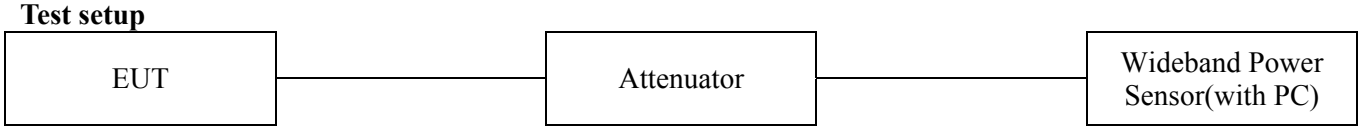
3.4. Maximum conducted output power

Test setup



Test procedure

All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

KDB 789033 D02_v01 – section E) 3) b)
Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Limit

(a)(1)For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 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 maximum 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 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum 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 maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a)(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

-Antenna 0

Operation mode	Frequency(㎒)	26 ㏈ Bandwidth	Fixed Limit(㏈m)	11+10Log(B) (㏈m)	Limit(㏈m)
UNII Band1 802.11a	5 180	22.71	30	-	30
	5 220	22.71	30	-	
	5 240	22.40	30	-	
UNII Band2A 802.11a	5 260	21.84	23.98	24.39	23.98
	5 300	22.27	23.98	24.48	
	5 320	22.06	23.98	24.44	
UNII Band2C 802.11a	5 500	21.88	23.98	24.40	
	5 580	21.53	23.98	24.33	
	5 700	21.97	23.98	24.42	
UNII Band3 802.11a	5 745	16.45	30	-	30
	5 785	16.54	30	-	
	5 825	16.54	30	-	

Operation mode	Frequency(㎒)	26 ㏈ Bandwidth	Fixed Limit(㏈m)	11+10Log(B) (㏈m)	Limit(㏈m)
UNII Band1 802.11n(HT20)	5 180	23.18	30	-	30
	5 220	23.49	30	-	
	5 240	23.71	30	-	
UNII Band2A 802.11n(HT20)	5 260	22.66	23.98	24.55	23.98
	5 300	22.62	23.98	24.54	
	5 320	22.32	23.98	24.49	
UNII Band2C 802.11n(HT20)	5 500	23.05	23.98	24.63	
	5 580	22.62	23.98	24.54	
	5 700	23.18	23.98	24.65	
UNII Band3 802.11n(HT20)	5 745	17.67	30	-	30
	5 785	17.76	30	-	
	5 825	17.76	30	-	

Operation mode	Frequency(㎒)	26 ㏈ Bandwidth	Fixed Limit(㏈m)	11+10Log(B) (㏈m)	Limit(㏈m)
UNII Band1 802.11n(HT40)	5 190	47.24	30	-	30
	5 230	46.11	30	-	
UNII Band2A 802.11n(HT40)	5 270	47.50	23.98	27.77	23.98
	5 310	47.50	23.98	27.77	
UNII Band2C 802.11n(HT40)	5 510	47.41	23.98	27.76	
	5 550	47.24	23.98	27.74	
	5 567	46.98	23.98	27.72	
UNII Band3 802.11n(HT40)	5 755	36.47	30	-	30
	5 795	36.47	30	-	

-Antenna 1

Operation mode	Frequency(㎒)	26 ㏈ Bandwidth	Fixed Limit(㏈m)	11+10Log(B) (㏈m)	Limit(㏈m)
UNII Band1 802.11a	5 180	22.10	30	-	30
	5 220	22.66	30	-	
	5 240	21.97	30	-	
UNII Band2A 802.11a	5 260	21.84	23.98	24.39	23.98
	5 300	22.27	23.98	24.48	
	5 320	22.06	23.98	24.44	
UNII Band2C 802.11a	5 500	21.88	23.98	24.40	
	5 580	21.53	23.98	24.33	
	5 700	21.97	23.98	24.42	
UNII Band3 802.11a	5 745	16.45	30	-	30
	5 785	16.54	30	-	
	5 825	16.54	30	-	

Operation mode	Frequency(㎒)	26 ㏈ Bandwidth	Fixed Limit(㏈m)	11+10Log(B) (㏈m)	Limit(㏈m)
UNII Band1 802.11n(HT20)	5 180	23.18	30	-	30
	5 220	23.49	30	-	
	5 240	23.36	30	-	
UNII Band2A 802.11n(HT20)	5 260	24.14	23.98	24.83	23.98
	5 300	23.62	23.98	24.73	
	5 320	23.23	23.98	24.66	
UNII Band2C 802.11n(HT20)	5 500	22.71	23.98	24.56	
	5 580	22.58	23.98	24.54	
	5 700	22.53	23.98	24.53	
UNII Band3 802.11n(HT20)	5 745	17.76	30	-	30
	5 785	17.71	30	-	
	5 825	17.71	30	-	

Operation mode	Frequency(㎒)	26 ㏈ Bandwidth	Fixed Limit(㏈m)	11+10Log(B) (㏈m)	Limit(㏈m)
UNII Band1 802.11n(HT40)	5 190	47.32	30	-	30
	5 230	46.89	30	-	
UNII Band2A 802.11n(HT40)	5 270	46.19	23.98	27.65	23.98
	5 310	47.58	23.98	27.78	
UNII Band2C 802.11n(HT40)	5 510	47.32	23.98	27.75	
	5 550	46.45	23.98	27.67	
	5 567	46.72	23.98	27.69	
UNII Band3 802.11n(HT40)	5 755	36.47	30	-	30
	5 795	36.47	30	-	

Test results

-UNII Band 1

Operation mode	Frequency(㎒)	Conducted power (dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 180	18.71	20.46	-	30
	5 220	18.66	19.78	-	
	5 240	18.95	19.60	-	
802.11n(HT20)	5 180	18.66	19.98	22.38	
	5 220	19.16	19.17	22.18	
	5 240	18.86	19.55	22.23	
802.11n(HT40)	5 190	17.89	19.58	21.83	
	5 230	18.61	18.68	21.66	

-UNII Band 2A

Operation mode	Frequency(㎒)	Conducted power (dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 260	18.76	20.43	-	23.98
	5 300	18.52	19.20	-	
	5 320	19.36	18.19	-	
802.11n(HT20)	5 260	18.37	19.76	22.13	
	5 300	18.95	18.54	21.76	
	5 320	18.77	18.34	21.57	
802.11n(HT40)	5 270	18.29	19.47	21.93	
	5 310	18.95	17.92	21.48	

-UNII Band 2C

Operation mode	Frequency(㎒)	Conducted power (dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 500	19.58	15.60	-	23.98
	5 580	18.94	18.48	-	
	5 700	19.53	19.59	-	
802.11n(HT20)	5 500	18.79	15.26	20.38	
	5 580	18.56	17.94	21.27	
	5 700	19.40	19.08	22.25	
802.11n(HT40)	5 510	16.56	16.32	19.45	
	5 550	16.24	18.50	20.53	
	5 670	14.58	18.50	19.98	

-UNII Band 3

Operation mode	Frequency(㎒)	Conducted power (dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 745	13.99	18.66	-	30
	5 785	13.92	18.28	-	
	5 825	14.18	17.82	-	
802.11n(HT20)	5 745	12.87	18.35	19.43	
	5 785	14.19	18.15	19.62	
	5 825	13.01	18.39	19.50	
802.11n(HT40)	5 755	13.57	18.82	19.95	
	5 795	13.96	18.53	19.83	

For 5.2 ㎓

Ant Gain = 10 log[$10^{G1/20}$+$10^{G2/20}$+…+$10^{GN/20}$]^2/N_{ANT} = 3.90 dBi < 6 dBi, so no need to reduce the limit

For 5.3 ㎓

Ant Gain = 10 log[$10^{G1/20}$+$10^{G2/20}$+…+$10^{GN/20}$]^2/N_{ANT} = 3.18 dBi < 6 dBi, so no need to reduce the limit

For 5.5 ㎓

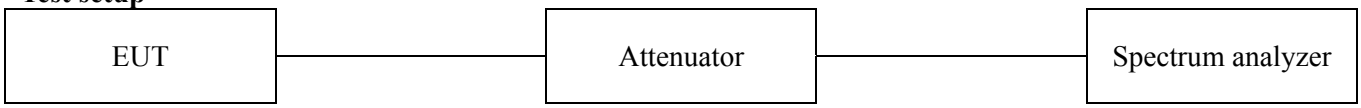
Ant Gain = 10 log[$10^{G1/20}$+$10^{G2/20}$+…+$10^{GN/20}$]^2/N_{ANT} = 3.35 dBi < 6 dBi, so no need to reduce the limit

For 5.8 ㎓

Ant Gain = 10 log[$10^{G1/20}$+$10^{G2/20}$+…+$10^{GN/20}$]^2/N_{ANT} = 3.08 dBi < 6 dBi, so no need to reduce the limit

3.5. Maximum Power spectral density

Test setup



Test procedure

KDB 789033 D02 v01– section F

Measurement procedure

a) Set analyzer center frequency of the UNII channel under investigation.
b) Set the span to encompass the entire emission bandwidth of the signal
c) Set the RBW = 1 MHz
d) Set the VBW = 3 MHz
e) Detector = power averaging (RMS)
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
i) Trigger was set to free run for all modes
j) The peak search function of the spectrum analyzer was used to find the peak of the spectrum

Limit

(1) For the band 5.15~5.25 ㎓ band, the maximum power spectral density shall not exceed 17 ㏈m in any 1 ㎒ band.
(2) For the band 5.25~5.35 ㎓ and 5.47~5.725 ㎓ bands, the maximum power spectral density shall not exceed 11 ㏈m in any 1 ㎒ band.
(3) For the band 5.725~5.85 ㎓ band, the maximum power spectral density shall not excced 30 ㏈m in any 500 ㎑ band.

Test results

-UNII Band1

Operation mode	Frequency(㎒)	Measured PSD(dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 180	-3.29	-1.98	-	17
	5 220	-2.67	-2.72	-	
	5 240	-2.65	-1.95	-	
802.11n(HT20)	5 180	-3.13	-2.27	0.33	
	5 220	-2.85	-2.93	012	
	5 240	-2.67	-2.50	0.43	
802.11n(HT40)	5 190	-5.69	-5.22	-2.44	
	5 230	-5.33	-5.76	-2.53	

-UNII Band 2A

Operation mode	Frequency(㎒)	Measured PSD(dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 260	-5.49	-1.80	-	11
	5 300	-4.95	-3.58	-	
	5 320	-4.95	-3.38	-	
802.11n(HT20)	5 260	-5.21	-2.24	-0.47	
	5 300	-5.07	-3.70	-1.32	
	5 320	-5.04	-3.91	-1.43	
802.11n(HT40)	5 270	-6.46	-5.31	-2.84	
	5 310	-5.22	-6.34	-2.73	

-UNII Band 2C

Operation mode	Frequency(㎒)	Measured PSD(dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 500	-4.30	-7.65	-	11
	5 580	-6.51	-4.60	-	
	5 700	-6.32	-3.33	-	
802.11n(HT20)	5 500	-4.86	-7.02	-2.80	
	5 580	-6.98	-4.83	-2.76	
	5 700	-6.68	-3.38	-1.71	
802.11n(HT40)	5 510	-7.65	-9.51	-5.47	
	5 550	-8.45	-7.98	-5.20	
	5 670	-10.19	-6.83	-5.18	

-UNII Band 3

Operation mode	Frequency(㎒)	Measured PSD(dBm)			Limit(dBm)
		Ant0	Ant1	Ant0 + Ant1	
802.11a	5 745	-6.51	-5.63	-	30
	5 785	-5.57	-5.21	-	
	5 825	-5.69	-5.52	-	
802.11n(HT20)	5 745	-7.04	-5.86	-3.40	
	5 785	-5.99	-5.67	-2.82	
	5 825	-6.04	-5.67	-2.84	
802.11n(HT40)	5 755	-9.36	-8.33	-5.80	
	5 795	-8.73	-8.11	-5.40	

For 5.2 ㎓

Ant Gain = 10 log[$10^{G1/20}+10^{G2/20}+\ldots+10^{GN/20}]^2/N_{ANT}$ = 3.90 dBi < 6 dBi, so no need to reduce the limit

For 5.3 ㎓

Ant Gain = 10 log[$10^{G1/20}+10^{G2/20}+\ldots+10^{GN/20}]^2/N_{ANT}$ = 3.18 dBi < 6 dBi, so no need to reduce the limit

For 5.5 ㎓

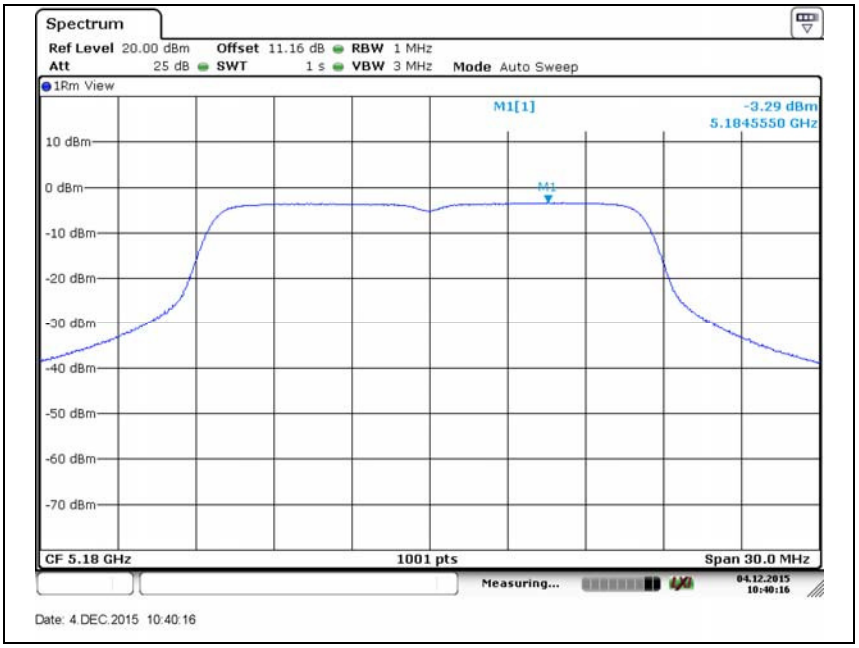
Ant Gain = 10 log[$10^{G1/20}+10^{G2/20}+\ldots+10^{GN/20}]^2/N_{ANT}$ = 3.35 dBi < 6 dBi, so no need to reduce the limit

For 5.8 ㎓

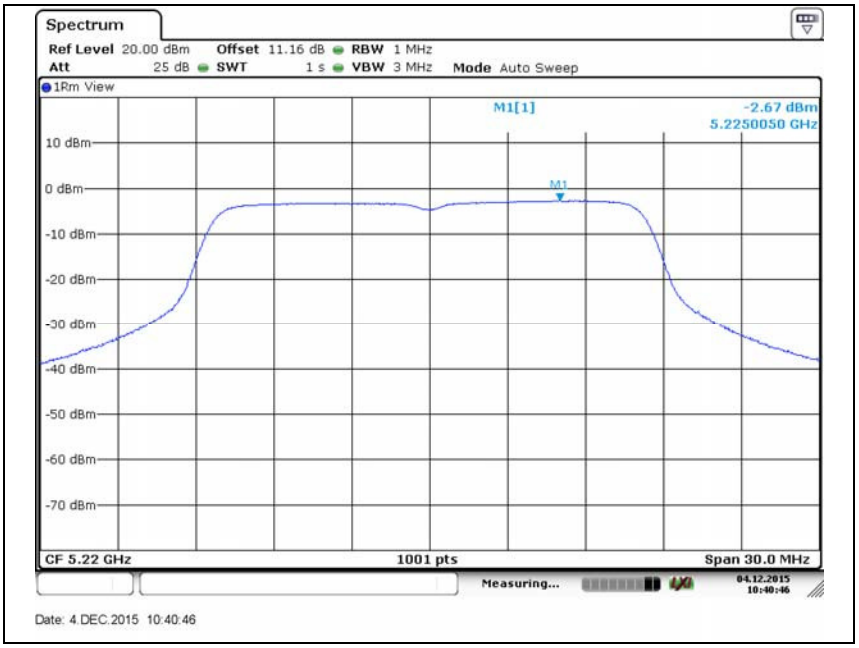
Ant Gain = 10 log[$10^{G1/20}+10^{G2/20}+\ldots+10^{GN/20}]^2/N_{ANT}$ = 3.08 dBi < 6 dBi, so no need to reduce the limit

- Antenna port 0 (Band1)

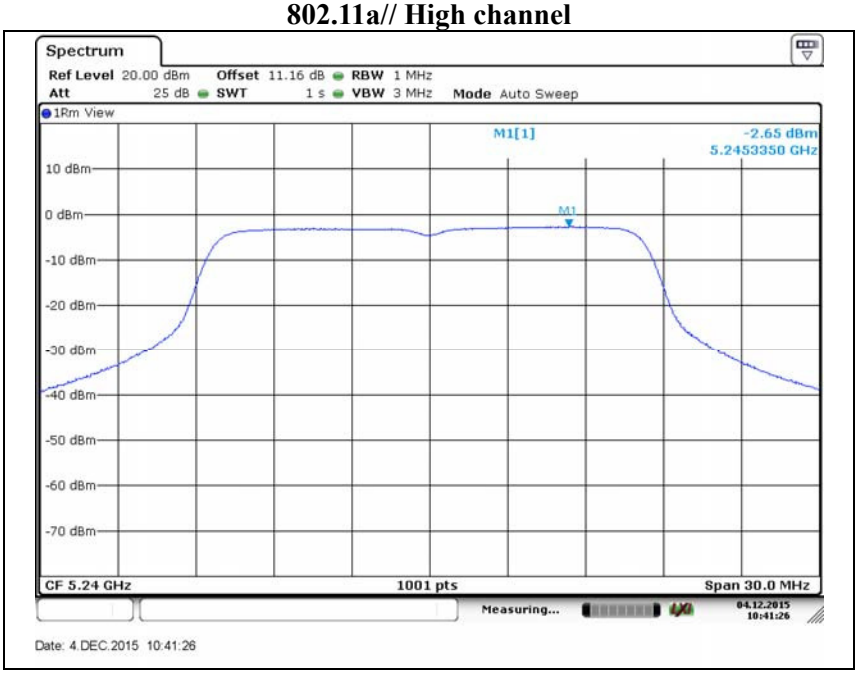
802.11a// Low channel



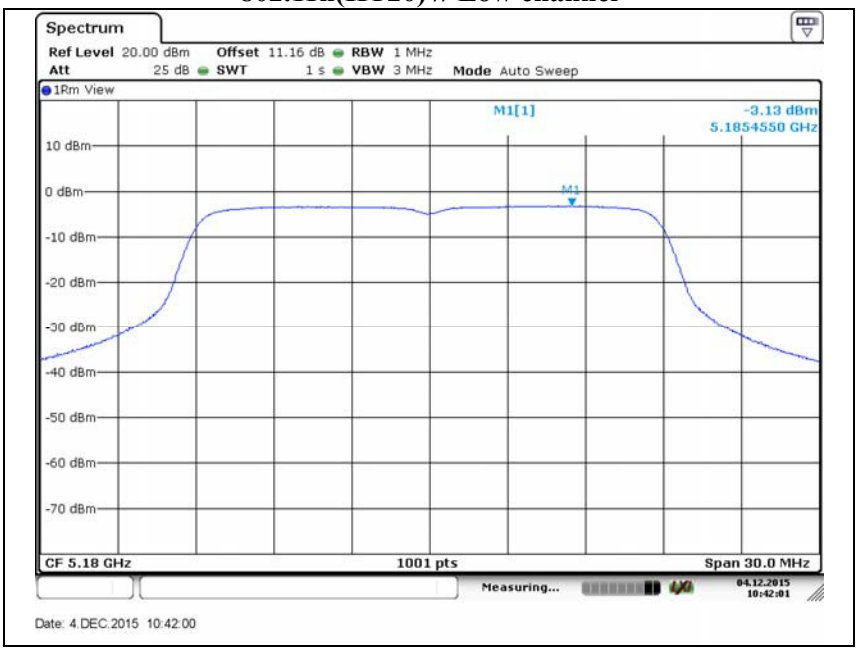
802.11a// Middle channel



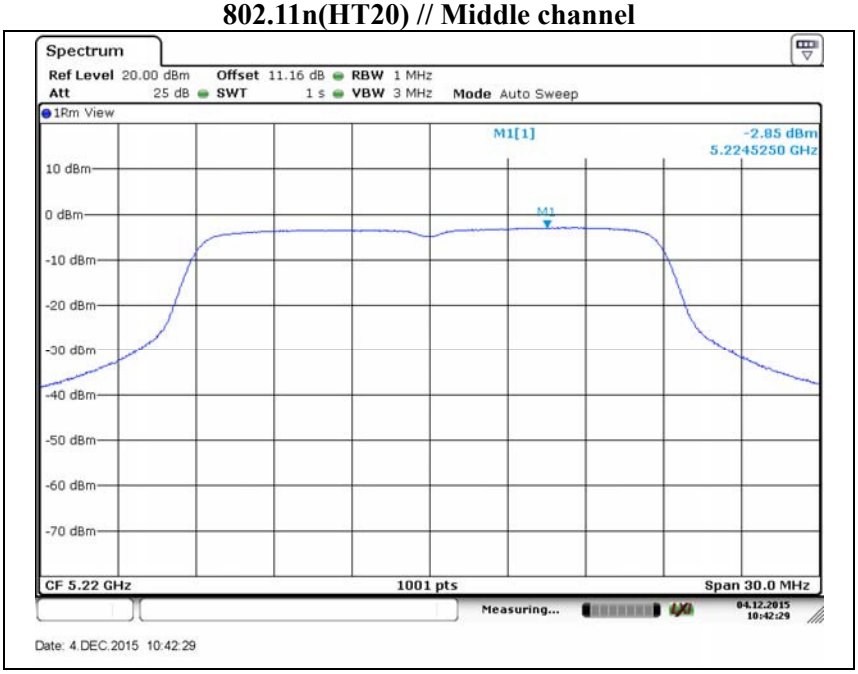
802.11a// High channel



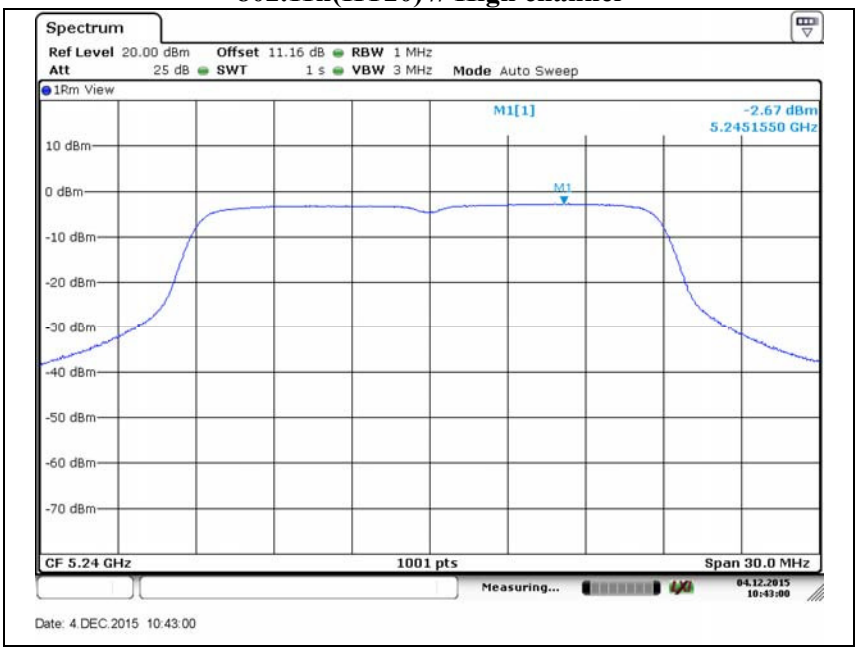
802.11n(HT20) // Low channel



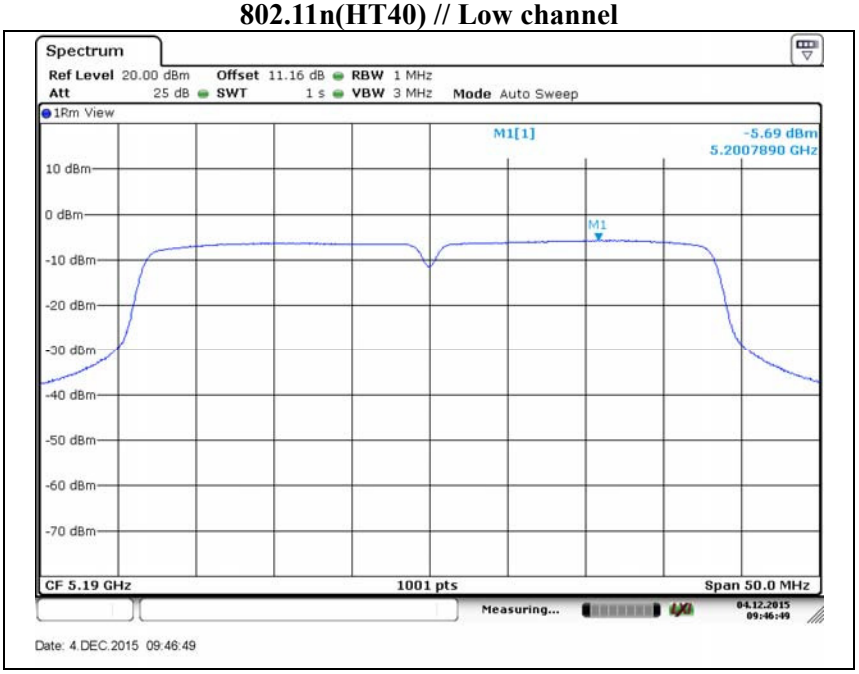
802.11n(HT20) // Middle channel



802.11n(HT20) // High channel



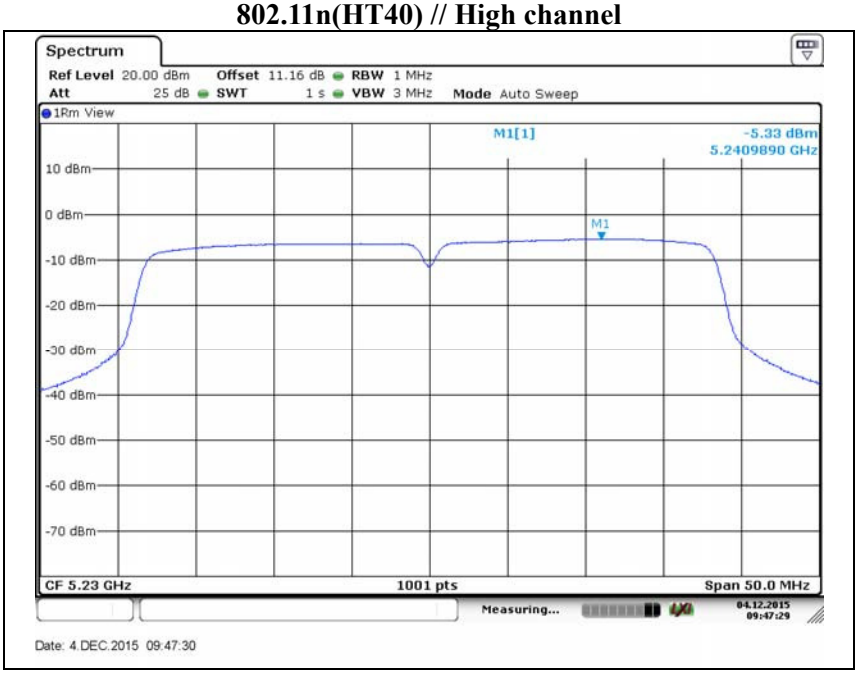
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

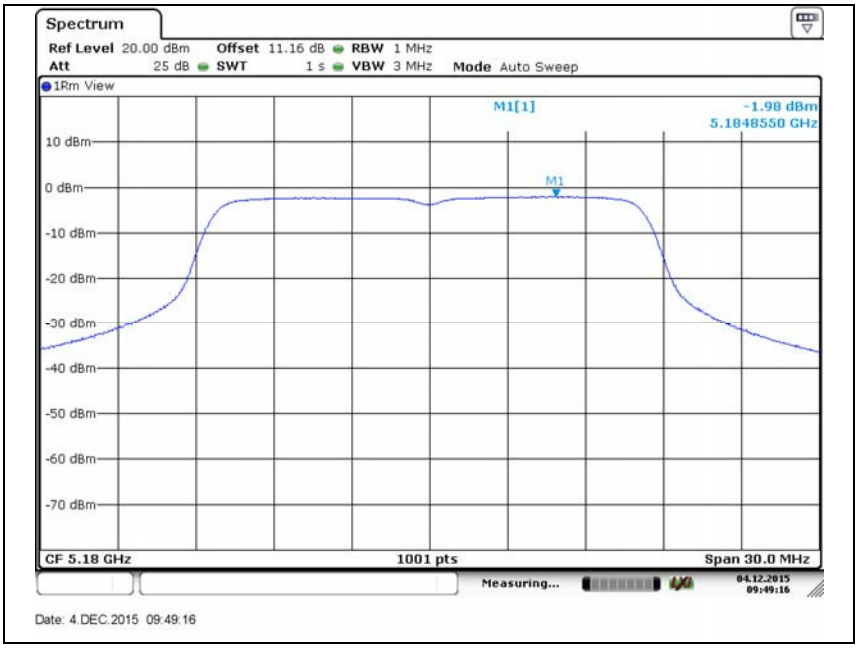
N/A

802.11n(HT40) // High channel

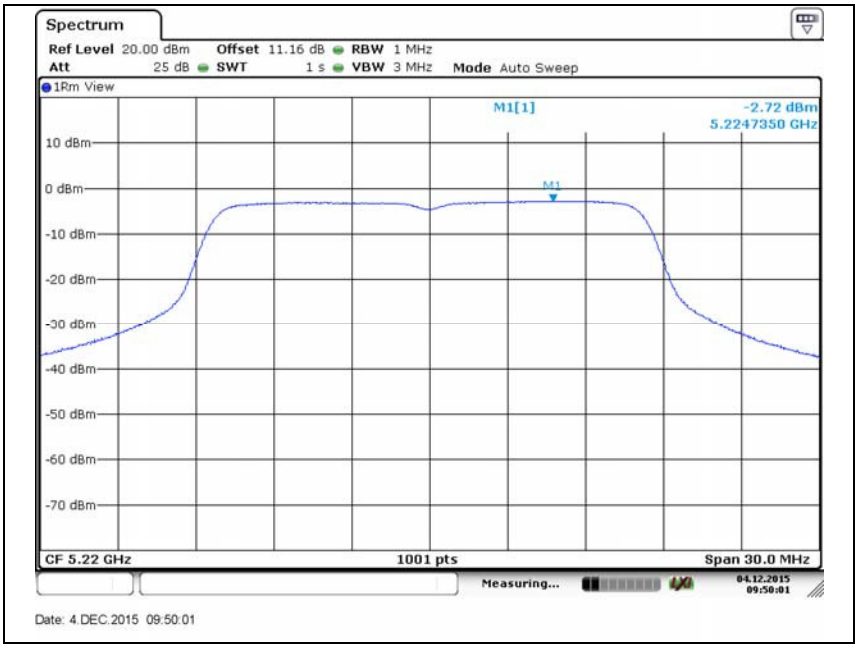


- Antenna port 1 (Band1)

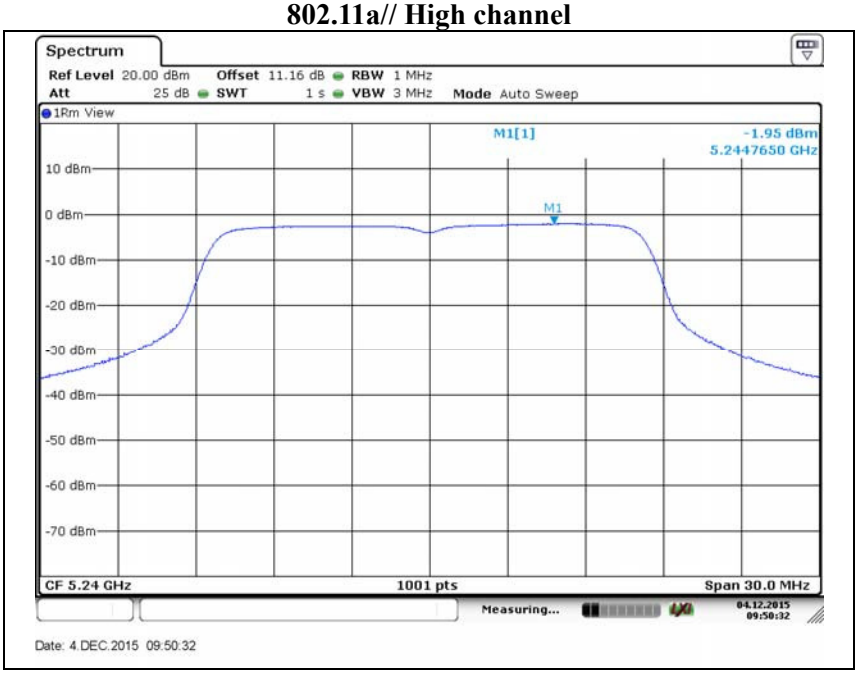
802.11a// Low channel



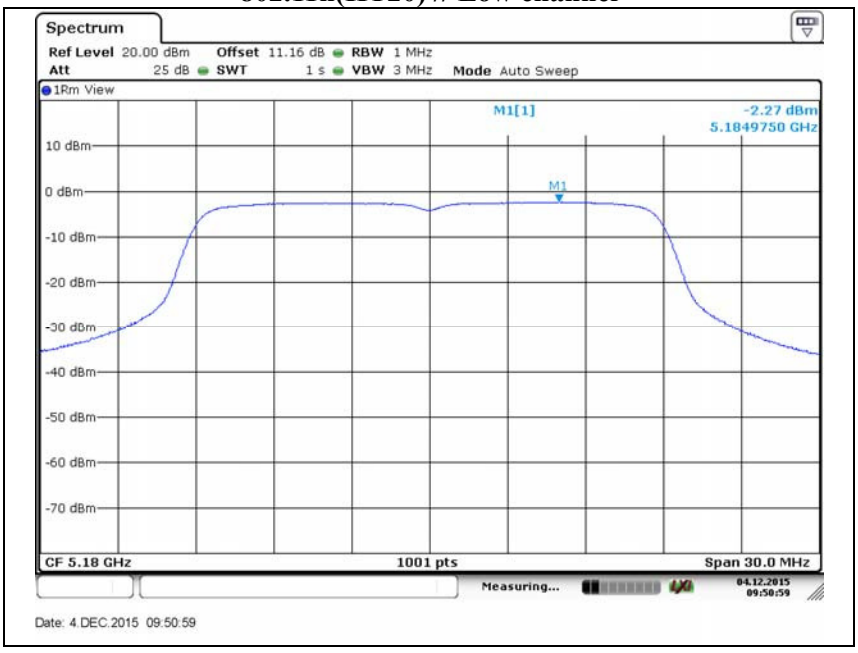
802.11a// Middle channel



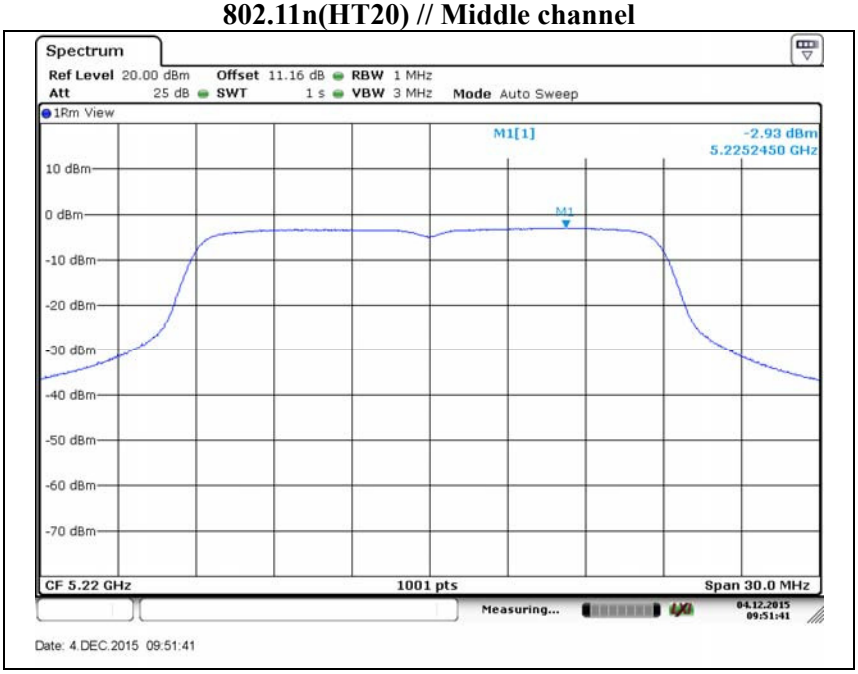
802.11a// High channel



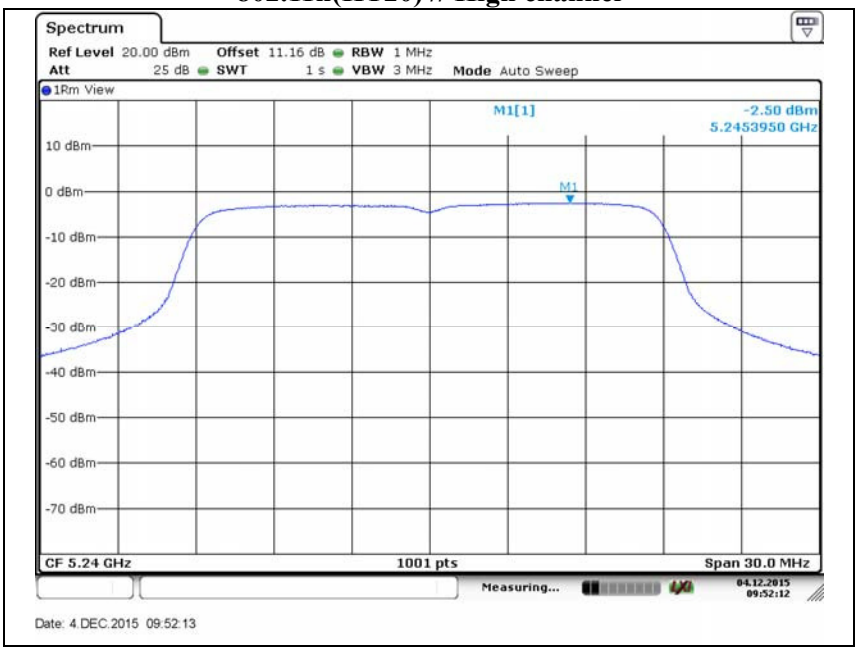
802.11n(HT20) // Low channel



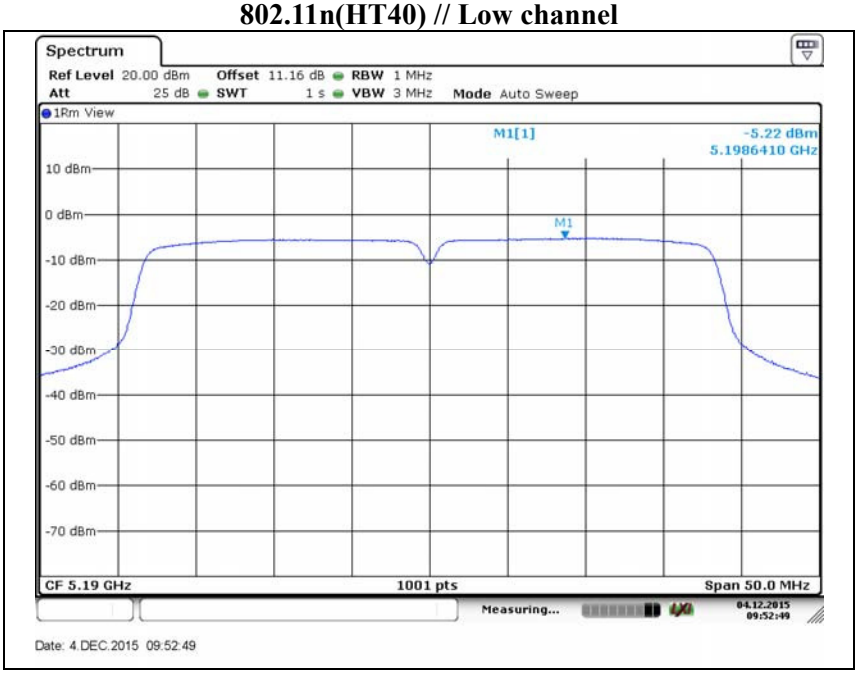
802.11n(HT20) // Middle channel



802.11n(HT20) // High channel



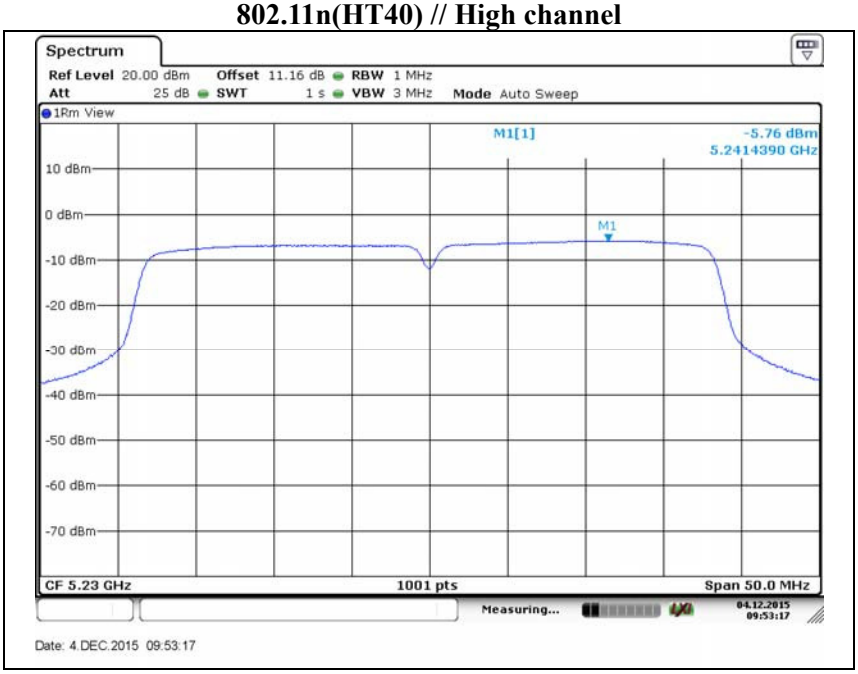
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

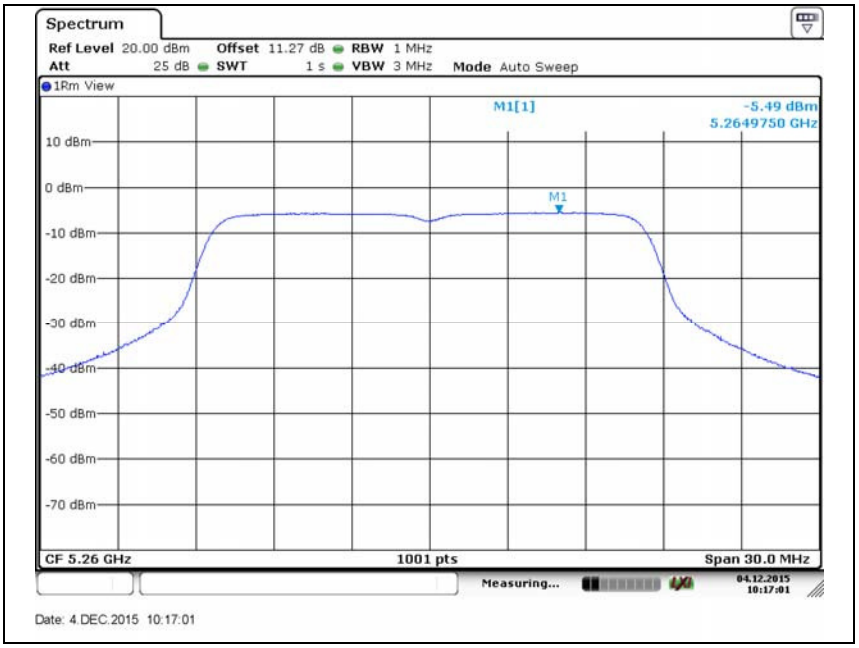
N/A

802.11n(HT40) // High channel

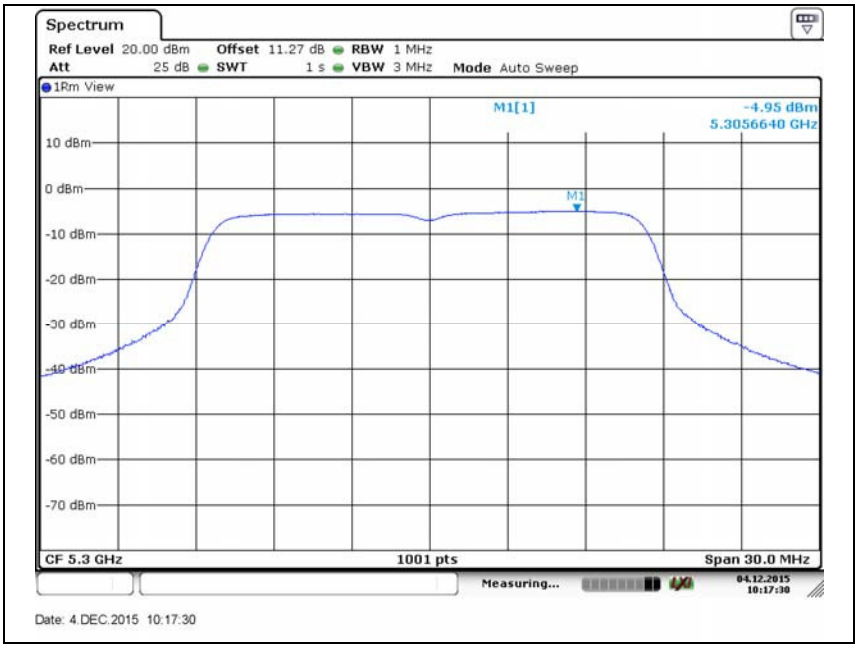


- Antenna port 0 (Band2A)

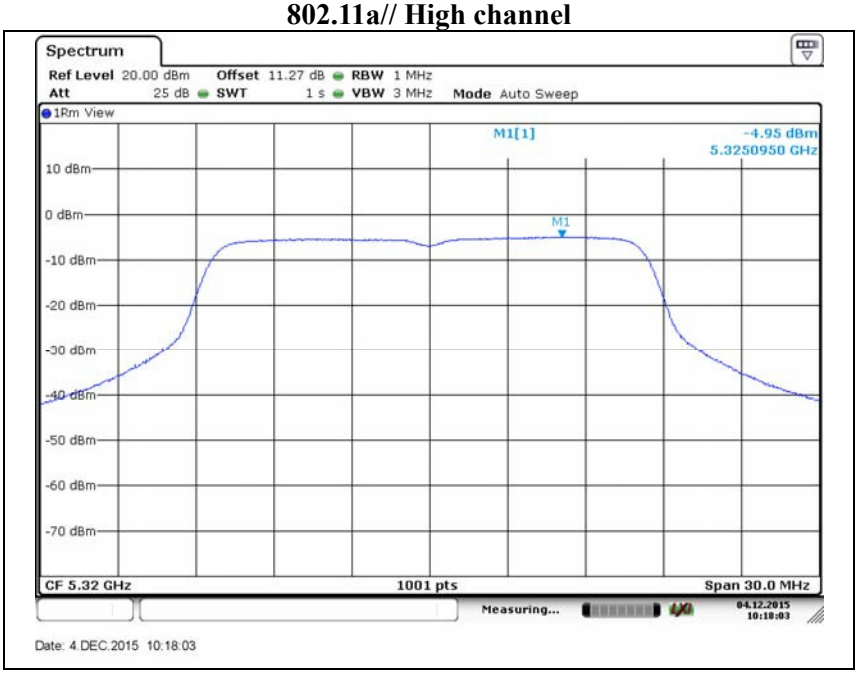
802.11a// Low channel



802.11a// Middle channel

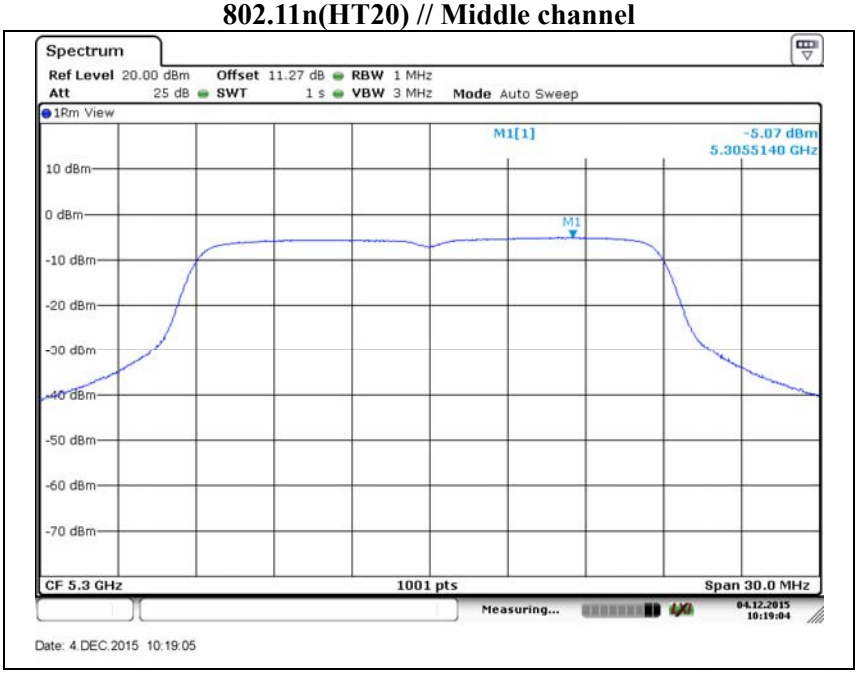


802.11a// High channel

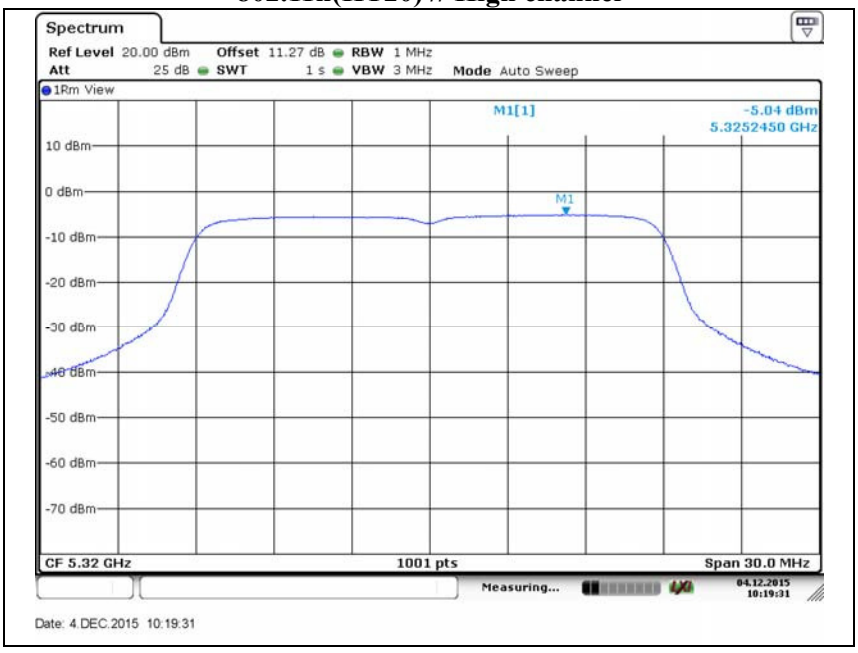


802.11n(HT20) // Low channel

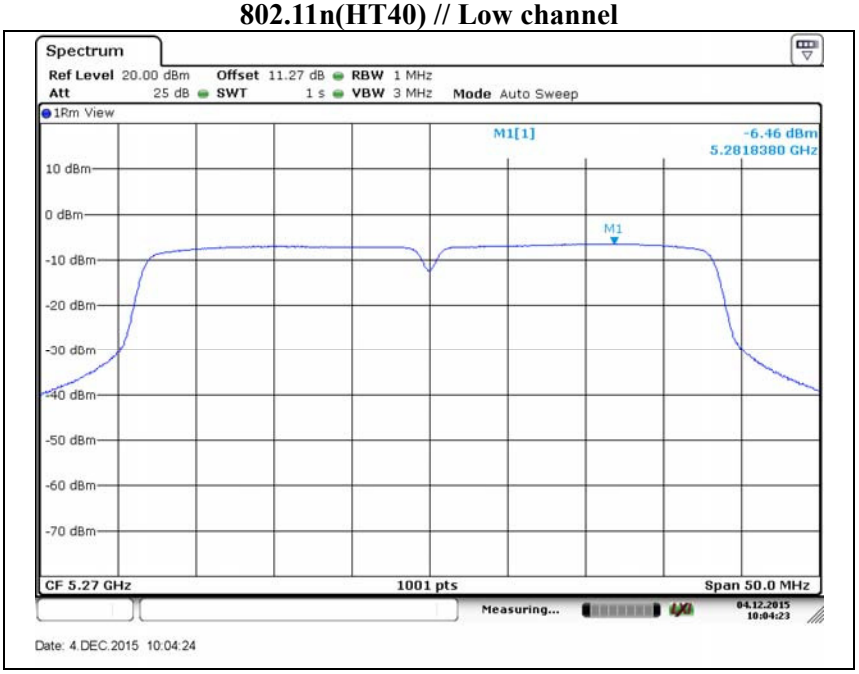
802.11n(HT20) // Middle channel



802.11n(HT20) // High channel



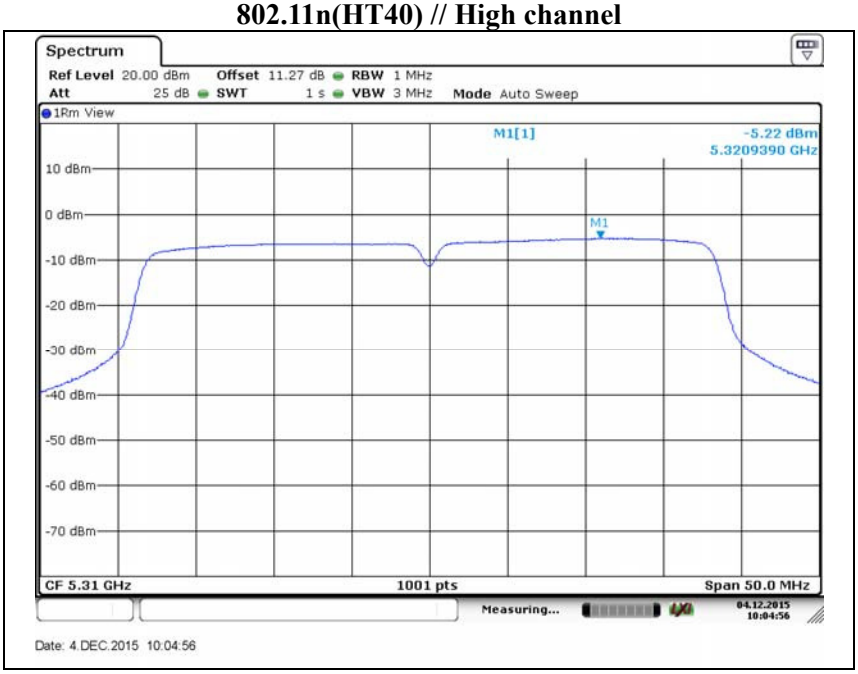
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

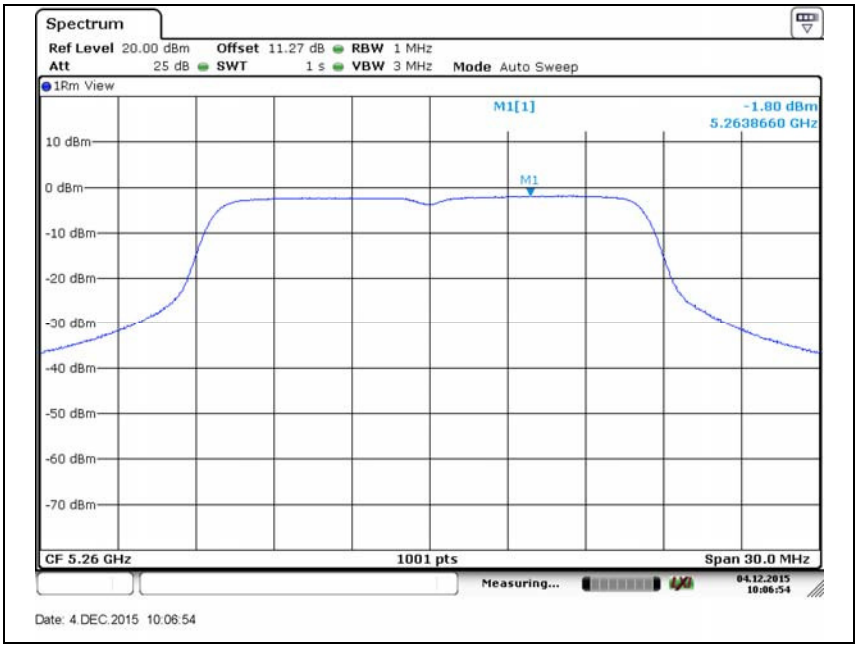
N/A

802.11n(HT40) // High channel

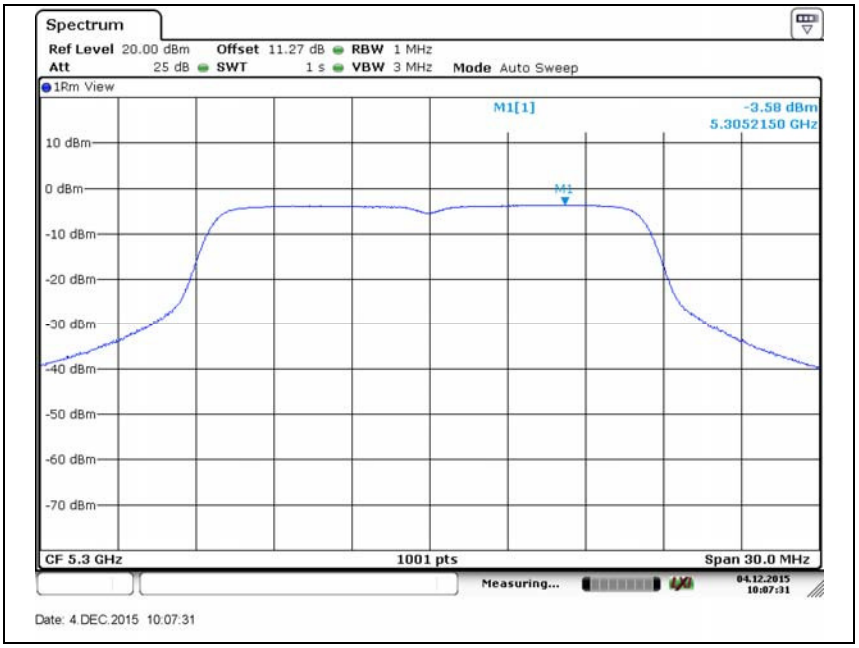


- Antenna port 1 (Band1)

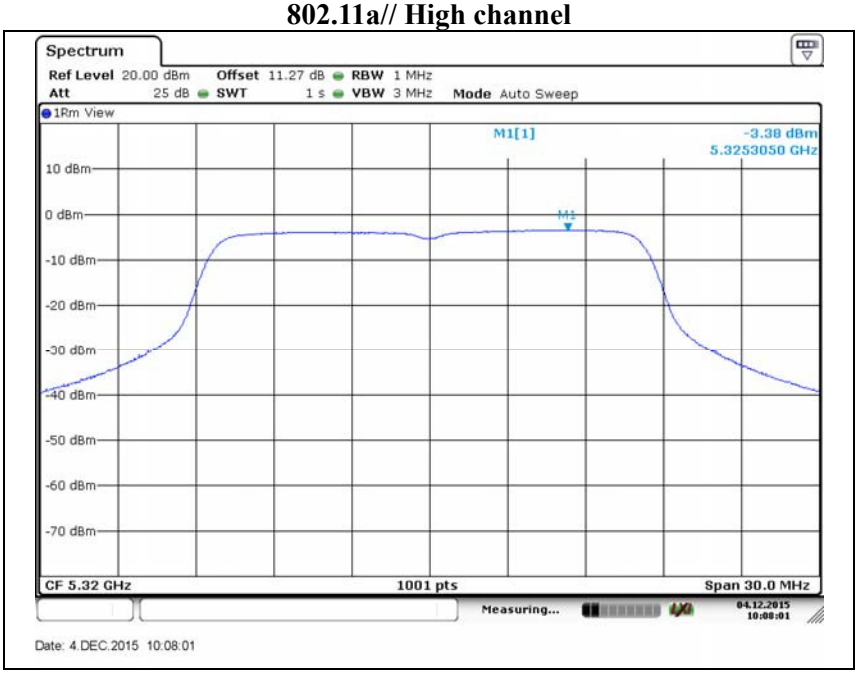
802.11a// Low channel



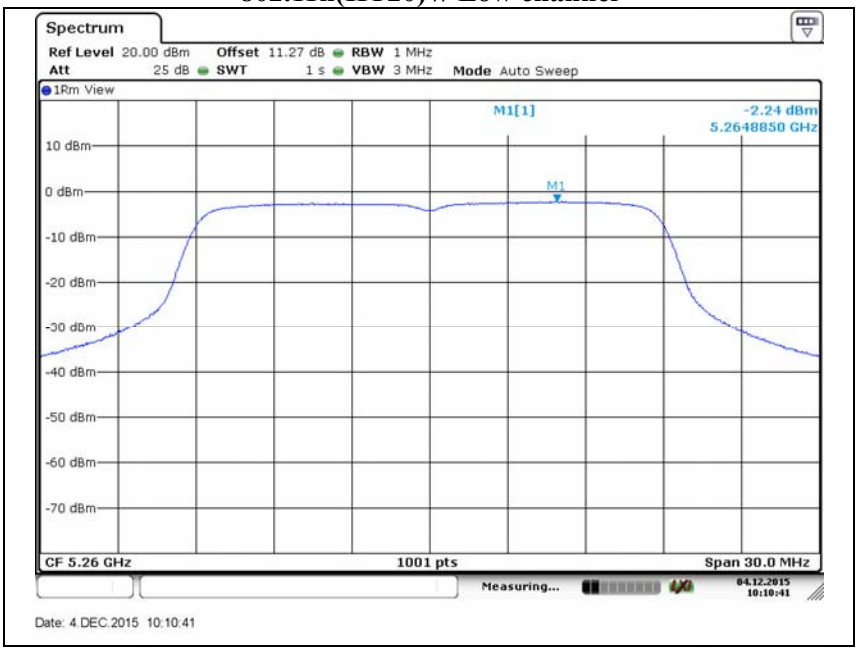
802.11a// Middle channel



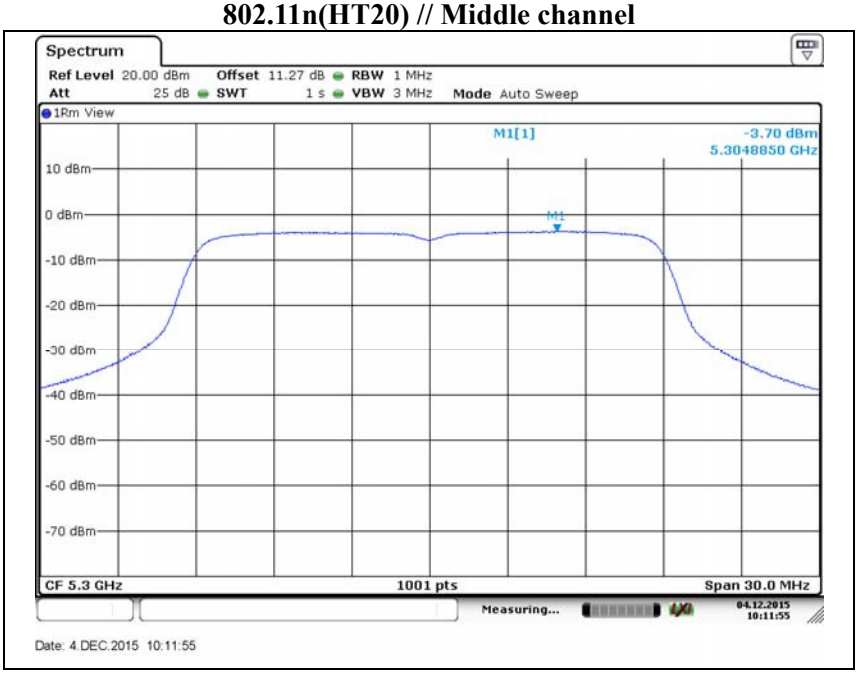
802.11a// High channel



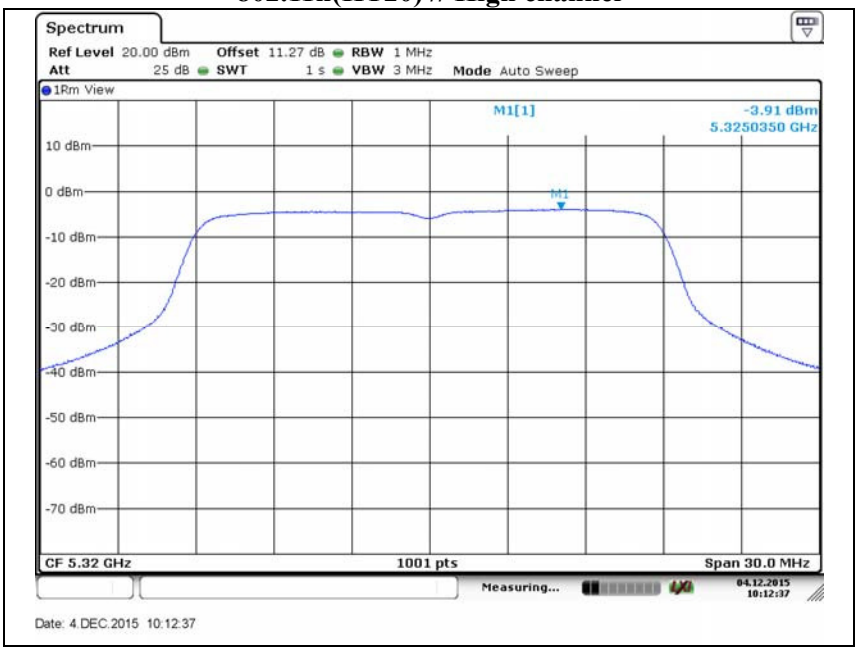
802.11n(HT20) // Low channel



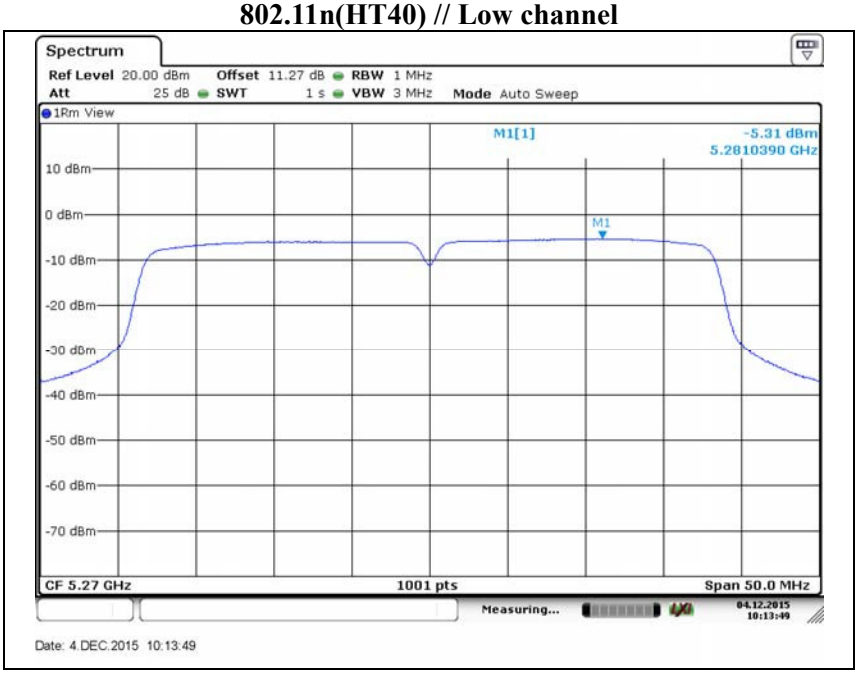
802.11n(HT20) // Middle channel



802.11n(HT20) // High channel



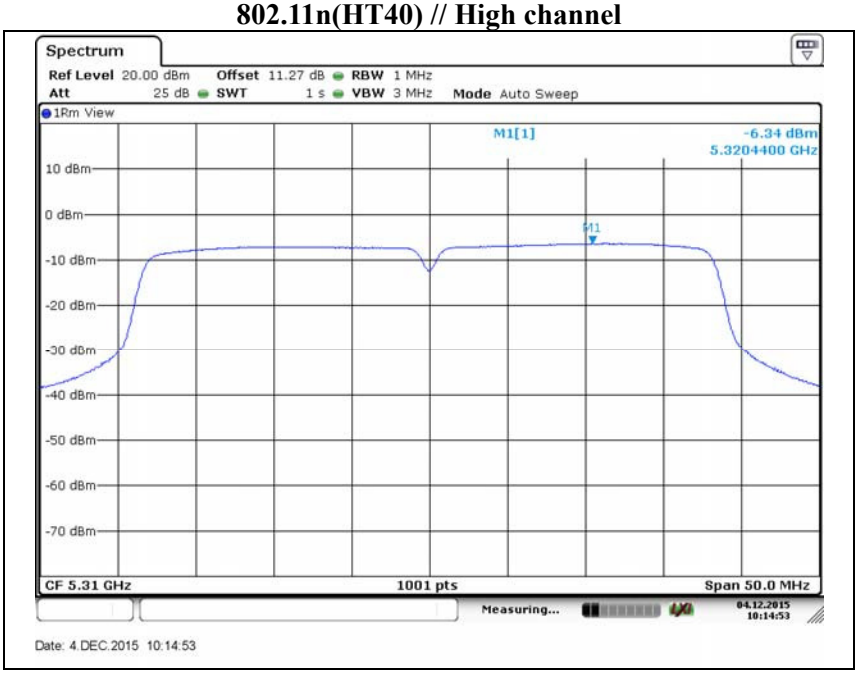
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

N/A

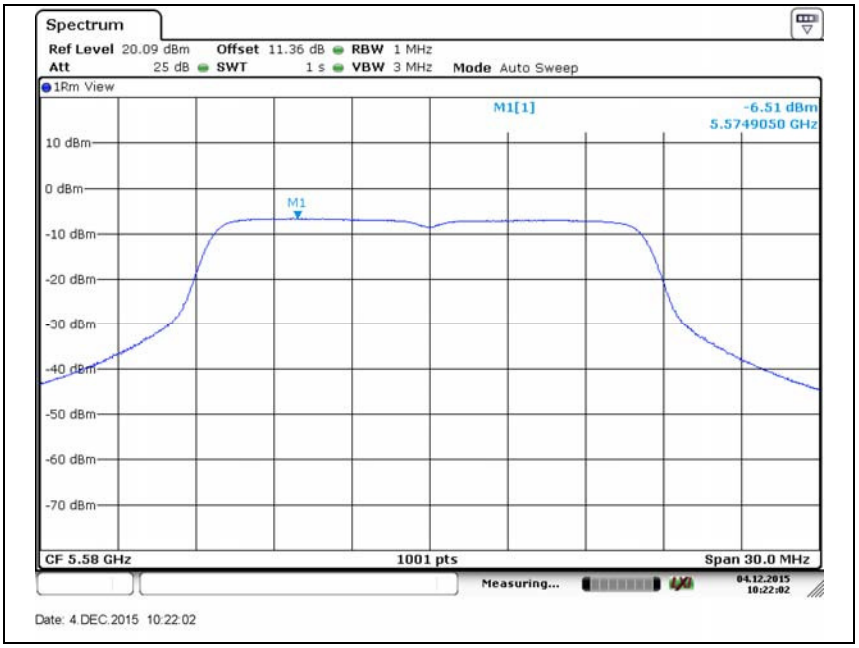
802.11n(HT40) // High channel



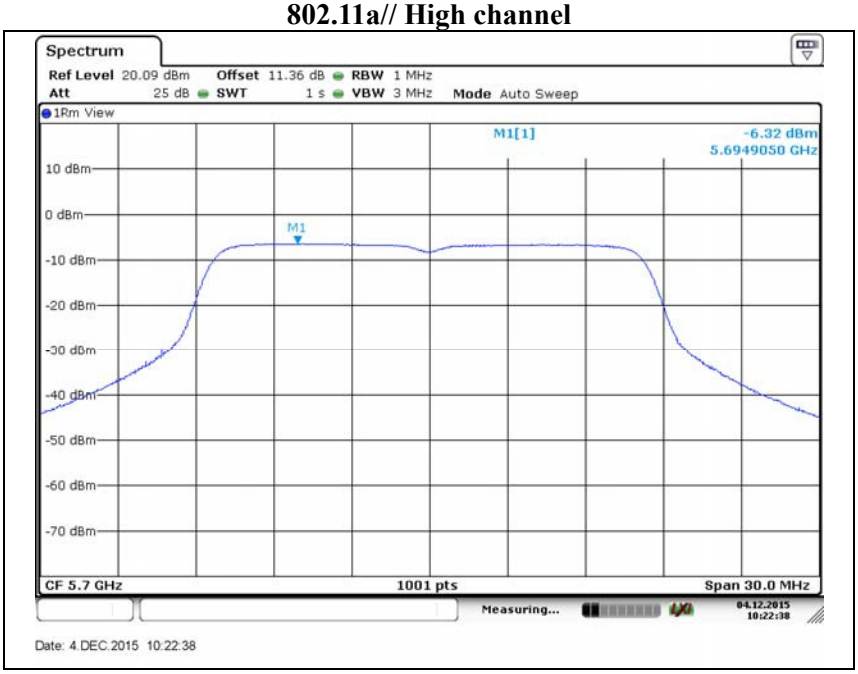
- Antenna port 0 (Band2C)

802.11a// Low channel

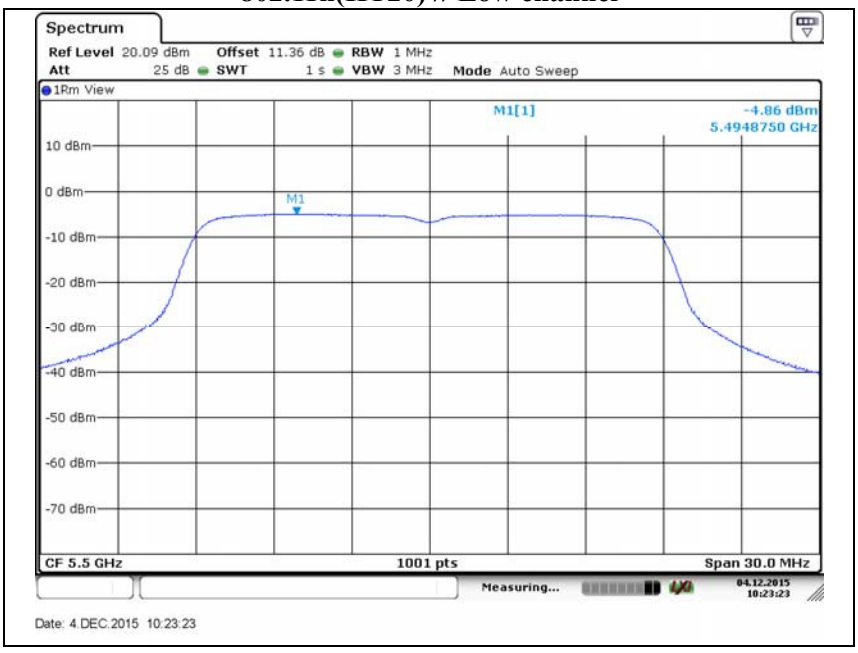
802.11a// Middle channel



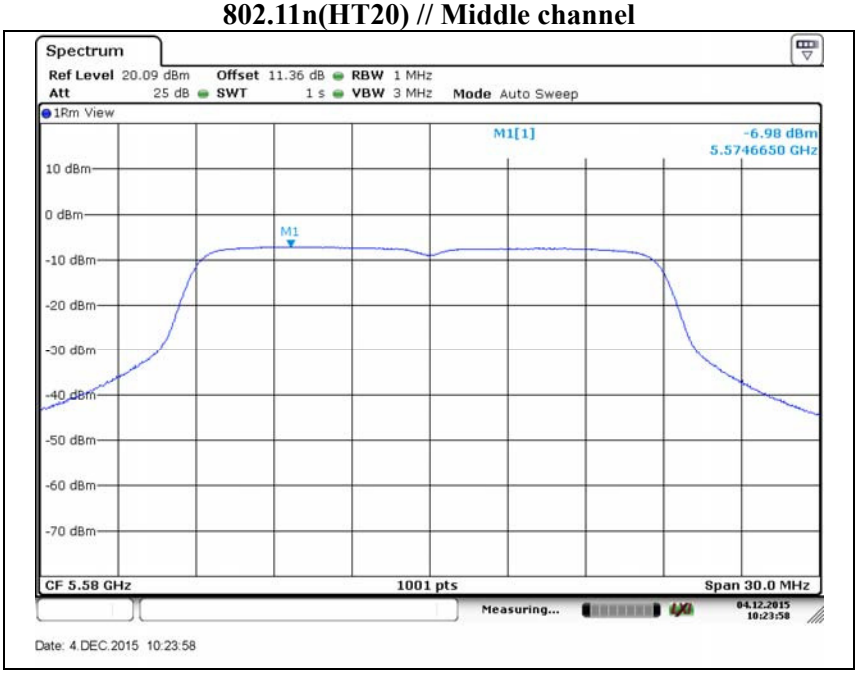
802.11a// High channel



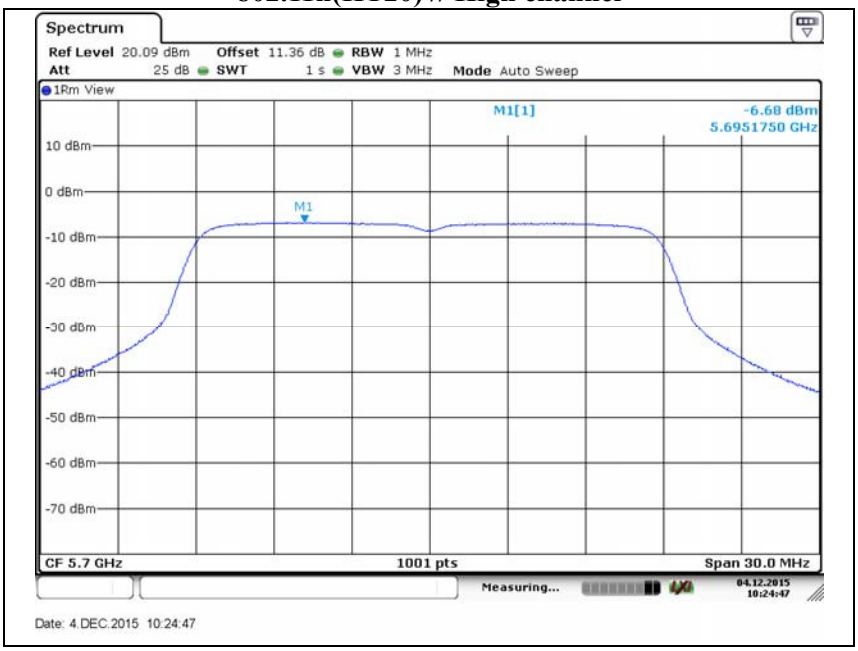
802.11n(HT20) // Low channel



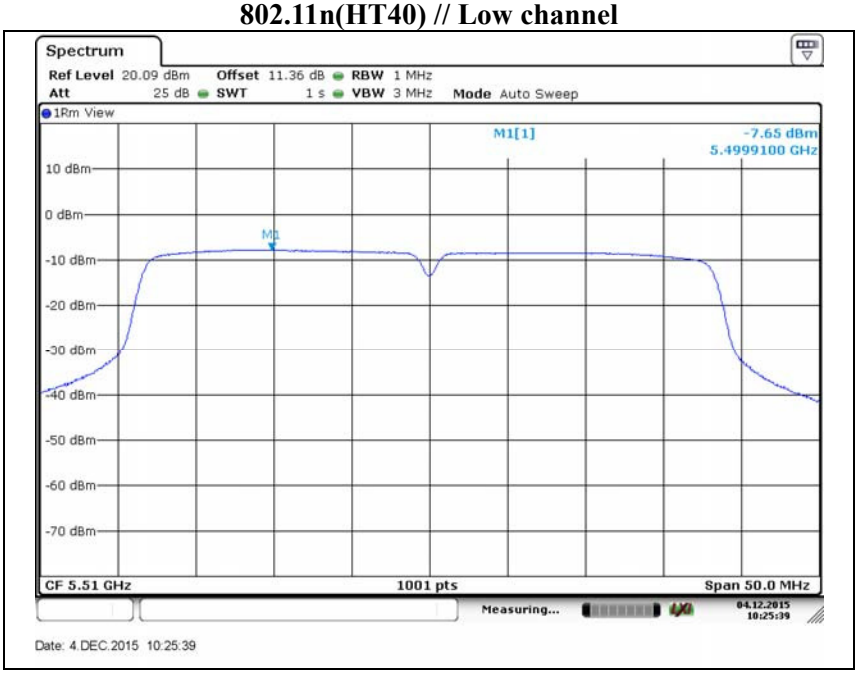
802.11n(HT20) // Middle channel



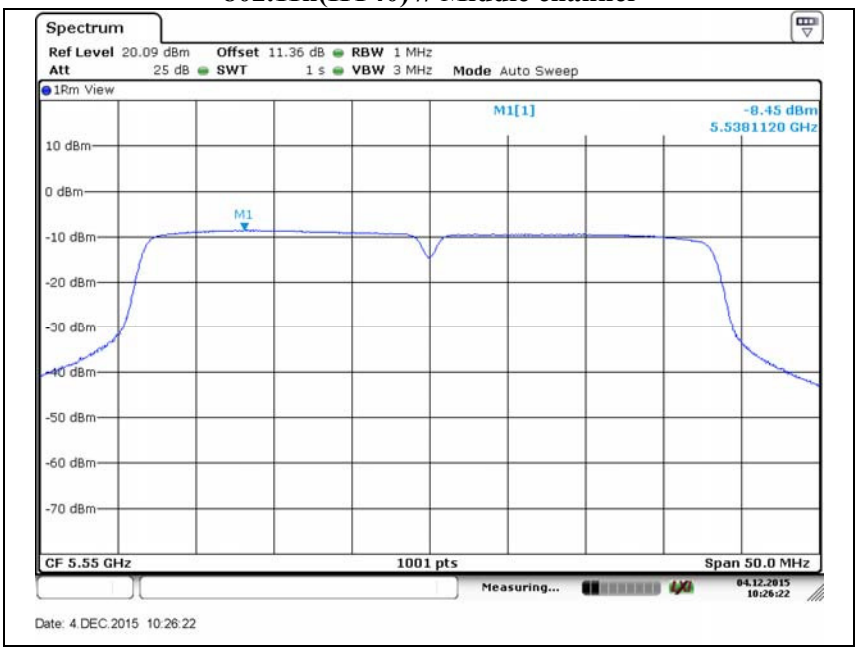
802.11n(HT20) // High channel



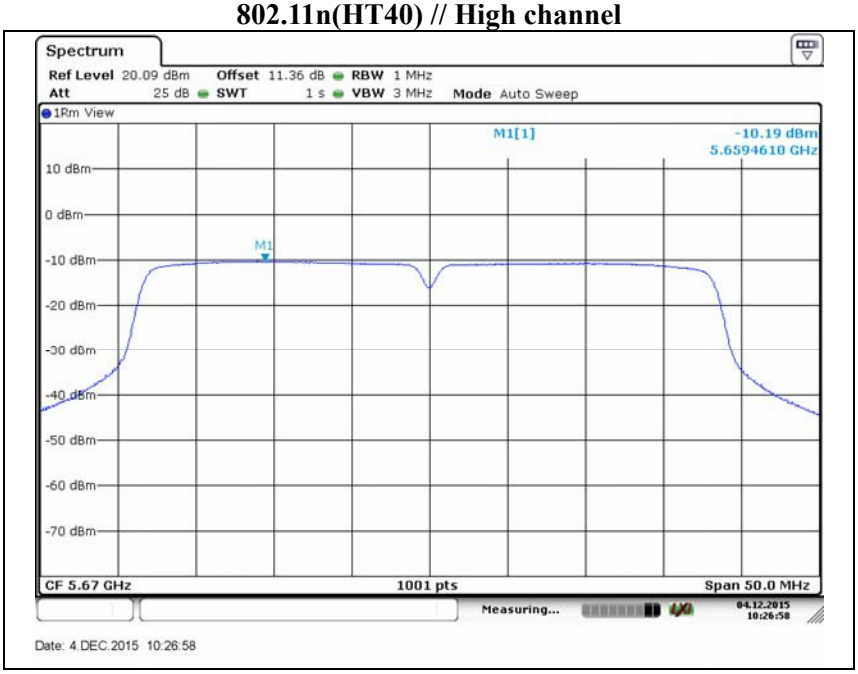
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

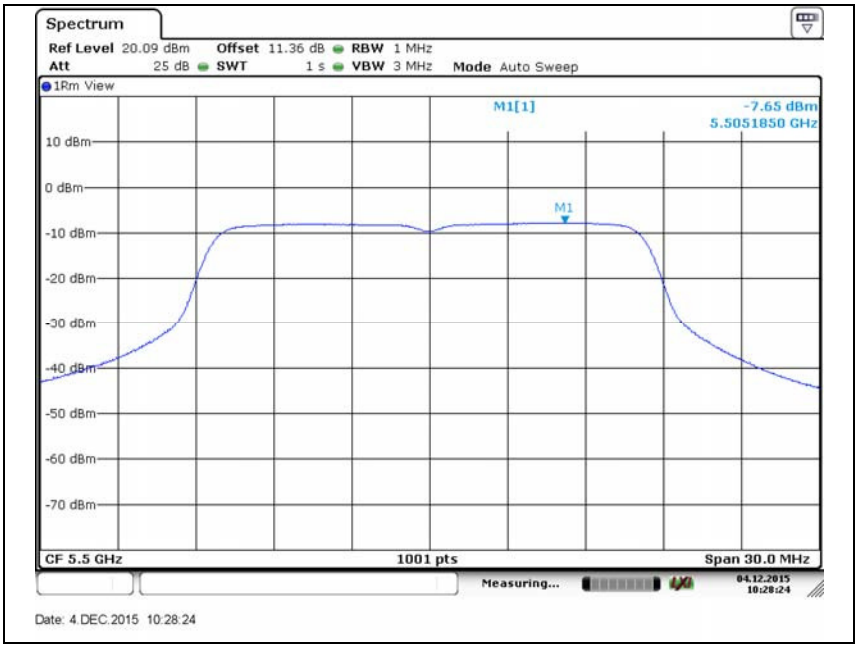


802.11n(HT40) // High channel

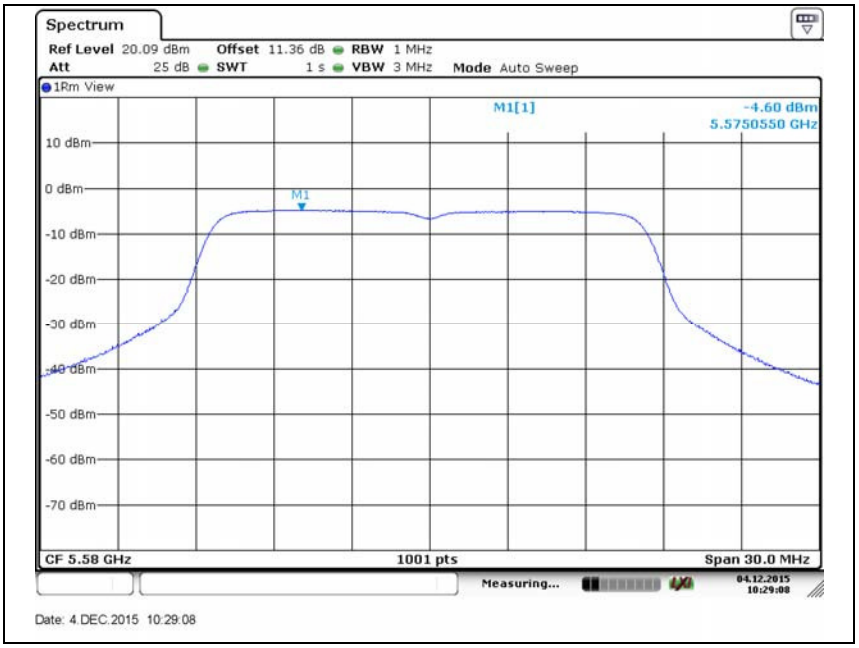


- Antenna port 1 (Band2C)

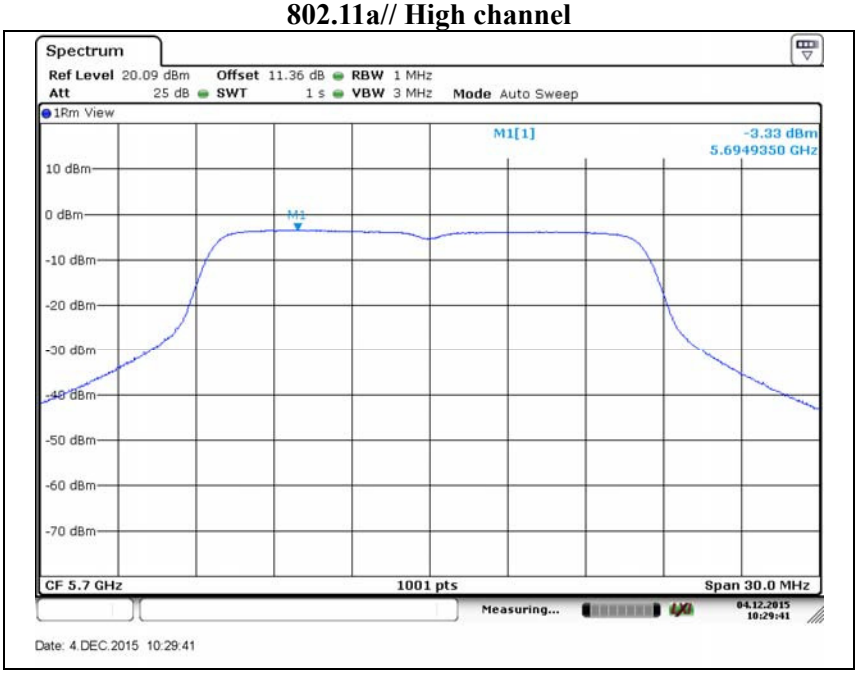
802.11a// Low channel



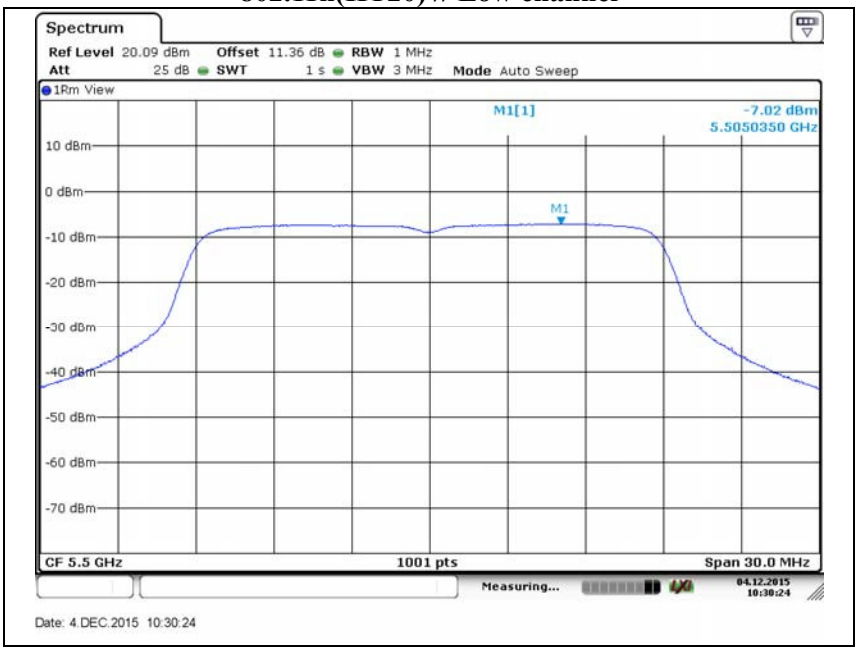
802.11a// Middle channel



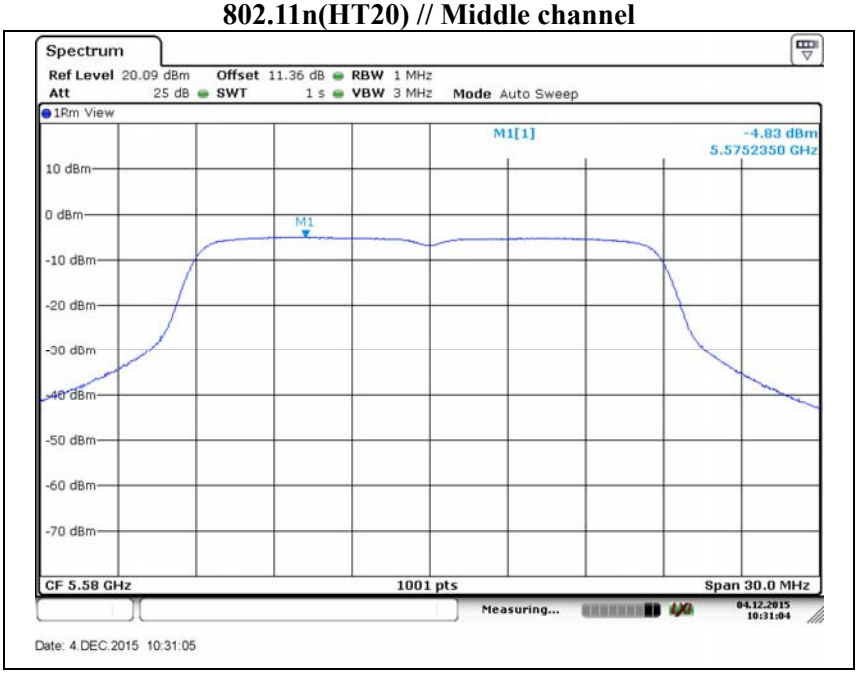
802.11a// High channel



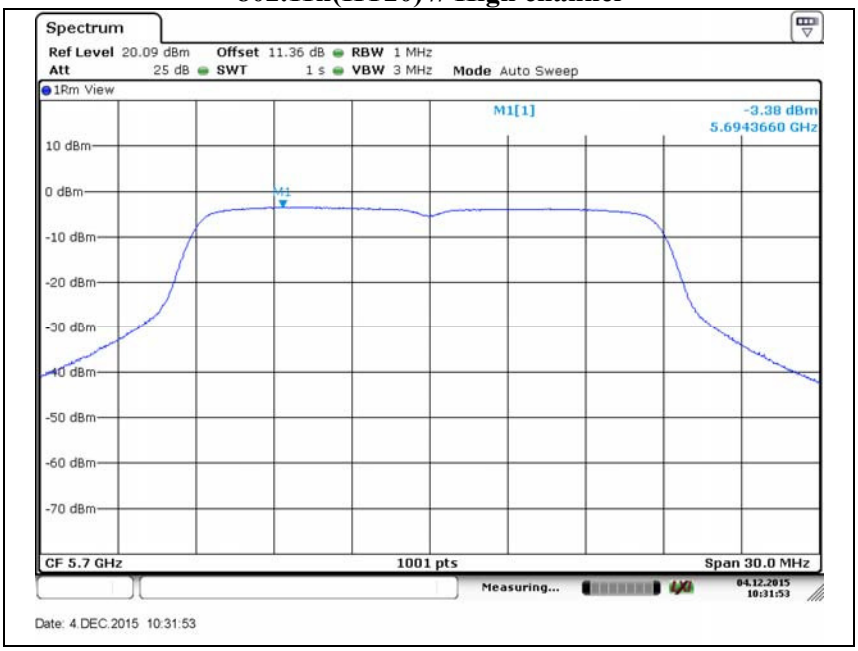
802.11n(HT20) // Low channel



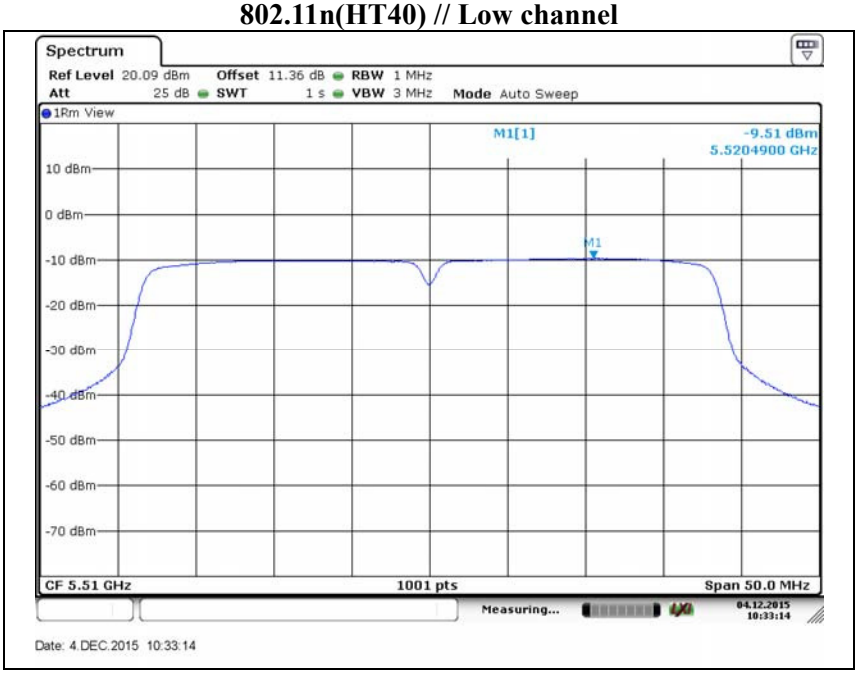
802.11n(HT20) // Middle channel



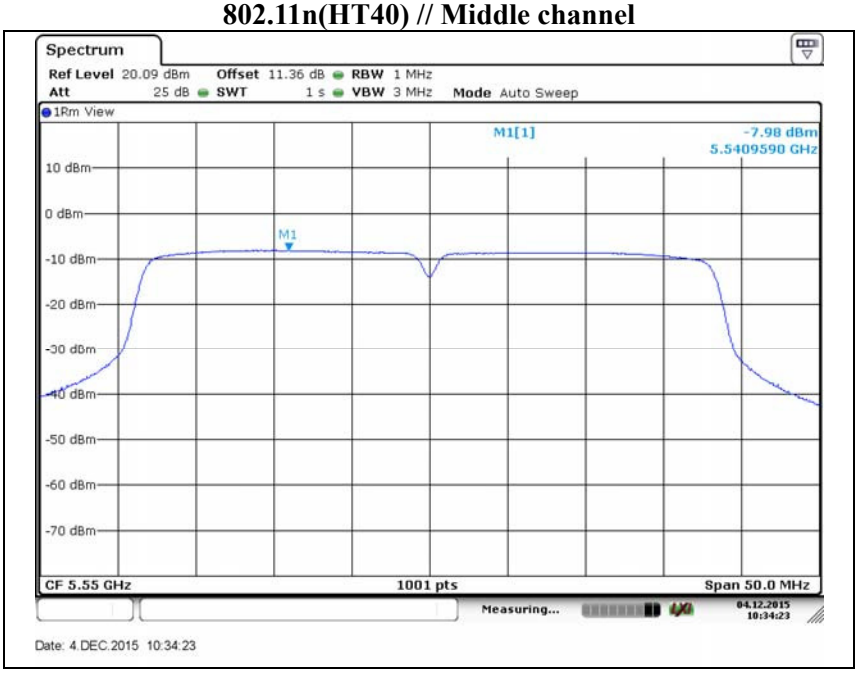
802.11n(HT20) // High channel



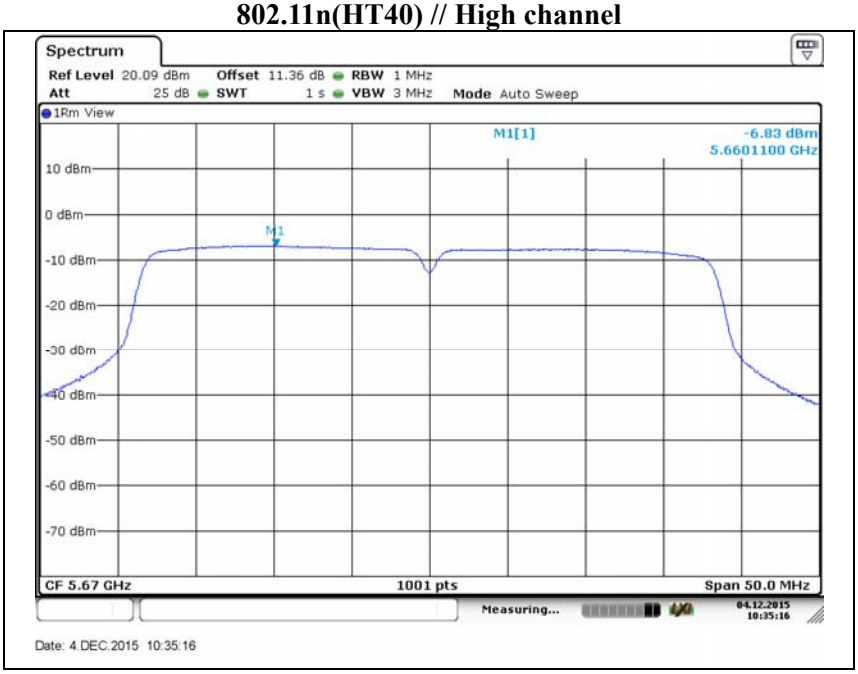
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

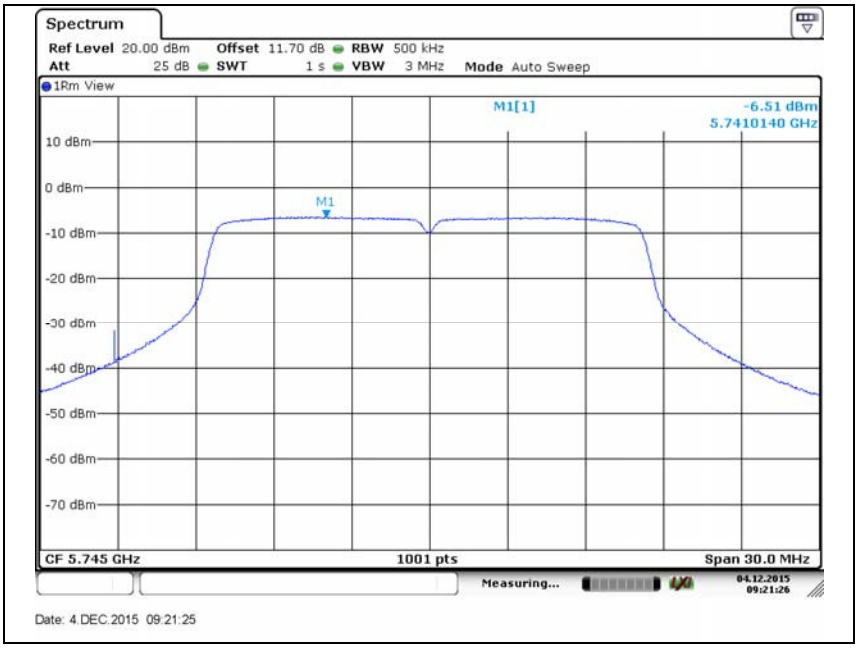


802.11n(HT40) // High channel

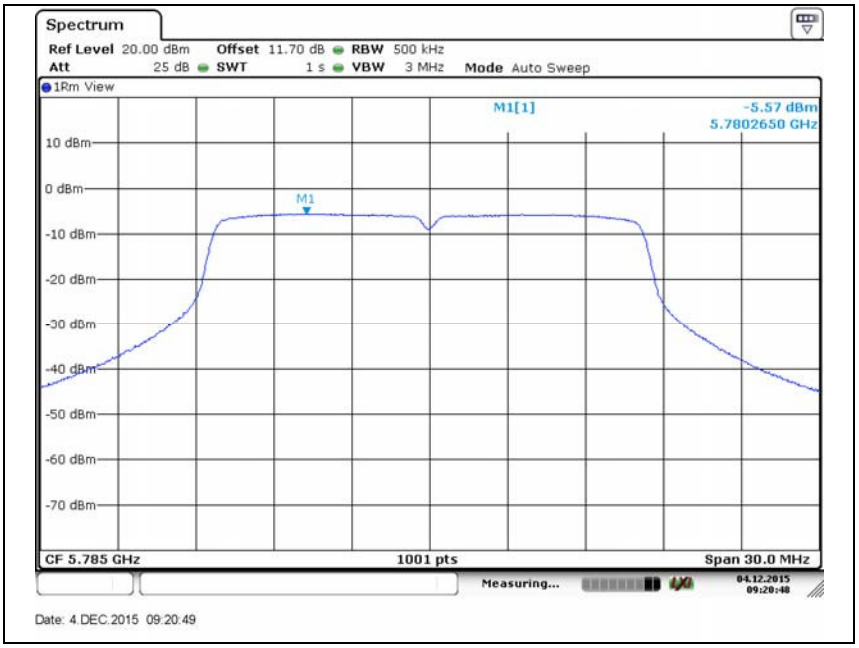


- Antenna port 0 (Band3)

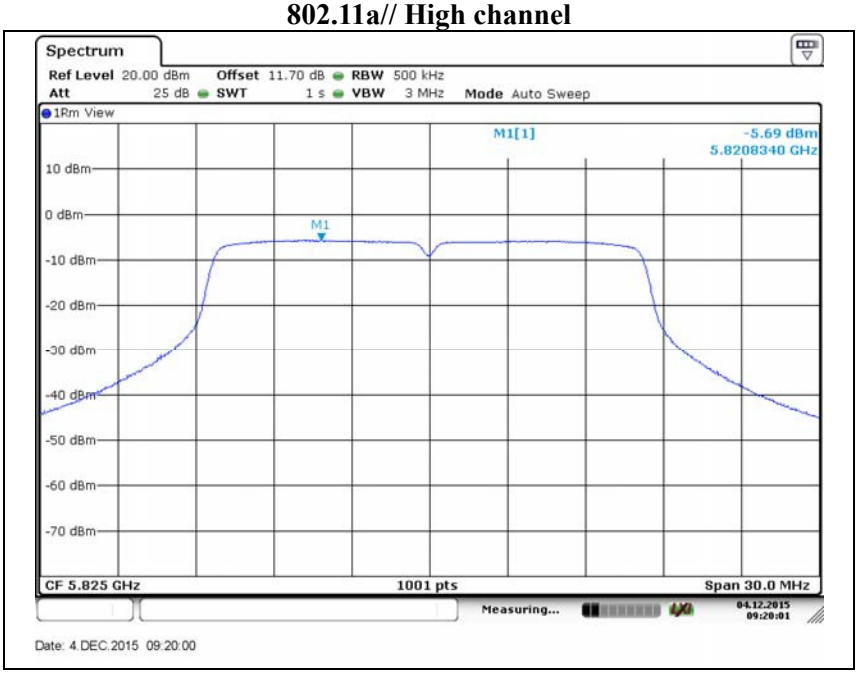
802.11a// Low channel



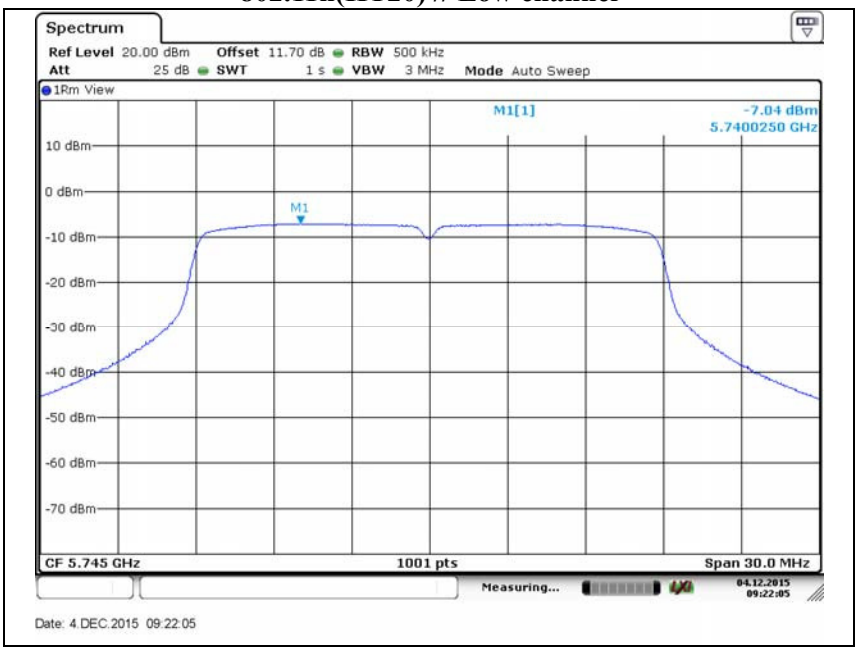
802.11a// Middle channel



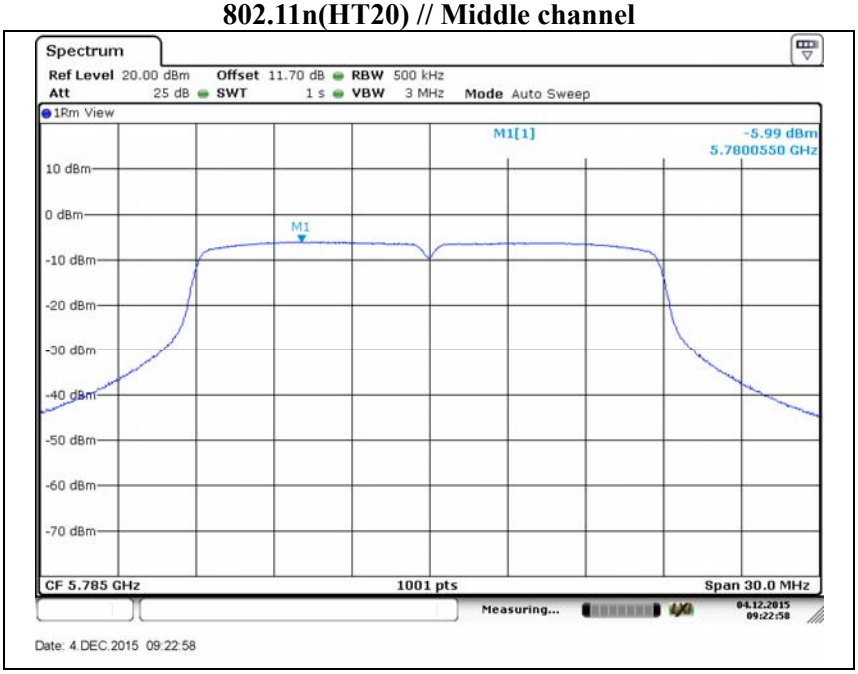
802.11a// High channel



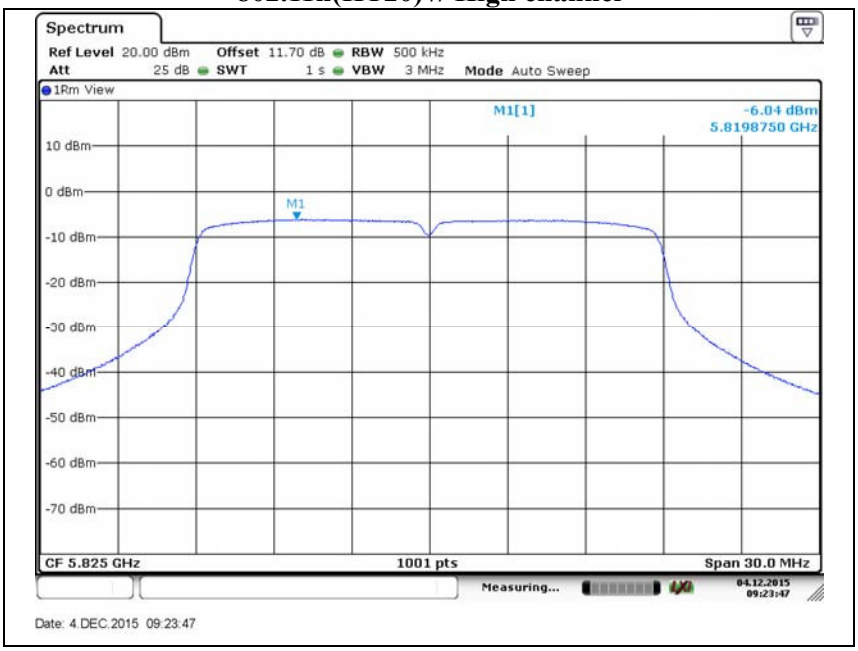
802.11n(HT20) // Low channel



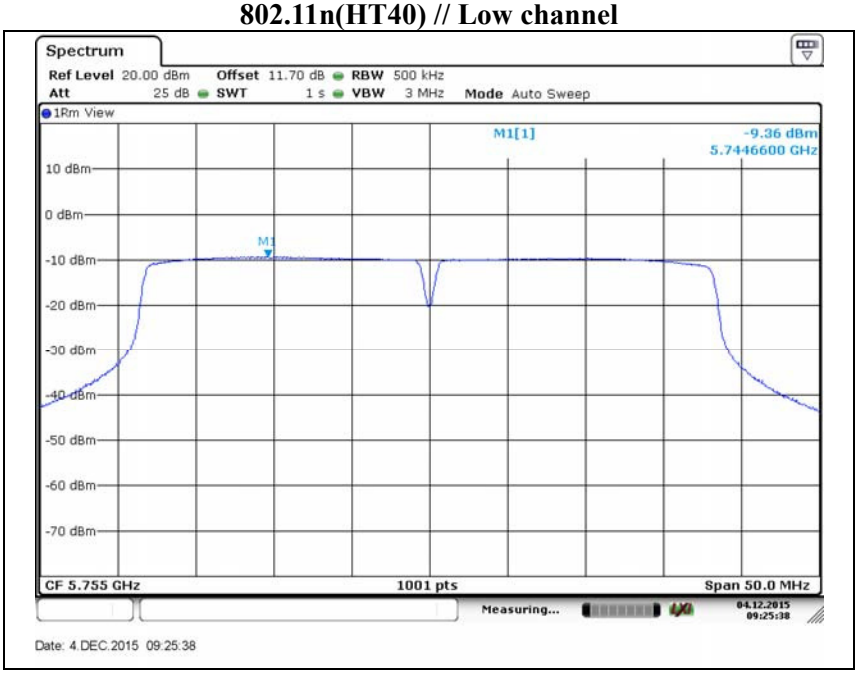
802.11n(HT20) // Middle channel



802.11n(HT20) // High channel



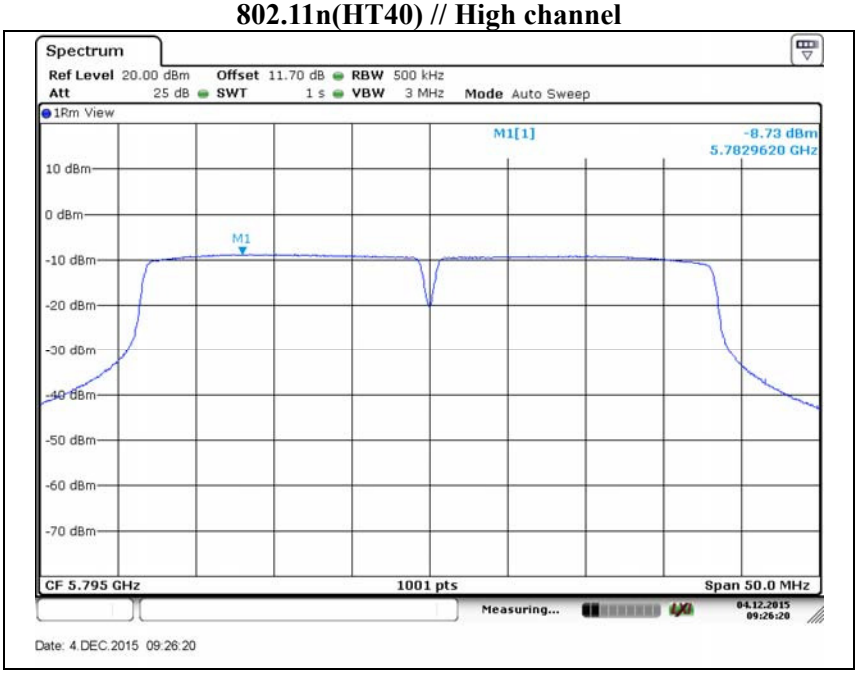
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

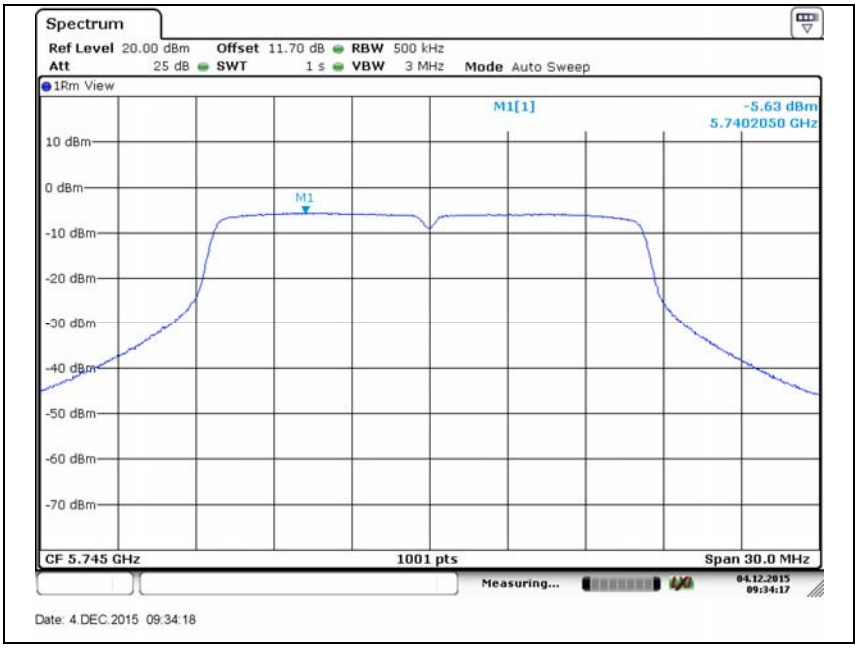
N/A

802.11n(HT40) // High channel

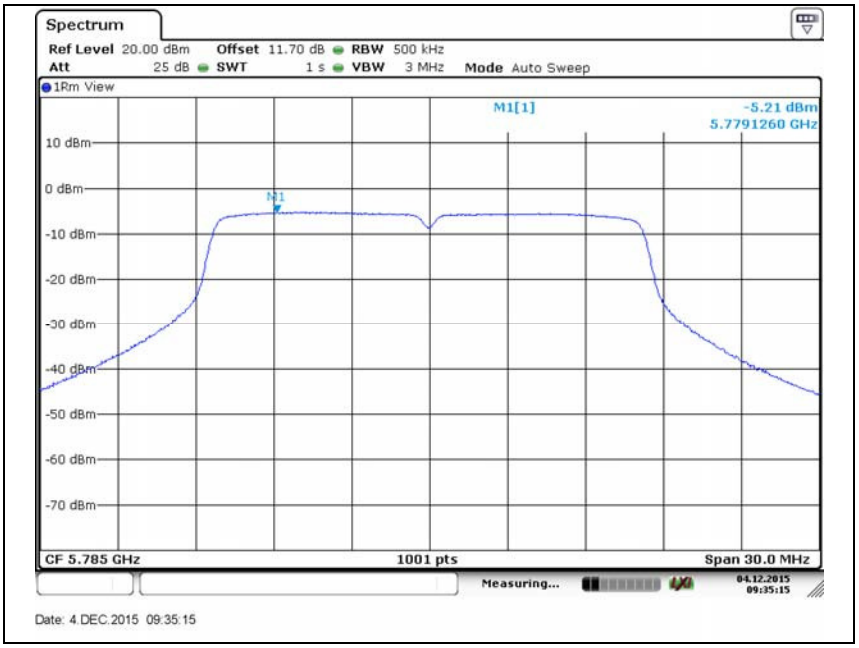


- Antenna port 1 (Band3)

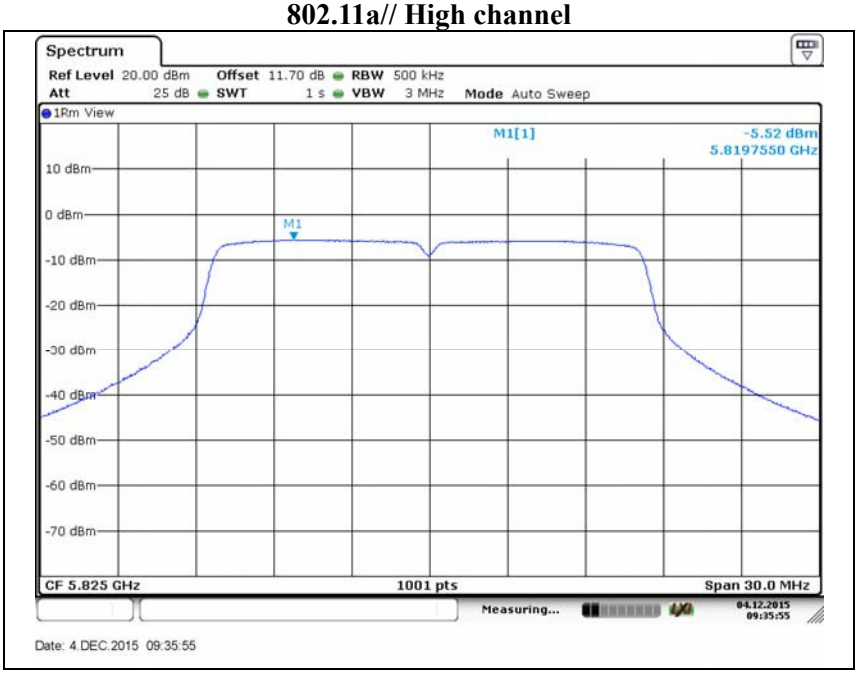
802.11a// Low channel



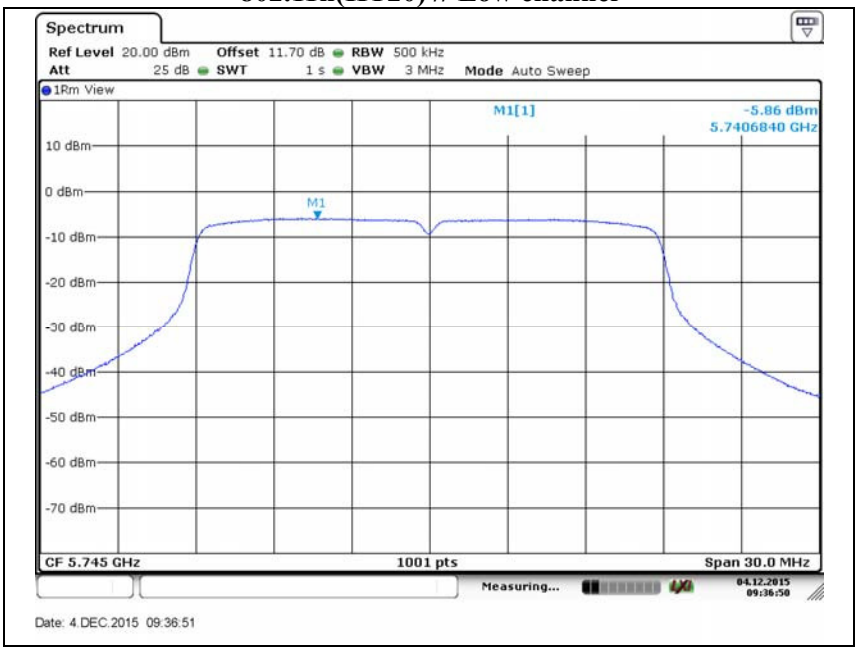
802.11a// Middle channel



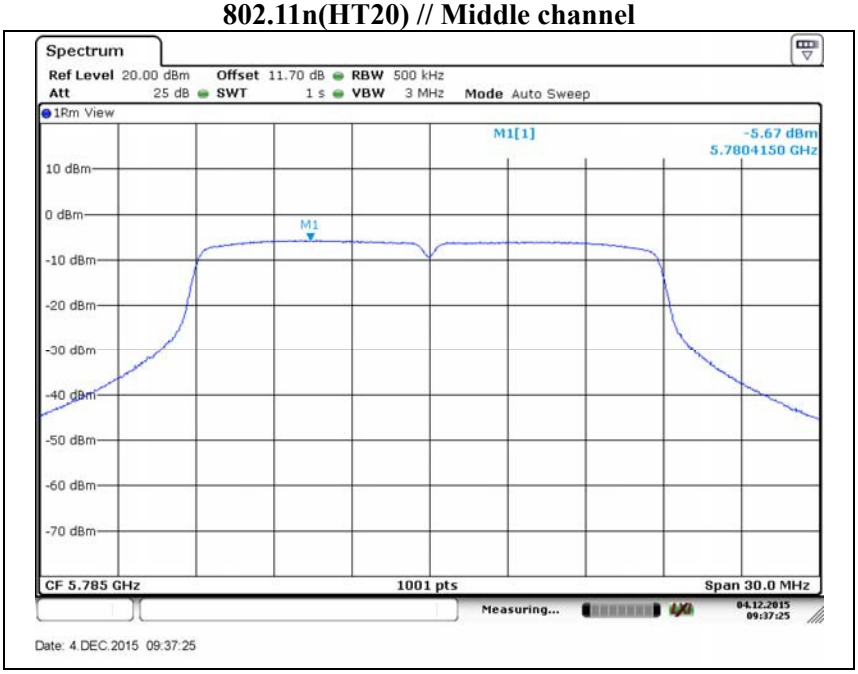
802.11a// High channel



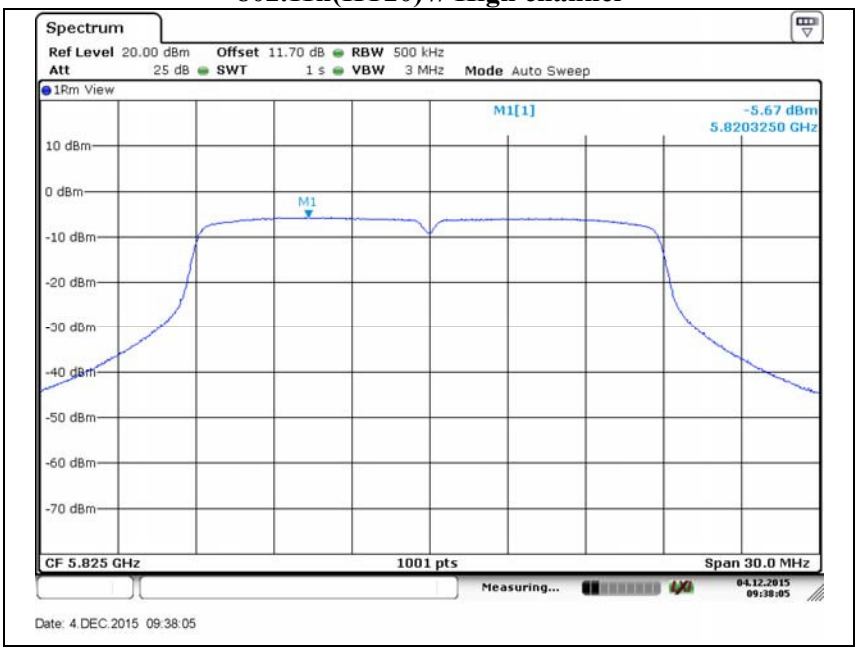
802.11n(HT20) // Low channel



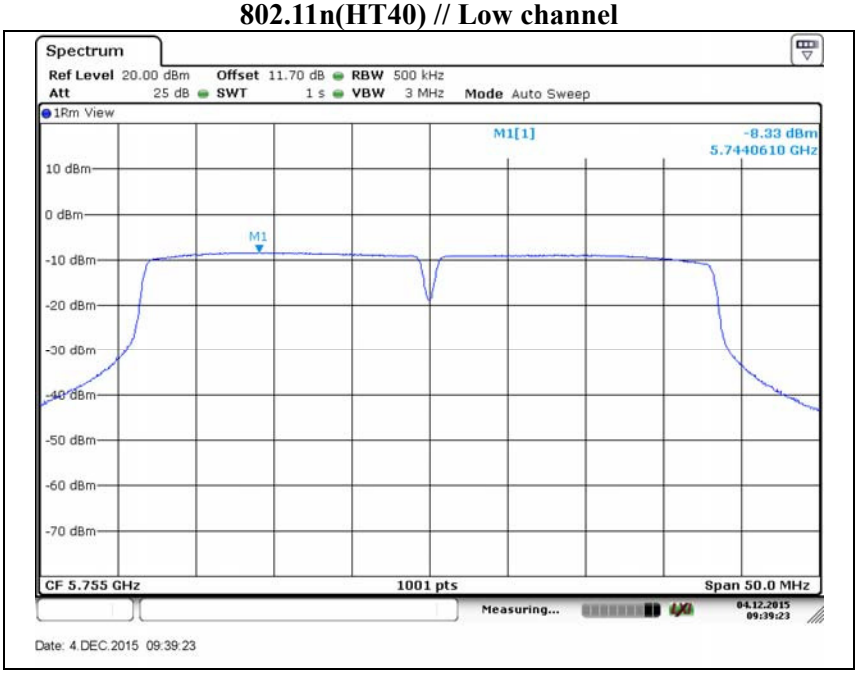
802.11n(HT20) // Middle channel



802.11n(HT20) // High channel



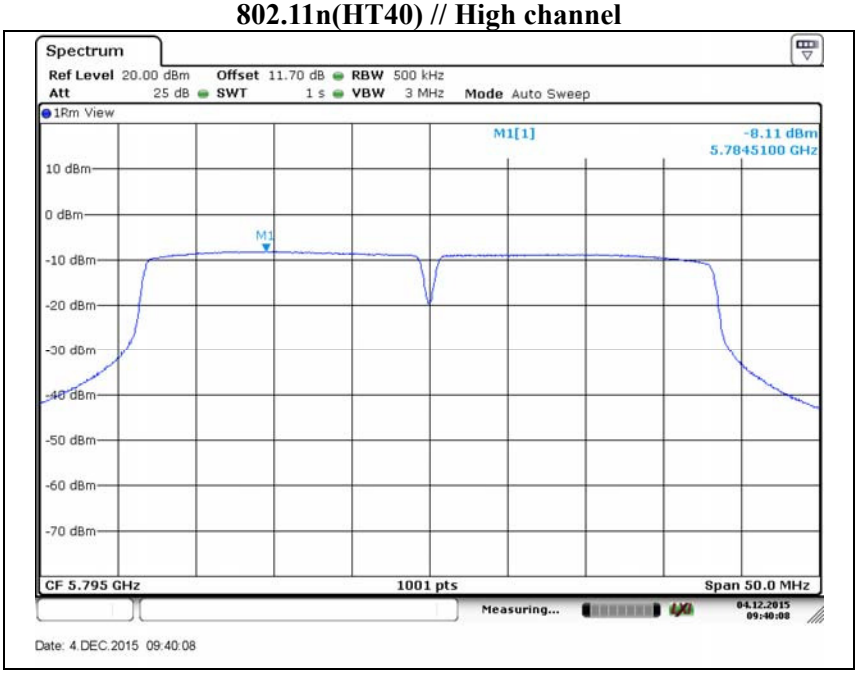
802.11n(HT40) // Low channel



802.11n(HT40) // Middle channel

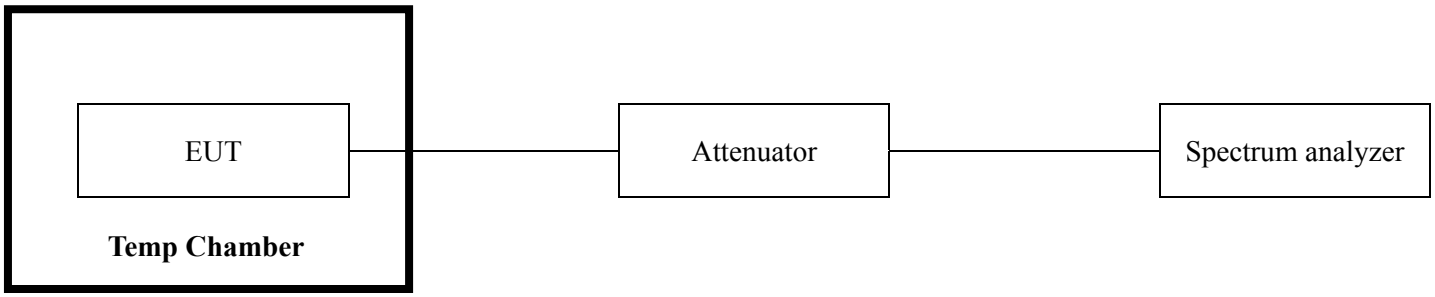
N/A

802.11n(HT40) // High channel



3.6. Frequency Stability

Test setup



Test procedure

Measurement procedure

1) The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2) Turn the EUT on and couple its output to a spectrum analyzer.
3) Turn the EUT off and set the chamber to the highest temperature specified.
4) Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency.
5) Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6) The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

Test results

Mode: 802.11a (Band1)

Operating frequency: 5 180 ㎒

Test voltage (%)	Test voltage (V)	Temperature (℃)	Measure frequency (㎒)	Frequency deviation (㎐)	Deviation (%)
100 %	DC 5.00	-20	5179.976584	-23416	-0.000452
100 %		-10	5179.979798	-20202	-0.000390
100 %		0	5179.979595	-20405	-0.000394
100 %		10	5179.976590	-23410	-0.000452
100 %		20	5179.965121	-34879	-0.000673
100 %		30	5179.960322	-39678	-0.000766
100 %		40	5179.955227	-44773	-0.000864
100 %		50	5179.951897	-48103	-0.000929
100%		55	5179.955865	-44135	-0.000852
85 %	DC 4.25	20	5179.964860	-35140	-0.000678
115 %	DC 5.75	20	5179.964889	-35111	-0.000678

-Test port : ANT1

Mode: 802.11a (Band2A)

Operating frequency: 5 260 ㎒

Test voltage (%)	Test voltage (V)	Temperature (℃)	Measure frequency (㎒)	Frequency deviation (㎐)	Deviation (%)
100 %	DC 5.00	-20	5259.974558	-25442	-0.000484
100 %		-10	5259.980779	-19221	-0.000365
100 %		0	5259.980171	-19829	-0.000377
100 %		10	5259.975686	-24314	-0.000462
100 %		20	5259.965237	-34763	-0.000661
100 %		30	5259.958988	-41012	-0.000780
100 %		40	5259.953981	-46019	-0.000875
100 %		50	5259.951689	-48311	-0.000918
100%		55	5259.956039	-43961	-0.000836
85 %	DC 4.25	20	5259.964745	-35255	-0.000670
115 %	DC 5.75	20	5259.964455	-35545	-0.000676

-Test port : ANT1

Mode: 802.11a (Band2C)

Operating frequency: 5 500㎒

Test voltage (%)	Test voltage (V)	Temperature (℃)	Measure frequency (㎒)	Frequency deviation (㎐)	Deviation (%)
100 %	DC 5.00	-20	5499.973751	-26249	-0.000477
100 %		-10	5499.980083	-19917	-0.000362
100 %		0	5499.979301	-20699	-0.000376
100 %		10	5499.973545	-26455	-0.000481
100 %		20	5499.963391	-36609	-0.000666
100 %		30	5499.956817	-43183	-0.000785
100 %		40	5499.951375	-48625	-0.000884
100 %		50	5499.949814	-50186	-0.000912
100%		55	5499.954526	-45474	-0.000827
85 %	DC 4.25	20	5499.962927	-37073	-0.000674
115 %	DC 5.75	20	5499.962754	-37246	-0.000677

-Test port : ANT1

Mode: 802.11a (Band3)

Operating frequency: 5 745㎒

Test voltage (%)	Test voltage (V)	Temperature (℃)	Measure frequency (㎒)	Frequency deviation (㎐)	Deviation (%)
100 %	DC 5.00	-20	5744.974663	-25337	-0.000441
100 %		-10	5744.978870	-21130	-0.000368
100 %		0	5744.977769	-22231	-0.000387
100 %		10	5744.971196	-28804	-0.000501
100 %		20	5744.961737	-38263	-0.000666
100 %		30	5744.954411	-45589	-0.000794
100 %		40	5744.948857	-51143	-0.000089
100 %		50	5744.947523	-52477	-0.000913
100%		55	5744.950273	-49727	-0.000866
85 %	DC 4.25	20	5744.961332	-38668	-0.000673
115 %	DC 5.75	20	5744.961216	-38784	-0.000675

-Test port : ANT1

3.7. AC conducted emission

Frequency range of measurement
150 ㎑ to 30 ㎒

Instrument settings
IF Band Width: 9 ㎑

Test procedures
The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m. Amplitude measurements were performed with a quasi-peak detector and an average detector.

Limit
According to 15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 ㎑ to 30 ㎒, shall not exceed the limits in the following table, as measured using a 50uH/50 ohm line impedance stabilization network (LISN). Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequencies ranges.

Frequency of Emission (㎒)	Conducted limit (dB㎶/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

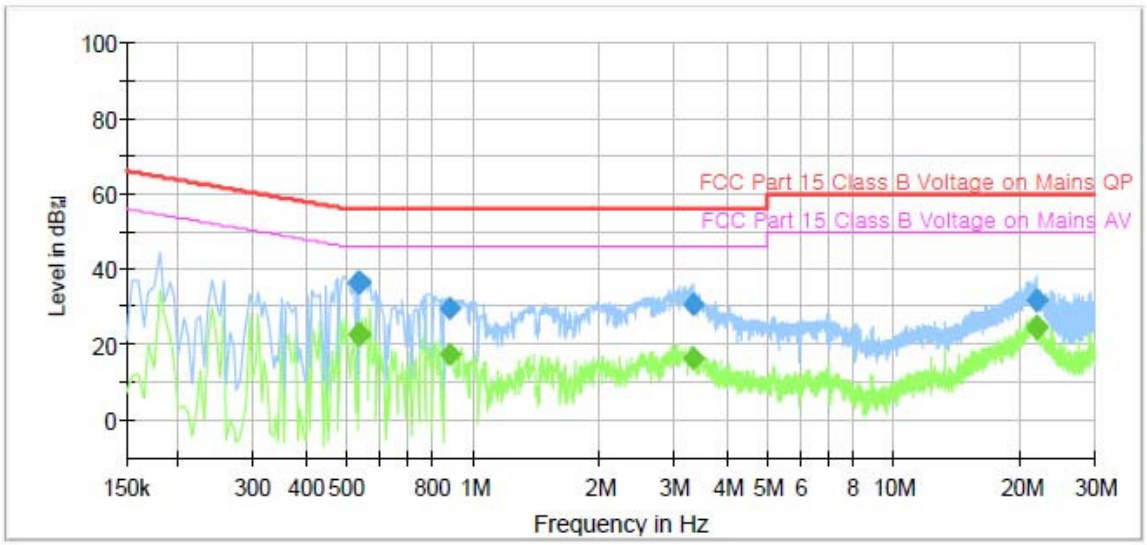
Note.
a) Decreases with the logarithm of the frequency.
b) All AC Conducted emission at channels are almost the same, so that 802.11a low channel was chosen at representative in final test.

Test results – TX_H

Test Report

Common Information

Test Description:	Conducted Emission
Model No.:	SWL-Q93T
Mode	TX
Operator Name:	KES



Final_Result

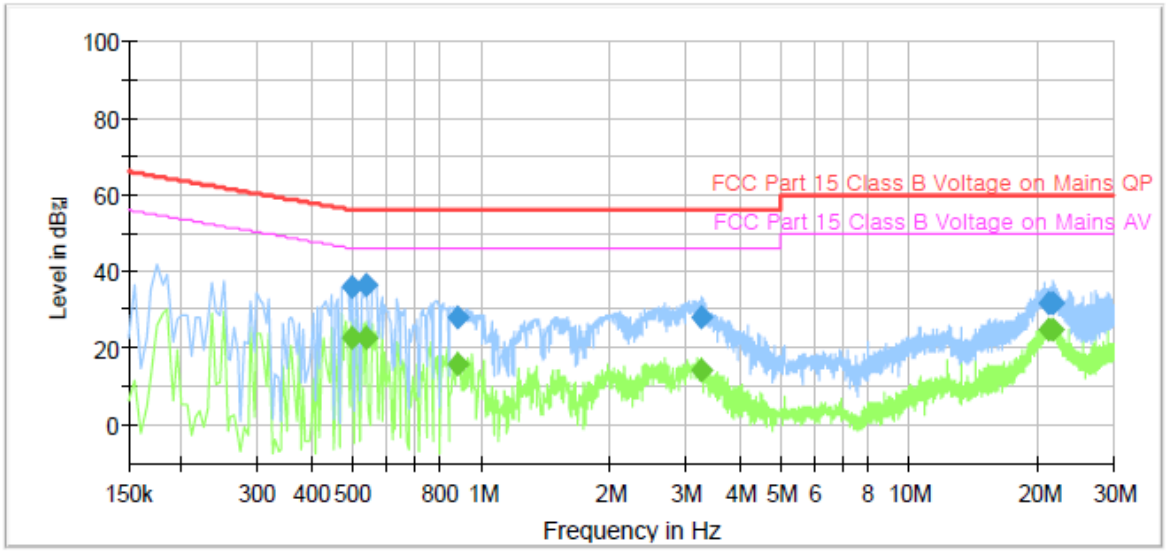
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.530000	---	22.97	46.00	23.03	1000.0	9.000	L1	9.7
0.530000	36.46	---	56.00	19.54	1000.0	9.000	L1	9.7
0.540000	---	22.55	46.00	23.45	1000.0	9.000	L1	9.7
0.540000	36.48	---	56.00	19.52	1000.0	9.000	L1	9.7
0.885000	---	17.61	46.00	28.39	1000.0	9.000	L1	9.7
0.885000	29.91	---	56.00	26.09	1000.0	9.000	L1	9.7
3.325000	---	16.70	46.00	29.30	1000.0	9.000	L1	9.8
3.325000	30.91	---	56.00	25.09	1000.0	9.000	L1	9.8
21.765000	---	24.93	50.00	25.07	1000.0	9.000	L1	10.2
21.765000	31.82	---	60.00	28.18	1000.0	9.000	L1	10.2
21.785000	---	24.36	50.00	25.64	1000.0	9.000	L1	10.2
21.785000	31.57	---	60.00	28.43	1000.0	9.000	L1	10.2

Test results – TX_N

Test Report

Common Information

Test Description:	Conducted Emission
Model No.:	SWL-Q93T
Mode	TX
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.500000	---	22.78	46.00	23.22	1000.0	9.000	N	9.7
0.500000	35.93	---	56.00	20.07	1000.0	9.000	N	9.7
0.540000	---	22.62	46.00	23.38	1000.0	9.000	N	9.7
0.540000	36.53	---	56.00	19.47	1000.0	9.000	N	9.7
0.885000	---	15.69	46.00	30.31	1000.0	9.000	N	9.7
0.885000	28.32	---	56.00	27.68	1000.0	9.000	N	9.7
3.260000	---	14.31	46.00	31.69	1000.0	9.000	N	9.8
3.260000	28.28	---	56.00	27.72	1000.0	9.000	N	9.8
21.070000	---	24.75	50.00	25.25	1000.0	9.000	N	10.0
21.070000	32.02	---	60.00	27.98	1000.0	9.000	N	10.0
21.700000	---	24.65	50.00	25.35	1000.0	9.000	N	10.0
21.700000	32.04	---	60.00	27.96	1000.0	9.000	N	10.0

Appendix A. Measurement equipment

Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration due.
Spectrum Analyzer	R&S	FSV40	101002	1 year	2016.07.25
Signal Generator	R&S	SMR40	100272	1 year	2016.08.23
Attenuator	KEYSIGHT	8493C	82506	1 year	2016.04.02
Power Meter	Anritsu	ML2495A	1438001	1 year	2016.01.22
Pulse Power Sensor	Anritsu	MA2411B	1339205	1 year	2016.01.26
Loop Antenna	R&S	HFH2-Z2.335.4711.52	826532	2 years	2017.03.03
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-461	2 years	2017.04.03
Horn Antenna	Schwarzbeck	SAS-571	414	2 years	2017.02.09
Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170550	2 years	2017.04.30
High Pass Filter	Wainwright Instrument	WHNX6.0/26.5G-6SS	1	1 year	2016.07.24
Low Pass Filter	Wainwright Instrument	WLK1.0/18G-10T	1	1 year	2016.07.24
Preamplifier	SCHWARZBECK	BBV-9718	9718-246	1 year	2016.10.23
Broadband Amplifier	SCHWARZBECK	BBV-9721	PS9721-003	1 year	2016.04.03
EMI Test Receiver	R & S	ESR3	101781	1 year	2016.05.06
EMI Test Receiver	R & S	ESR3	101783	1 year	2016.05.06
DC Power Supply	Agilent	6632B	US36351824	1 year	2016.01.22
Temperature & Humidity Chamber	Daehan Engineering	DH-1000	DH1000060628	1 year	2016.01.23
LISN	R & S	ENV216	101137	1 year	2016.02.10

Peripheral devices

Device	Manufacturer	Model No.	Serial No.
Notebook Computer	Samsung Electronics Co., Ltd.	RV518	HTK991NC600207R
Mouse	Moneual	MSU0846	0910020101086E