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Report No.:
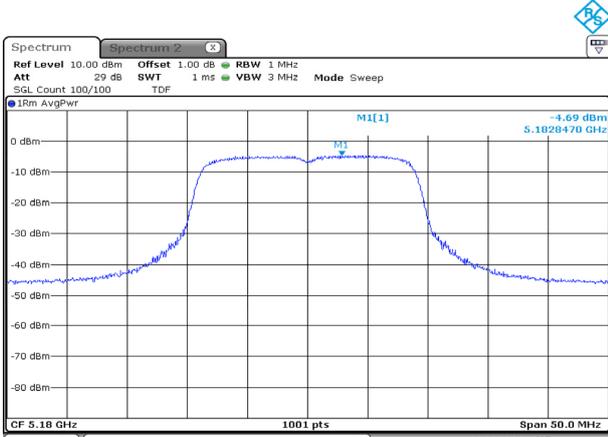KR19-SRF0077-A

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MIMO_ANT 0

UNII-1 / 802.11n HT20 / Low ch.	UNII-2A / 802.11n HT20 / Low ch.

UNII-1 / 802.11n HT20 / Mid ch.	UNII-2A / 802.11n HT20 / Mid ch.

UNII-1 / 802.11n HT20 / High ch.	UNII-2A / 802.11n HT20 / High ch.

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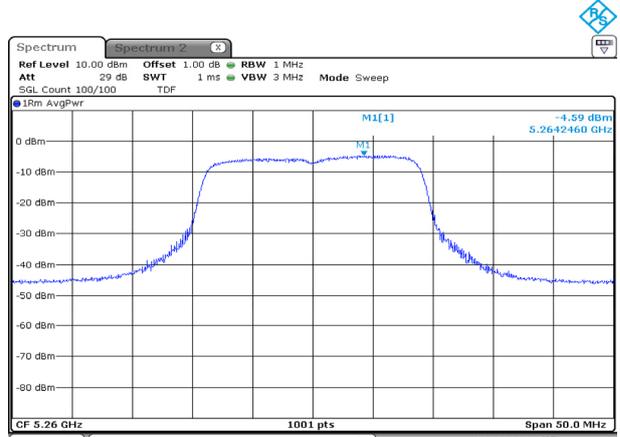Report No.:
KR19-SRF0077-A

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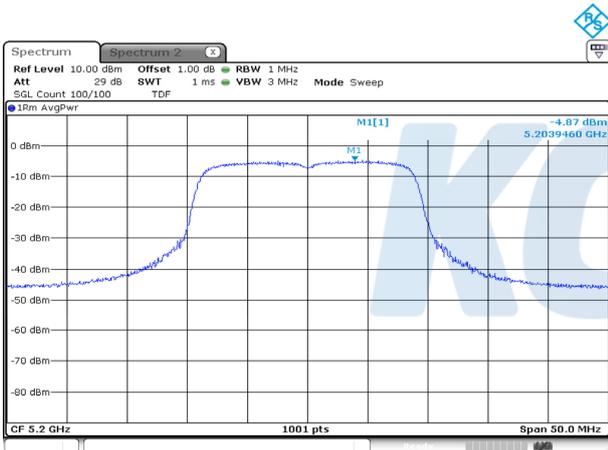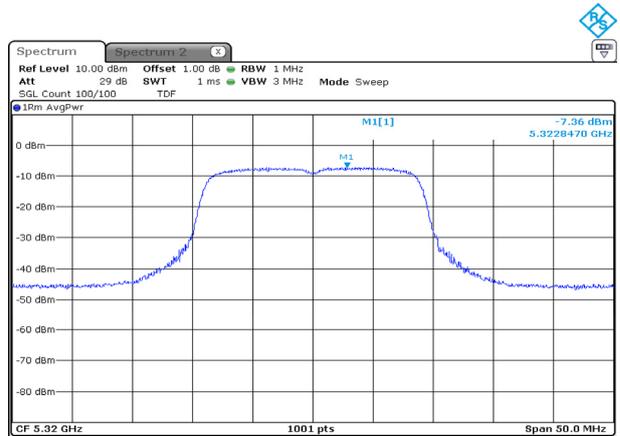
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UNII-2C / 802.11n HT20 / Low ch.

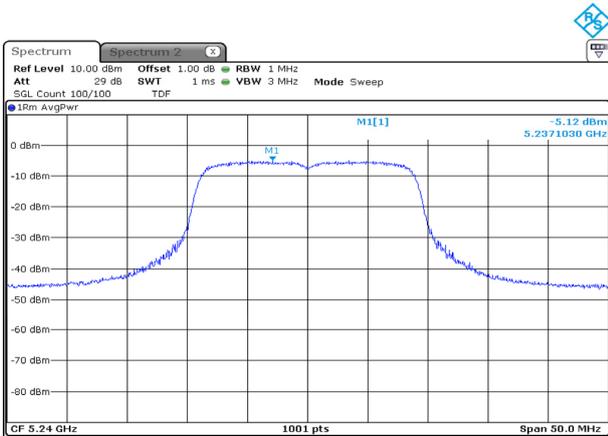## UNII-3 / 802.11n HT20 / Low ch.

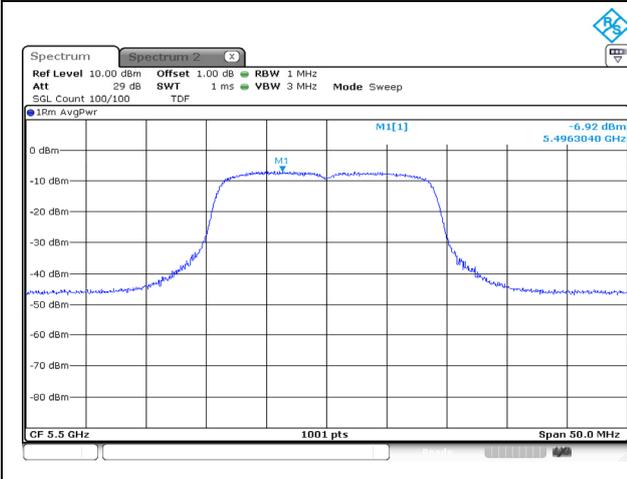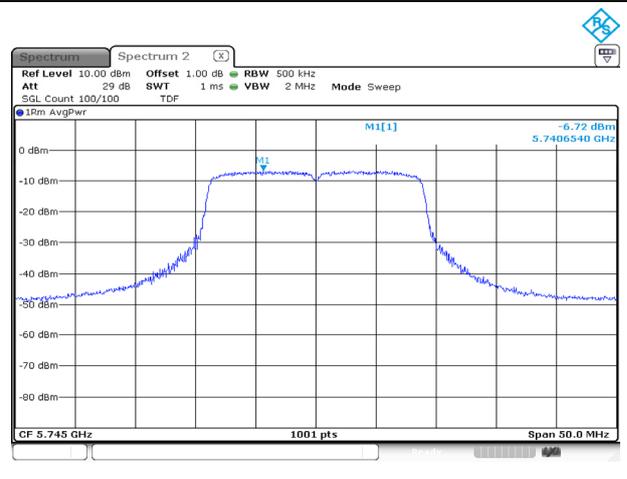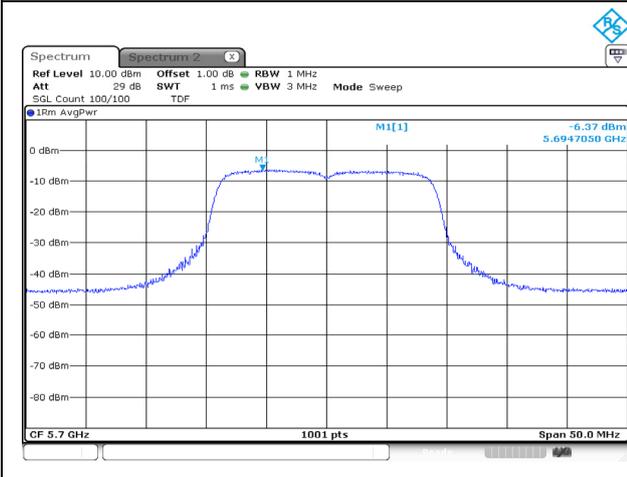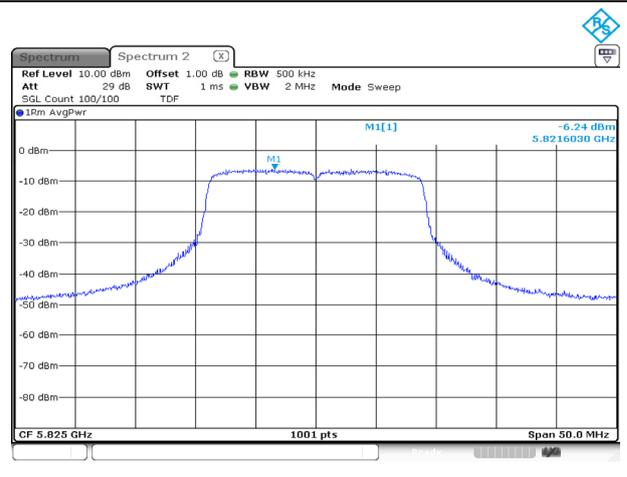## UNII-2C / 802.11n HT20 / Mid ch.

UNII-3 / 802.11n HT20 / Mid ch.

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

UNII-3 / 802.11n HT20 / High ch.

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UNII-1 / 802.11n HT40 / Low ch.

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

UNII-1 / 802.11n HT40 / High ch.

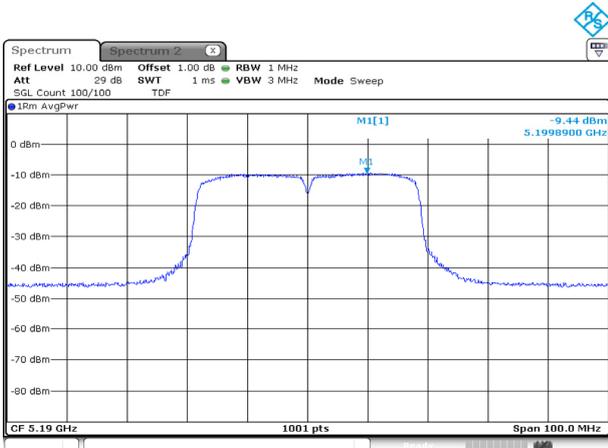## UNII-2A / 802.11n HT40 / High ch.

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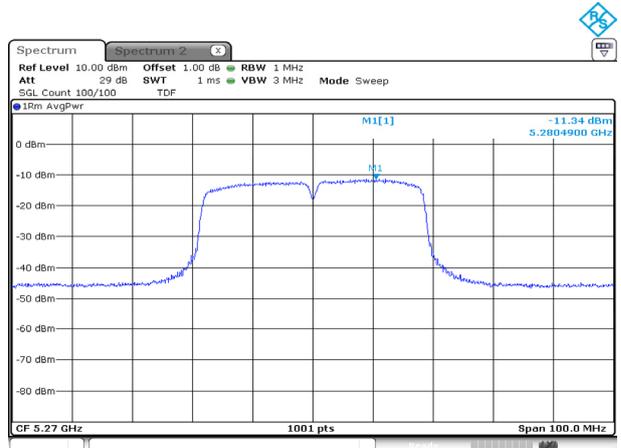www.kctl.co.kr

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UNII-2C / 802.11n HT40 / Low ch.	UNII-3 / 802.11n HT40 / Low ch.

UNII-2C / 802.11n HT40 / Mid ch.	UNII-3 / 802.11n HT40 / High ch.

UNII-2C / 802.11n HT40 / High ch.	
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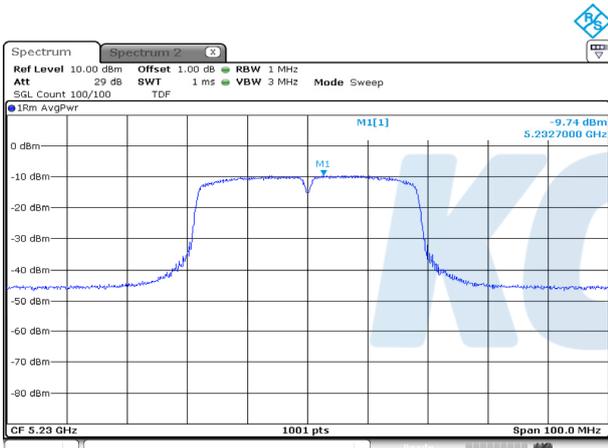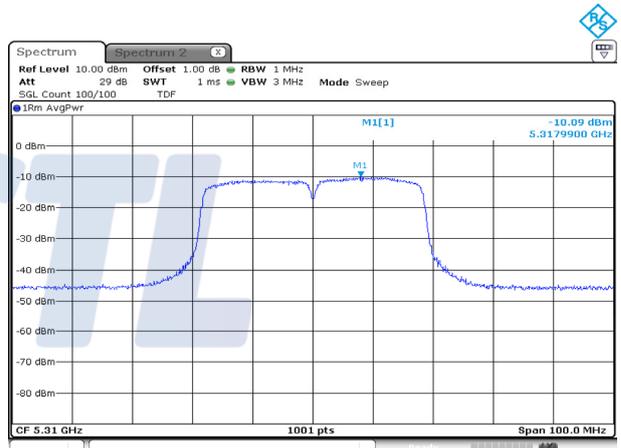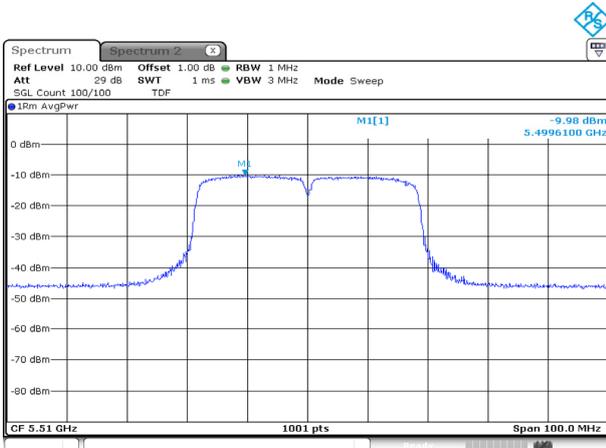
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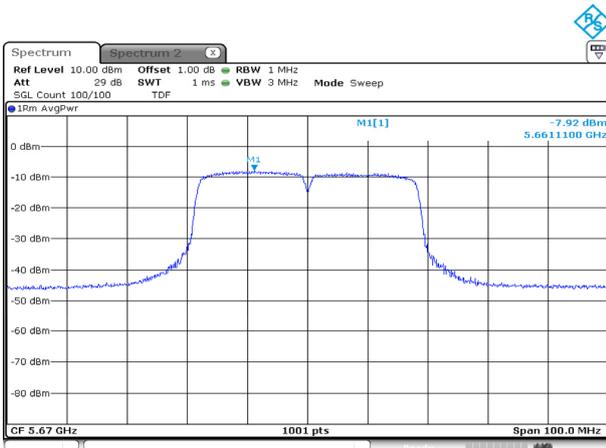
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MIMO_ANT 1

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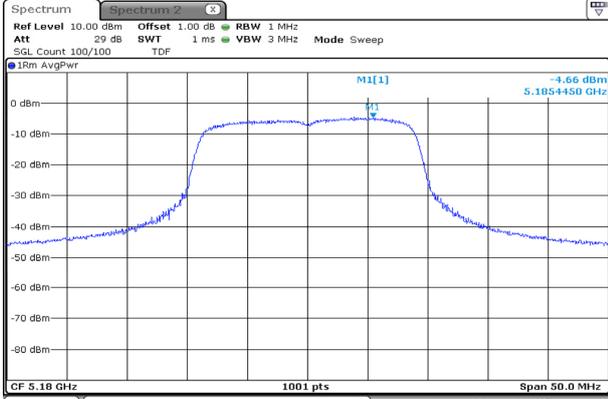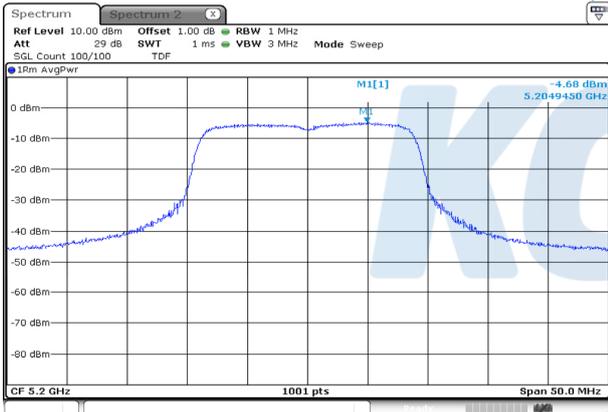
UNII-1 / 802.11n HT20 / Mid ch.	UNII-2A / 802.11n HT20 / Mid ch.

UNII-1 / 802.11n HT20 / High ch.	UNII-2A / 802.11n HT20 / High ch.

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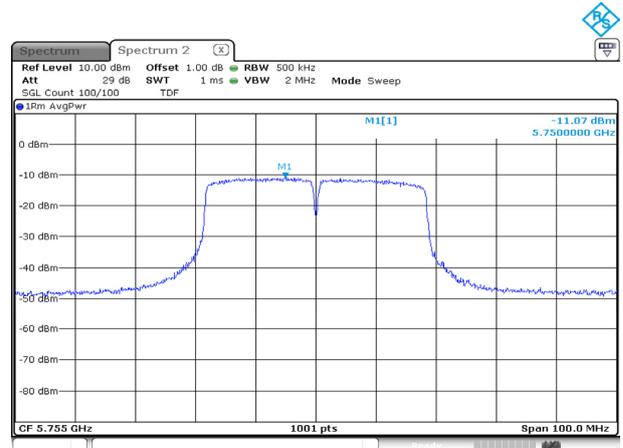www.kctl.co.kr

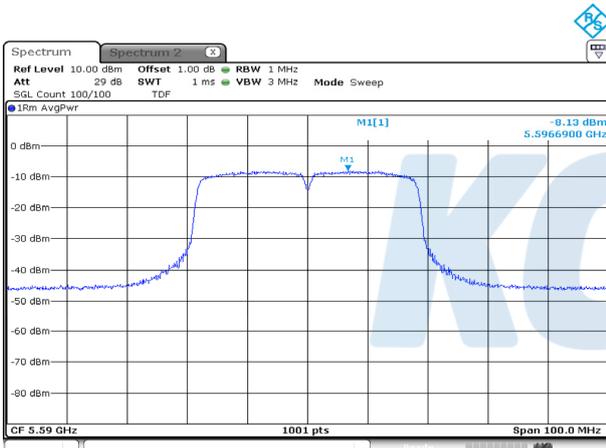Report No.:
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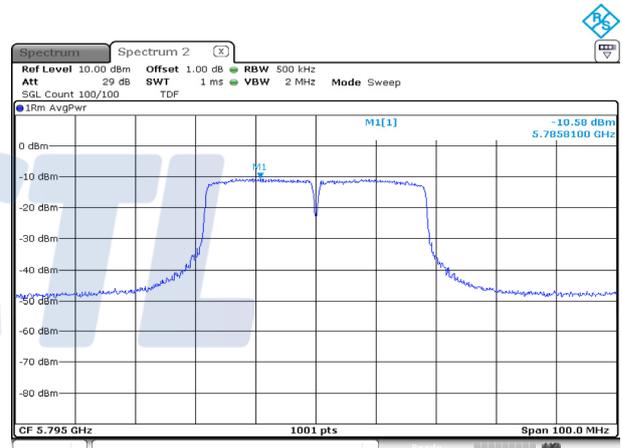Page (43) of (267)
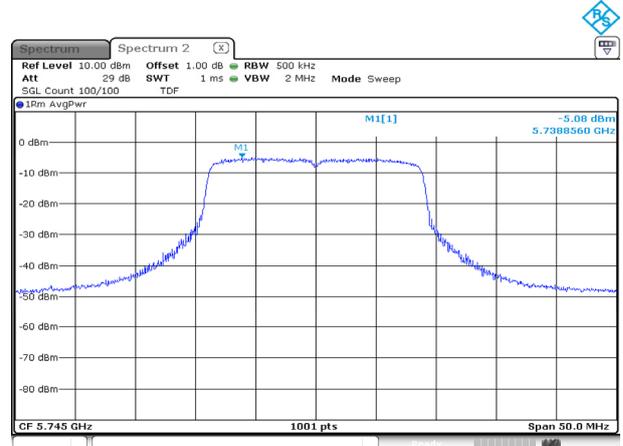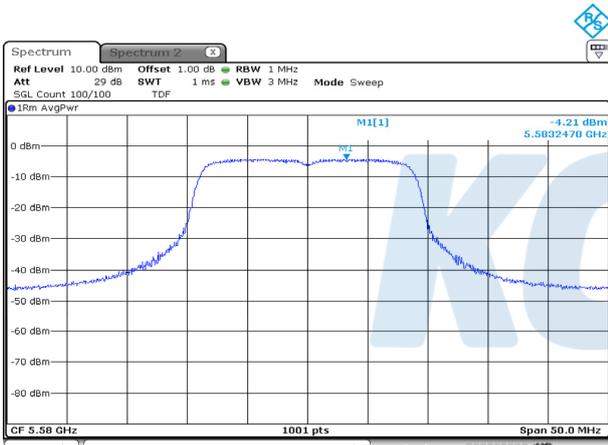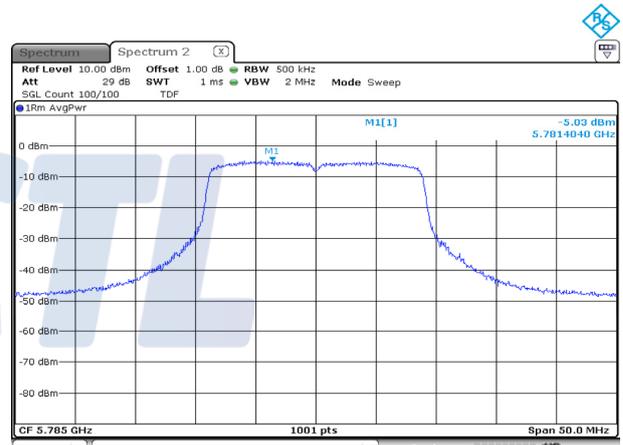
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UNII-2C / 802.11n HT20 / Low ch.	UNII-3 / 802.11n HT20 / Low ch.

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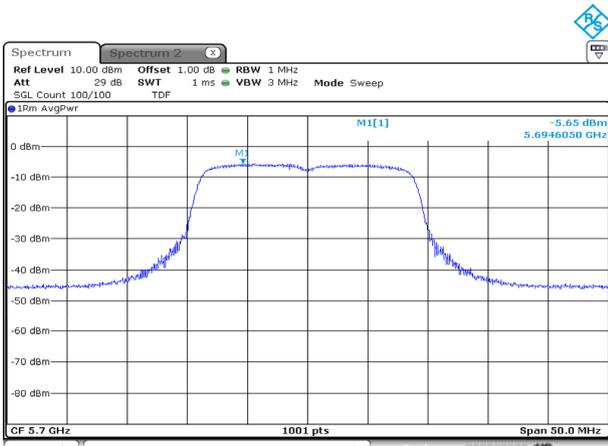
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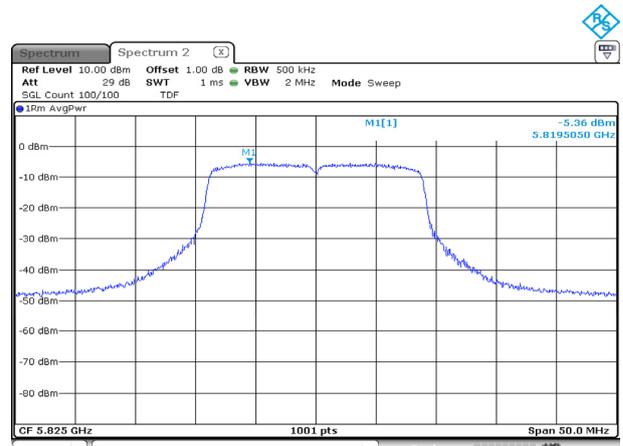
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UNII-1 / 802.11n HT40 / Low ch.

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

UNII-1 / 802.11n HT40 / High ch.

UNII-2A / 802.11n HT40 / High ch.
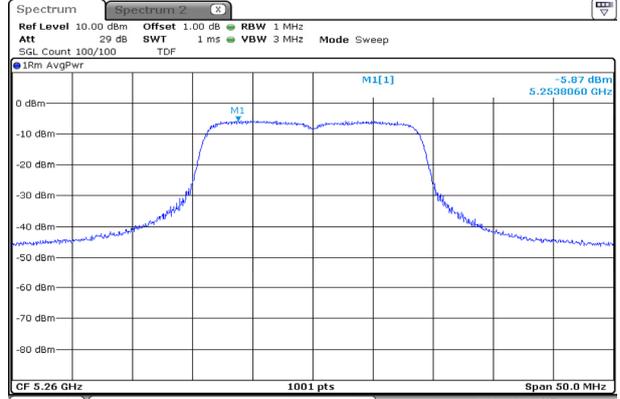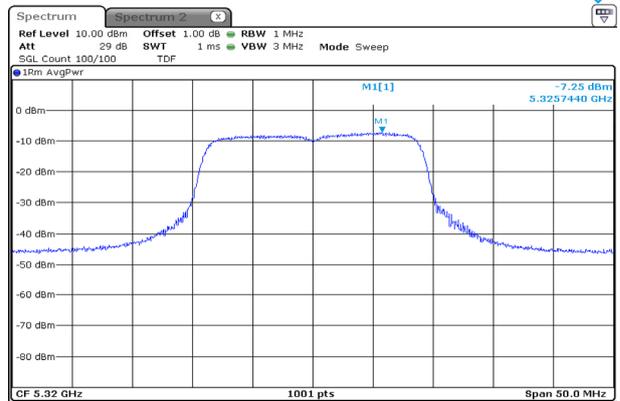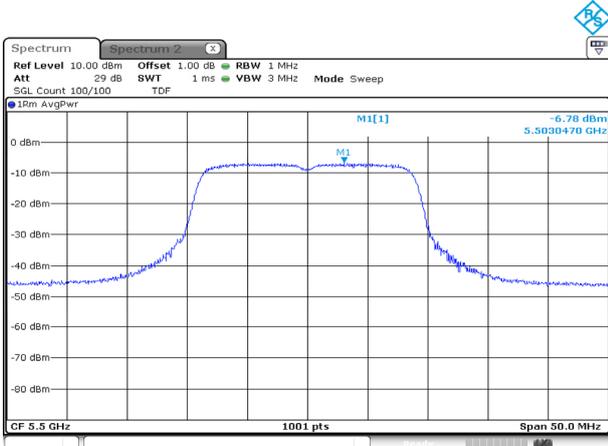
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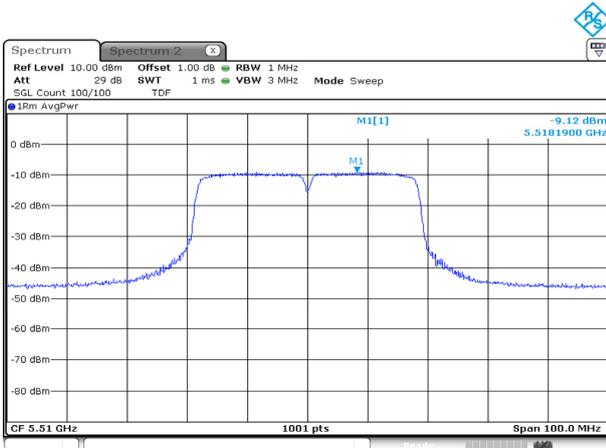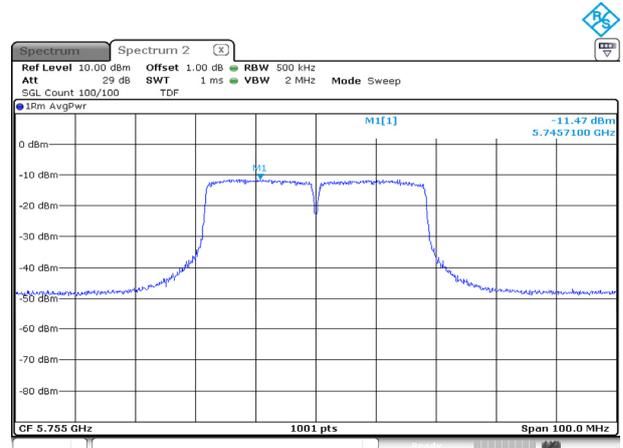
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UNII-2C / 802.11n HT40 / Low ch.	UNII-3 / 802.11n HT40 / Low ch.

UNII-2C / 802.11n HT40 / Mid ch.	UNII-3 / 802.11n HT40 / High ch.

UNII-2C / 802.11n HT40 / High ch.	
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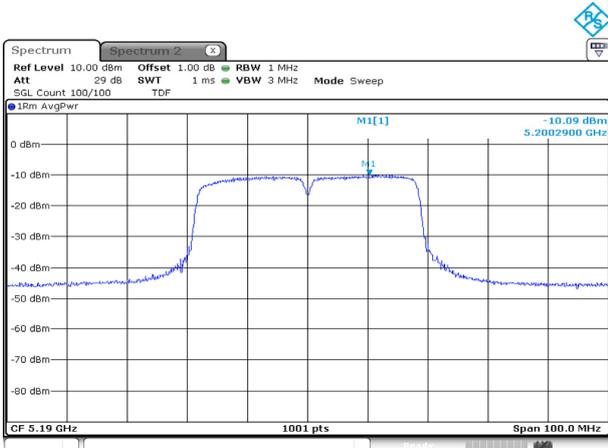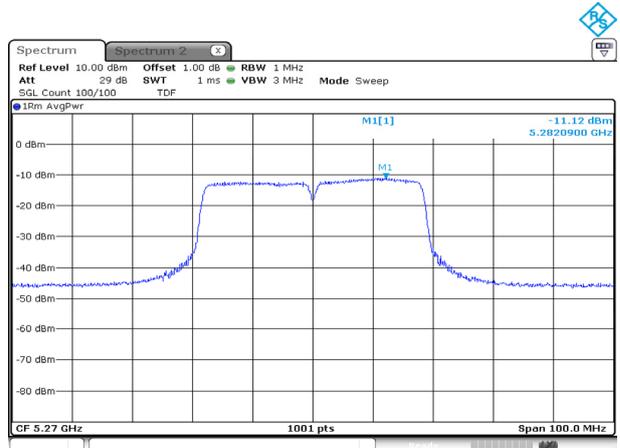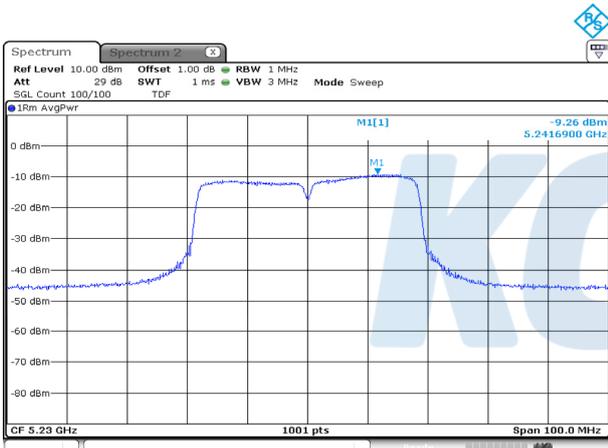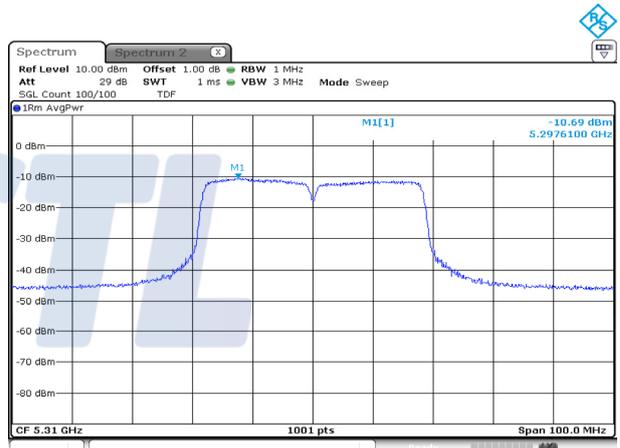KR19-SRF0077-A

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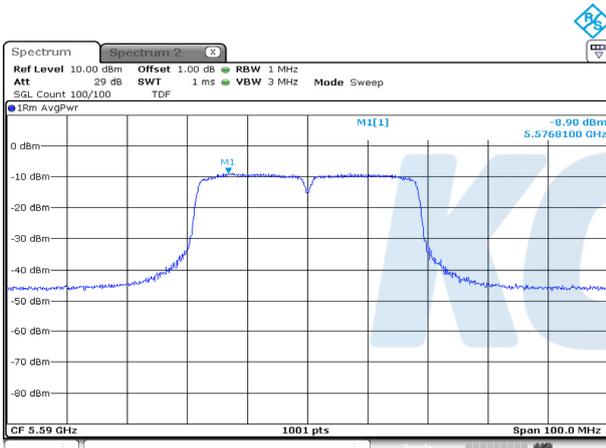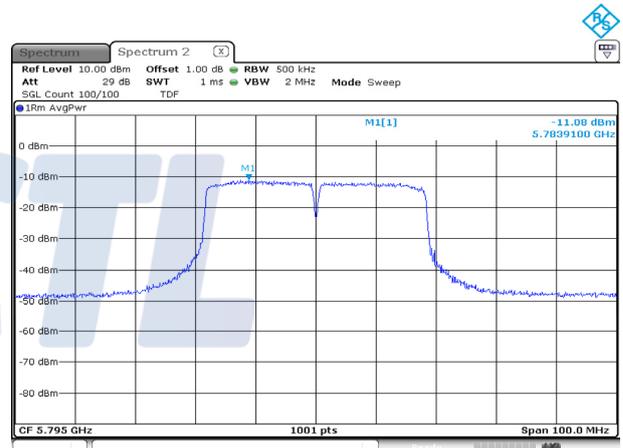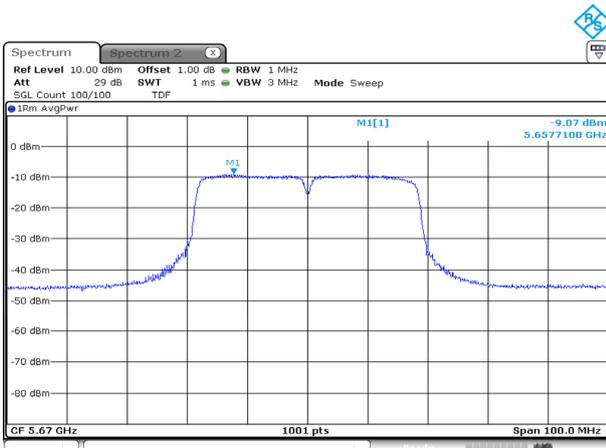
7.3.   26 ㏈ Bandwidth & 99% Occupied Bandwidth

Test setup

EUT		Attenuator		Spectrum analyzer
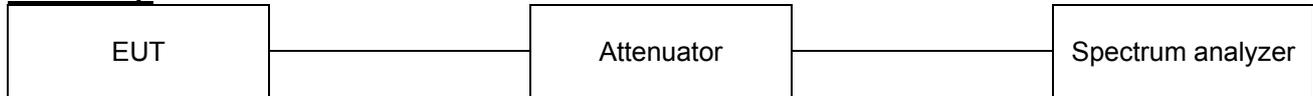
Limit

N/A

Test procedure

ANSI C63.10-2013 Section 12.4
KDB 789033 D02 v02r01 - Section C.1 (26㏈bandwidth)
KDB 789033 D02 v02r01 - Section D (99% bandwidth)

Test settings

1. 26 ㏈ 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 ㏈ 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 ≥ 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.

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Test results
26 ㏈ bandwidth

Test mode	Band	Frequency(㎒)	Measured Bandwidth ANT 0 (MHz)	Measured Bandwidth ANT 1 (㎒)
11a	UNII-1	5 180	21.88	21.37
		5 200	21.38	21.68
		5 240	21.73	21.58
	UNII-2A	5 260	21.78	21.73
		5 280	21.63	21.83
		5 320	20.98	21.23
	UNII-2C	5 500	21.23	21.93
		5 580	20.88	21.93
		5 700	21.13	21.38
11n HT20	UNII-1	5 180	21.83	21.98
		5 200	21.88	22.58
		5 240	21.73	21.78
	UNII-2A	5 260	21.83	21.93
		5 280	21.88	21.88
		5 320	21.68	21.98
	UNII-2C	5 500	21.68	22.23
		5 580	22.33	22.38
		5 700	21.73	22.18
11n HT40	UNII-1	5 190	41.76	42.16
		5 230	42.26	42.86
	UNII-2A	5 270	42.66	42.36
		5 310	42.66	42.46
	UNII-2C	5 510	42.46	42.46
		5 590	42.56	42.46
		5 670	42.66	42.26

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99% bandwidth

Test mode	Band	Frequency(㎒)	Measured Bandwidth ANT 0 (㎒)	Measured Bandwidth ANT 1 (㎒)
11a	UNII-1	5 180	16.38	16.43
		5 200	16.43	16.48
		5 240	16.38	16.43
	UNII-2A	5 260	16.48	16.53
		5 280	16.48	16.38
		5 320	16.48	16.53
	UNII-2C	5 500	16.38	16.48
		5 580	16.48	16.43
		5 700	16.48	16.48
	UNII-3	5 745	16.53	16.53
		5 785	16.38	16.58
		5 825	16.48	16.43
11n_HT20	UNII-1	5 180	17.68	17.63
		5 200	17.73	17.78
		5 240	17.63	17.53
	UNII-2A	5 260	17.78	17.78
		5 280	17.73	17.63
		5 320	17.73	17.78
	UNII-2C	5 500	17.63	17.68
		5 580	17.73	17.63
		5 700	17.63	17.63
	UNII-3	5 745	17.78	17.73
		5 785	17.73	17.73
		5 825	17.73	17.68
11n_HT40	UNII-1	5 190	36.26	36.26
		5 230	36.36	36.66
	UNII-2A	5 270	36.46	36.46
		5 310	36.46	36.46
	UNII-2C	5 510	36.56	36.36
		5 590	36.46	36.46
		5 670	36.36	36.26
	UNII-3	5 755	36.36	36.56
		5 795	36.36	36.46

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26 ㏈ bandwidth

ANT 0

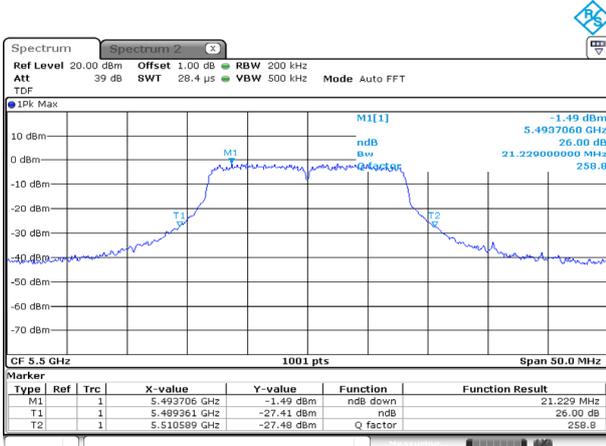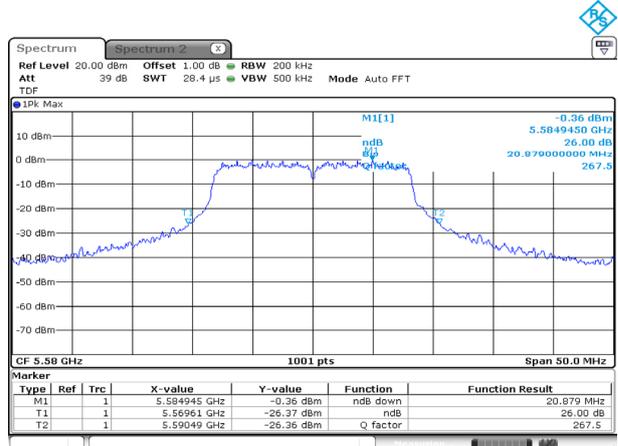| UNII-1 / 802.11a / Low ch.	UNII-2A / 802.11a / Low ch.
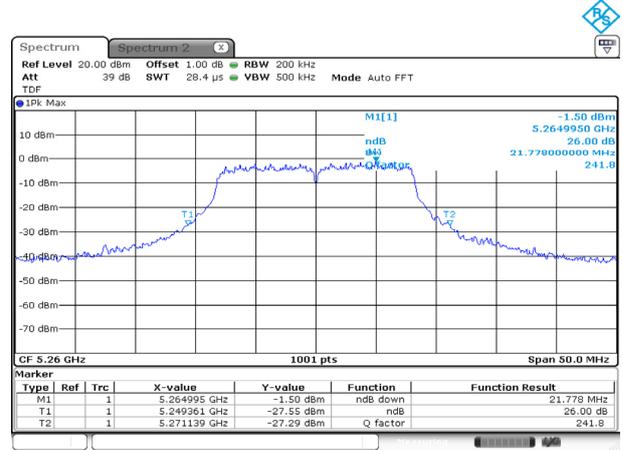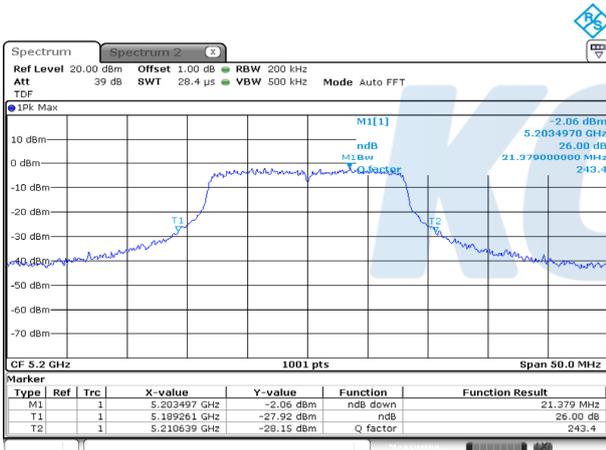
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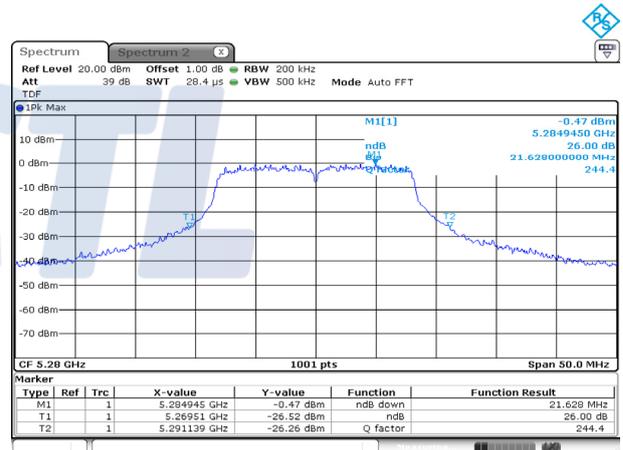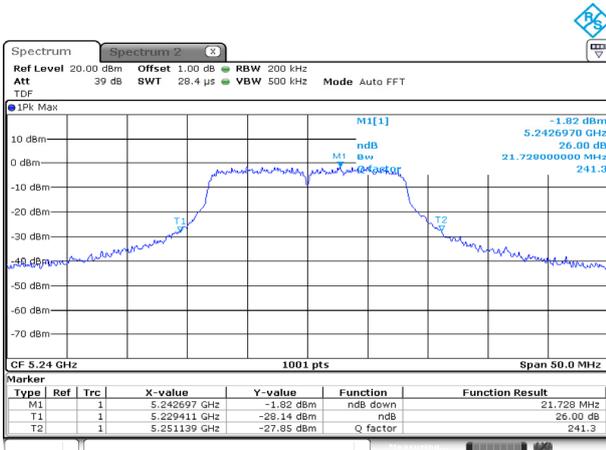
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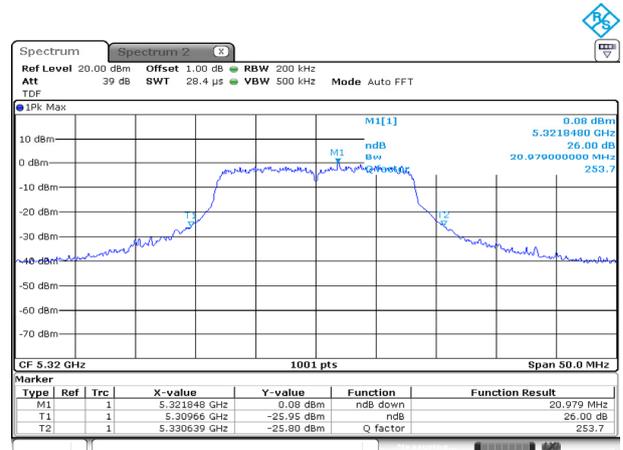
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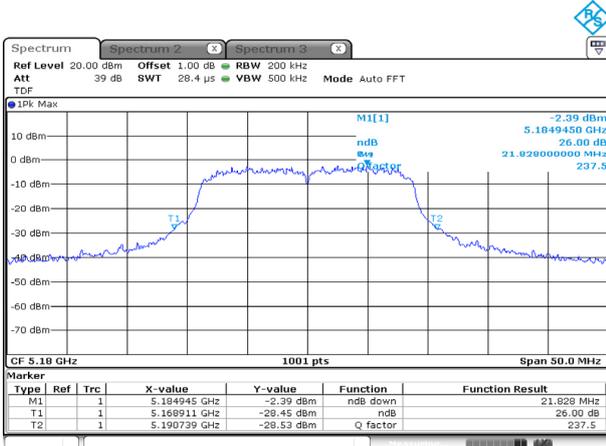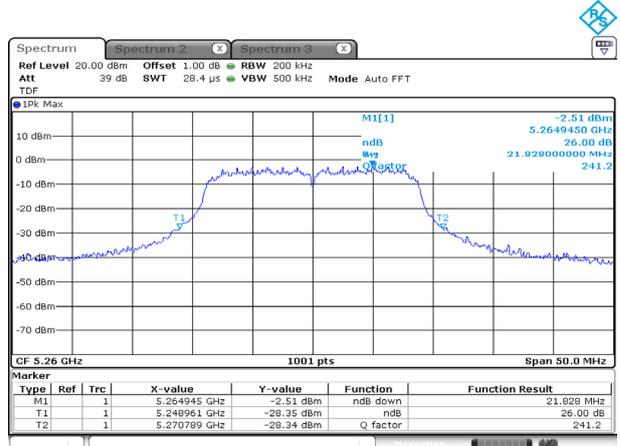| UNII-2C / 802.11a / Low ch.	UNII-2C / 802.11a / Mid ch.

UNII-2C / 802.11a / High ch.	

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UNII-1 / 802.11n HT20 / Low ch.

UNII-2A / 802.11n HT20 / Low ch.
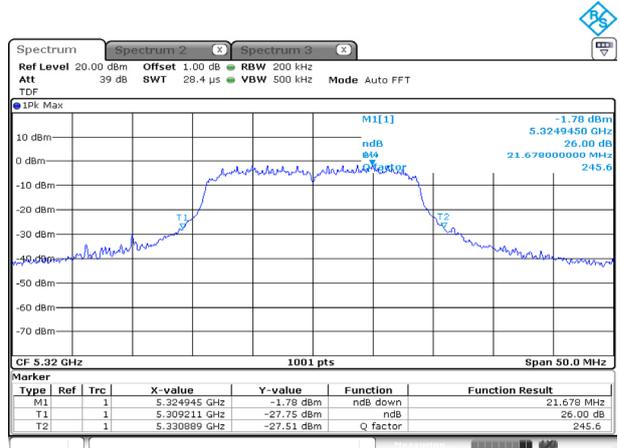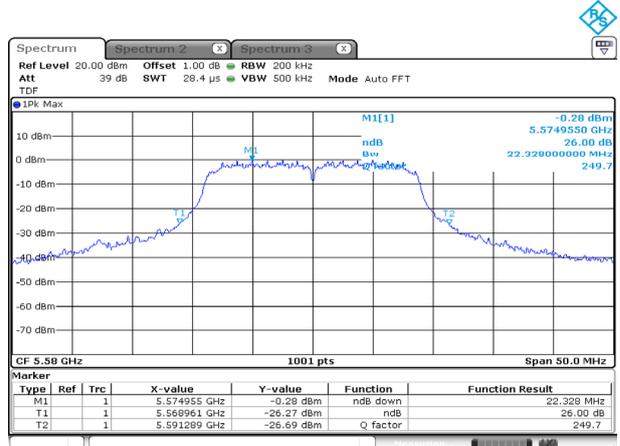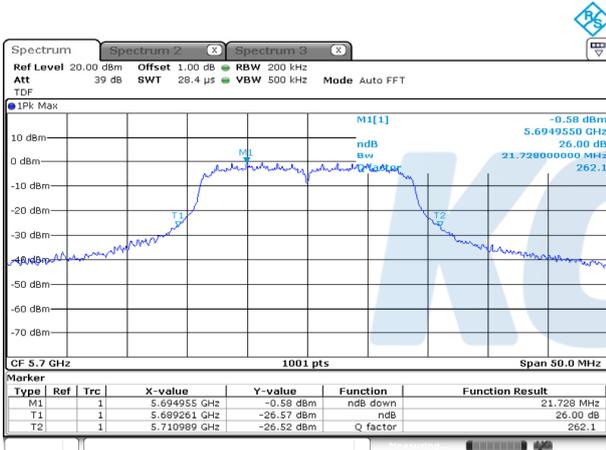

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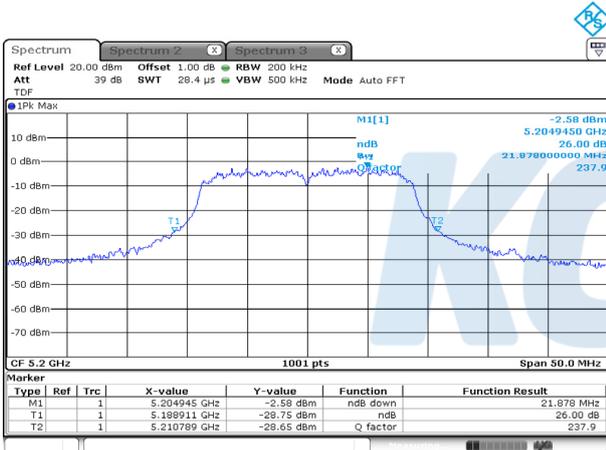
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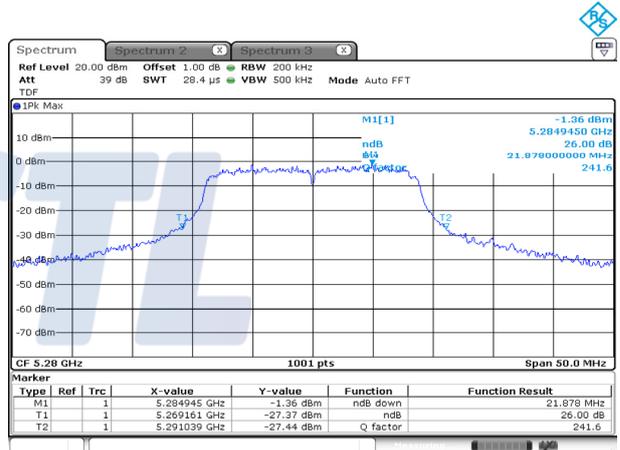
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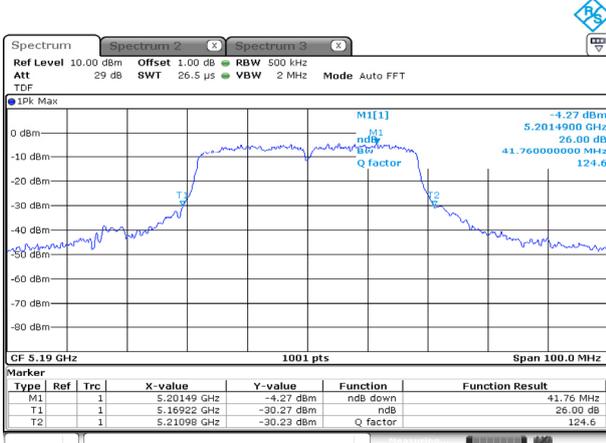## UNII-2A / 802.11n HT20 / High ch.

KCTL Inc.
65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894   FAX: 82-505-299-8311
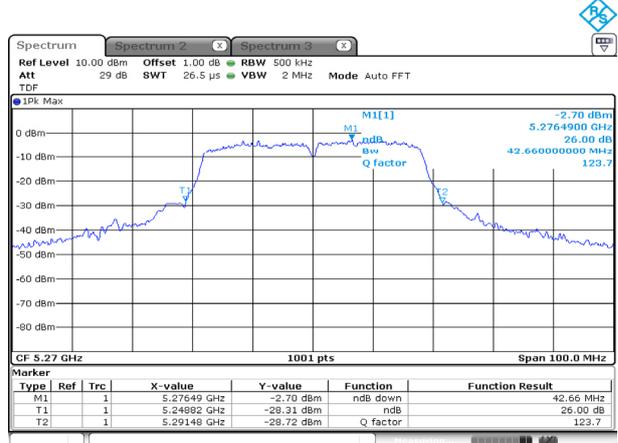www.kctl.co.kr

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UNII-2C / 802.11n HT20 / High ch.	
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Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894   FAX: 82-505-299-8311
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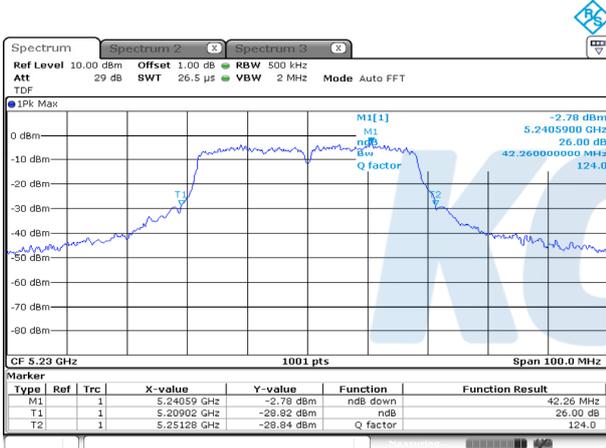
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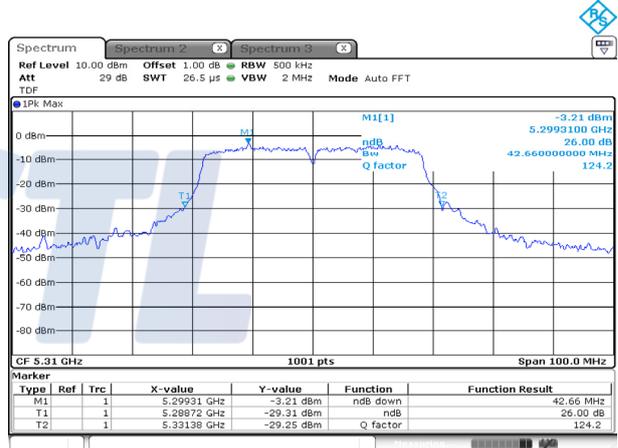
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UNII-1 / 802.11n HT40 / Low ch.

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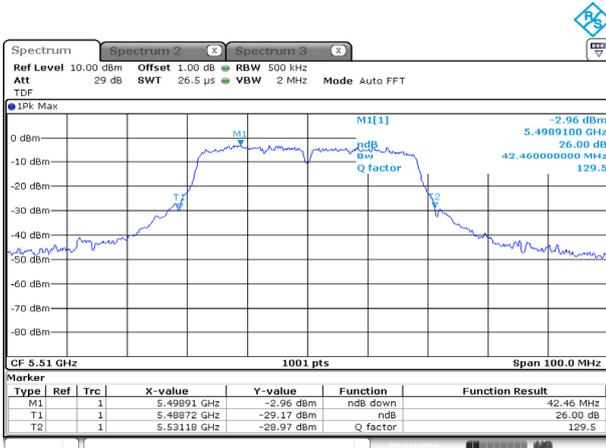
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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894   FAX: 82-505-299-8311
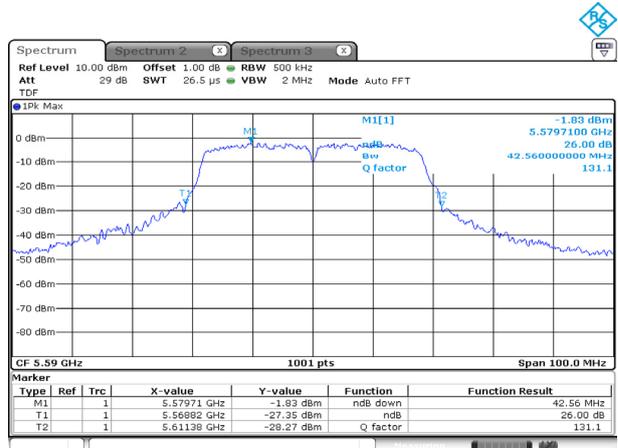www.kctl.co.kr

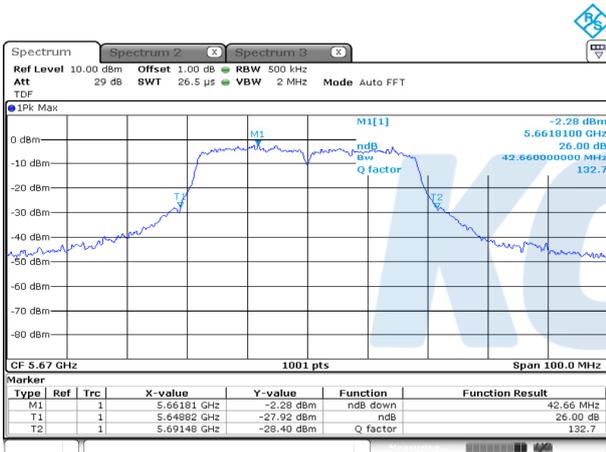Report No.:
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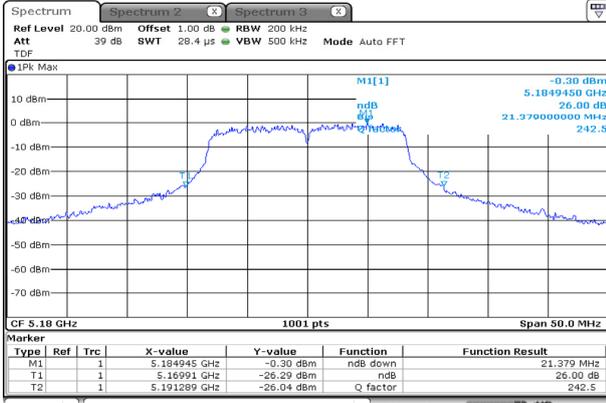## UNII-2C / 802.11n HT40 / Low ch.

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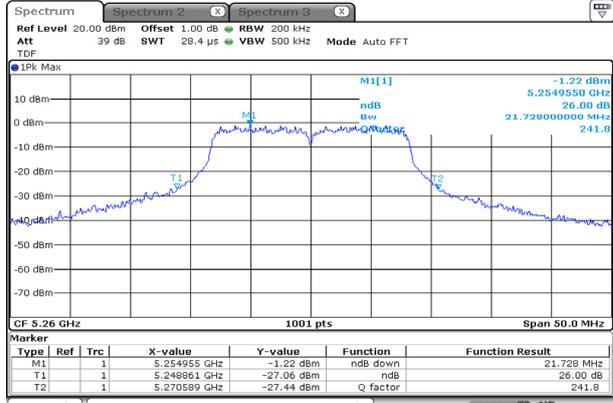KCTL-TIR001-003/2

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UNII-1 / 802.11a / Mid ch.	UNII-2A / 802.11a / Mid ch.

UNII-1 / 802.11a / High ch.	UNII-2A / 802.11a / High ch.