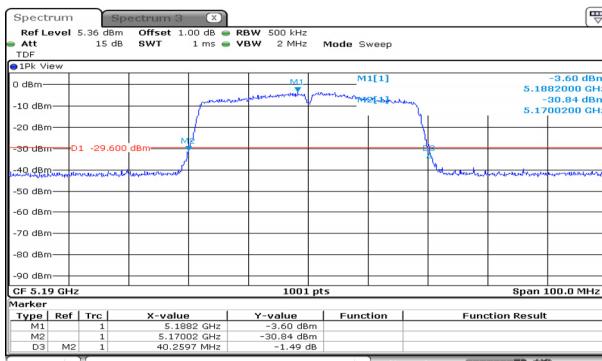
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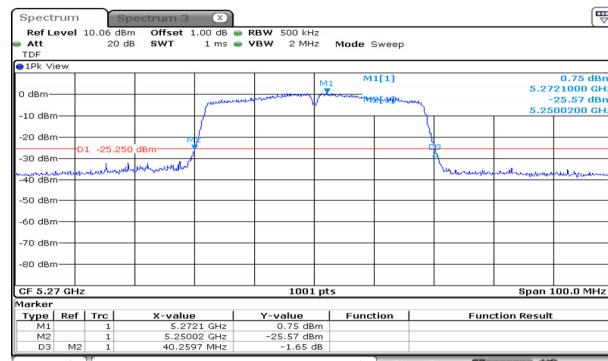
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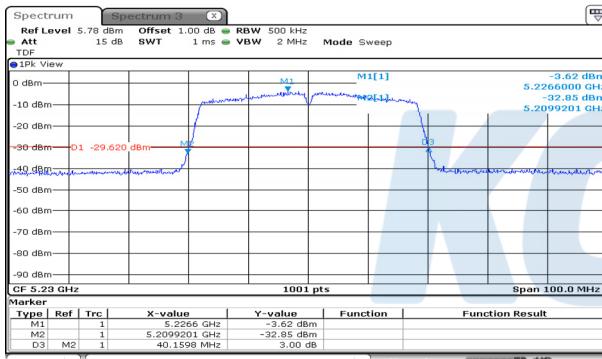
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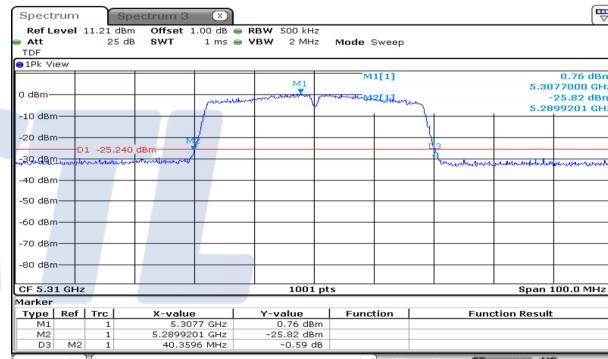
## UNII-2A / 802.11n HT40 / Low ch.



## UNII-1 / 802.11n HT40 / High ch.



## UNII-2A / 802.11n HT40 / High ch.



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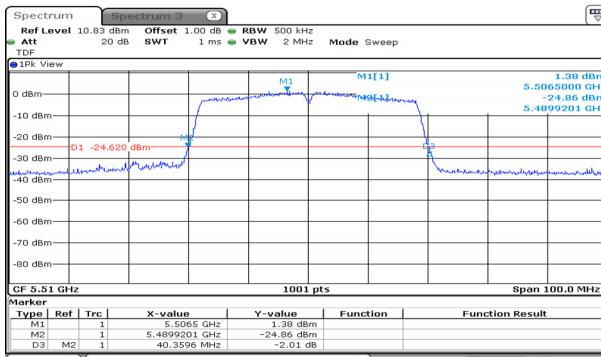
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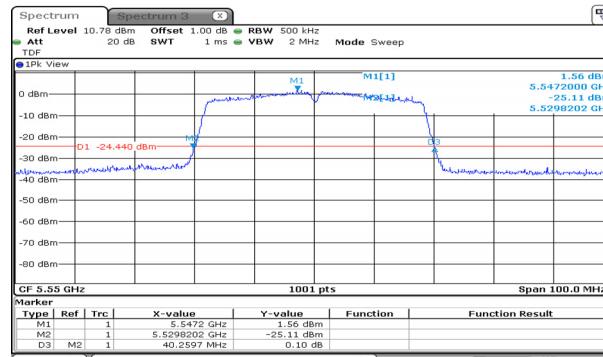
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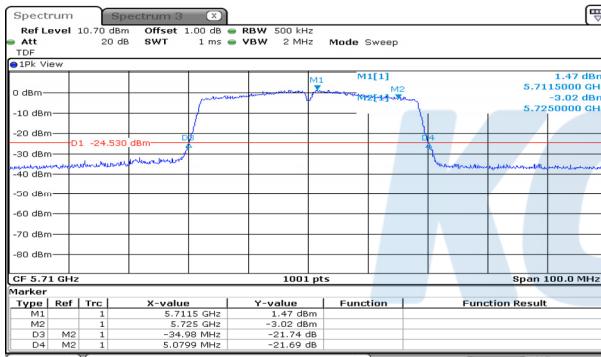
## UNII-2C / 802.11n HT40 / Low ch.



## UNII-2C / 802.11n HT40 / Mid ch.



## UNII-2C / 802.11n HT40 / High ch.



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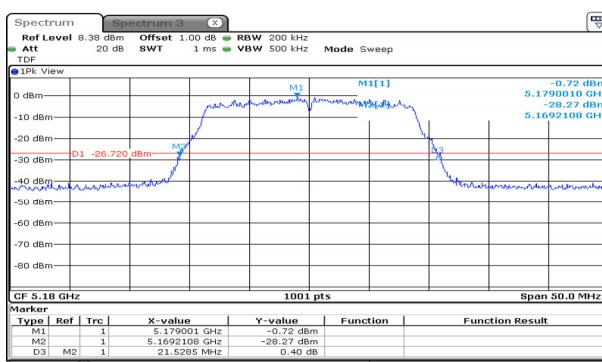
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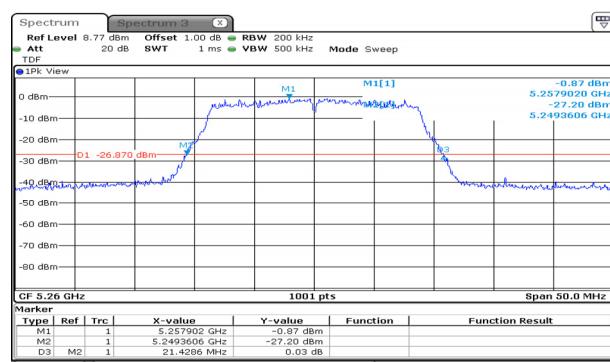
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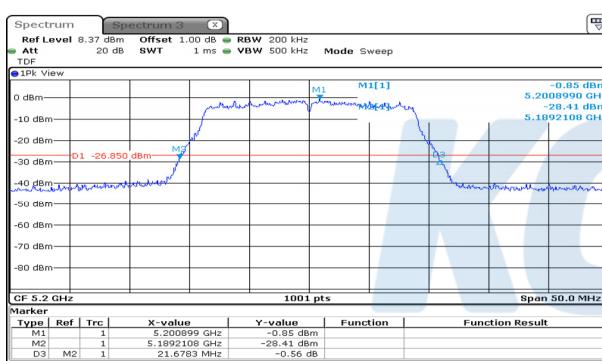
## UNII-1 / 802.11ac VHT20 / Low ch.



## UNII-2A / 802.11ac VHT20 / Low ch.



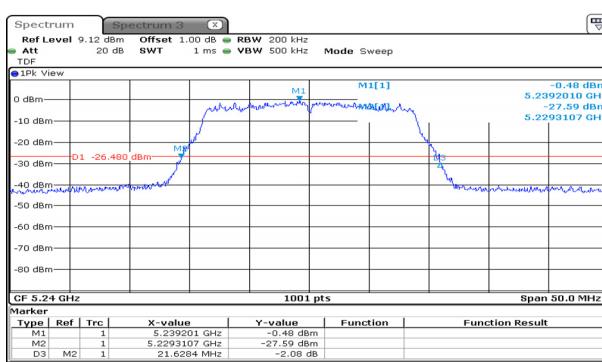
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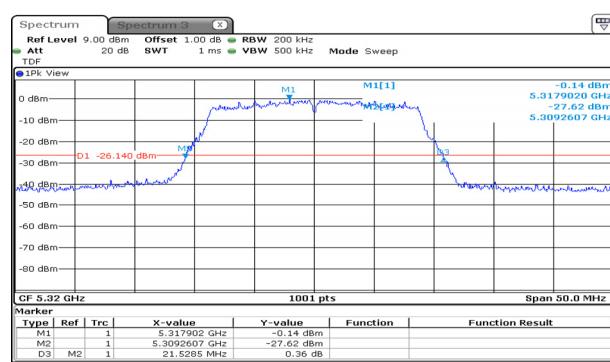
## UNII-2A / 802.11ac VHT20 / Mid ch.



## UNII-1 / 802.11ac VHT20 / High ch.



## UNII-2A / 802.11ac VHT20 / High ch.



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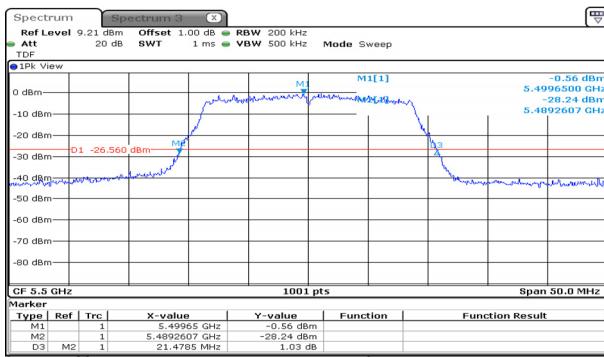
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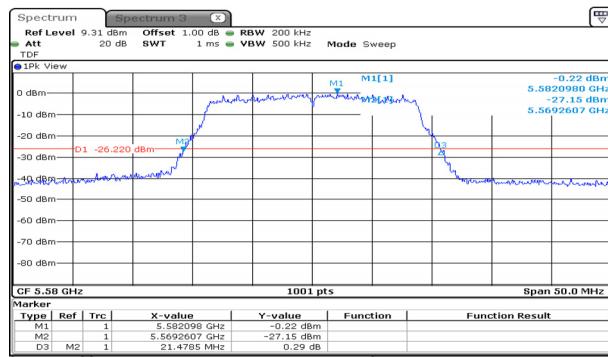
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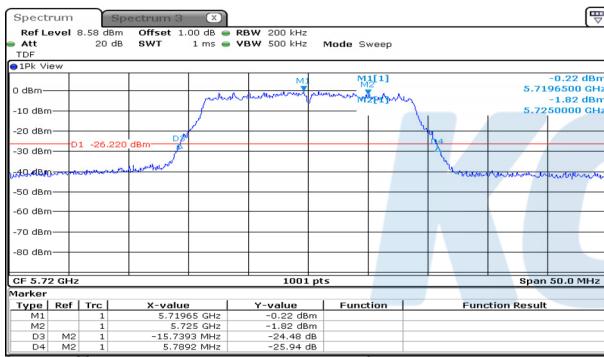
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## UNII-2C / 802.11ac VHT20 / Mid ch.



## UNII-2C / 802.11ac VHT20 / High ch.



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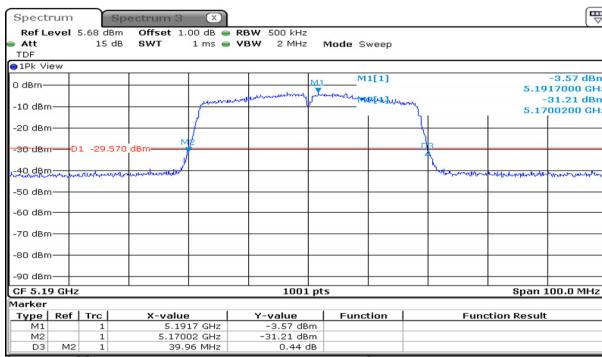
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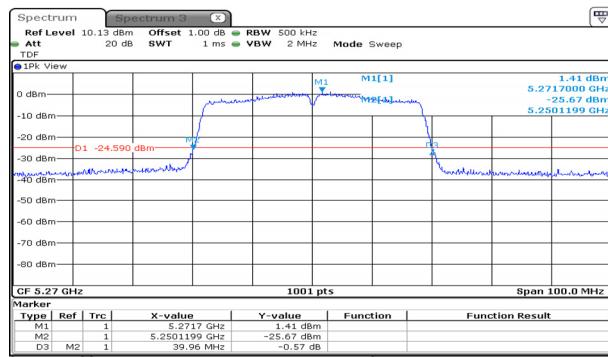
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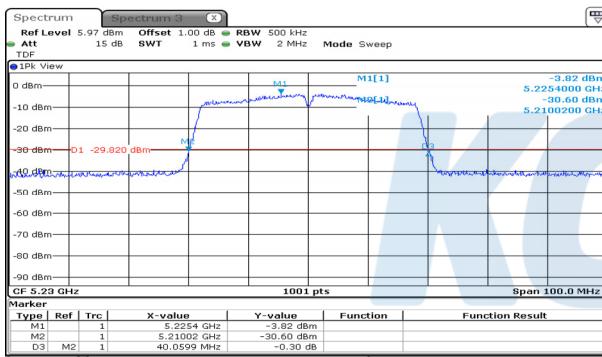
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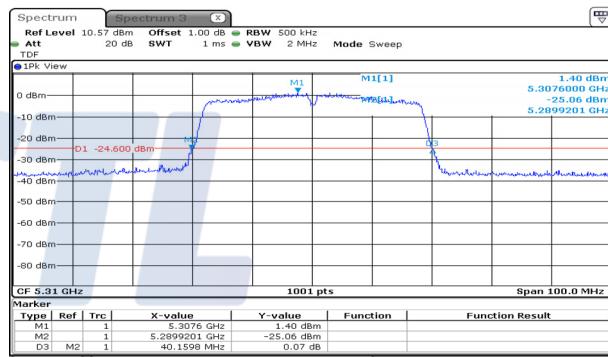
## UNII-2A / 802.11ac VHT40 / Low ch.



## UNII-1 / 802.11ac VHT40 / High ch.



## UNII-2A / 802.11ac VHT40 / High ch.



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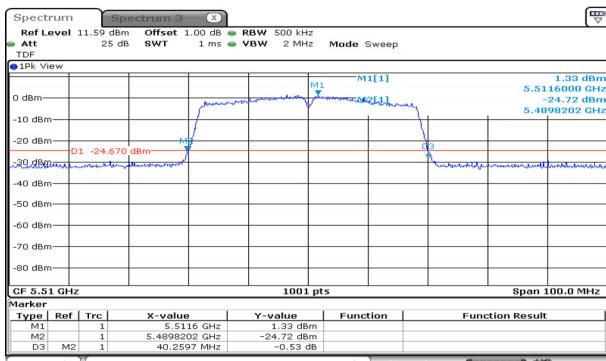
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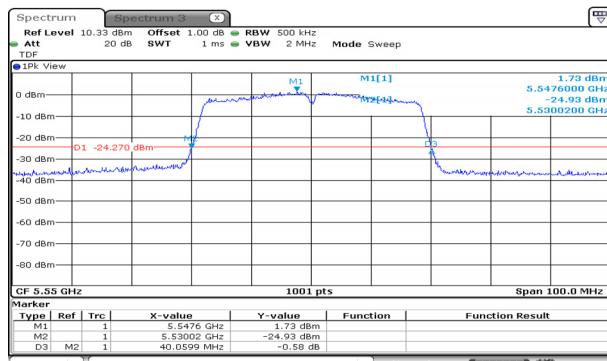
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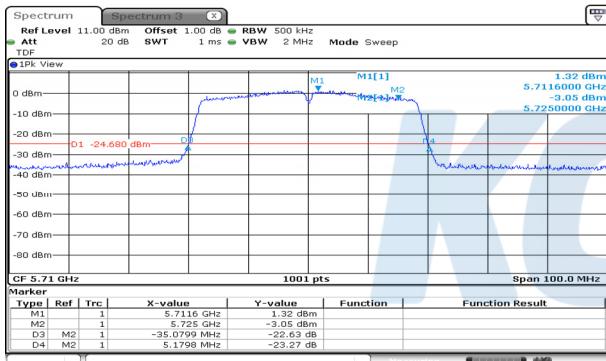
## UNII-2C / 802.11ac VHT40 / Low ch.



## UNII-2C / 802.11ac VHT40 / Mid ch.



## UNII-2C / 802.11ac VHT40 / High ch.



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