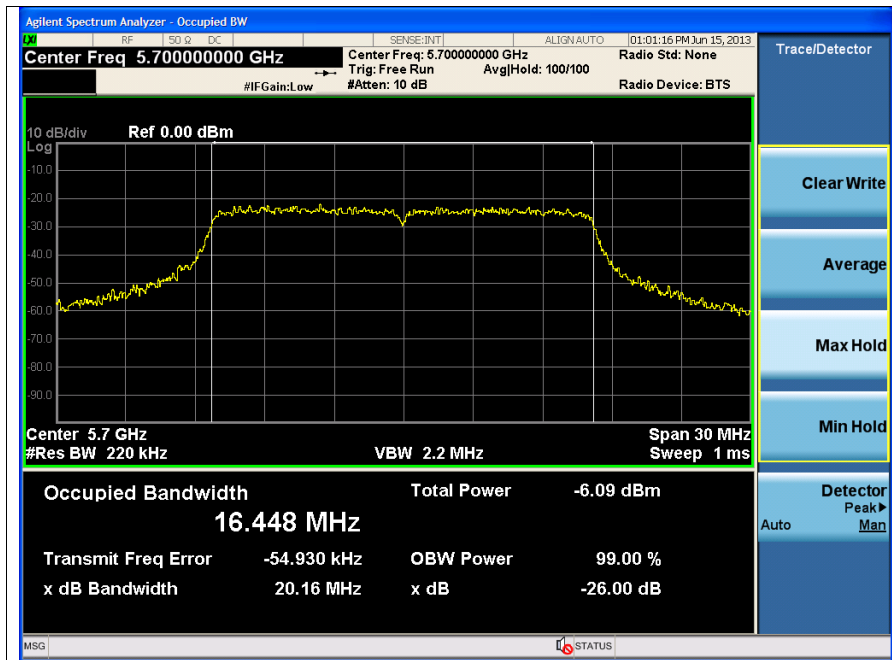


High Channel (5 700 MHz)



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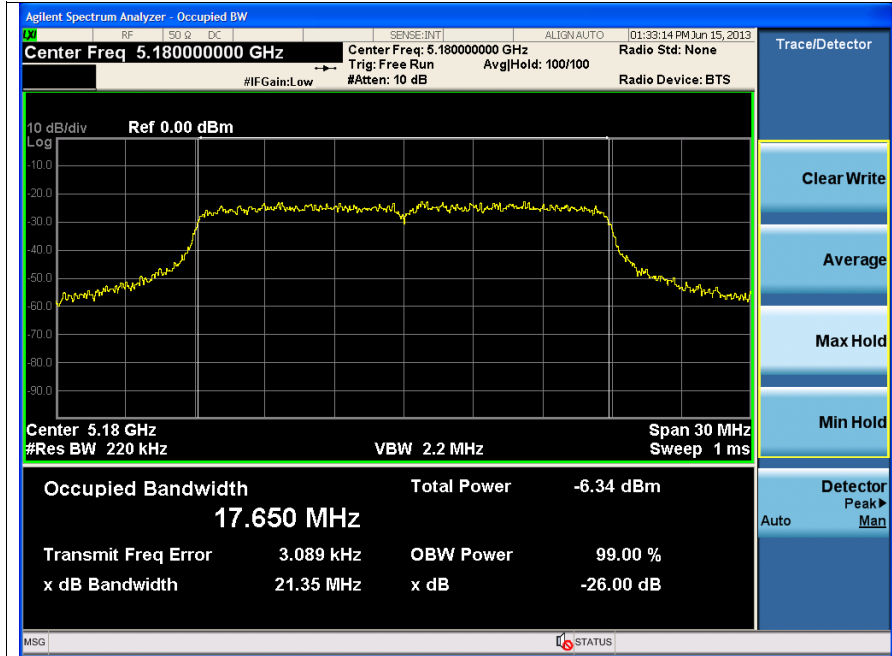
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

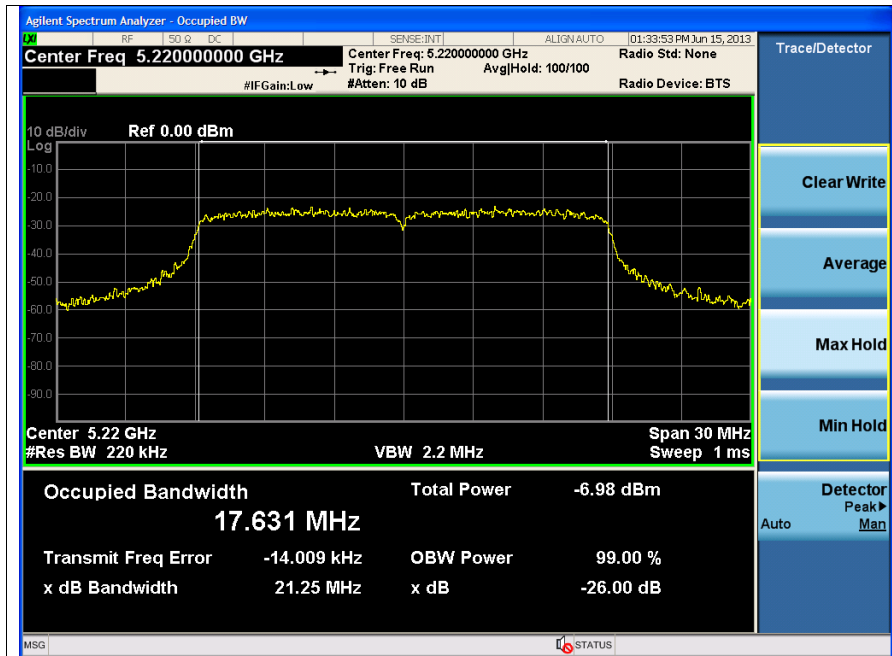
www.ee.sgs.com/korea

802.11n_HT20 (Non-DFS)

Low Channel (5 180 MHz)

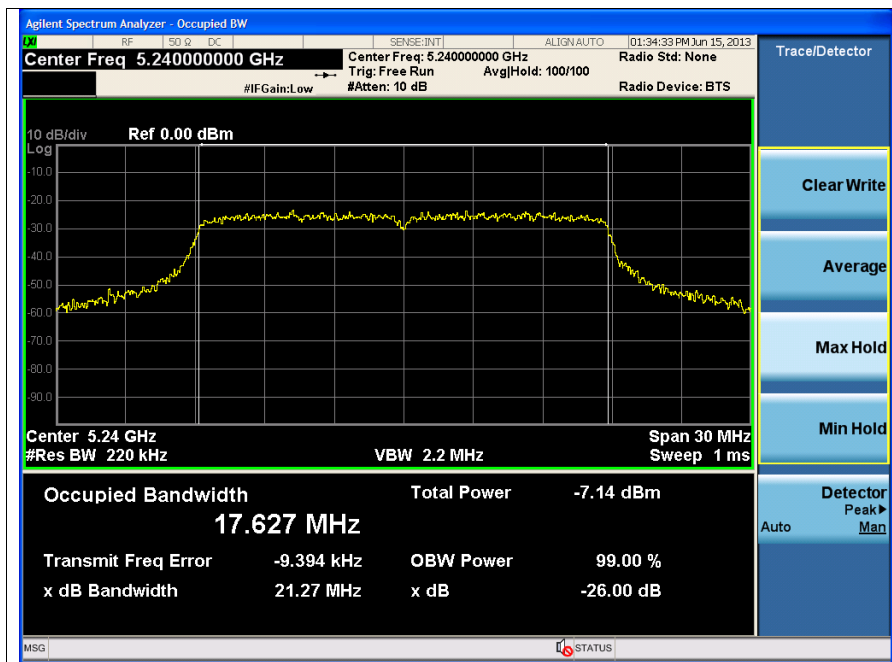


Middle Channel (5 220 MHz)



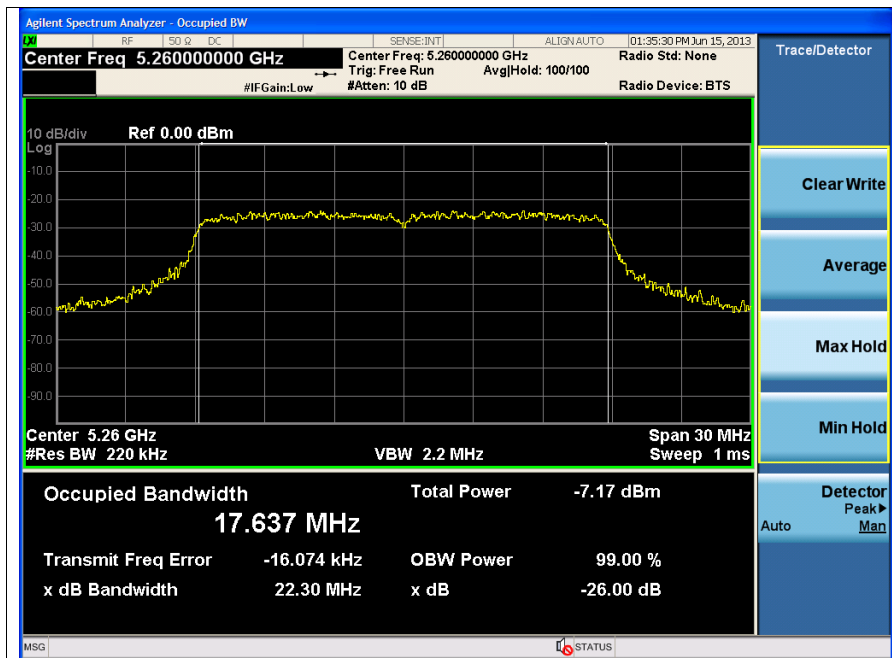
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High Channel (5 240 MHz)



802.11n_HT20 (DFS)

Low Channel (5 260 MHz)



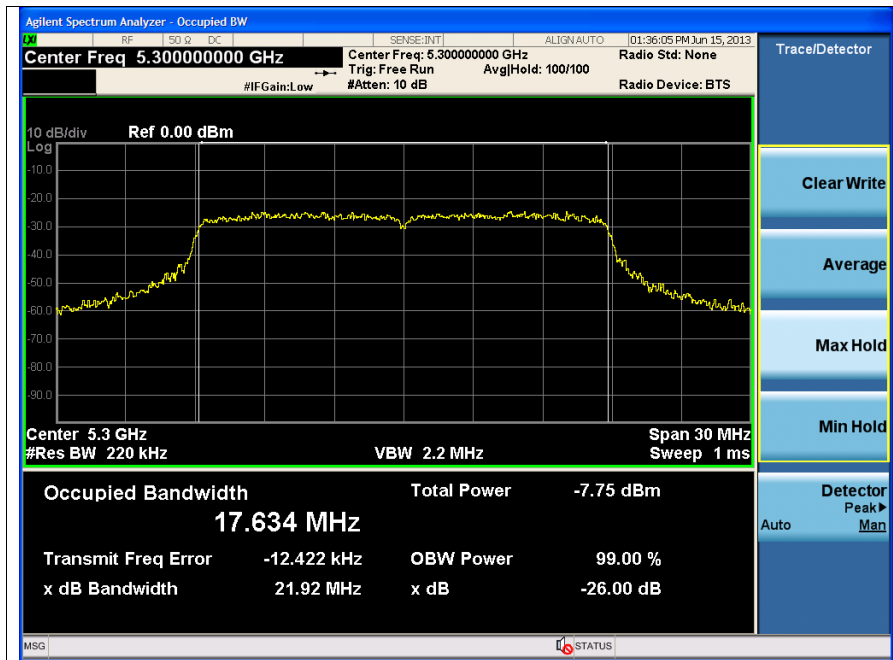
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SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

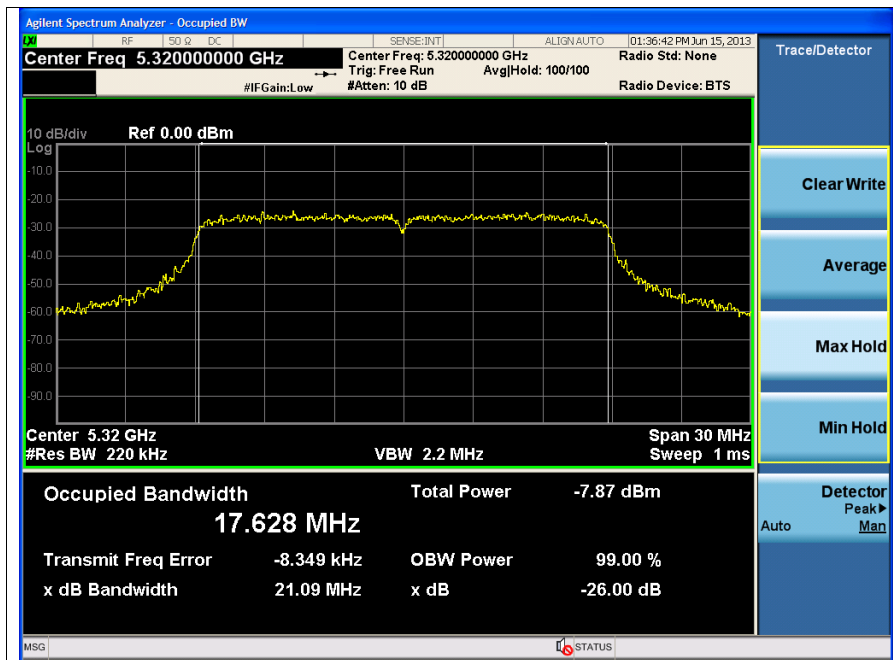
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Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



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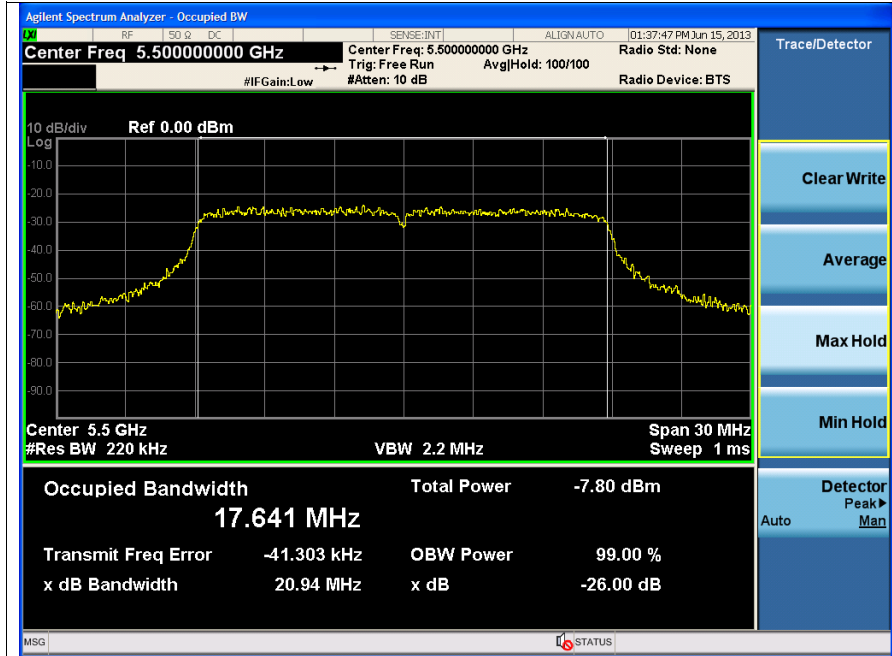
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

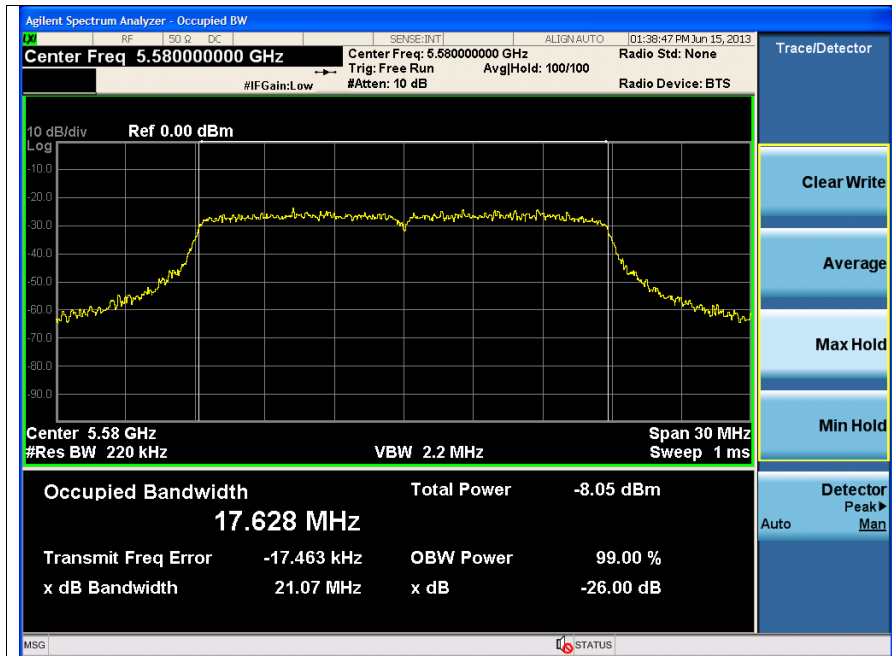
www.ee.sgs.com/korea

802.11n_HT20 (DFS)

Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



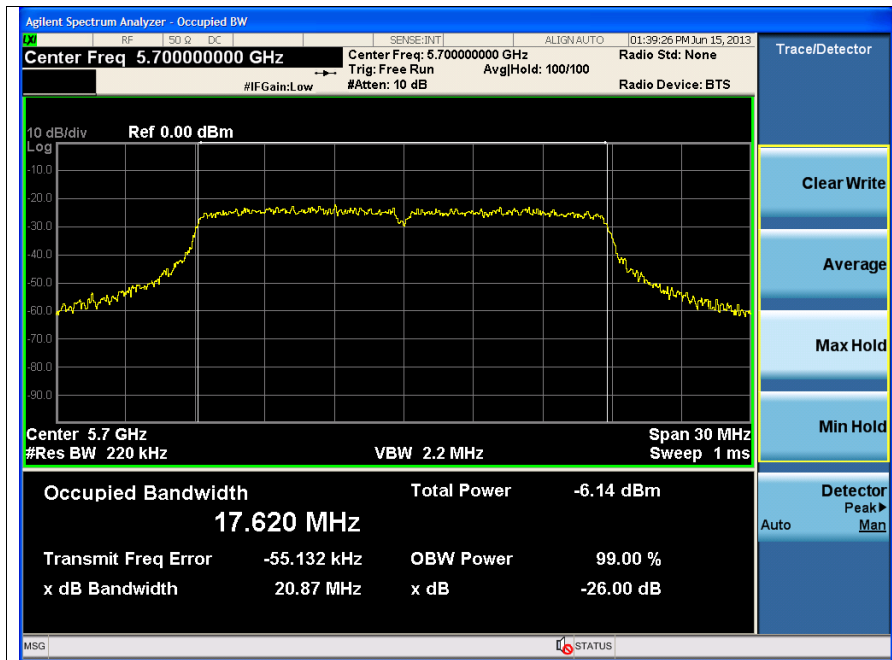
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High Channel (5 700 MHz)



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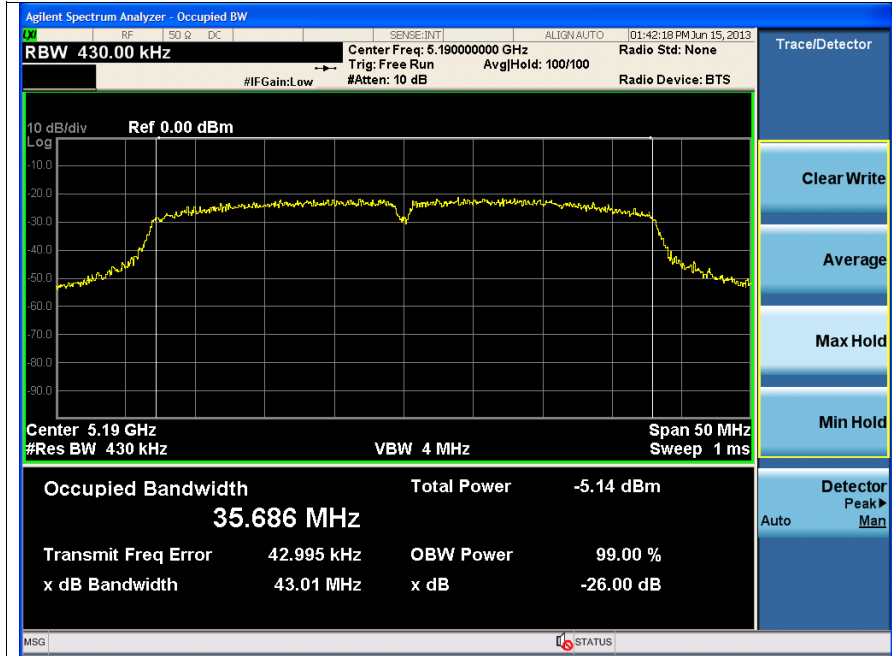
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

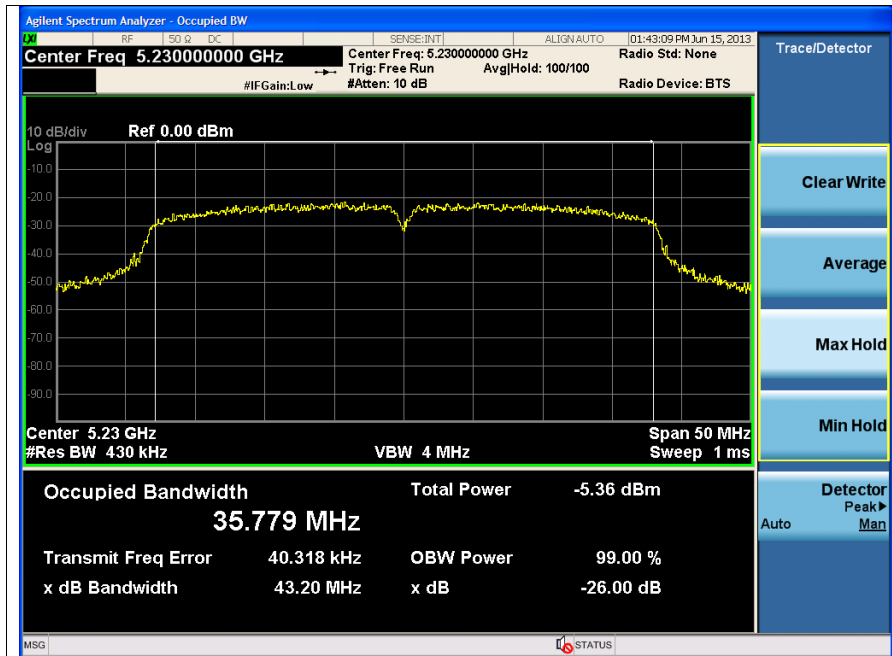
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802.11n_HT40 (Non-DFS)

Low Channel (5 190 MHz)



High Channel (5 230 MHz)



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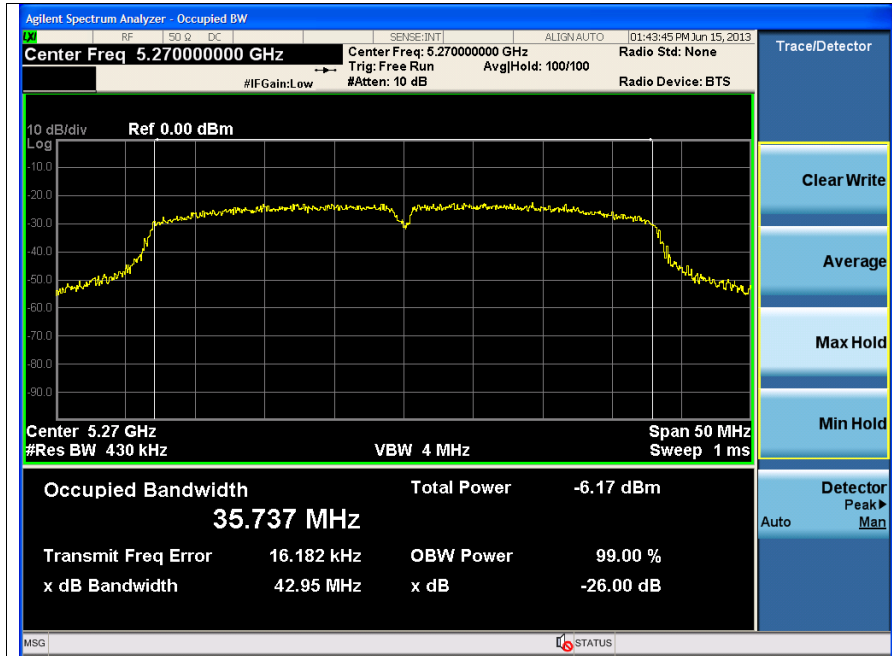
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

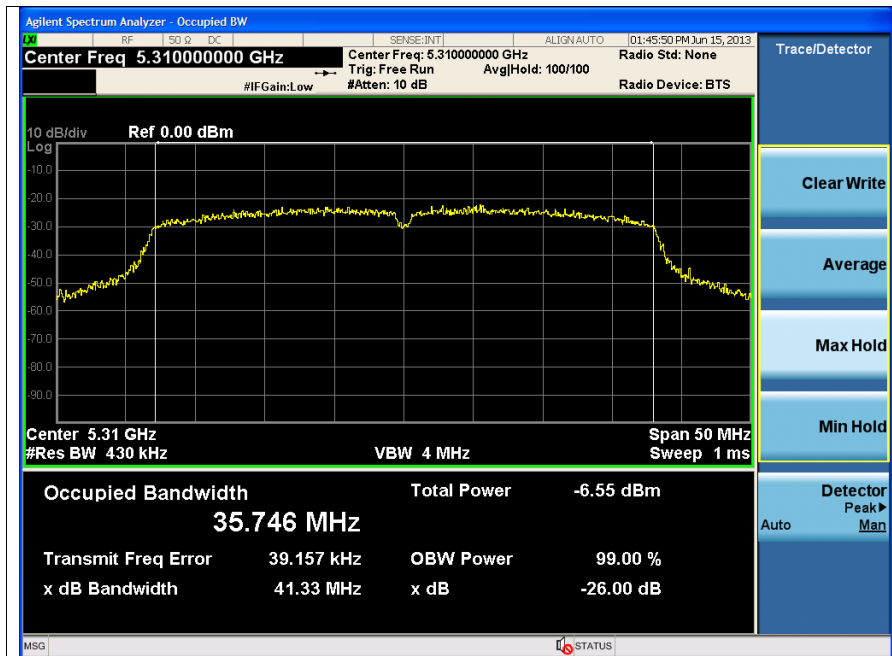
www.ee.sgs.com/korea

802.11n_HT40 (DFS)

Low Channel (5 270 MHz)



High Channel (5 310 MHz)



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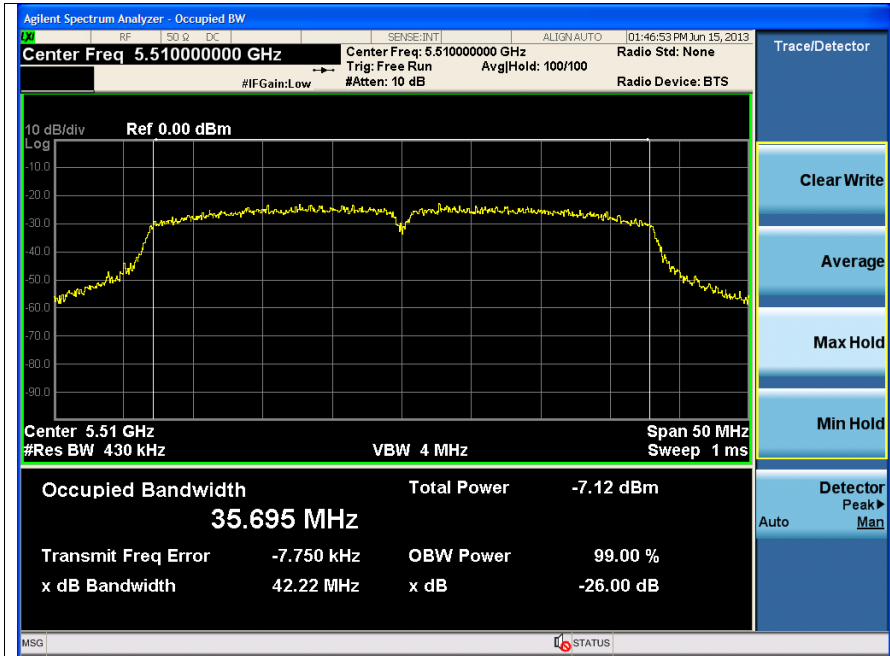
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

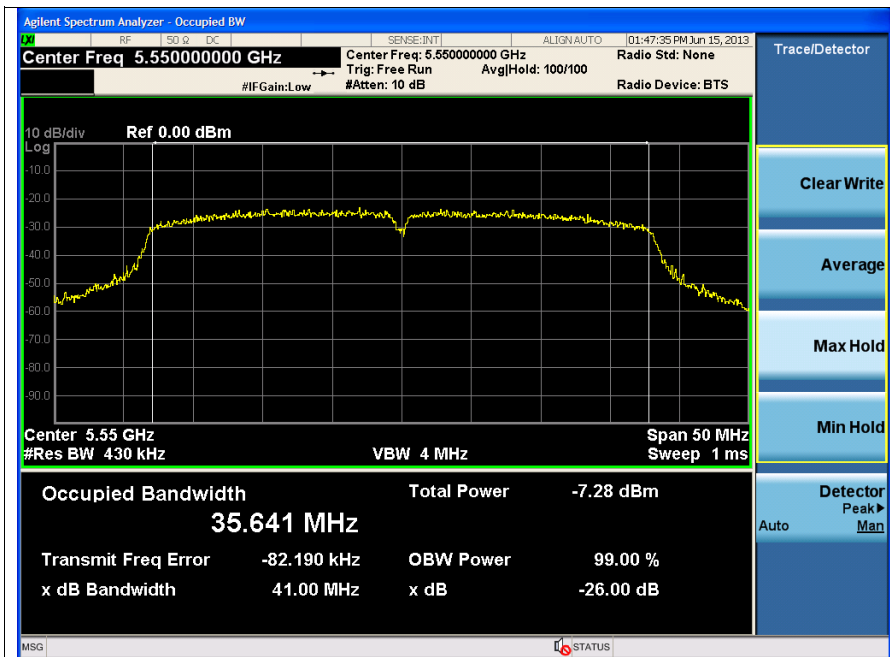
www.ee.sgs.com/korea

802.11n_HT40 (DFS)

Low Channel (5 510 MHz)



Low Channel (5 550 MHz)



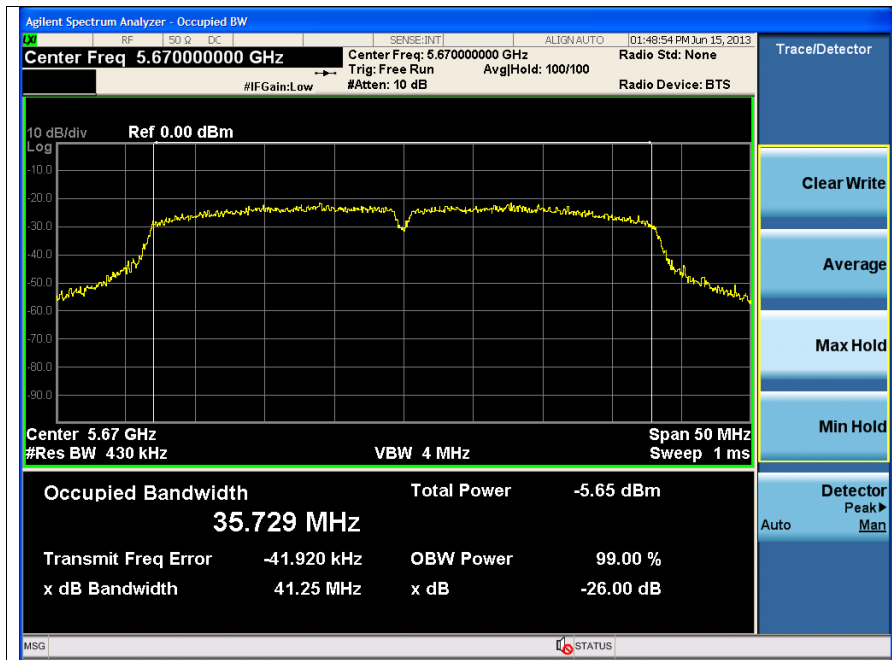
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High Channel (5 670 MHz)



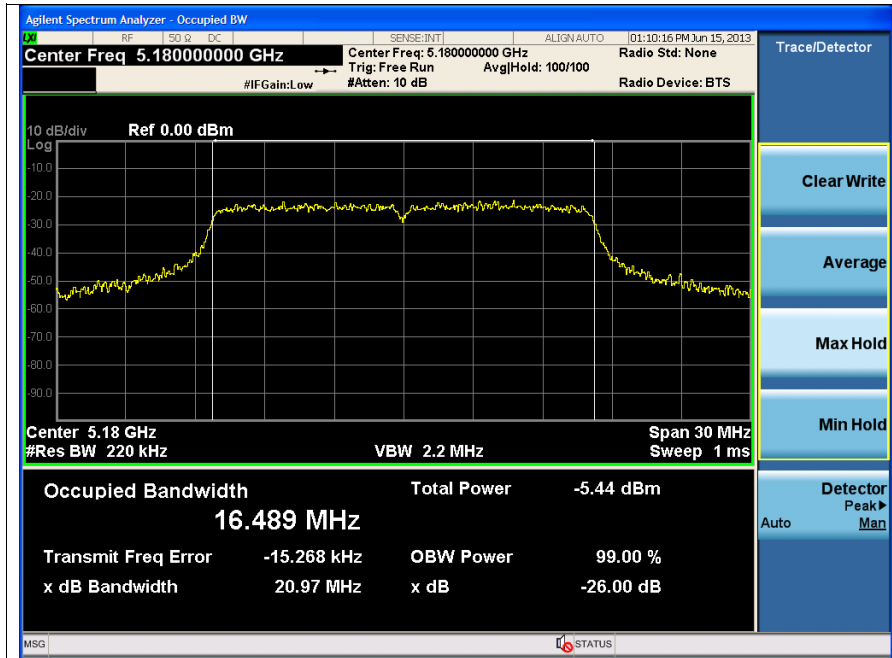
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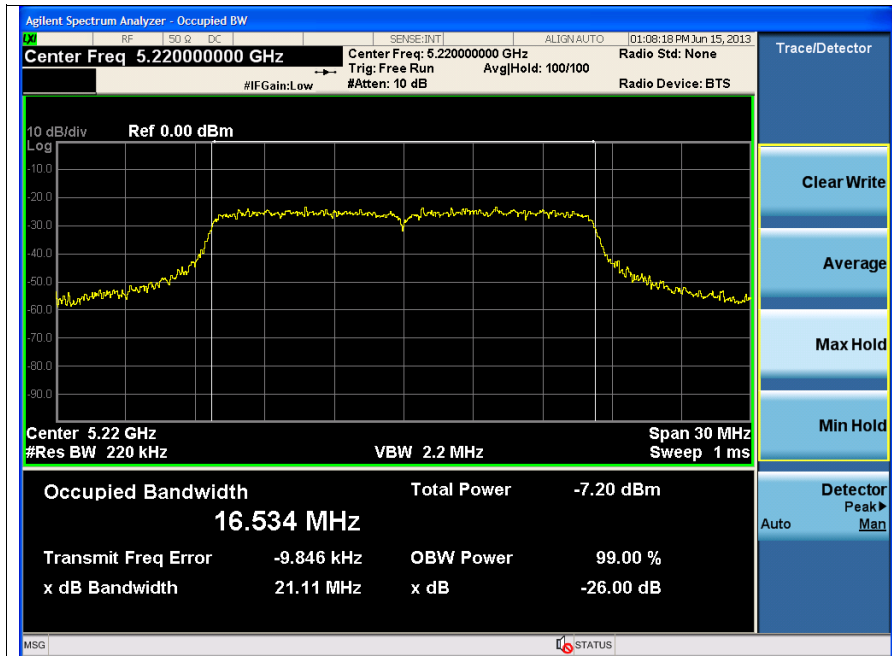
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

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ANT1
802.11a (Non-DFS)
 Low Channel (5 180 MHz)

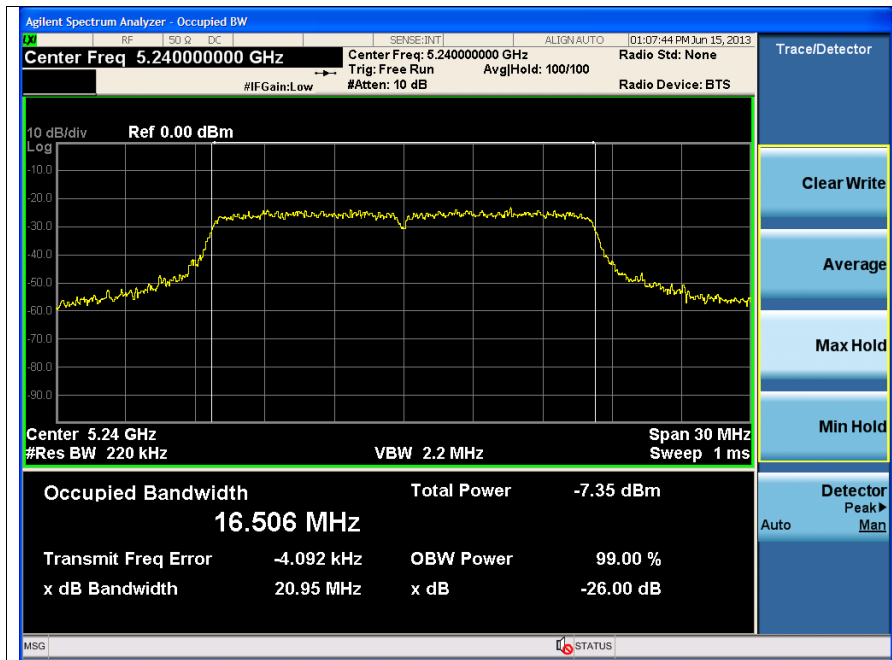


Middle Channel (5 220 MHz)



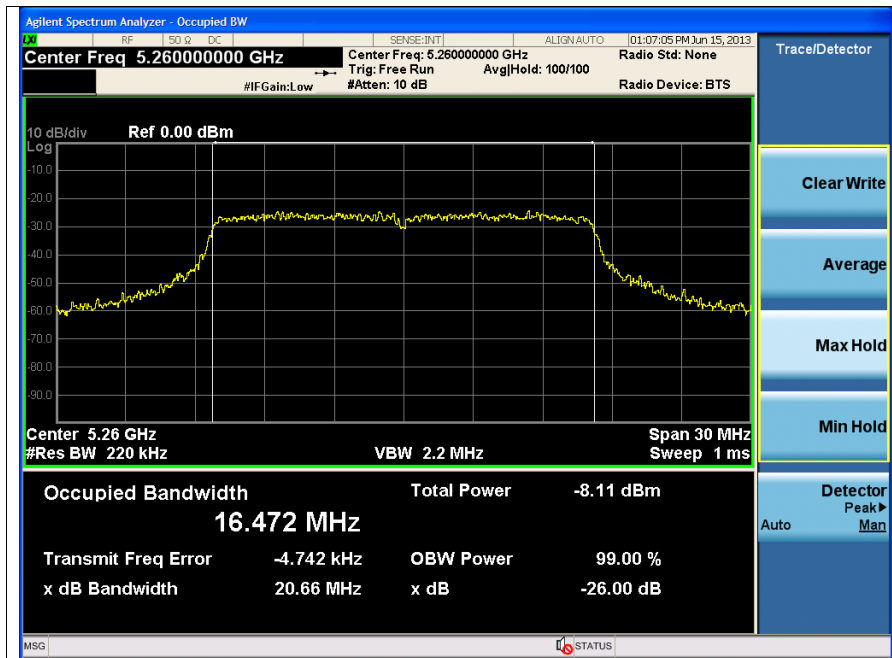
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High Channel (5 240 MHz)



802.11a (DFS)

Low Channel (5 260 MHz)



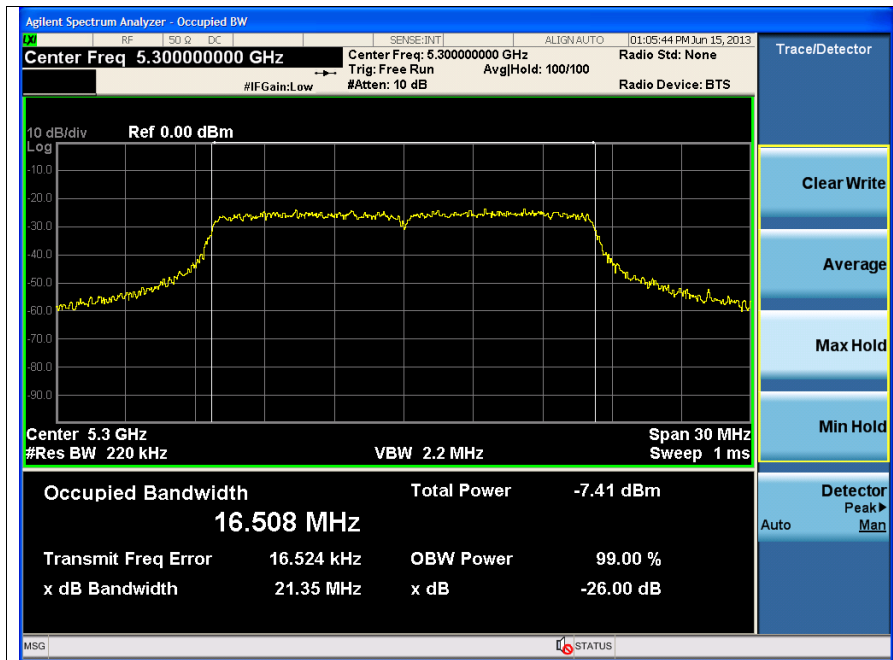
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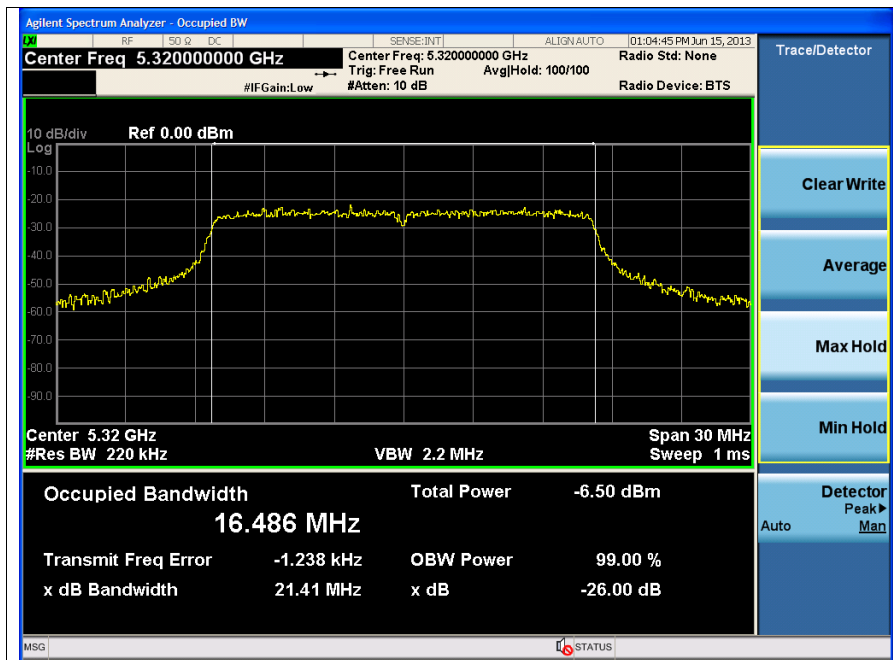
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

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Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



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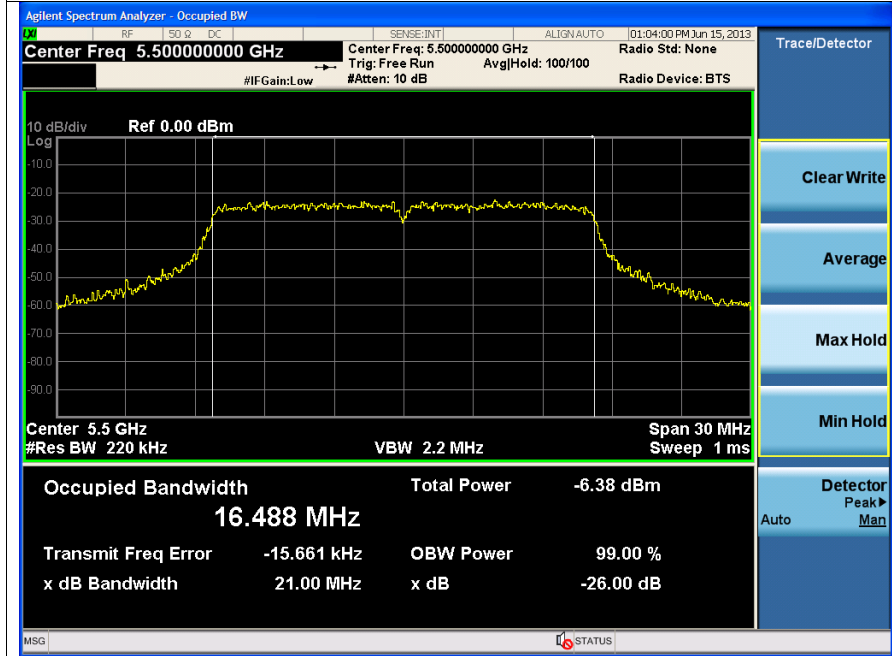
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

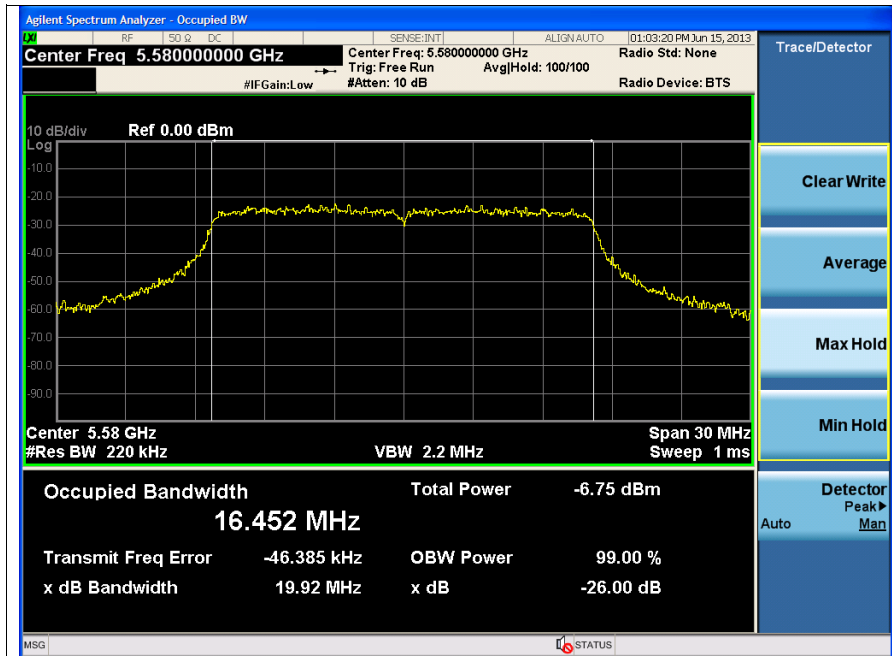
www.ee.sgs.com/korea

802.11a (DFS)

Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



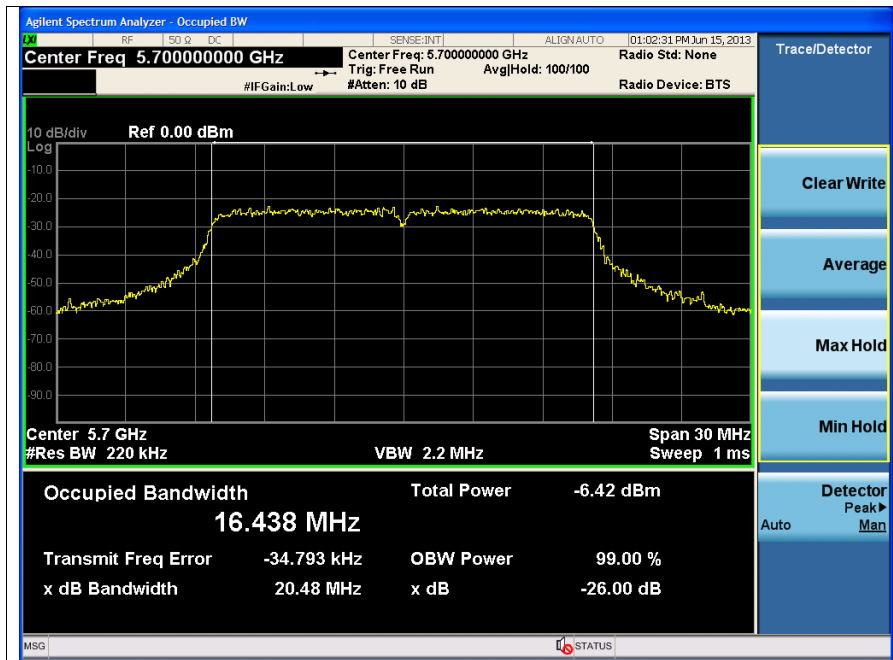
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High Channel (5 700 MHz)



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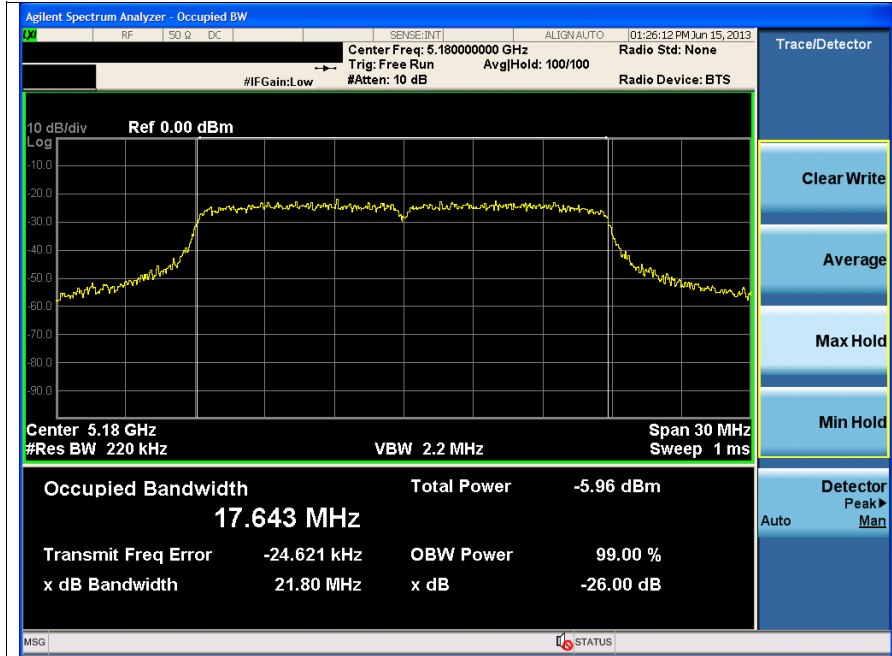
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Tel. +82 31 428 5700 / Fax. +82 31 427 2371

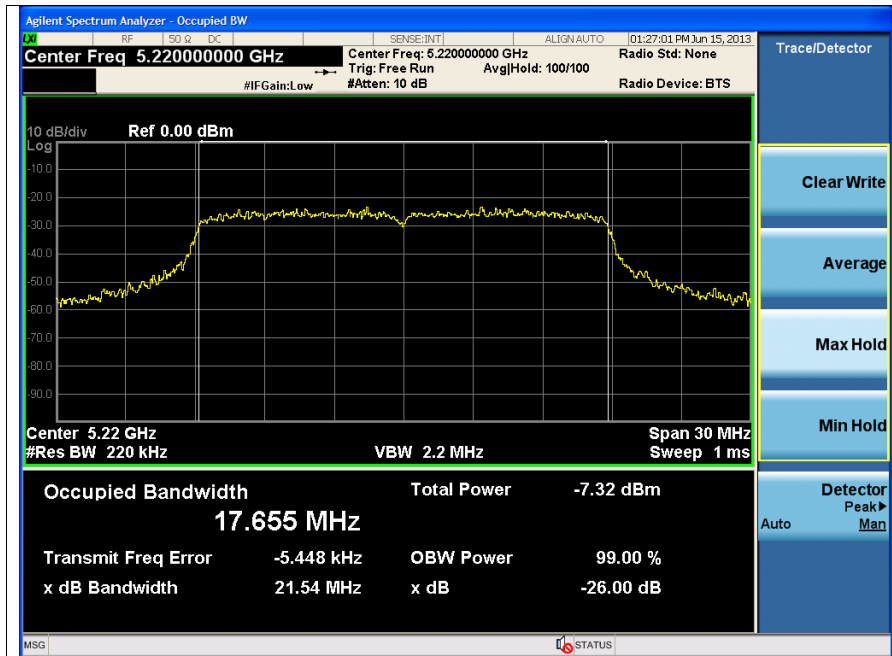
www.ee.sgs.com/korea

802.11n_HT20 (Non-DFS)

Low Channel (5 180 MHz)



Middle Channel (5 220 MHz)



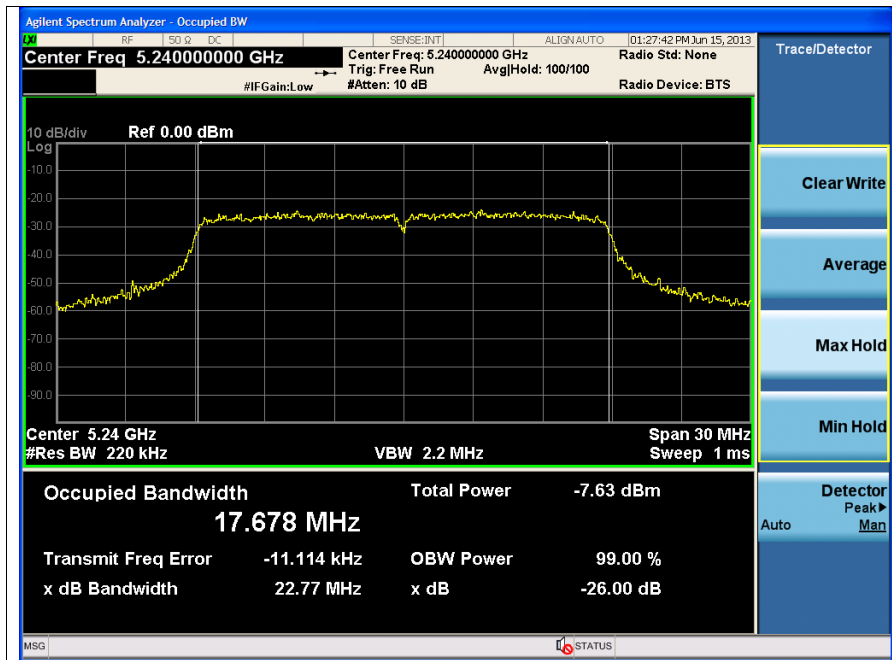
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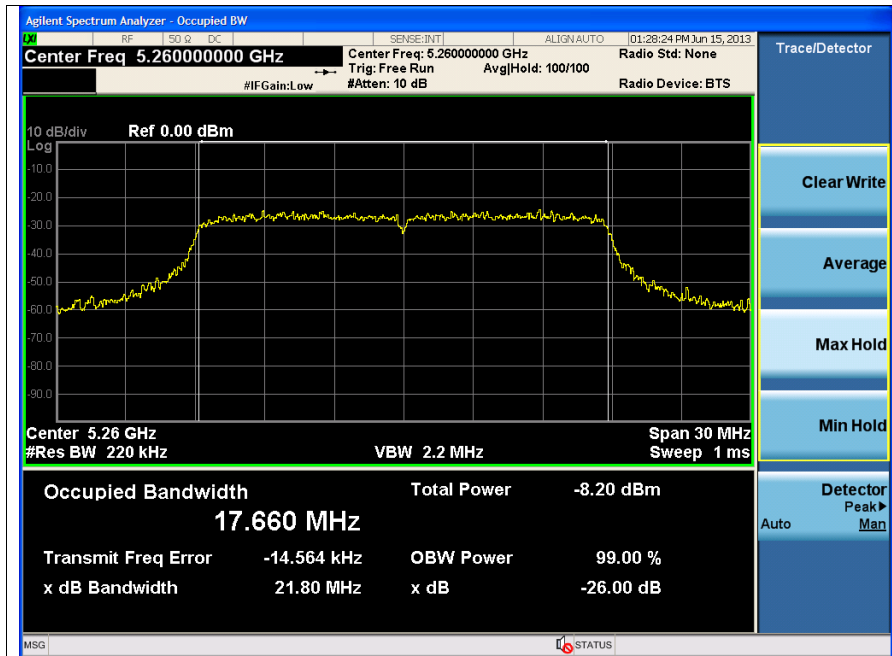
www.ee.sgs.com/korea

High Channel (5 240 MHz)



802.11n_HT20 (DFS)

Low Channel (5 260 MHz)

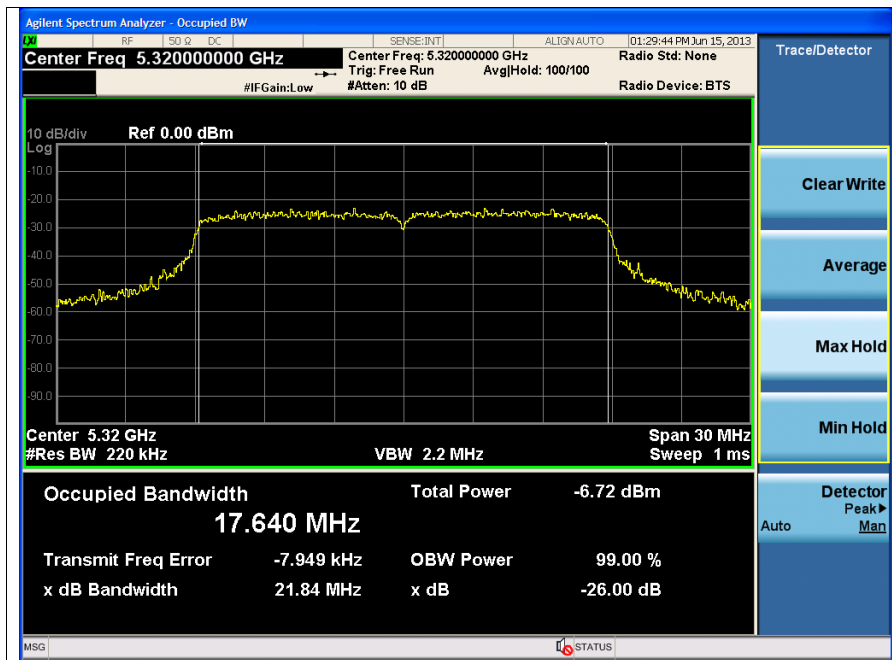


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Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



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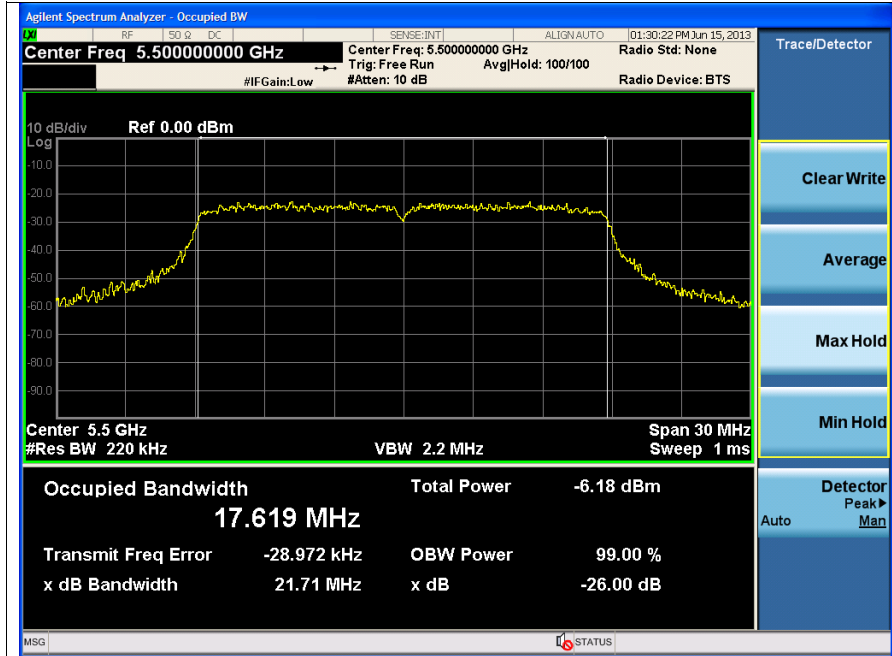
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

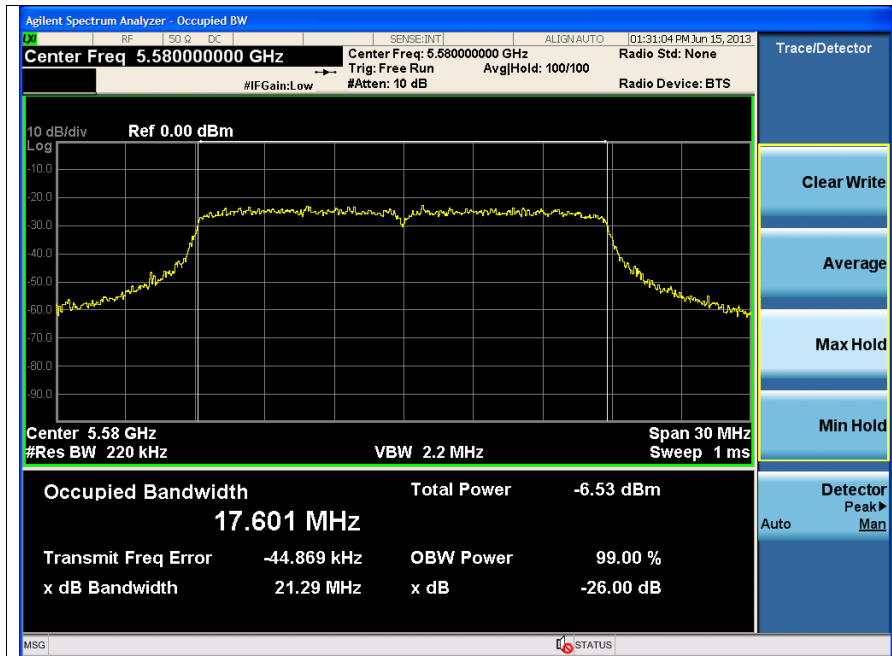
www.ee.sgs.com/korea

802.11n_HT20 (DFS)

Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



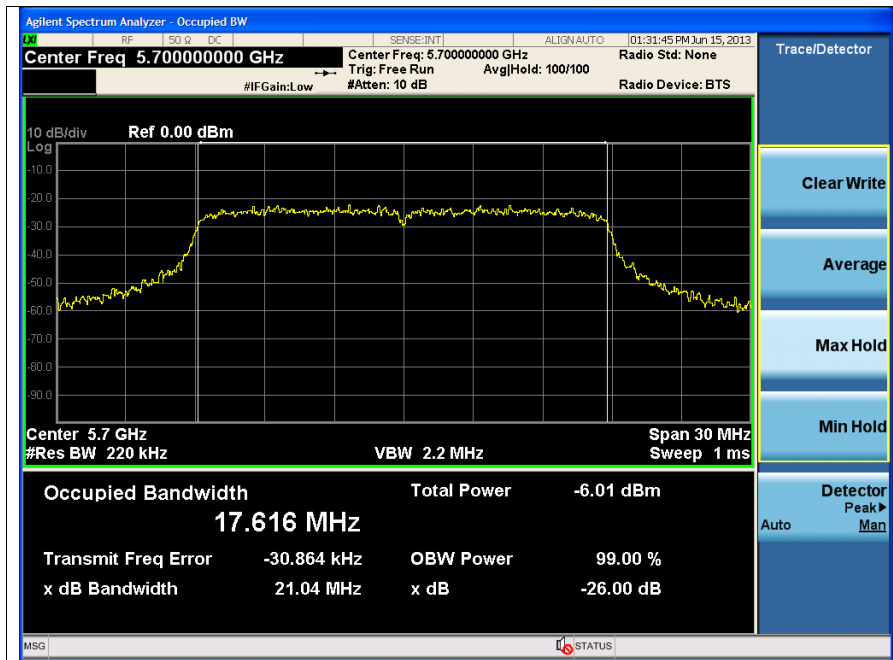
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High Channel (5 700 MHz)



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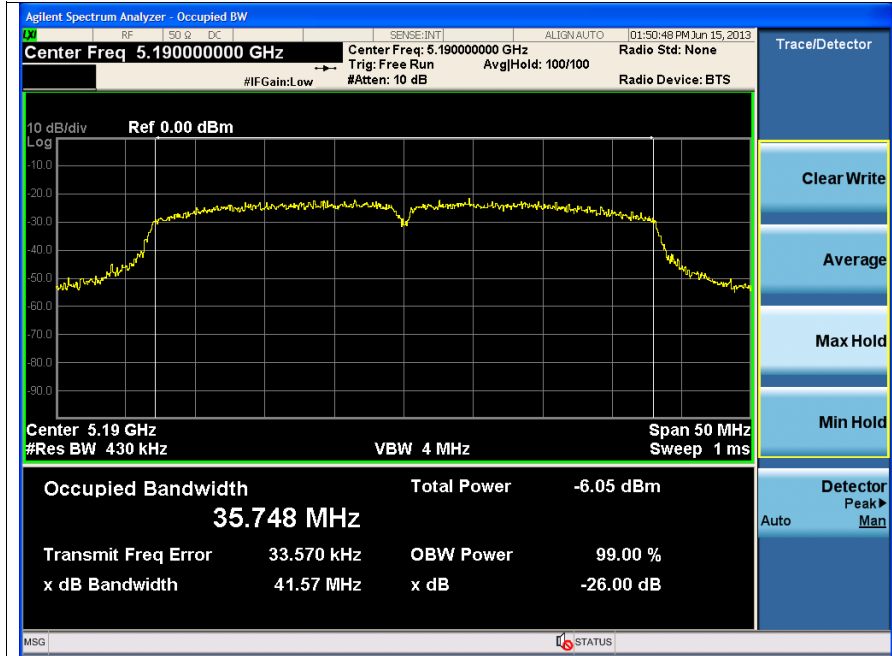
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

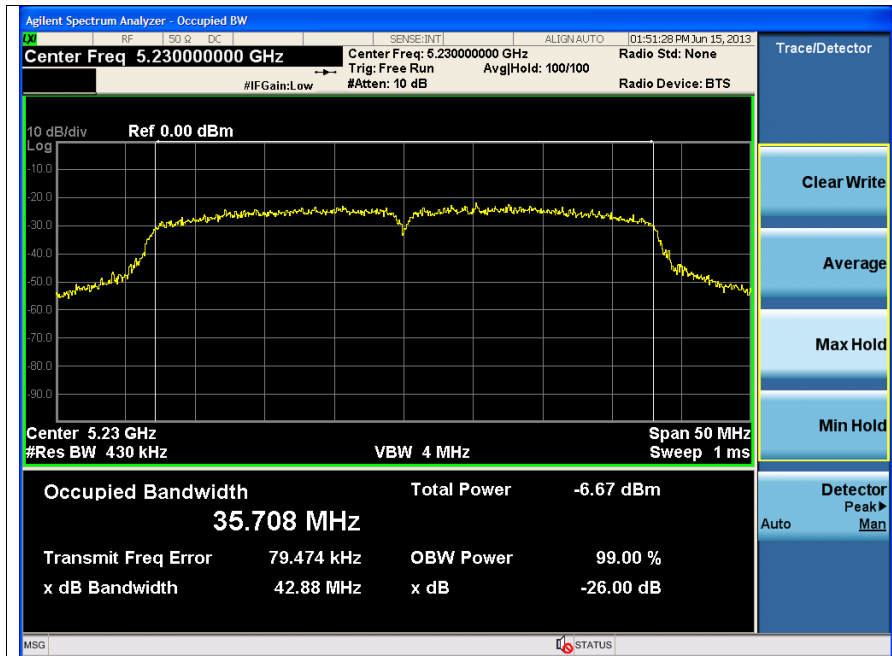
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802.11n_HT40 (Non-DFS)

Low Channel (5 190 MHz)



High Channel (5 230 MHz)



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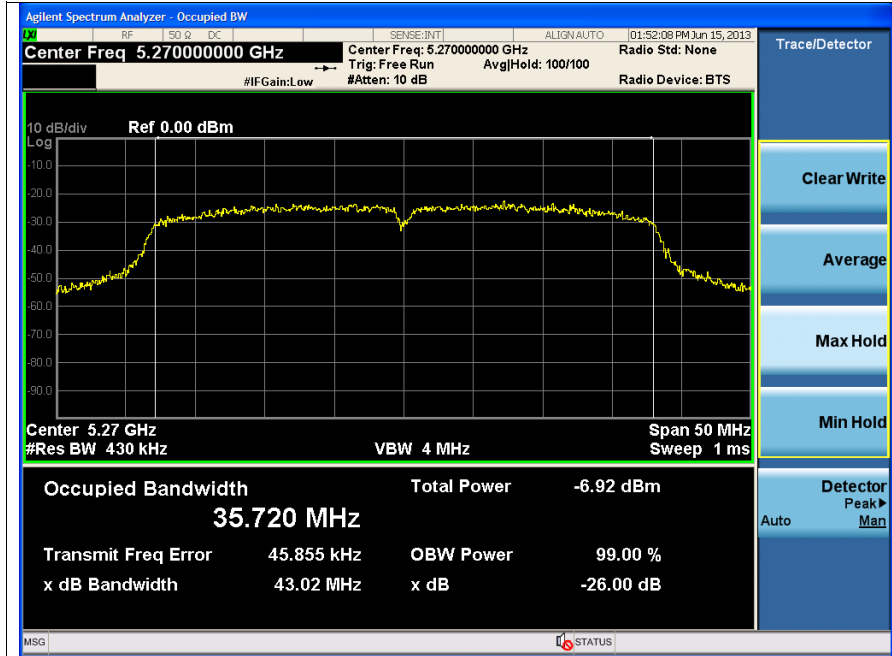
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

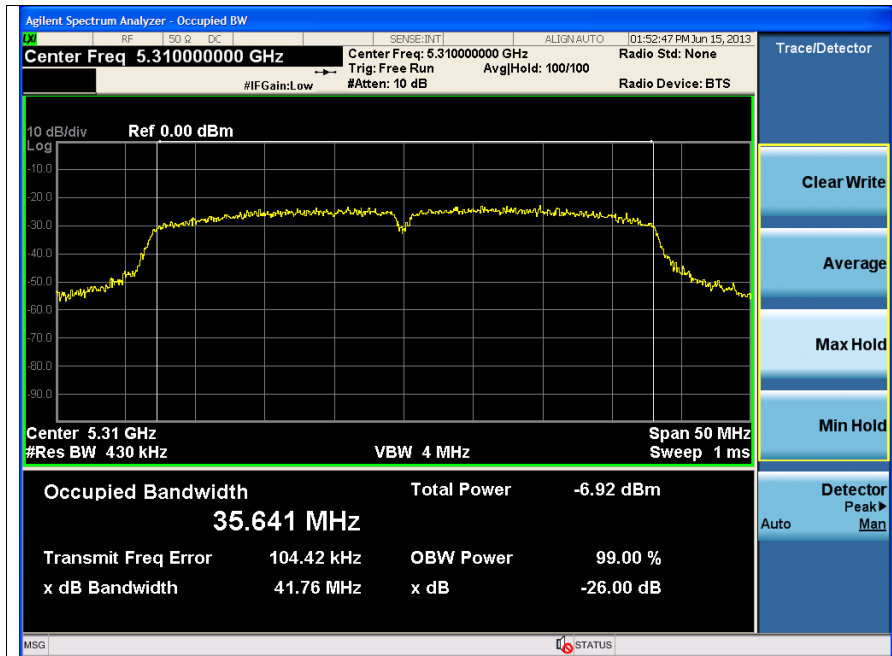
www.ee.sgs.com/korea

802.11n_HT40 (DFS)

Low Channel (5 270 MHz)



High Channel (5 310 MHz)



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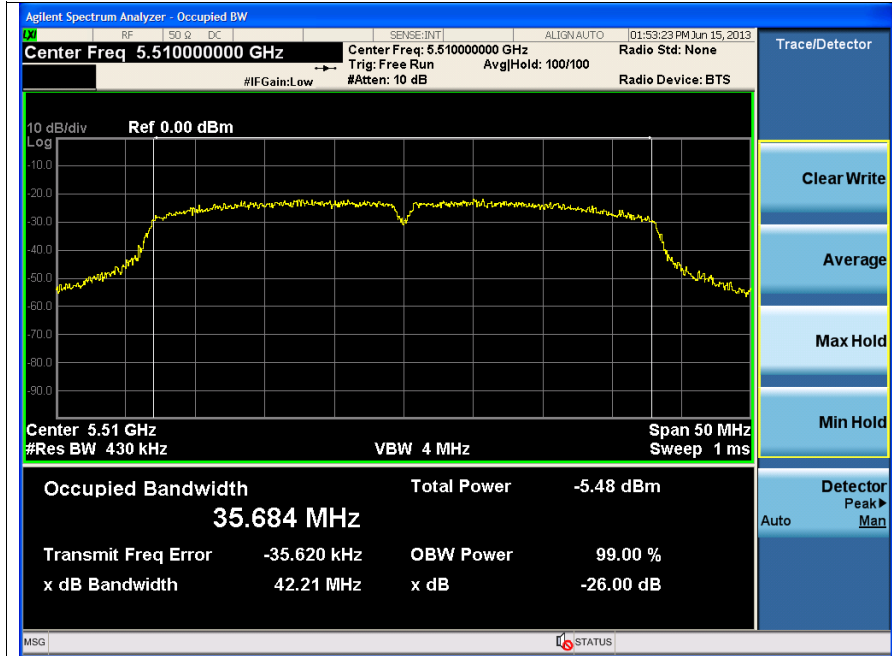
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Tel. +82 31 428 5700 / Fax. +82 31 427 2371

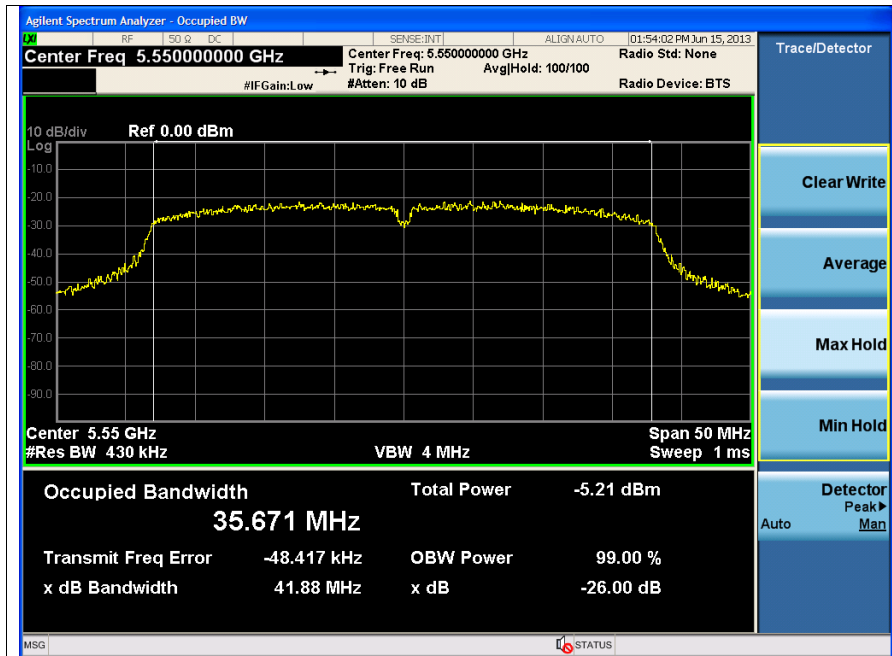
www.ee.sgs.com/korea

802.11n_HT40 (DFS)

Low Channel (5 510 MHz)

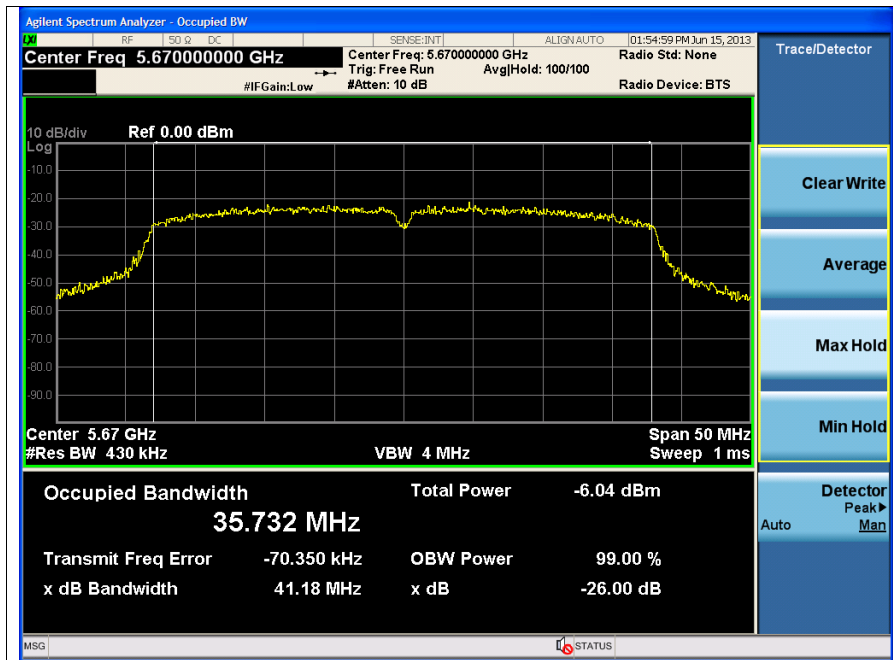


Low Channel (5 550 MHz)



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High Channel (5 670 MHz)



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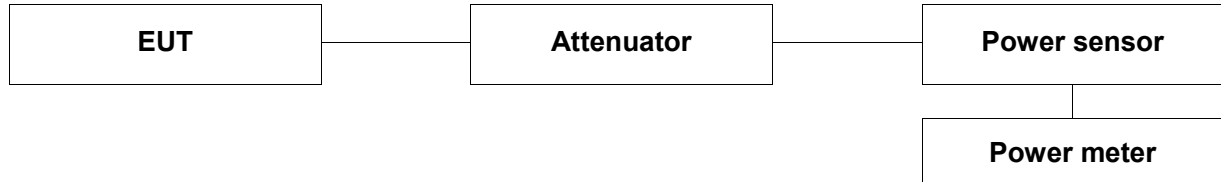
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4. Output power

4.1. Test setup



4.2. Limit

4.2.1. FCC 15.407

(a)(1)

For the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. 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 of the antenna exceeds 6 dBi.

(a)(2)

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.2.2. IC RSS-210

A9.2(1) Band 5150-5250 MHz

The maximum e.i.r.p.. shall not exceed 200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

A9.2(2) Band 5250-5350 MHz

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p.. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. Note that devices with a maximum e.i.r.p.. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p.. of 1 W.

A9.2(3) Band 5600-5650 MHz

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p.. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. Note that devices with a maximum e.i.r.p.. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p.. of 1 W.

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4.3. Test procedure

1. This measurement settings are specified in clause 3) of section E of KDB 789033.
2. 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 consistent 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.
3. If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B).
4. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
5. Adjust the measurement in dB m 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 percent).

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4.4. Test result

Ambient temperature : (24 ± 2) °C
 Relative humidity : 49 % R.H.

4.4.1. FCC Limit

ANT0

-11a

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11a	5 180	6	17	21.99	17.42	-5.01	17
	5 220	6	17	21.15	17.25	-5.01	17
	5 240	6	17	20.48	17.11	-5.01	17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11a	5 260	6	24	21.55	24.33	-5.01	24
	5 300	6	24	20.26	24.07	-5.01	24
	5 320	6	24	20.22	24.06	-5.01	24
	5 500	6	24	20.40	24.10	-4.06	24
	5 580	6	24	20.69	24.16	-4.06	24
	5 700	6	24	20.16	24.04	-4.06	24

-11n_HT20

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT20	5 180	MCS0	17	21.35	17.29	-5.01	17
	5 220	MCS0	17	21.25	17.27	-5.01	17
	5 240	MCS0	17	21.27	17.28	-5.01	17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT20	5 260	MCS0	24	22.30	24.48	-5.01	24
	5 300	MCS0	24	21.92	24.41	-5.01	24
	5 320	MCS0	24	21.09	24.24	-5.01	24
	5 500	MCS0	24	20.94	24.21	-4.06	24
	5 580	MCS0	24	21.07	24.24	-4.06	24
	5 700	MCS0	24	20.87	24.20	-4.06	24

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-11n_HT40

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT40	5 190	MCS0	17	43.01	20.34	-5.01	17
	5 230	MCS0	17	43.20	20.35	-5.01	17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT40	5 270	MCS0	24	42.95	27.33	-5.01	24
	5 310	MCS0	24	41.33	27.16	-5.01	24
	5 510	MCS0	24	42.22	27.26	-4.06	24
	5 550	MCS0	24	41.00	27.13	-4.06	24
	5 670	MCS0	24	41.25	27.15	-4.06	24

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ANT1
-11a

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11a	5 180	6	17	20.97	17.22	-1.42	17
	5 220	6	17	21.11	17.24	-1.42	17
	5 240	6	17	20.95	17.21	-1.42	17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11a	5 260	6	24	20.66	24.15	-1.42	24
	5 300	6	24	21.35	24.29	-1.42	24
	5 320	6	24	21.41	24.31	-1.42	24
	5 500	6	24	21.00	24.22	-2.36	24
	5 580	6	24	19.92	23.99	-2.36	24
	5 700	6	24	20.48	24.11	-2.36	24

-11n_HT20

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT20	5 180	MCS0	17	21.80	17.38	-1.42	17
	5 220	MCS0	17	21.54	17.33	-1.42	17
	5 240	MCS0	17	22.77	17.57	-1.42	17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT20	5 260	MCS0	24	21.80	24.38	-1.42	24
	5 300	MCS0	24	22.21	24.47	-1.42	24
	5 320	MCS0	24	21.84	24.39	-1.42	24
	5 500	MCS0	24	21.71	24.37	-2.36	24
	5 580	MCS0	24	21.29	24.28	-2.36	24
	5 700	MCS0	24	21.04	24.23	-2.36	24

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-11n_HT40

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT40	5 190	MCS0	17	41.57	20.19	-1.42	17
	5 230	MCS0	17	42.88	20.32	-1.42	17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT40	5 270	MCS0	24	43.02	27.34	-1.42	24
	5 310	MCS0	24	41.76	27.21	-1.42	24
	5 510	MCS0	24	42.21	27.25	-2.36	24
	5 550	MCS0	24	41.88	27.22	-2.36	24
	5 670	MCS0	24	41.18	27.15	-2.36	24

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4.4.2. IC Limit

ANT0

-11a

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	10+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m e.i.r.p.)
11a	5 180	6	23	16.47	22.17	-5.01	22.17
	5 220	6	23	16.48	22.17	-5.01	22.17
	5 240	6	23	16.49	22.17	-5.01	22.17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11a	5 260	6	24	16.52	23.18	-5.01	23.18
	5 300	6	24	16.46	23.16	-5.01	23.16
	5 320	6	24	16.50	23.17	-5.01	23.17
	5 500	6	24	16.46	23.16	-4.06	23.16
	5 580	6	24	16.47	23.17	-4.06	23.17
	5 700	6	24	16.45	23.16	-4.06	23.16

-11n_HT20

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	10+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m e.i.r.p.)
11n_HT20	5 180	MCS0	23	17.65	22.47	-5.01	22.47
	5 220	MCS0	23	17.63	22.46	-5.01	22.46
	5 240	MCS0	23	17.63	22.46	-5.01	22.46
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT20	5 260	MCS0	24	17.64	23.46	-5.01	23.46
	5 300	MCS0	24	17.63	23.46	-5.01	23.46
	5 320	MCS0	24	17.63	23.46	-5.01	23.46
	5 500	MCS0	24	17.64	23.46	-4.06	23.46
	5 580	MCS0	24	17.63	23.46	-4.06	23.46
	5 700	MCS0	24	17.62	23.46	-4.06	23.46

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-11n_HT40

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	10+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m e.i.r.p.)
11n_HT40	5 190	MCS0	23	35.69	25.53	-5.01	23
	5 230	MCS0	23	35.78	25.54	-5.01	23
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT40	5 270	MCS0	24	35.74	26.53	-5.01	24
	5 310	MCS0	24	35.75	26.53	-5.01	24
	5 510	MCS0	24	35.70	26.53	-4.06	24
	5 550	MCS0	24	35.64	26.52	-4.06	24
	5 670	MCS0	24	35.73	26.53	-4.06	24

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ANT1
-11a

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	10+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m e.i.r.p.)
11a	5 180	6	23	16.49	22.17	-1.42	22.17
	5 220	6	23	16.53	22.18	-1.42	22.18
	5 240	6	23	16.51	22.18	-1.42	22.18
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11a	5 260	6	24	16.47	23.17	-1.42	23.17
	5 300	6	24	16.51	23.18	-1.42	23.18
	5 320	6	24	16.49	23.17	-1.42	23.17
	5 500	6	24	16.49	23.17	-2.36	23.17
	5 580	6	24	16.45	23.16	-2.36	23.16
	5 700	6	24	16.44	23.16	-2.36	23.16

-11n_HT20

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	10+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m e.i.r.p.)
11n_HT20	5 180	MCS0	23	17.64	22.46	-1.42	22.46
	5 220	MCS0	23	17.66	22.47	-1.42	22.47
	5 240	MCS0	23	17.68	22.47	-1.42	22.47
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT20	5 260	MCS0	24	17.66	23.47	-1.42	23.47
	5 300	MCS0	24	17.65	23.47	-1.42	23.47
	5 320	MCS0	24	17.64	23.46	-1.42	23.46
	5 500	MCS0	24	17.62	23.46	-2.36	23.46
	5 580	MCS0	24	17.60	23.46	-2.36	23.46
	5 700	MCS0	24	17.62	23.46	-2.36	23.46

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-11n_HT40

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	10+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m e.i.r.p.)
11n_HT40	5 190	MCS0	23	35.75	25.53	-1.42	23
	5 230	MCS0	23	35.71	25.53	-1.42	23
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	99% BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB m)
11n_HT40	5 270	MCS0	24	35.72	26.53	-1.42	24
	5 310	MCS0	24	35.64	26.52	-1.42	24
	5 510	MCS0	24	35.68	26.52	-2.36	24
	5 550	MCS0	24	35.67	26.52	-2.36	24
	5 670	MCS0	24	35.73	26.53	-2.36	24

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4.4.3. Result

-11a

Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5180	6	10.37	10.28	-	17.00	22.17
	9	10.20	10.22	-		
	12	10.16	10.18	-		
	18	10.07	10.25	-		
	24	10.36	10.24	-		
	36	10.31	10.21	-		
	48	10.29	10.19	-		
	54	10.21	10.22	-		
5220	6	10.24	9.57	-	17.00	22.17
	9	10.18	9.52	-		
	12	10.20	9.36	-		
	18	10.22	9.54	-		
	24	10.04	9.38	-		
	36	10.10	9.45	-		
	48	10.12	9.35	-		
	54	10.11	9.42	-		
5240	6	10.10	9.58	-	17.00	22.17
	9	10.04	9.36	-		
	12	10.03	9.44	-		
	18	10.02	9.44	-		
	24	10.11	9.44	-		
	36	10.23	9.31	-		
	48	10.04	9.39	-		
	54	10.09	9.44	-		

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5260	6	10.51	9.35	-	24.00	23.17
	9	10.45	9.33	-		
	12	10.44	9.23	-		
	18	10.42	9.18	-		
	24	10.39	9.19	-		
	36	10.38	9.29	-		
	48	10.35	9.16	-		
5300	6	10.28	9.39	-	24.00	23.16
	9	10.22	9.36	-		
	12	10.23	9.32	-		
	18	10.21	9.24	-		
	24	10.15	9.27	-		
	36	10.16	9.32	-		
	48	10.17	9.39	-		
5320	6	10.38	10.11	-	24.00	23.17
	9	10.34	9.96	-		
	12	10.28	9.93	-		
	18	10.33	9.97	-		
	24	10.30	10.09	-		
	36	10.30	9.82	-		
	48	10.11	9.99	-		
54	10.29	10.09	-			

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5500	6	11.52	12.32	-	24.00	23.16
	9	11.51	12.19	-		
	12	11.40	12.06	-		
	18	11.44	12.28	-		
	24	11.42	12.18	-		
	36	11.45	12.05	-		
	48	11.45	12.18	-		
5580	54	11.47	12.31	-	24.00	23.16
	6	11.52	11.83	-		
	9	11.50	11.58	-		
	12	11.40	11.79	-		
	18	11.49	11.69	-		
	24	11.39	11.81	-		
	36	11.39	11.68	-		
5700	48	11.51	11.65	-	24.00	23.16
	54	11.45	11.69	-		
	6	11.32	11.86	-		
	9	11.04	11.60	-		
	12	11.13	11.74	-		
	18	11.04	11.82	-		
	24	11.31	11.84	-		
	36	11.21	11.66	-		
48	11.10	11.86	-			
54	11.28	11.68	-			

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-11n_HT20

Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5180	MCS0	9.59	9.68	-	17.00	22.46
	MCS1	9.50	9.43	-		
	MCS2	9.57	9.65	-		
	MCS3	9.32	9.51	-		
	MCS4	9.49	9.63	-		
	MCS5	9.53	9.40	-		
	MCS6	9.22	9.53	-		
	MCS7	9.52	9.56	-		
5220	MCS0	9.13	8.90	-	17.00	22.46
	MCS1	9.13	8.68	-		
	MCS2	9.12	8.84	-		
	MCS3	9.12	8.85	-		
	MCS4	9.00	8.70	-		
	MCS5	9.02	8.82	-		
	MCS6	8.98	8.85	-		
	MCS7	8.91	8.74	-		
5240	MCS0	9.48	8.51	-	17.00	22.46
	MCS1	9.29	8.34	-		
	MCS2	9.33	8.42	-		
	MCS3	9.33	8.50	-		
	MCS4	9.38	8.47	-		
	MCS5	9.38	8.27	-		
	MCS6	9.13	8.25	-		
	MCS7	9.29	8.48	-		

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5260	MCS0	9.77	8.12	-	24.00	23.46
	MCS1	9.60	8.11	-		
	MCS2	9.59	8.08	-		
	MCS3	9.69	8.05	-		
	MCS4	9.69	8.02	-		
	MCS5	9.61	8.04	-		
	MCS6	9.43	8.05	-		
5300	MCS0	9.24	8.28	-	24.00	23.46
	MCS1	9.17	8.15	-		
	MCS2	9.17	8.09	-		
	MCS3	9.02	8.28	-		
	MCS4	9.19	8.12	-		
	MCS5	9.12	8.12	-		
	MCS6	8.90	8.27	-		
5320	MCS0	9.75	9.05	-	24.00	23.46
	MCS1	9.69	8.82	-		
	MCS2	9.53	8.93	-		
	MCS3	9.68	8.99	-		
	MCS4	9.61	8.86	-		
	MCS5	9.61	8.98	-		
	MCS6	9.46	8.76	-		
MCS7	9.51	8.89	-			

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5500	MCS0	10.55	11.97	-	24.00	23.46
	MCS1	10.51	11.78	-		
	MCS2	10.28	11.71	-		
	MCS3	10.41	11.93	-		
	MCS4	10.36	11.77	-		
	MCS5	10.52	11.94	-		
	MCS6	10.25	11.69	-		
5580	MCS0	10.42	11.38	-	24.00	23.46
	MCS1	10.15	11.36	-		
	MCS2	10.19	11.24	-		
	MCS3	10.28	11.37	-		
	MCS4	10.27	11.33	-		
	MCS5	10.37	11.36	-		
	MCS6	10.41	11.15	-		
5700	MCS0	10.47	11.37	-	24.00	23.46
	MCS1	10.27	11.26	-		
	MCS2	10.15	11.14	-		
	MCS3	10.39	11.30	-		
	MCS4	10.38	11.17	-		
	MCS5	10.43	11.27	-		
	MCS6	10.25	11.35	-		
MCS7	10.34	11.18	-			

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-11n_HT40

Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5190	MCS0	6.09	6.68	-	17.00	23.00
	MCS1	5.91	6.65	-		
	MCS2	5.81	6.39	-		
	MCS3	6.03	6.63	-		
	MCS4	5.94	6.54	-		
	MCS5	6.02	6.49	-		
	MCS6	5.97	6.66	-		
	MCS7	6.07	6.62	-		
5230	MCS0	6.62	5.41	-	17.00	23.00
	MCS1	6.47	5.32	-		
	MCS2	6.58	5.24	-		
	MCS3	6.45	5.31	-		
	MCS4	6.46	5.35	-		
	MCS5	6.56	5.16	-		
	MCS6	6.31	5.35	-		
	MCS7	6.36	5.34	-		
5270	MCS0	6.44	5.16	-	24.00	24.00
	MCS1	6.21	5.10	-		
	MCS2	6.05	5.01	-		
	MCS3	6.37	5.15	-		
	MCS4	6.40	5.09	-		
	MCS5	6.38	4.86	-		
	MCS6	6.07	5.08	-		
	MCS7	6.43	5.12	-		
5310	MCS0	6.73	6.16	-	24.00	24.00
	MCS1	6.49	6.04	-		
	MCS2	6.41	5.87	-		
	MCS3	6.55	6.08	-		
	MCS4	6.61	6.16	-		
	MCS5	6.66	6.10	-		
	MCS6	6.65	6.03	-		
	MCS7	6.57	5.99	-		

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5510	MCS0	7.19	9.72	-	24.00	24.00
	MCS1	6.91	9.66	-		
	MCS2	6.83	9.63	-		
	MCS3	7.03	9.65	-		
	MCS4	7.16	9.62	-		
	MCS5	7.10	9.46	-		
	MCS6	7.03	9.67	-		
5550	MCS0	7.59	9.51	-	24.00	24.00
	MCS1	7.30	9.29	-		
	MCS2	7.25	9.46	-		
	MCS3	7.54	9.48	-		
	MCS4	7.55	9.43	-		
	MCS5	7.48	9.25	-		
	MCS6	7.26	9.31	-		
5670	MCS0	7.44	8.27	-	24.00	24.00
	MCS1	7.30	8.05	-		
	MCS2	7.27	8.20	-		
	MCS3	7.26	8.11	-		
	MCS4	7.32	8.14	-		
	MCS5	7.40	8.24	-		
	MCS6	7.26	8.00	-		
MCS7	7.27	8.09	-			

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-11n_HT20(Calculated)

Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5180	MCS8	6.73	7.18	9.97	17.00	22.46
	MCS9	6.57	7.02	9.81		
	MCS10	6.39	6.99	9.71		
	MCS11	6.59	7.05	9.84		
	MCS12	6.65	7.11	9.90		
	MCS13	6.69	6.99	9.85		
	MCS14	6.60	6.90	9.76		
	MCS15	6.60	7.09	9.86		
5220	MCS8	6.01	5.27	8.67	17.00	22.46
	MCS9	5.79	5.16	8.50		
	MCS10	5.63	5.01	8.34		
	MCS11	5.72	5.11	8.44		
	MCS12	5.96	5.12	8.57		
	MCS13	5.84	5.25	8.57		
	MCS14	5.81	5.18	8.52		
	MCS15	5.87	5.18	8.55		
5240	MCS8	6.04	5.07	8.59	17.00	22.46
	MCS9	6.01	4.95	8.52		
	MCS10	5.86	4.96	8.44		
	MCS11	5.99	4.99	8.53		
	MCS12	5.89	5.01	8.48		
	MCS13	6.03	4.99	8.55		
	MCS14	5.82	5.01	8.45		
	MCS15	5.77	5.04	8.43		

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5260	MCS8	6.07	4.72	8.46	24.00	23.46
	MCS9	5.82	4.67	8.29		
	MCS10	5.96	4.43	8.27		
	MCS11	5.79	4.60	8.25		
	MCS12	5.95	4.65	8.36		
	MCS13	5.98	4.55	8.34		
	MCS14	5.97	4.71	8.40		
5300	MCS8	6.13	6.01	9.08	24.00	23.46
	MCS9	6.10	5.91	9.02		
	MCS10	5.75	5.80	8.79		
	MCS11	5.87	5.95	8.92		
	MCS12	5.98	5.98	8.99		
	MCS13	6.08	5.84	8.97		
	MCS14	5.78	5.81	8.81		
5320	MCS8	6.25	9.37	11.09	24.00	23.46
	MCS9	6.18	9.36	11.06		
	MCS10	6.21	9.34	11.07		
	MCS11	6.24	9.23	11.00		
	MCS12	6.17	9.26	11.00		
	MCS13	6.07	9.29	10.98		
	MCS14	5.86	9.30	10.92		
MCS15	6.10	9.27	10.98			

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5500	MCS8	7.08	9.05	11.19	24.00	23.46
	MCS9	7.02	8.84	11.04		
	MCS10	7.02	9.04	11.16		
	MCS11	6.93	8.93	11.06		
	MCS12	6.97	9.02	11.12		
	MCS13	7.07	8.91	11.09		
	MCS14	6.99	8.92	11.07		
5580	MCS8	6.68	8.28	10.56	24.00	23.46
	MCS9	6.38	8.26	10.43		
	MCS10	6.50	8.10	10.38		
	MCS11	6.63	8.28	10.54		
	MCS12	6.48	8.24	10.46		
	MCS13	6.57	8.20	10.47		
	MCS14	6.37	8.21	10.40		
5700	MCS8	7.47	8.63	11.10	24.00	23.46
	MCS9	7.27	8.48	10.93		
	MCS10	7.22	8.52	10.92		
	MCS11	7.31	8.48	10.95		
	MCS12	7.47	8.61	11.09		
	MCS13	7.45	8.39	10.96		
	MCS14	7.30	8.34	10.86		
MCS15	7.18	8.53	10.92			

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-11n_HT40

Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5190	MCS8	6.73	7.30	10.03	17.00	23.00
	MCS9	6.53	7.05	9.81		
	MCS10	6.45	7.13	9.81		
	MCS11	6.59	7.23	9.93		
	MCS12	6.67	7.21	9.96		
	MCS13	6.71	7.17	9.95		
	MCS14	6.69	7.28	10.00		
	MCS15	6.48	7.27	9.90		
5230	MCS8	6.67	5.63	9.19	17.00	23.00
	MCS9	6.61	5.43	9.07		
	MCS10	6.38	5.61	9.02		
	MCS11	6.65	5.50	9.12		
	MCS12	6.54	5.61	9.11		
	MCS13	6.53	5.42	9.02		
	MCS14	6.32	5.60	8.98		
	MCS15	6.56	5.49	9.07		
5270	MCS8	6.74	6.01	9.40	24.00	24.00
	MCS9	6.54	5.74	9.17		
	MCS10	6.47	5.87	9.19		
	MCS11	6.72	5.96	9.36		
	MCS12	6.64	5.89	9.29		
	MCS13	6.74	5.99	9.39		
	MCS14	6.37	5.81	9.11		
	MCS15	6.68	5.99	9.36		
5310	MCS8	6.81	6.34	9.59	24.00	24.00
	MCS9	6.65	6.08	9.38		
	MCS10	6.61	6.25	9.44		
	MCS11	6.76	6.32	9.56		
	MCS12	6.74	6.31	9.54		
	MCS13	6.61	6.06	9.35		
	MCS14	6.68	6.33	9.52		
	MCS15	6.58	6.26	9.43		

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Frequency [MHz]	Rated [Mbps]	Measured Power (Ant 0) [dBm]	Measured Power (Ant 1) [dBm]	Combined power (Ant 0 + Ant 1) [dBm]	Limit[dBm]	
					FCC	IC
5510	MCS8	7.35	9.89	11.81	24.00	24.00
	MCS9	7.17	9.61	11.57		
	MCS10	7.27	9.73	11.68		
	MCS11	7.32	9.79	11.74		
	MCS12	7.24	9.79	11.71		
	MCS13	7.27	9.70	11.66		
	MCS14	7.09	9.70	11.60		
5550	MCS8	7.34	9.87	11.80	24.00	24.00
	MCS9	7.23	9.84	11.74		
	MCS10	7.00	9.68	11.55		
	MCS11	7.13	9.84	11.70		
	MCS12	7.34	9.77	11.73		
	MCS13	7.16	9.64	11.58		
	MCS14	7.18	9.58	11.56		
5670	MCS8	7.41	9.14	11.37	24.00	24.00
	MCS9	7.24	9.09	11.28		
	MCS10	7.21	8.90	11.15		
	MCS11	7.41	9.00	11.29		
	MCS12	7.28	8.98	11.22		
	MCS13	7.31	9.05	11.27		
	MCS14	7.15	8.98	11.17		
MCS15	7.11	8.99	11.17			

Remark

According to KDB662911, average power of each port (ANT0 and ANT1) was combined by using below calculation.

Ant 0+Ant 1 (Calculated)

Combined power : $10\log\{10^{(Ant\ 0_Measured\ Power/10)}+10^{(Ant\ 1_Measured\ Power/10)}\}$

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5. Peak power spectral density

5.1. Test setup



5.2. Limit

5.2.1. FCC 15.407

(a)(1)

For the band 5.15-5.25 GHz band, the peak power spectral density shall not exceed 4 dBm in any 1 MHz band. 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 of the antenna exceeds 6 dBi.

(a)(2)

For the band 5.25–5.35 GHz and 5.47–5.725 GHz bands, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.2.2. IC RSS-210

A9.2(1) Band 5150-5250 MHz

The e.i.r.p.. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

A9.2(2) Band 5250-5350 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

A9.2(3) Band 5600-5650 MHz

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

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5.3. Test procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

1. This measurement settings are specified in clause b) Method SA-1 of section E of KDB 789033.
2. Set span to encompass the 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
3. Set RBW = 1 MHz
4. Set VBW \geq 3 MHz
5. Number of points in sweep \geq 2 Span / RBW. (This ensures that bin-to-bin spacing is \leq RBW/2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
8. Do not use sweep triggering. Allow the sweep to "free run".
9. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
10. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
11. The result is the PPSD.

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5.4. Test result

Ambient temperature : (24 ± 2) °C
 Relative humidity : 49 % R.H.

- 802.11a

Frequency (MHz)	Data Rate (Mbps)	Ant 0_Measured PSD (dB m)	Ant 1_Measured PSD (dB m)	Limit (dB m)
5 180	6	-2.137	-2.023	4
5 220	6	-2.349	-2.973	4
5 240	6	-2.467	-3.092	4
5 260	6	-2.796	-3.396	11
5 300	6	-3.262	-3.189	11
5 320	6	-3.276	-2.290	11
5 500	6	-3.006	-1.553	11
5 580	6	-3.400	-2.160	11
5 700	6	-1.931	-1.743	11

- 802.11n_HT20

Frequency (MHz)	Data Rate (Mbps)	Ant 0_Measured PSD (dB m)	Ant 1_Measured PSD (dB m)	Limit (dB m)
5 180	MCS0	-2.557	-2.506	4
5 220	MCS0	-3.469	-3.697	4
5 240	MCS0	-3.340	-3.746	4
5 260	MCS0	-3.910	-4.184	11
5 300	MCS0	-4.597	-3.616	11
5 320	MCS0	-4.732	-3.157	11
5 500	MCS0	-4.888	-2.571	11
5 580	MCS0	-5.121	-3.017	11
5 700	MCS0	-2.405	-2.011	11

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- 802.11n_HT40

Frequency (MHz)	Data Rate (Mbps)	Ant 0_Measured PSD (dB m)	Ant 1_Measured PSD (dB m)	Limit (dB m)
5 190	MCS0	-4.327	-4.228	4
5 230	MCS0	-4.361	-5.151	4
5 270	MCS0	-5.174	-5.295	11
5 310	MCS0	-5.175	-4.725	11
5 510	MCS0	-6.021	-3.728	11
5 550	MCS0	-5.368	-3.522	11
5 670	MCS0	-4.274	-3.954	11

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- 802.11n_HT20(Calculated)

Frequency (MHz)	Data Rate (Mbps)	Ant 0_Measured PSD (dB m)	Ant 1_Measured PSD (dB m)	Ant 0 + Ant 1 Result (dB m)	Limit (dB m)
5 180	MCS8	-8.280	-7.223	-4.709	4
5 220	MCS8	-6.897	-7.499	-4.177	4
5 240	MCS8	-7.938	-7.897	-4.907	4
5 260	MCS8	-7.942	-8.550	-5.225	11
5 300	MCS8	-9.206	-8.423	-5.787	11
5 320	MCS8	-8.526	-8.015	-5.253	11
5 500	MCS8	-9.836	-6.147	-4.601	11
5 580	MCS8	-10.119	-7.102	-5.343	11
5 700	MCS8	-7.224	-6.929	-4.064	11

- 802.11n_HT40(Calculated)

Frequency (MHz)	Data Rate (Mbps)	Ant 0_Measured PSD (dB m)	Ant 1_Measured PSD (dB m)	Ant 0 + Ant 1 Result (dB m)	Limit (dB m)
5 190	MCS8	-8.375	-8.750	-5.548	4
5 230	MCS8	-8.366	-9.159	-5.734	4
5 270	MCS8	-8.562	-9.858	-6.152	4
5 310	MCS8	-9.358	-9.216	-6.276	11
5 510	MCS8	-10.196	-7.852	-5.857	11
5 550	MCS8	-10.374	-8.047	-6.046	11
5 670	MCS8	-8.914	-8.893	-5.893	11

Note;

- Ant0+Ant1 (Calculated)
- Result : $10 \cdot \log\{10^{(\text{Ant0_Measured PSD}/10)} + 10^{(\text{Ant1_Measured PSD}/10)}\}$
- In case of the Data Rate, record the Data Rate of the worst case

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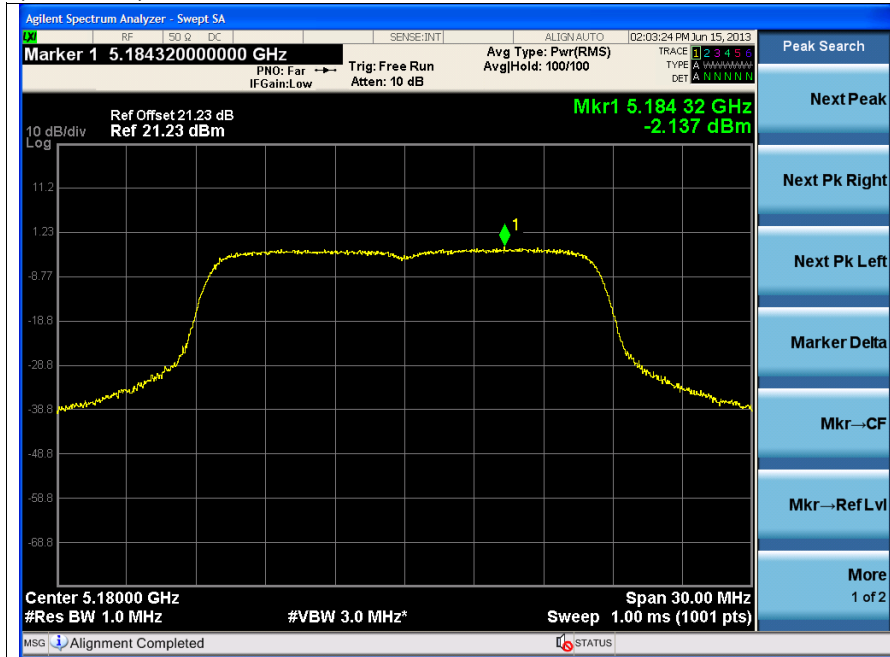
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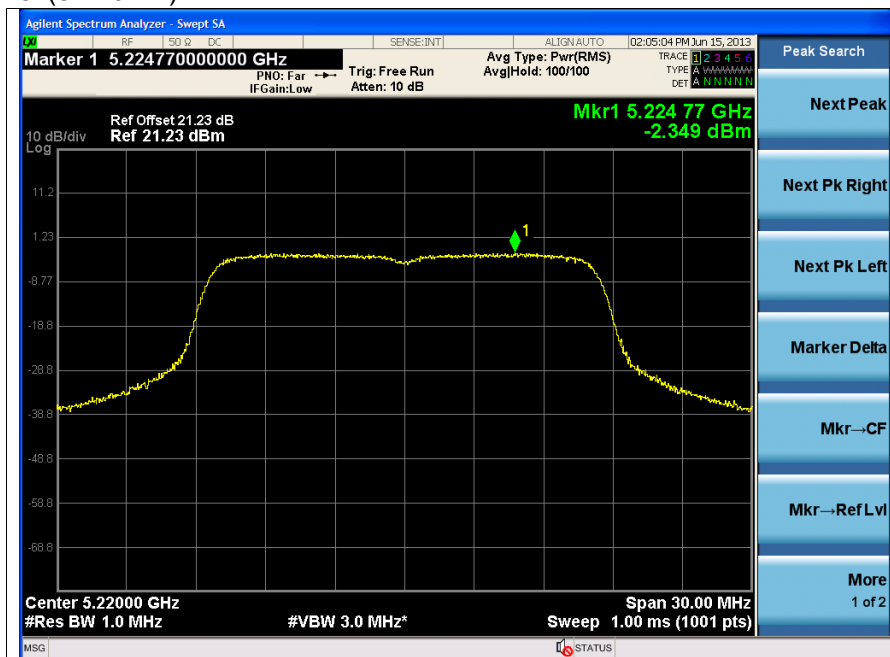
Ant 0

802.11a (6 Mbps)

Low Channel (5 180 MHz)



Middle Channel (5 220 MHz)



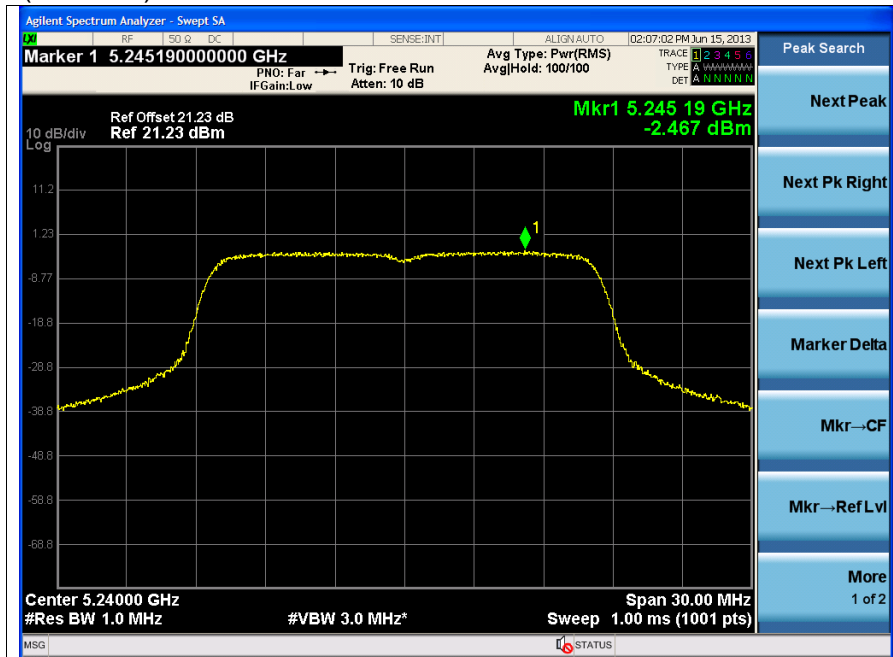
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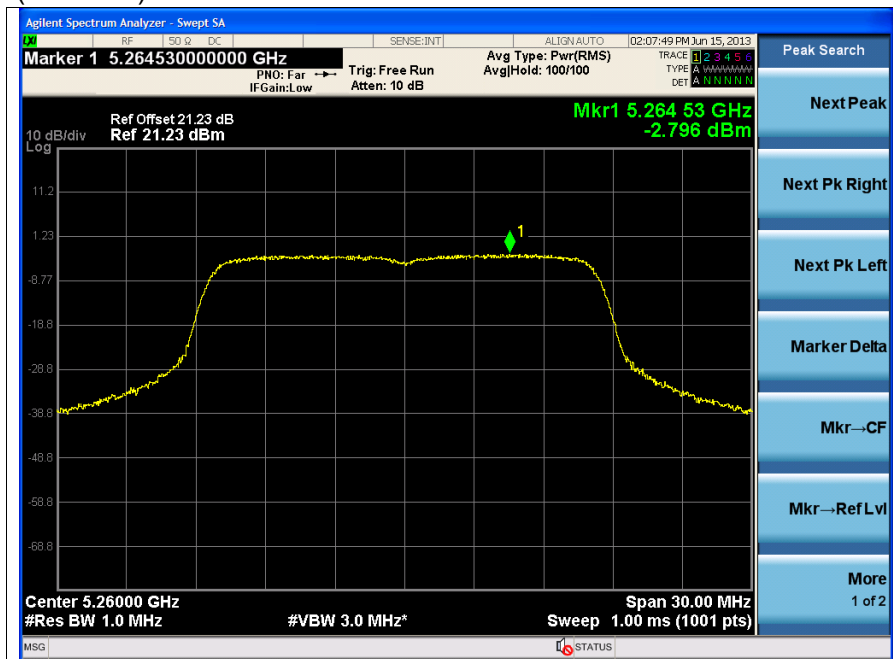
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High Channel (5 240 MHz)



Low Channel (5 260 MHz)



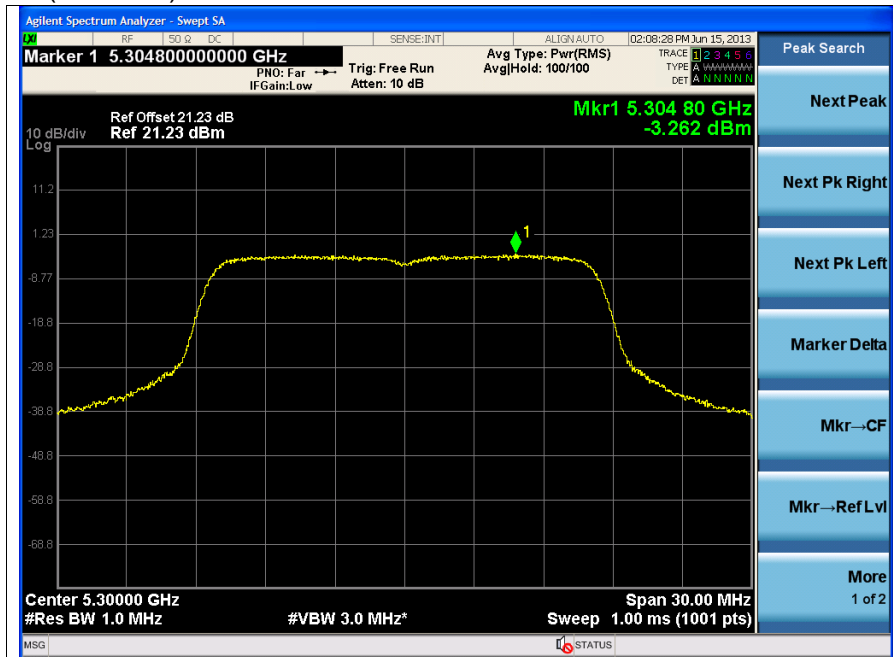
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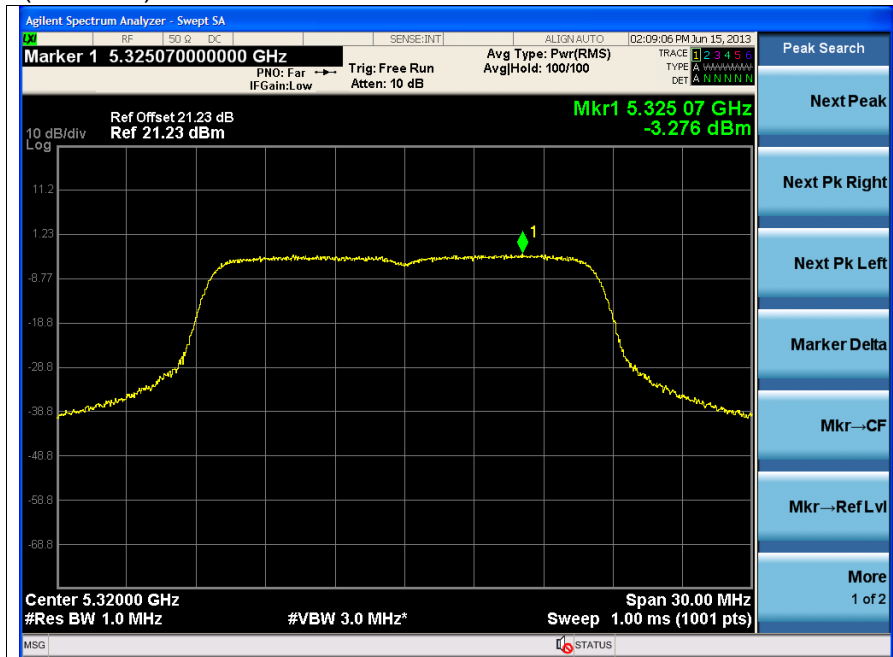
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Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



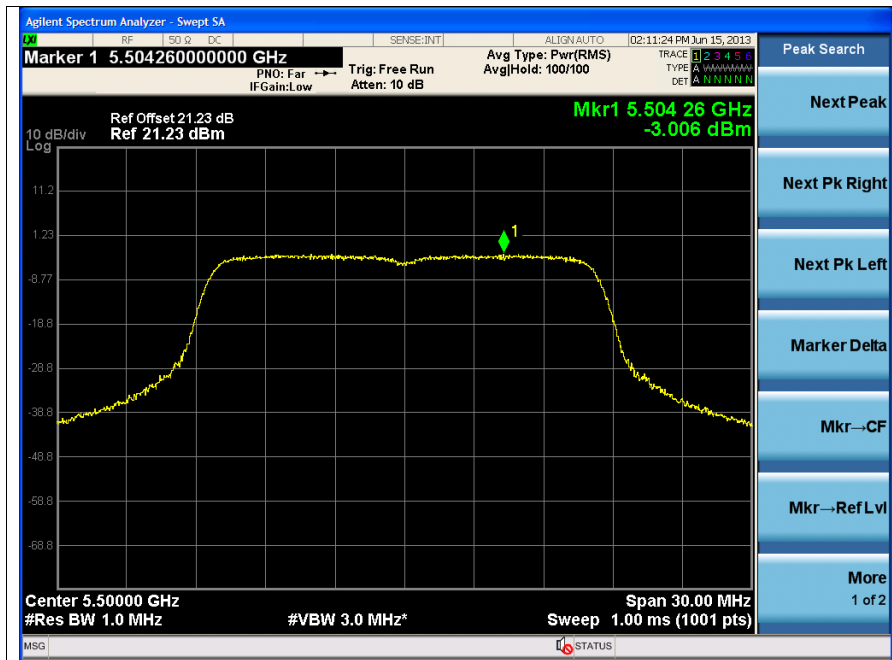
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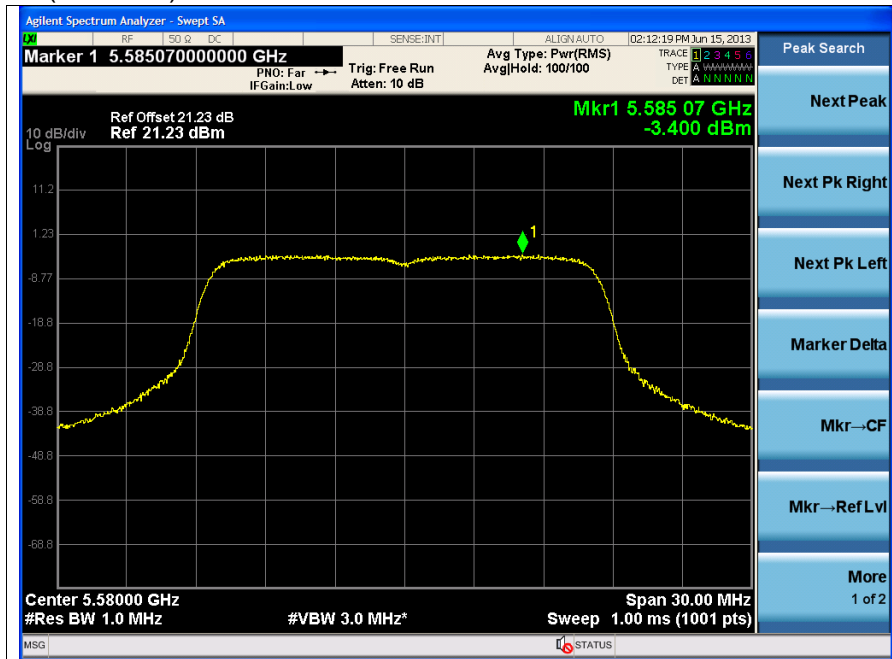
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Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



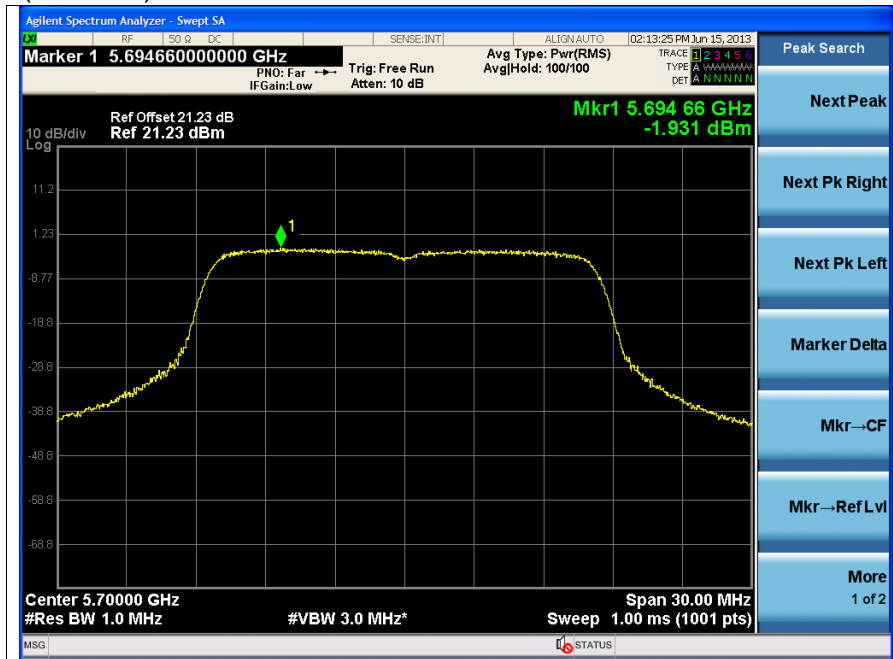
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High Channel (5 700 MHz)



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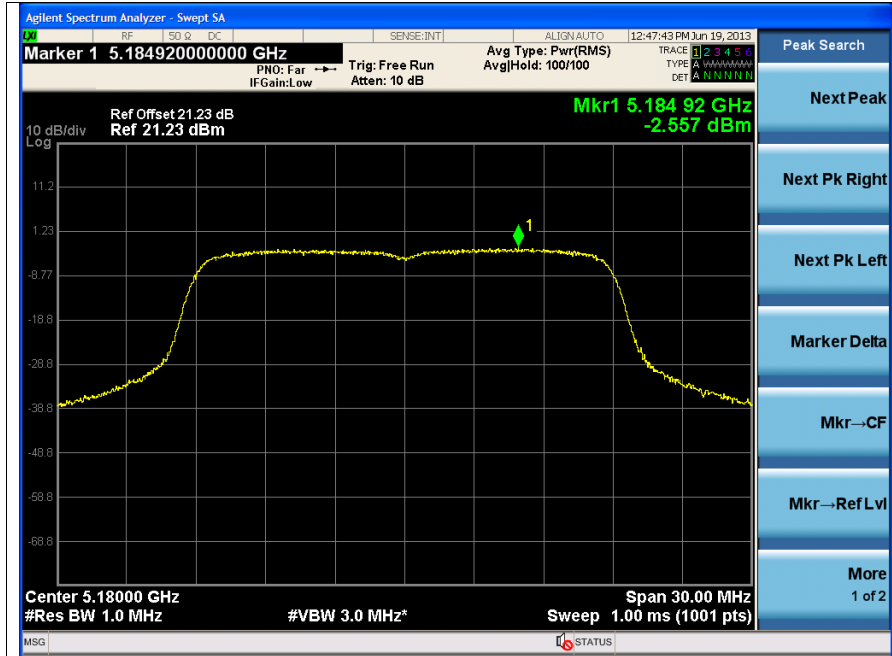
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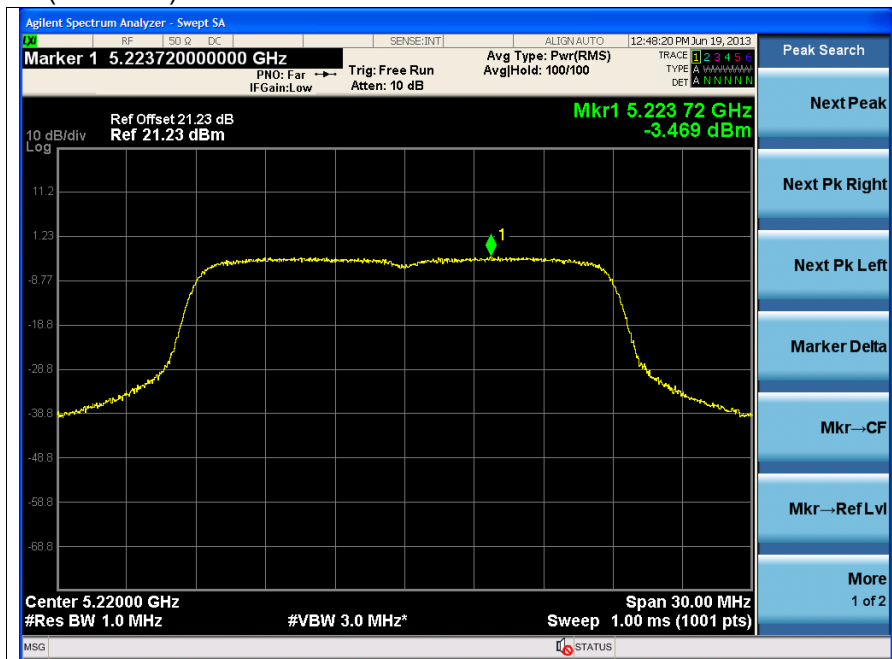
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802.11n_HT20 (MCS0)

Low Channel (5 180 MHz)



Middle Channel (5 220 MHz)



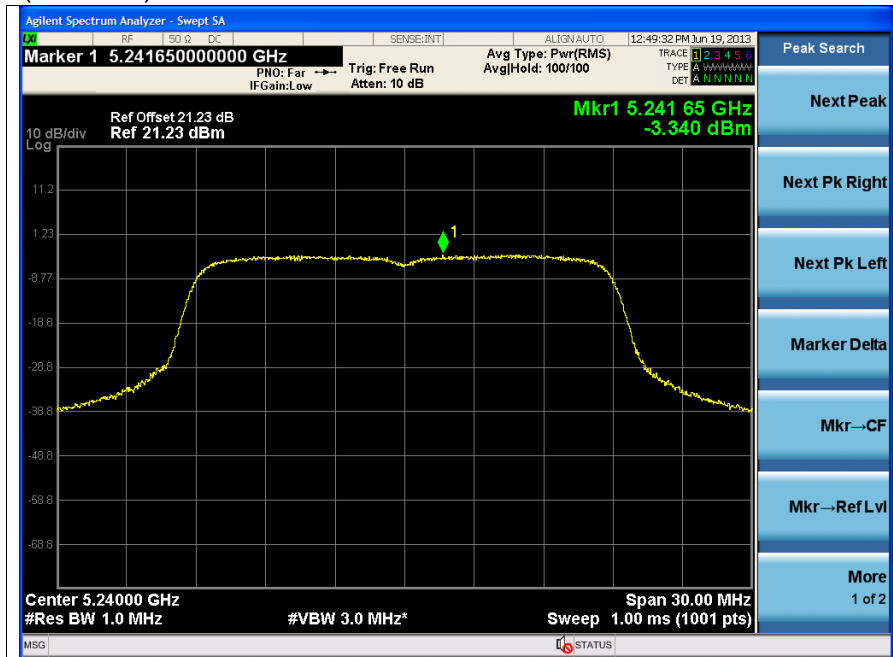
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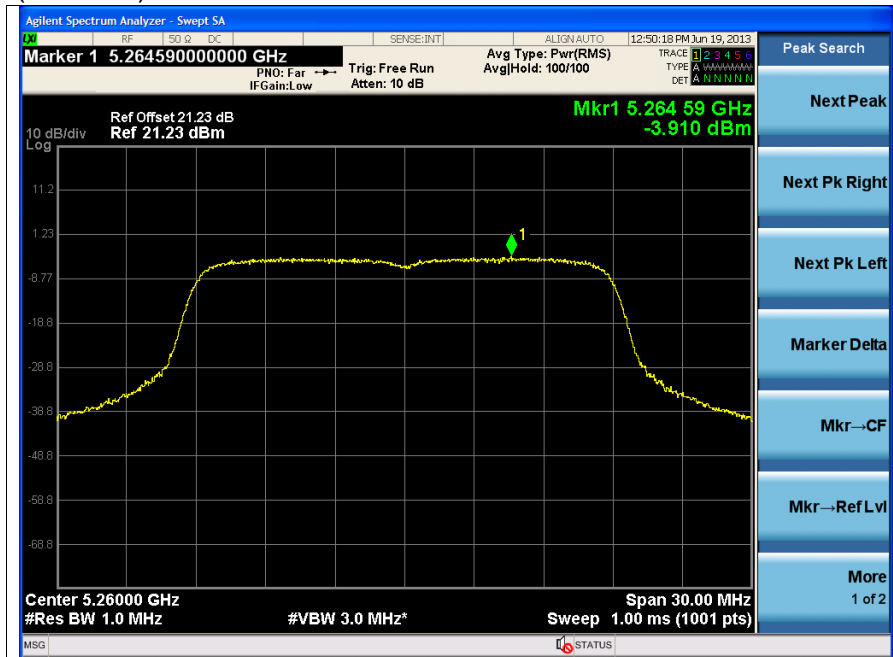
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High Channel (5 240 MHz)



Low Channel (5 260 MHz)



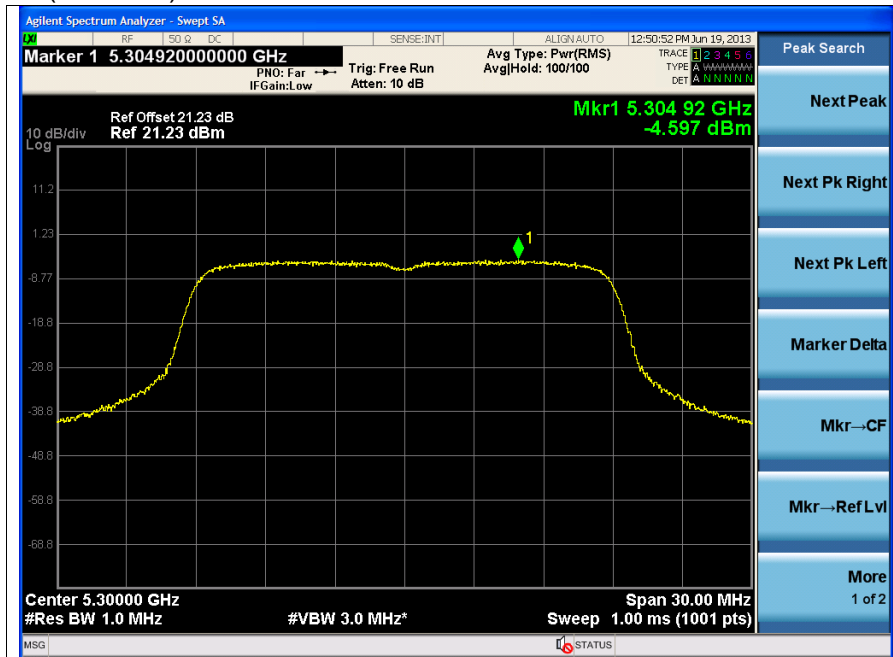
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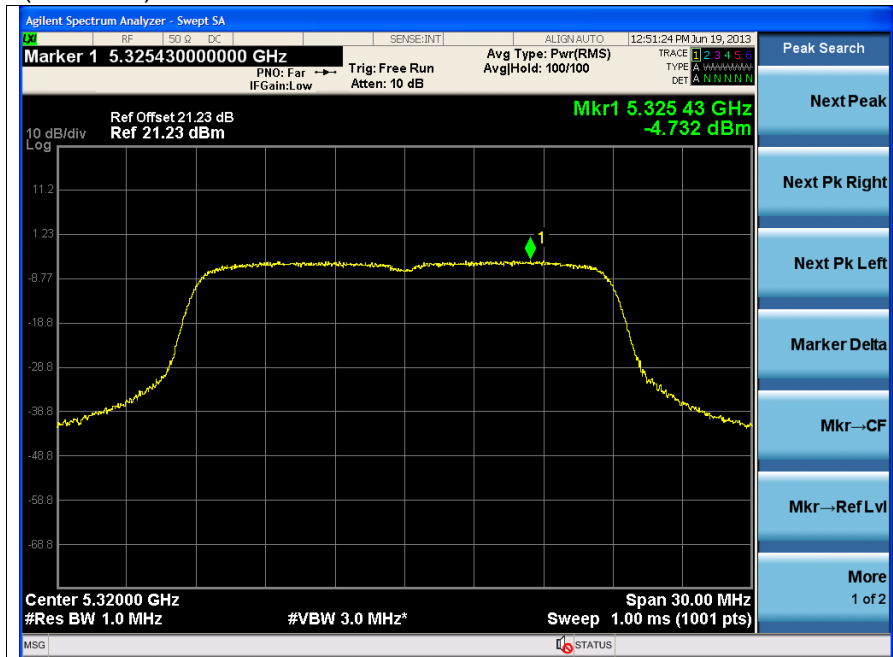
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Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



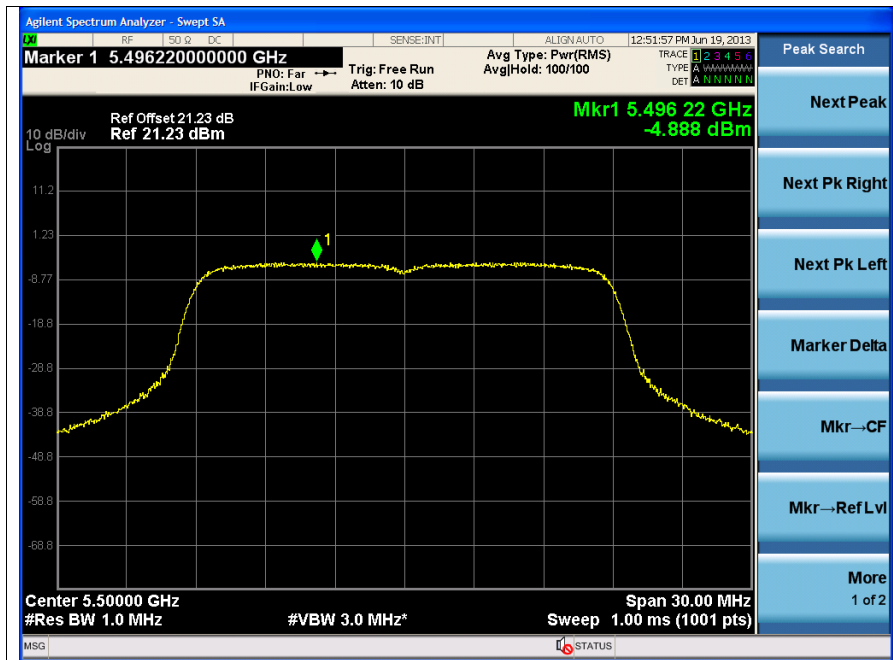
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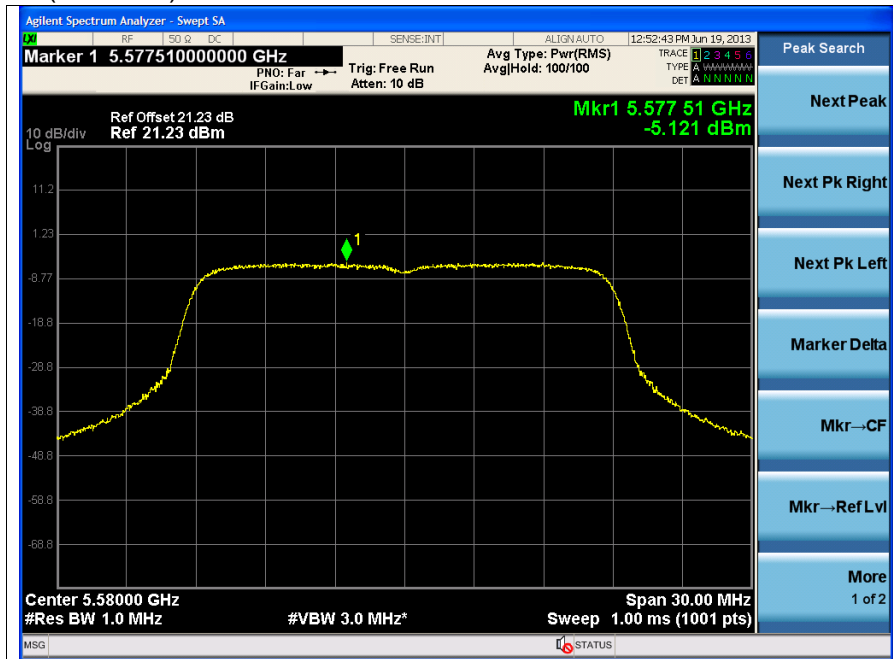
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Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



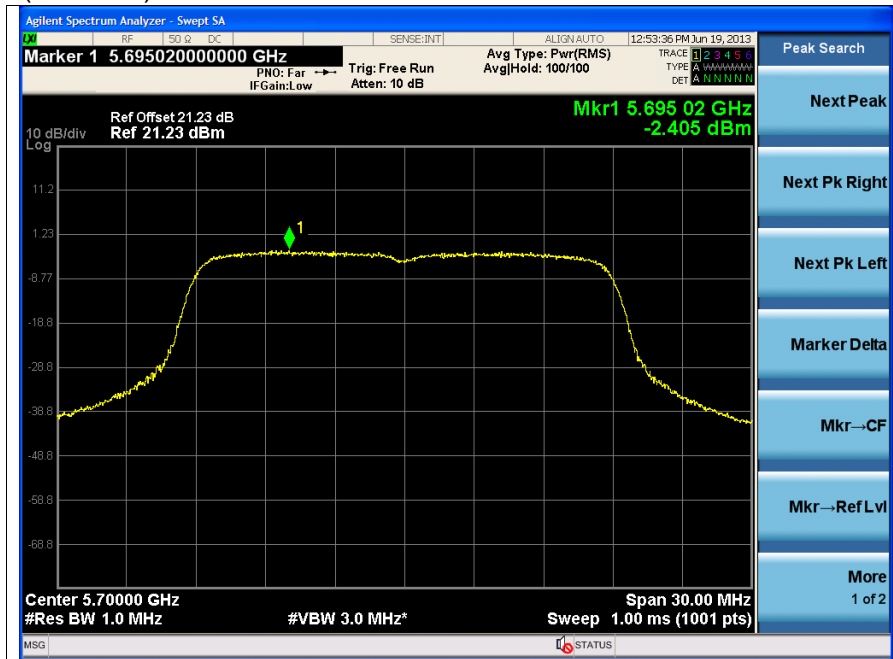
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High Channel (5 700 MHz)



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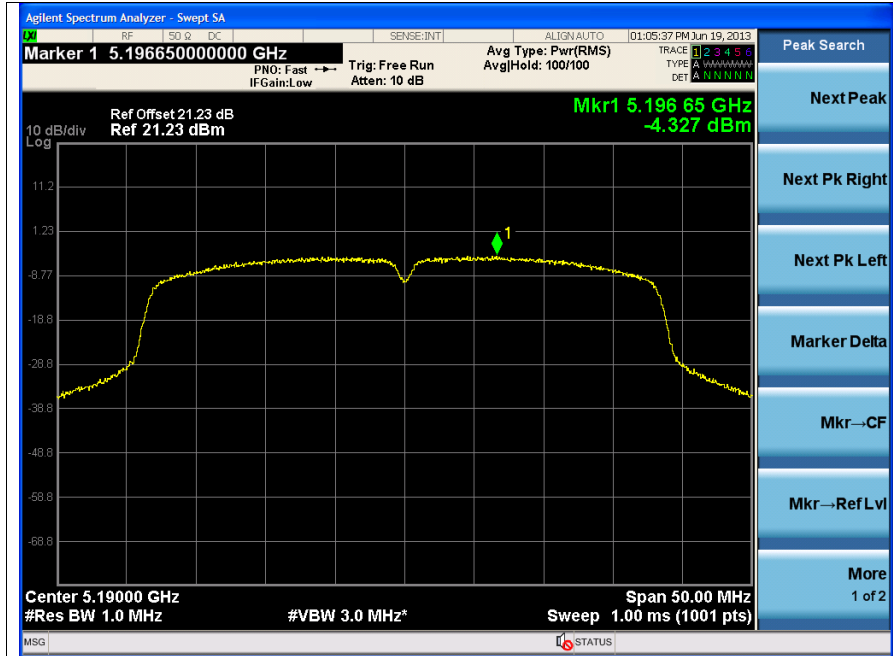
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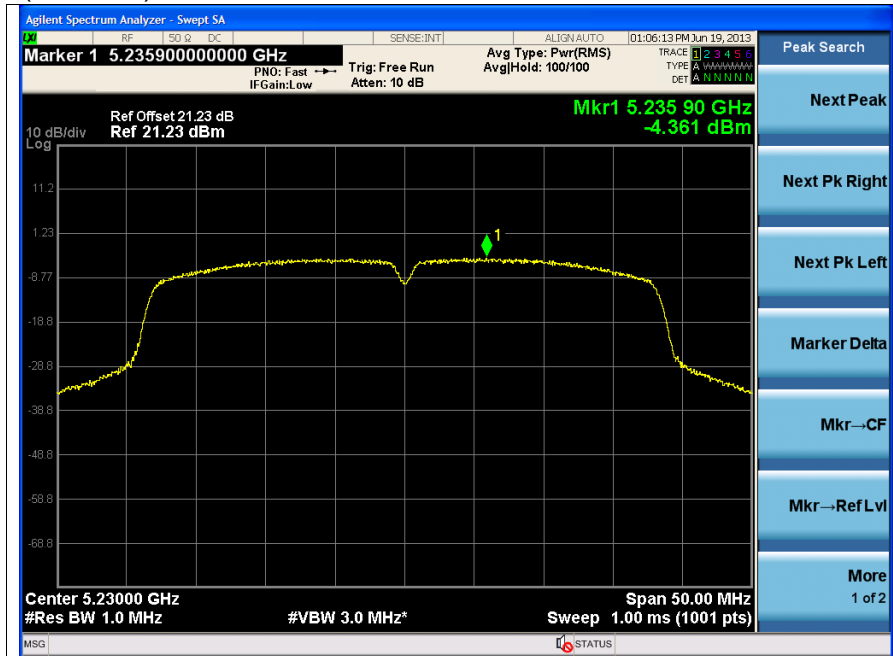
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802.11n_HT40 (MCS0)

Low Channel (5 190 MHz)



High Channel (5 230 MHz)



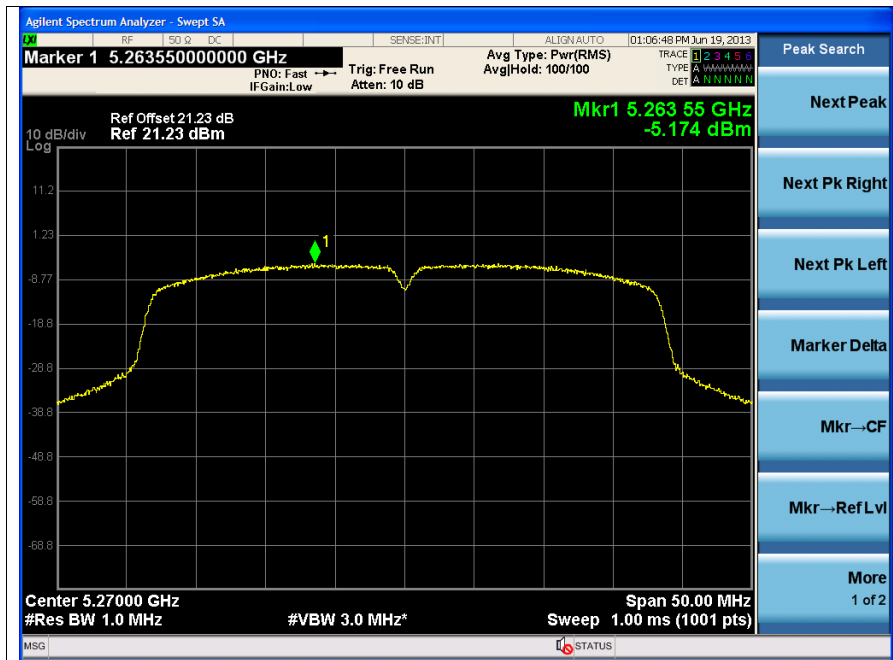
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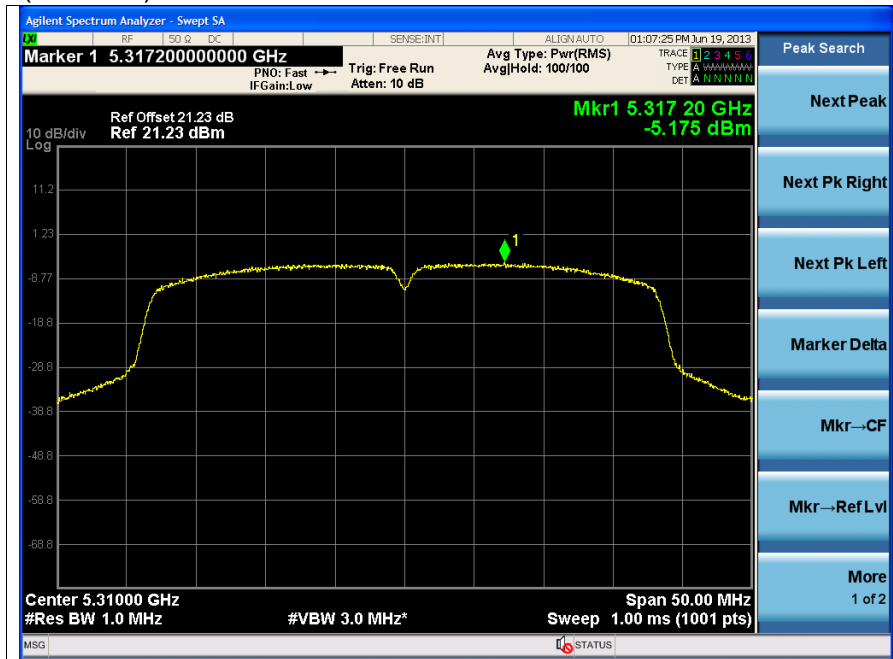
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Low Channel (5 270 MHz)



High Channel (5 310 MHz)



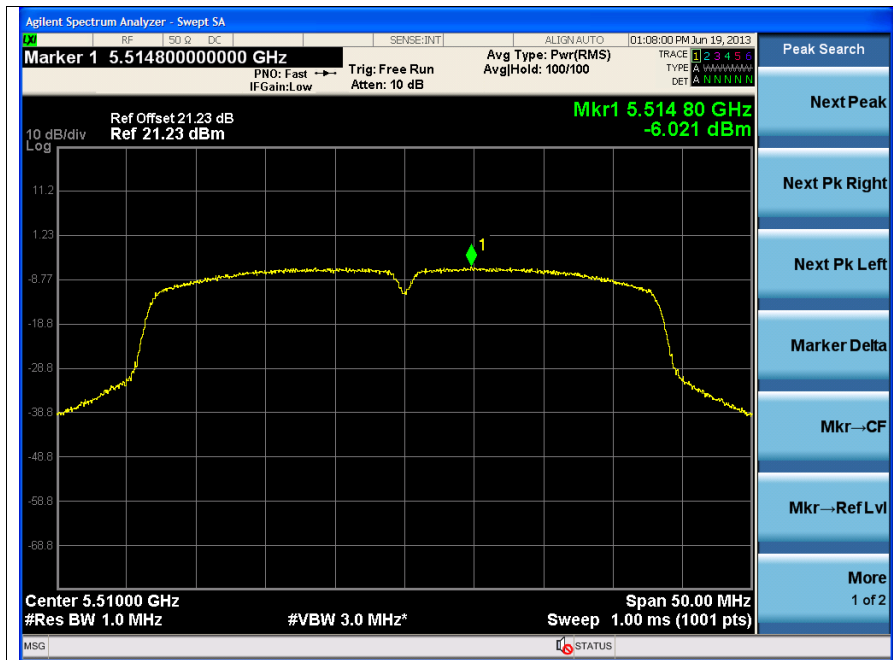
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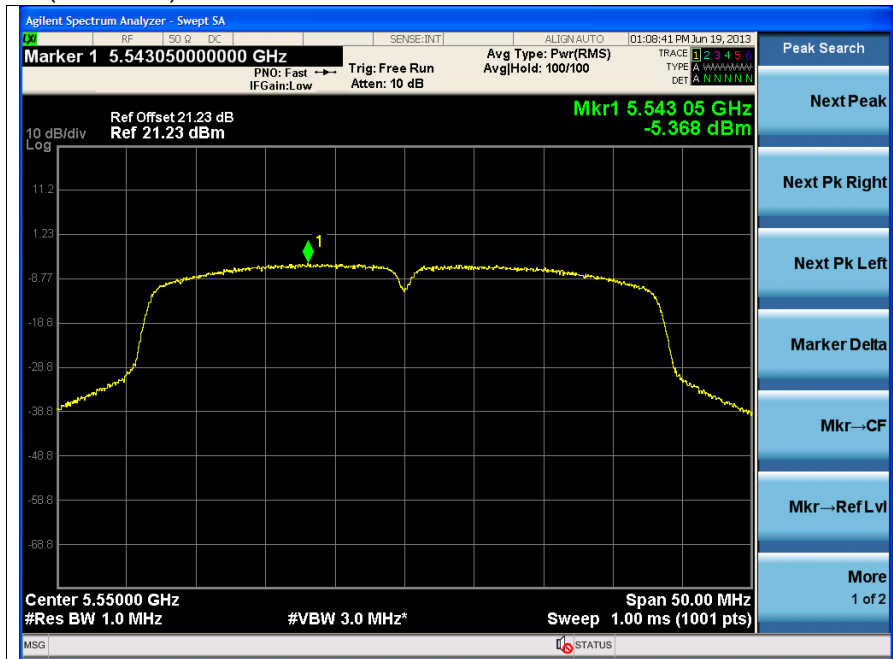
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Low Channel (5 510 MHz)



Middle Channel (5 550 MHz)



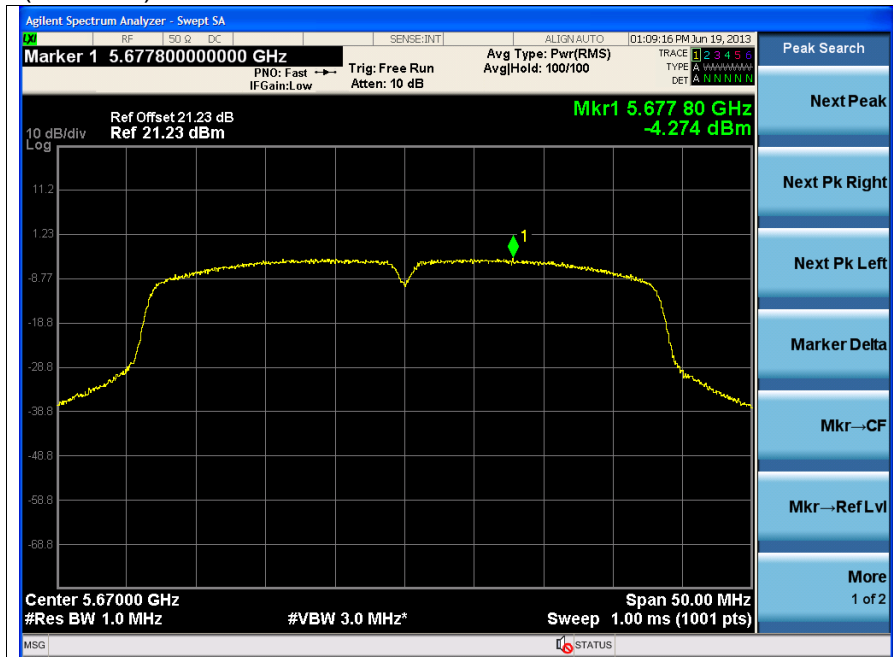
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High Channel (5 670 MHz)



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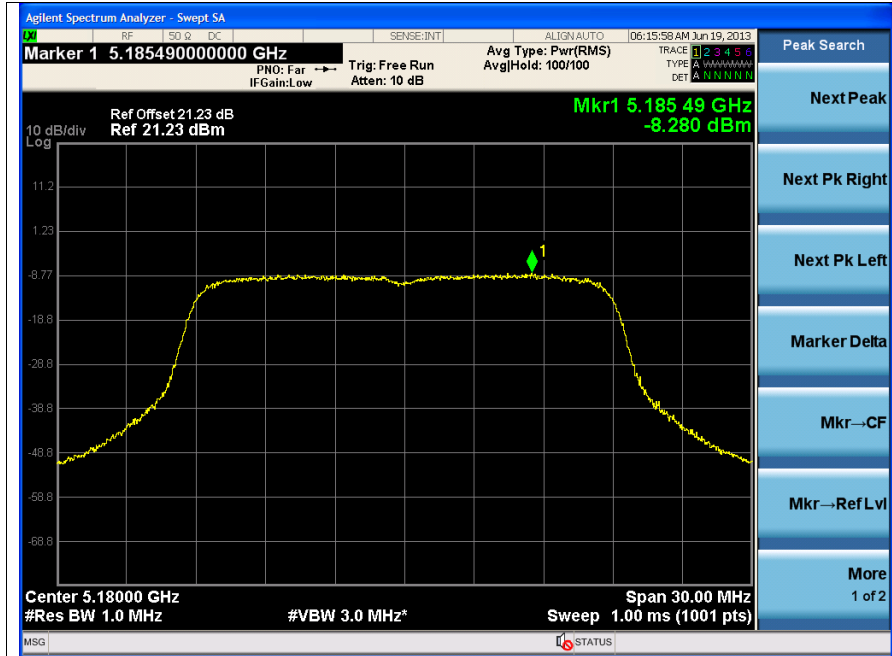
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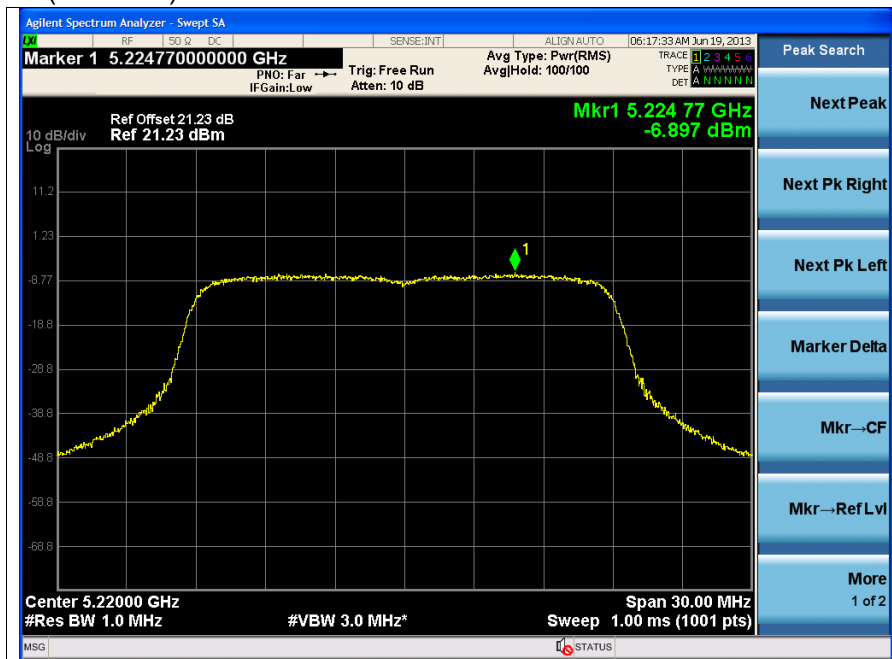
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802.11n_HT20 (MCS8)

Low Channel (5 180 MHz)



Middle Channel (5 220 MHz)



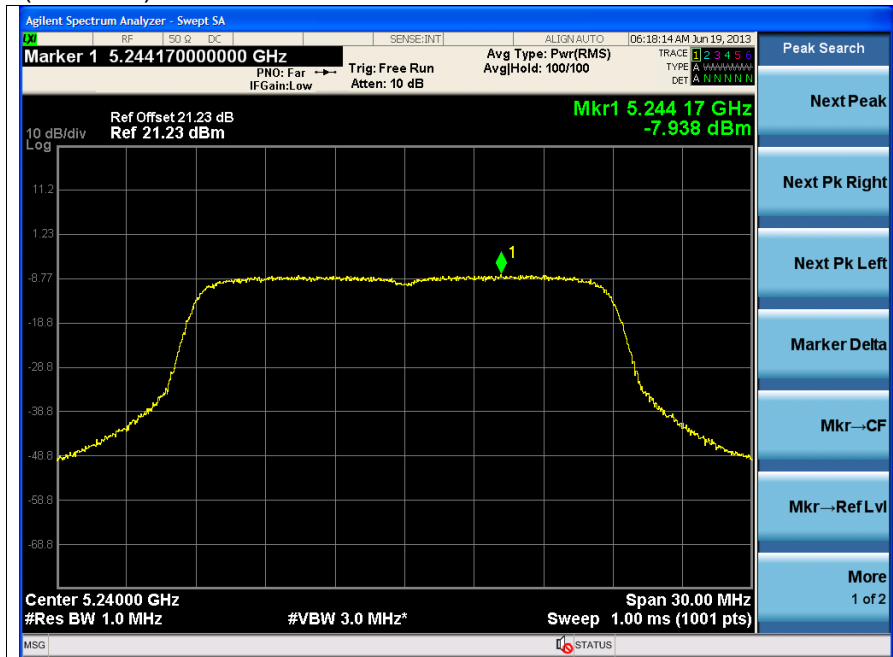
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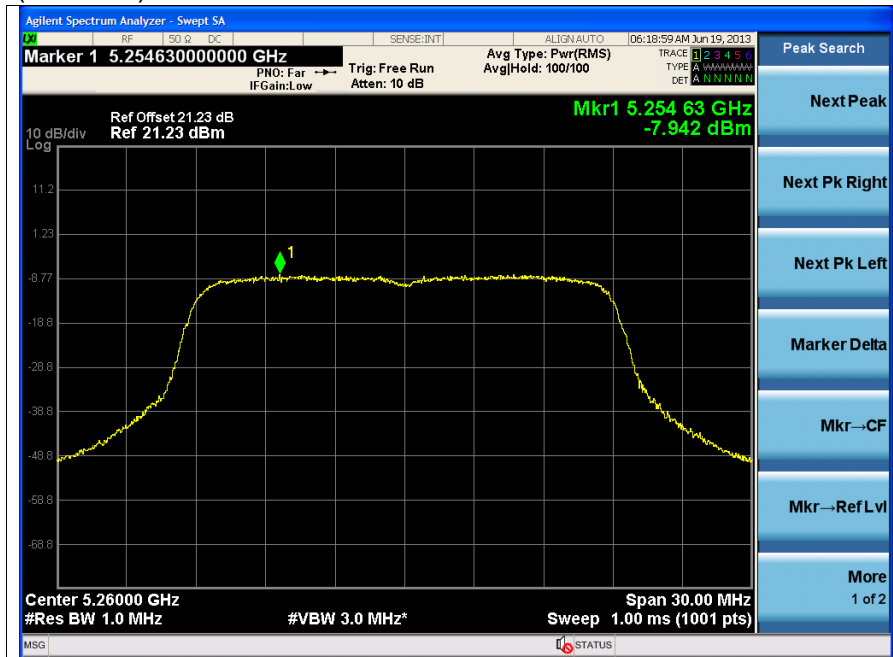
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High Channel (5 240 MHz)



Low Channel (5 260 MHz)



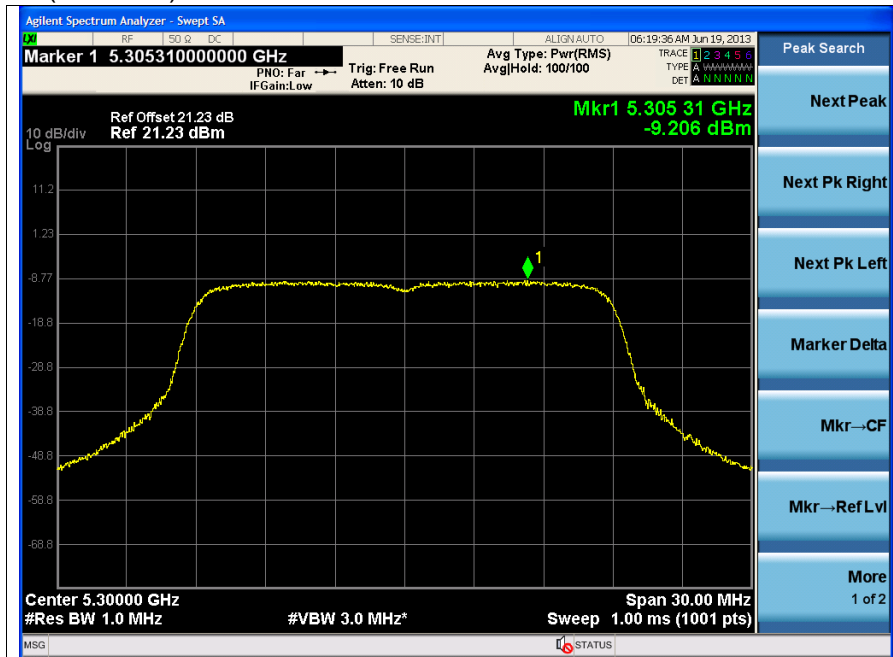
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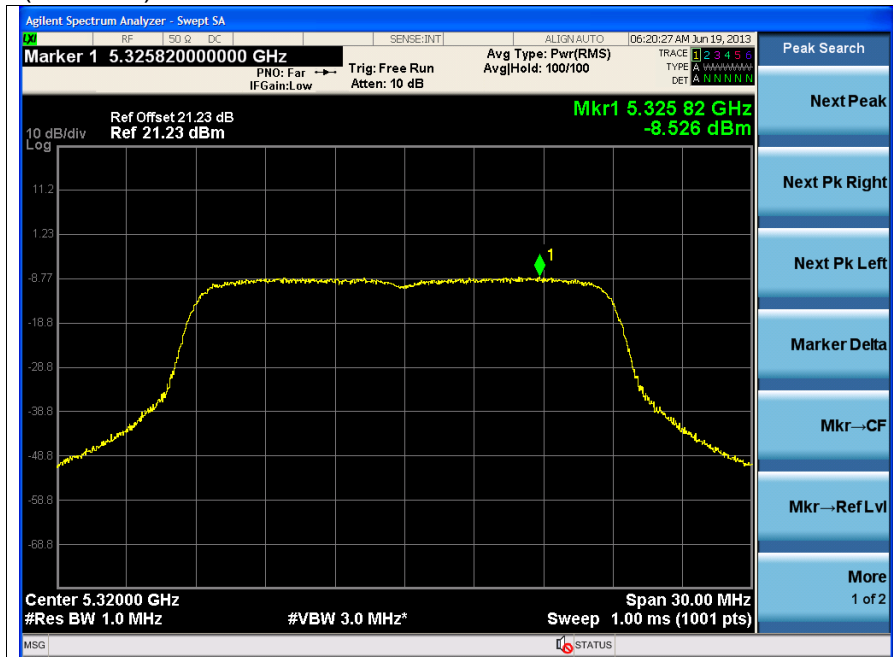
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Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



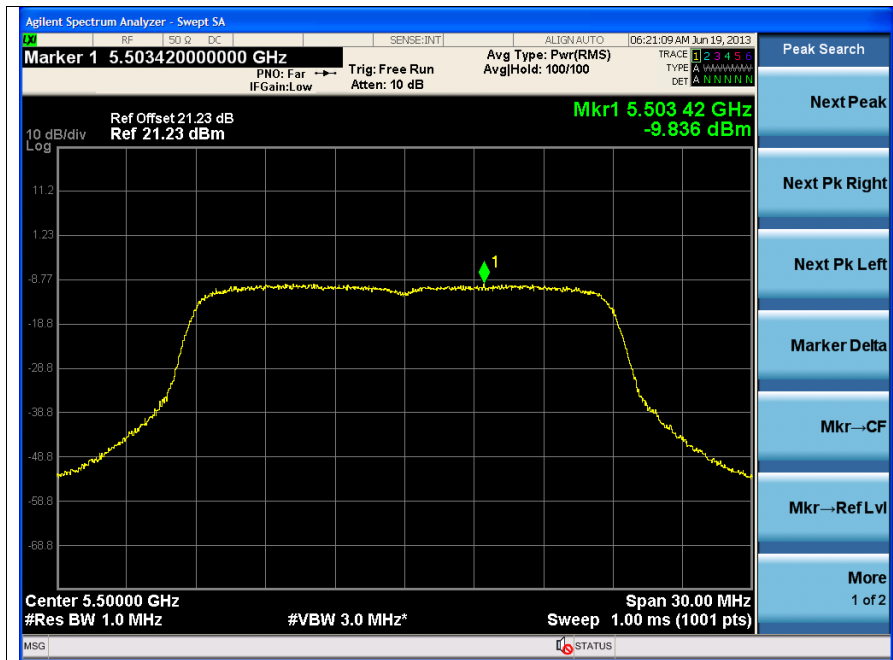
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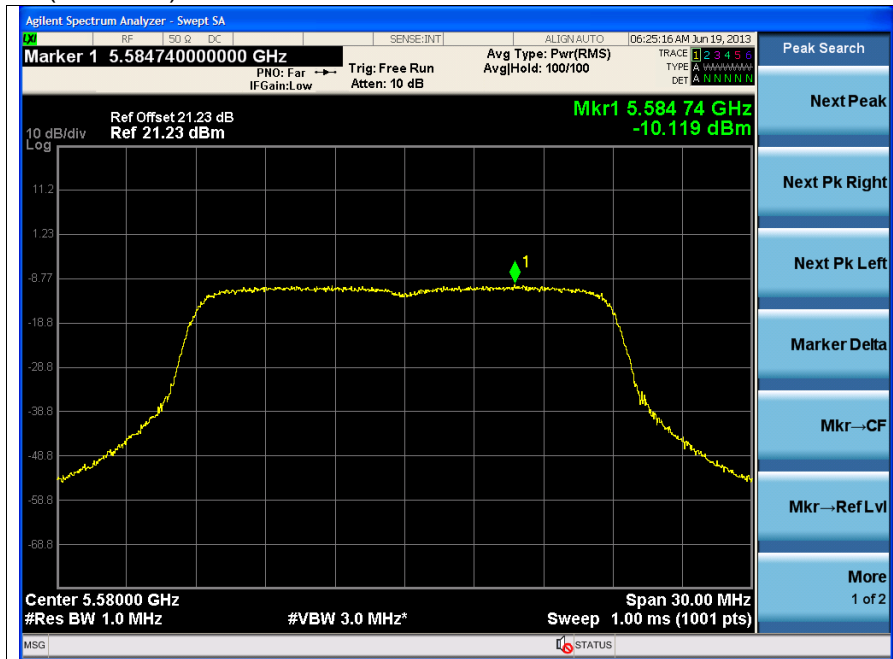
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Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



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