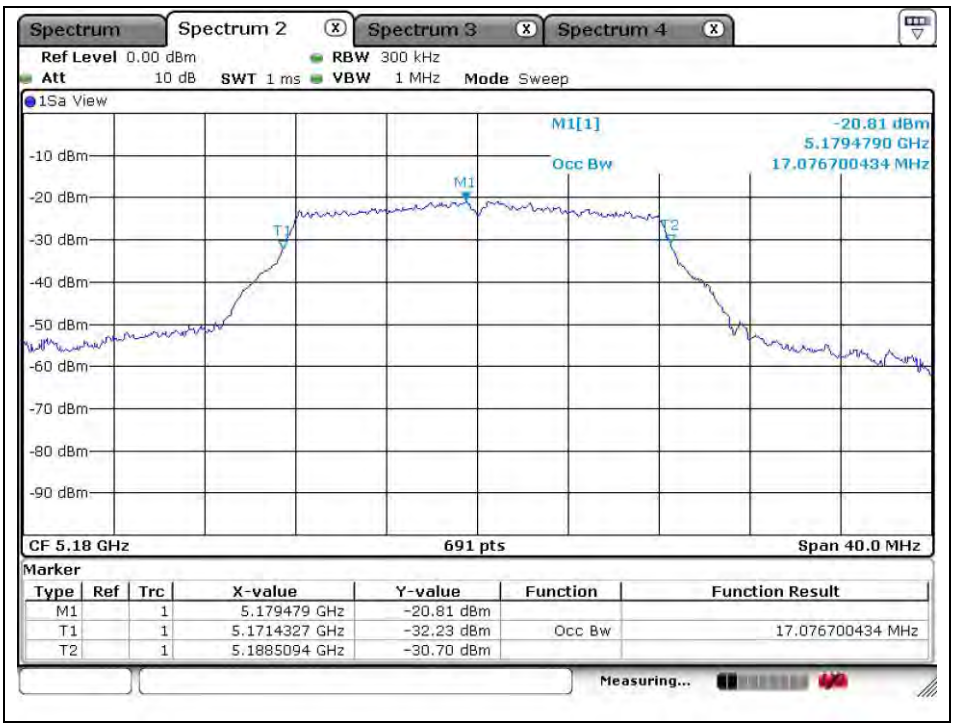
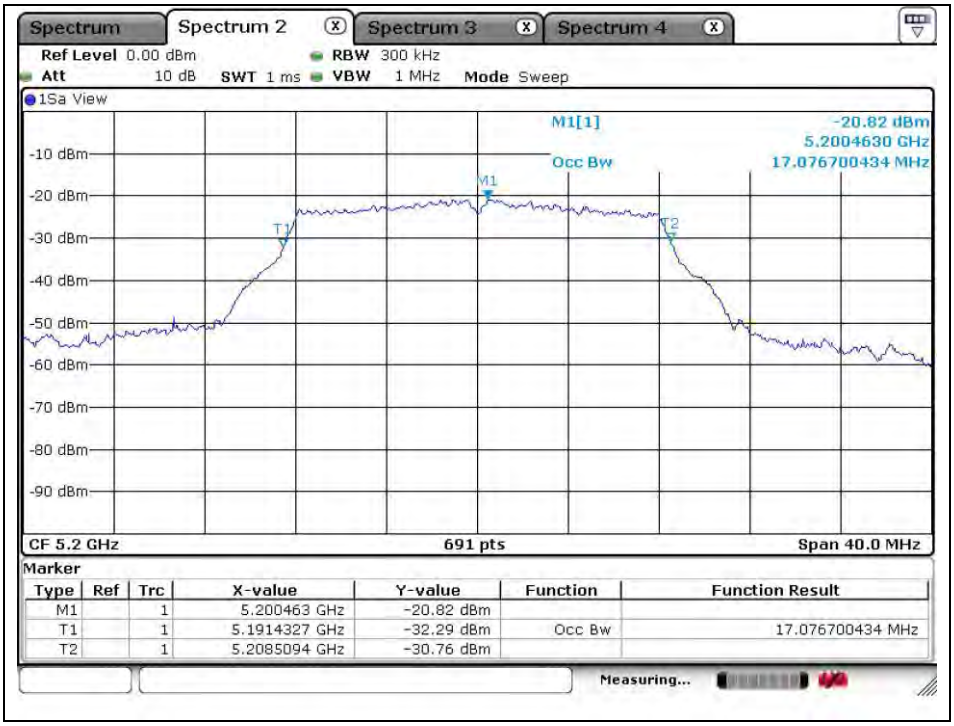
99 % Bandwidth

802.11a (Band 1)

Low channel (5 180 ㎒)

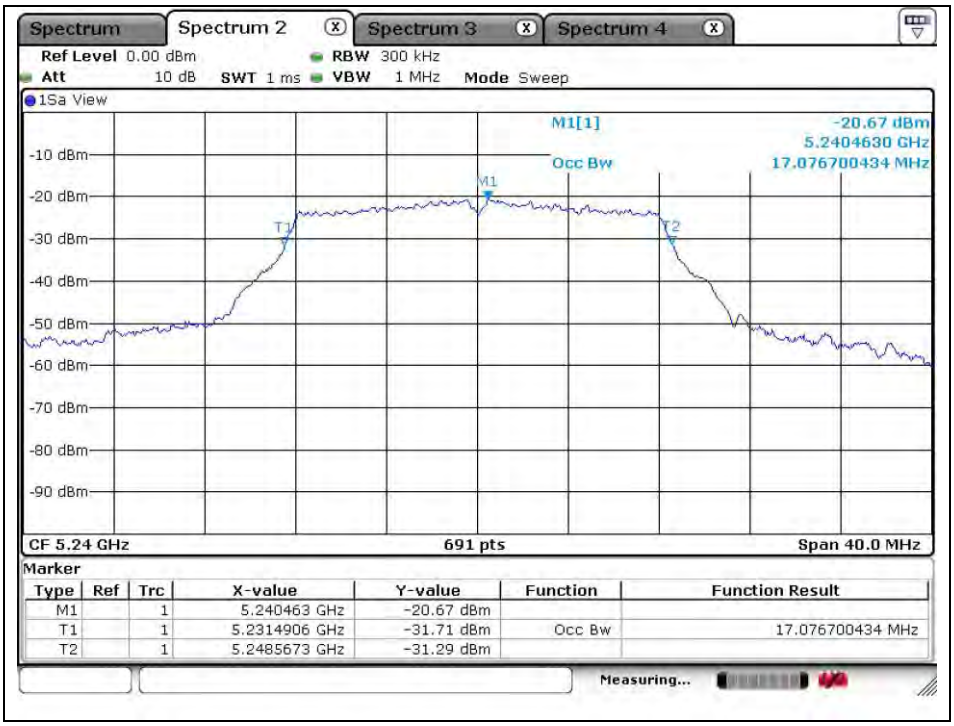


Middle channel (5 200 ㎒)



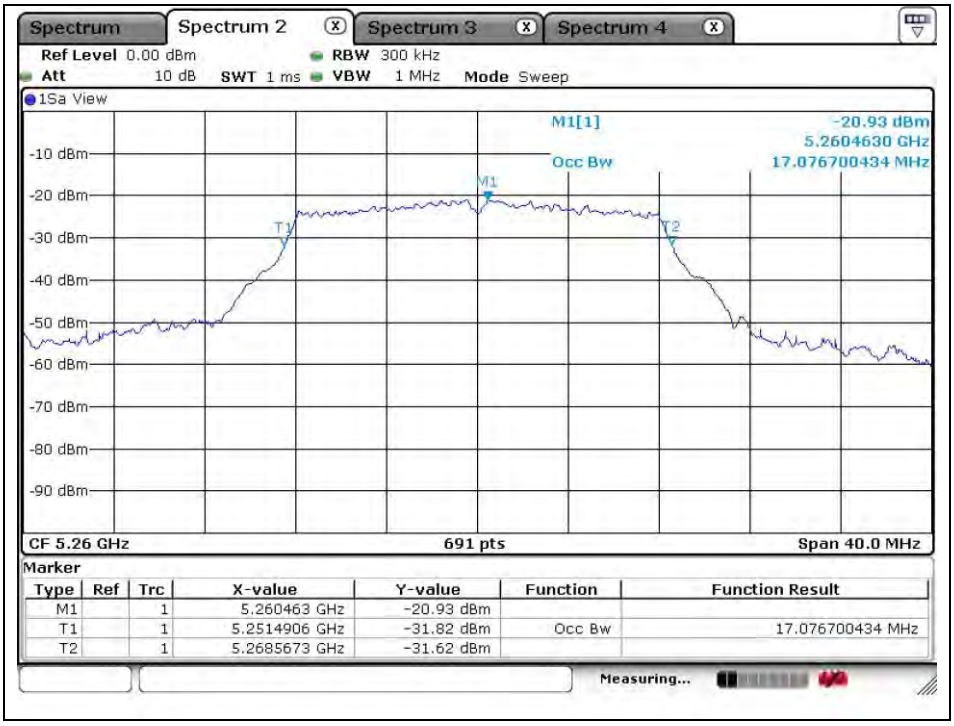
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 240 ㎒)

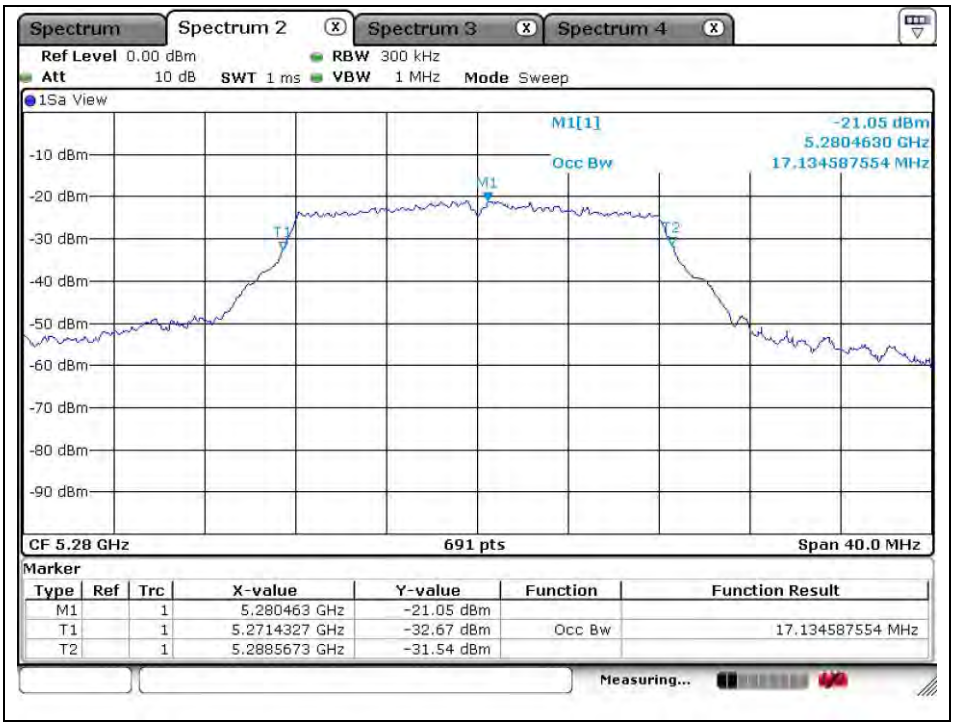


802.11a (Band 2A)

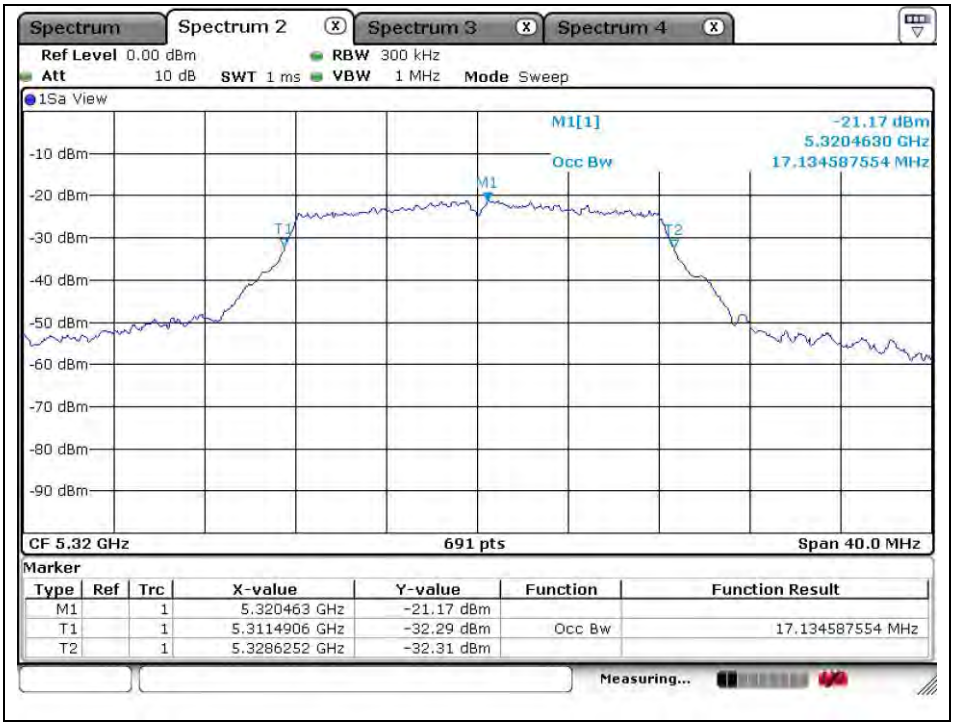
Low channel (5 260 ㎒)



Middle channel (5 280 ㎒)



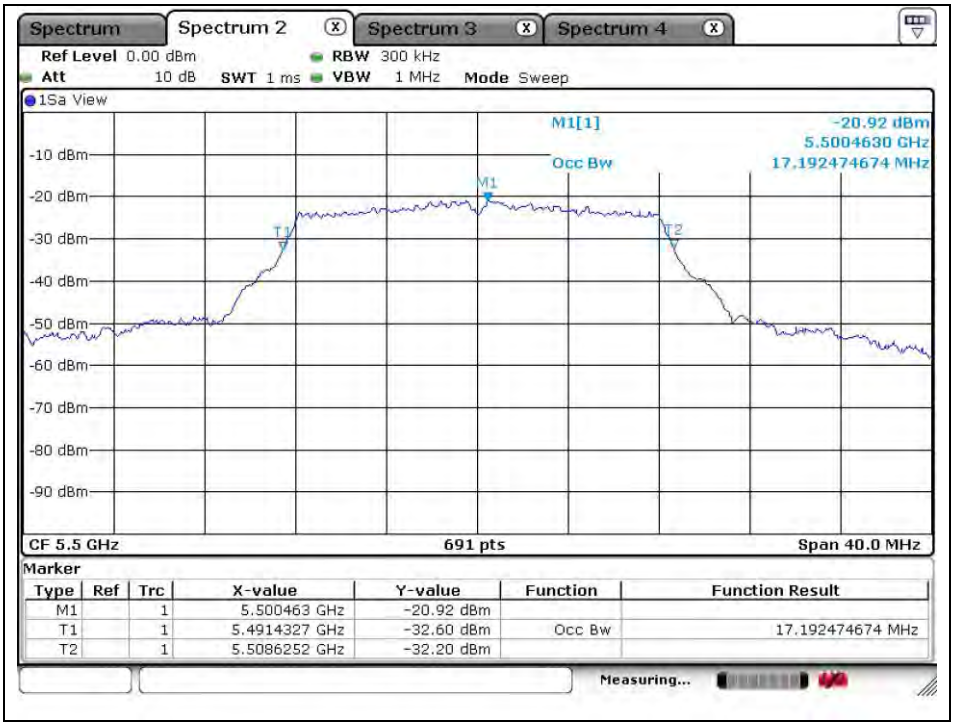
High channel (5 320 ㎒)



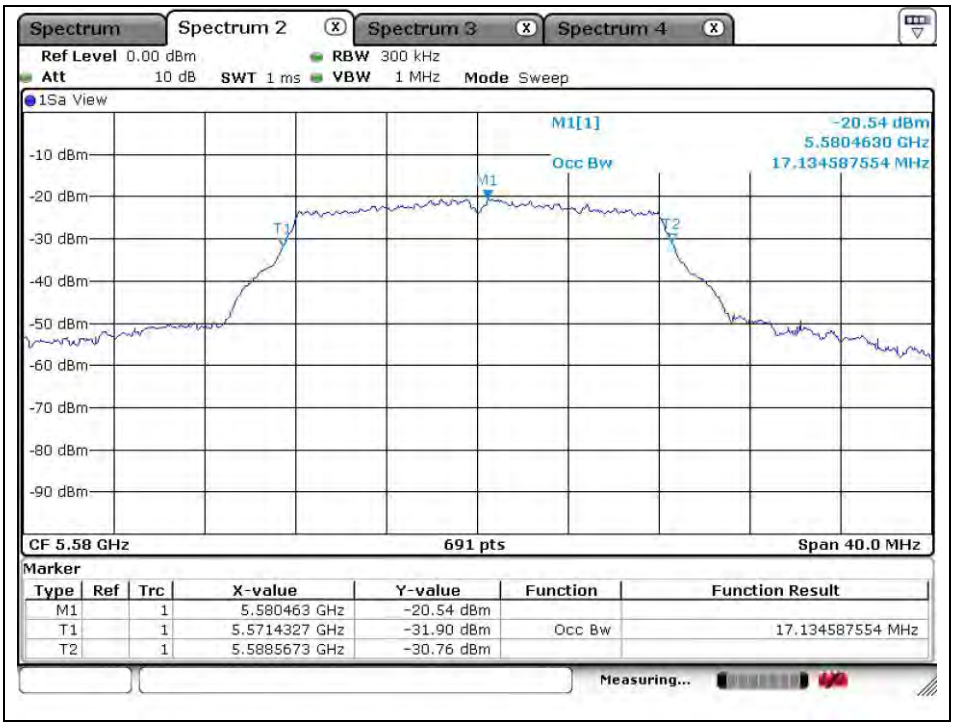
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11a (Band 2C)

Low channel (5 500 ㎒)

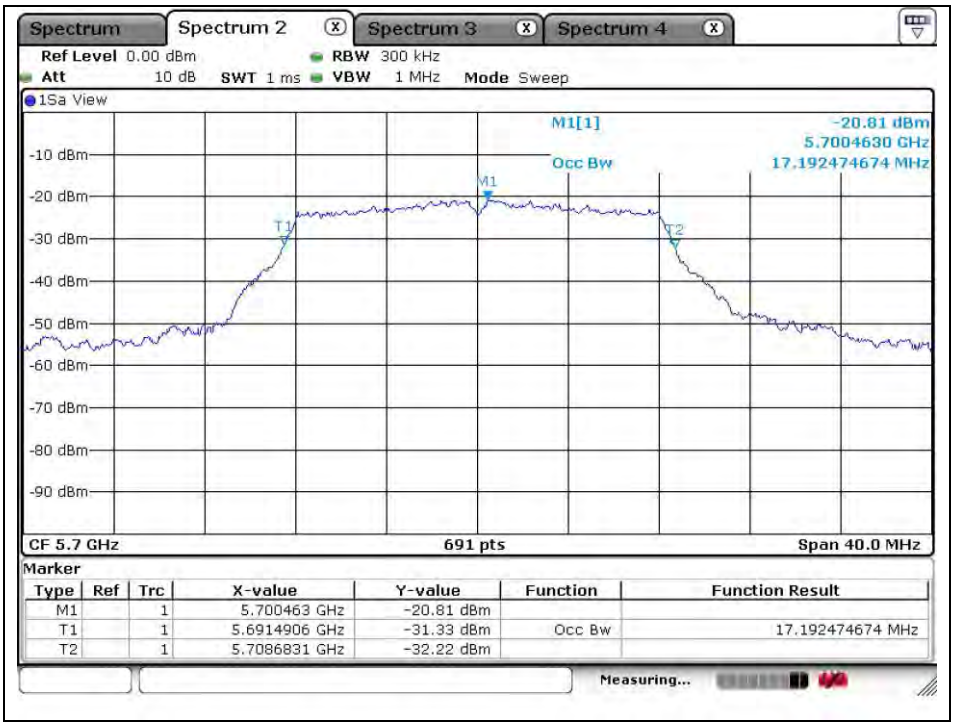


Middle channel (5 580 ㎒)



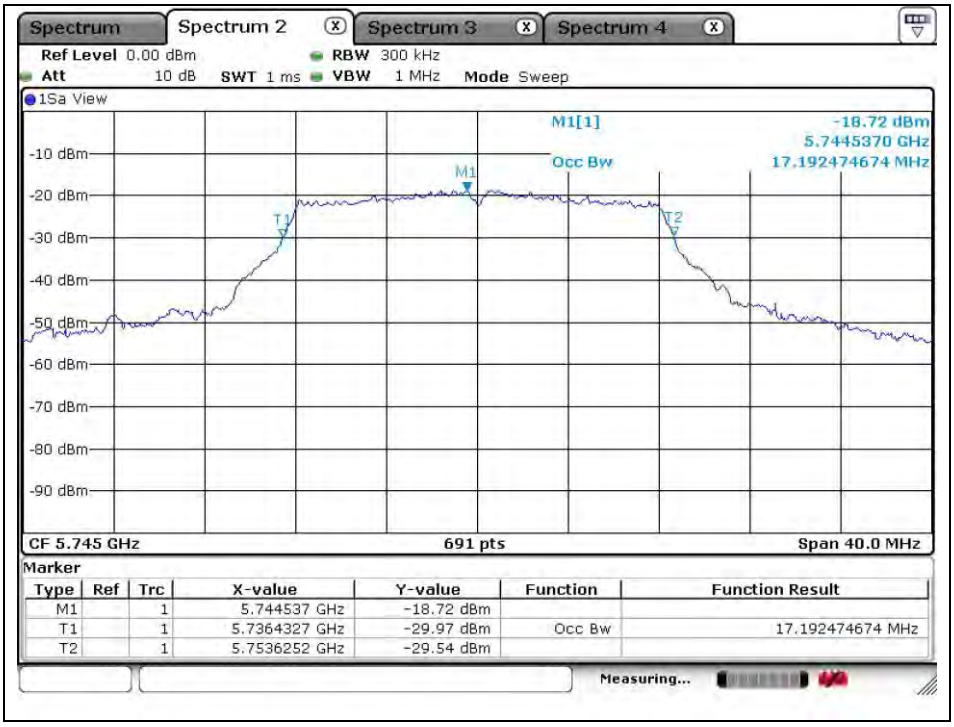
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 700 ㎒)

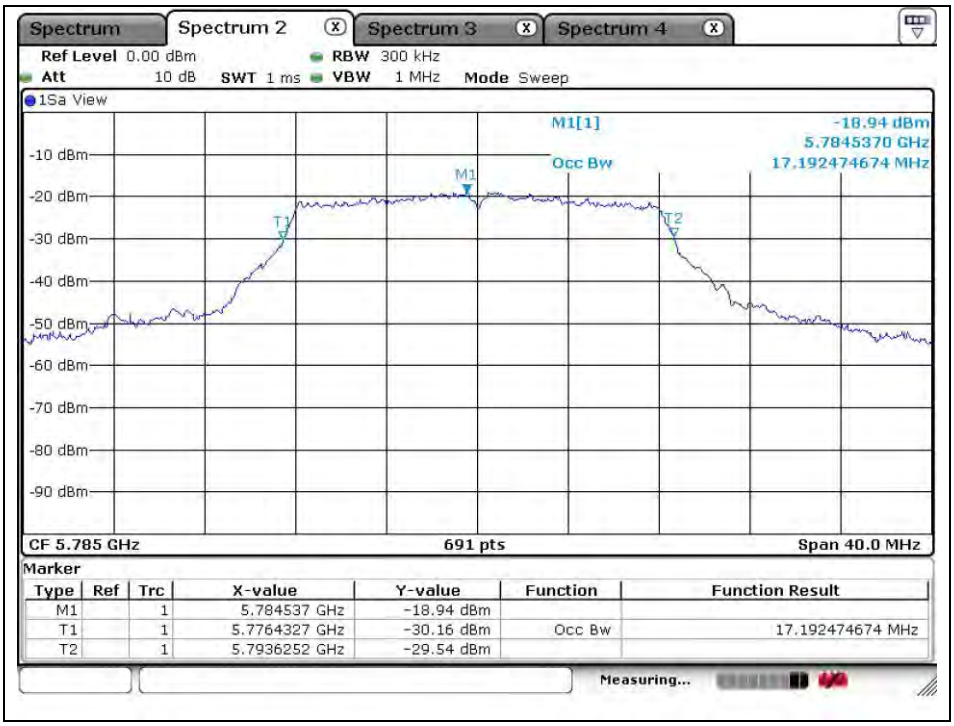


802.11a (Band 3)

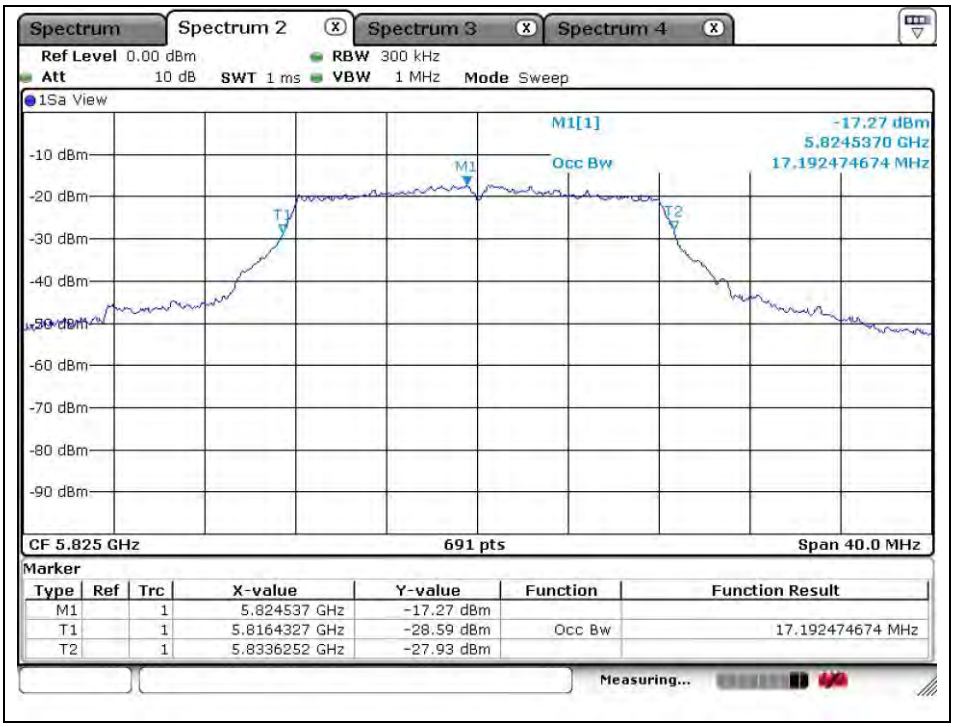
Low channel (5 745 ㎒)



Middle channel (5 785 ㎒)



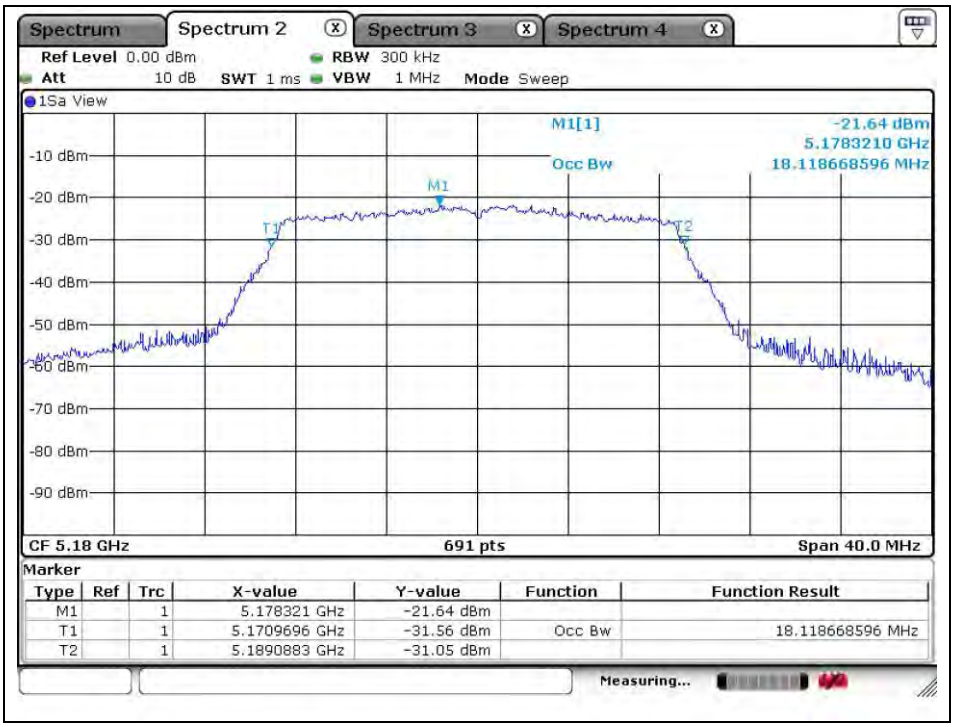
High channel (5 825 ㎒)



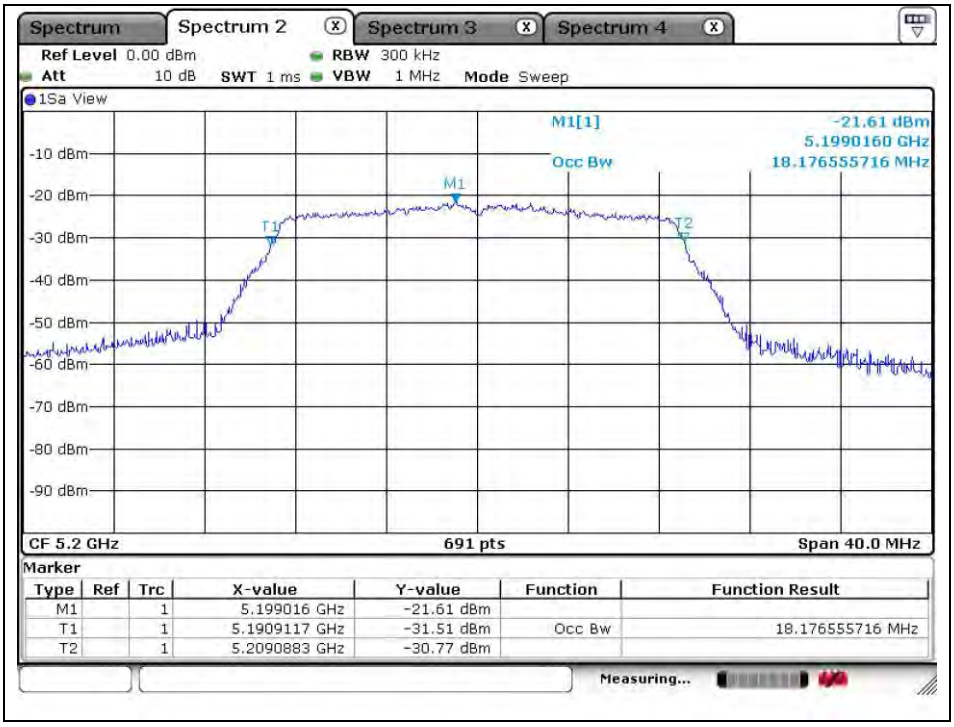
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT20 (Band 1)

Low channel (5 180 ㎒)

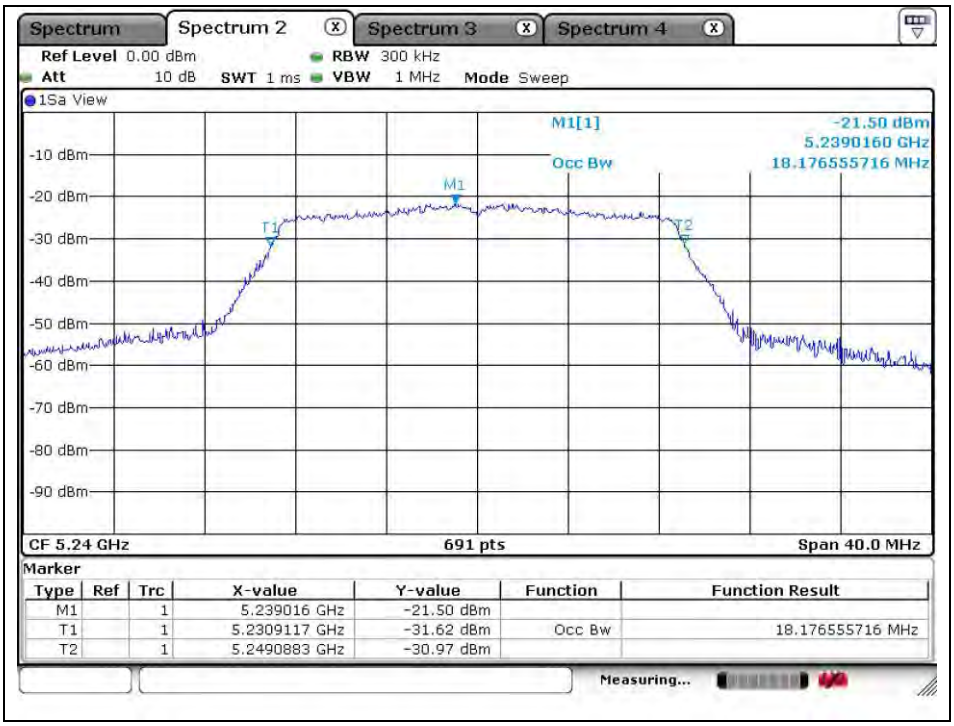


Middle channel (5 200 ㎒)



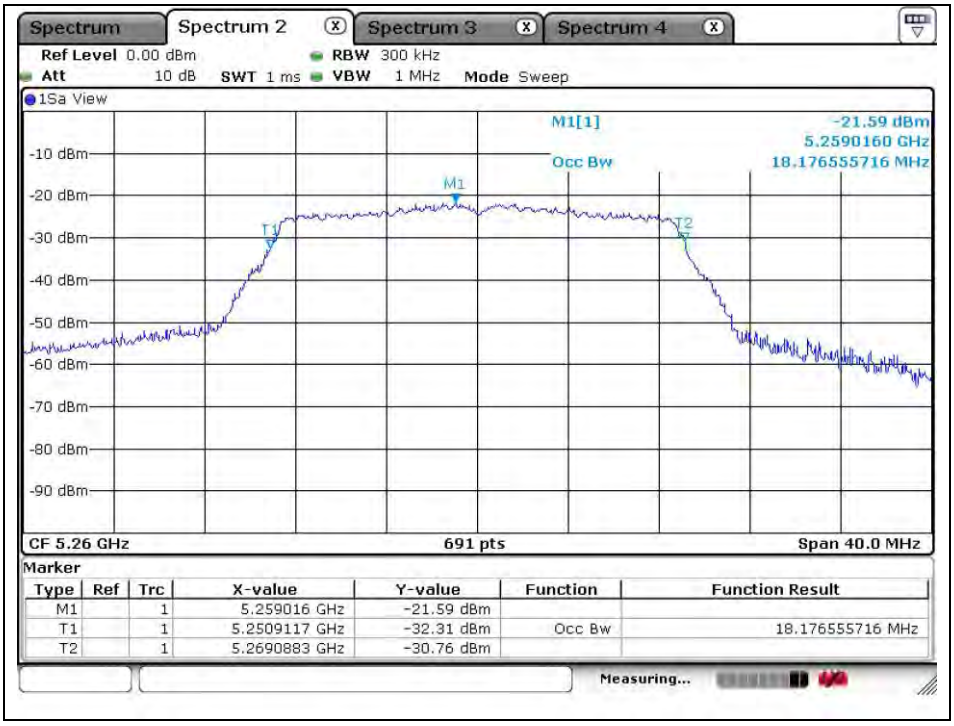
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 240 ㎒)

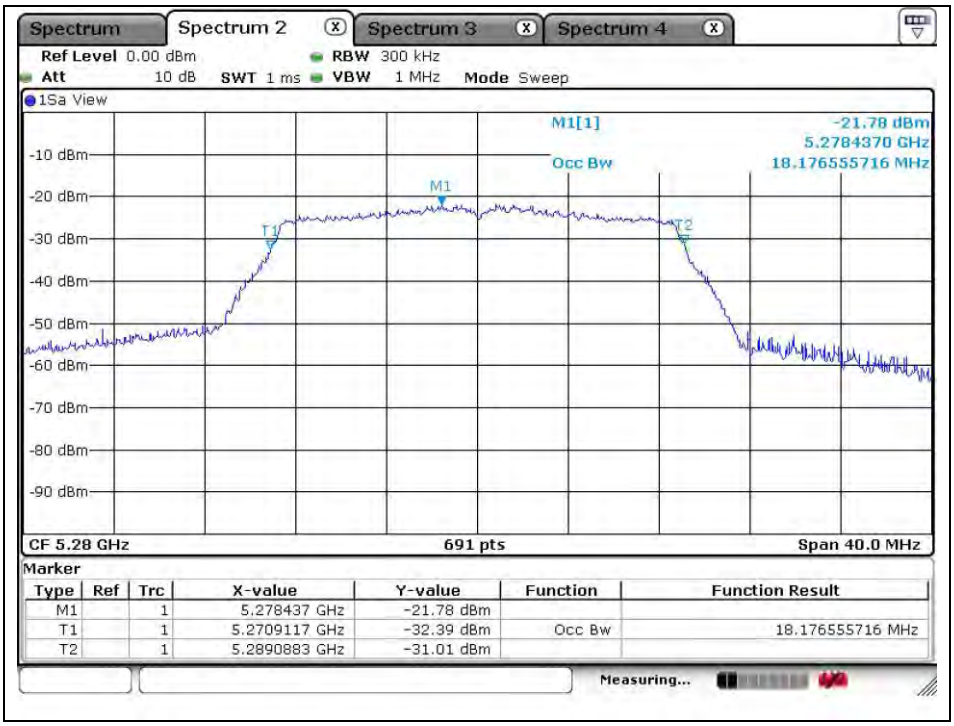


802.11n_HT20 (Band 2A)

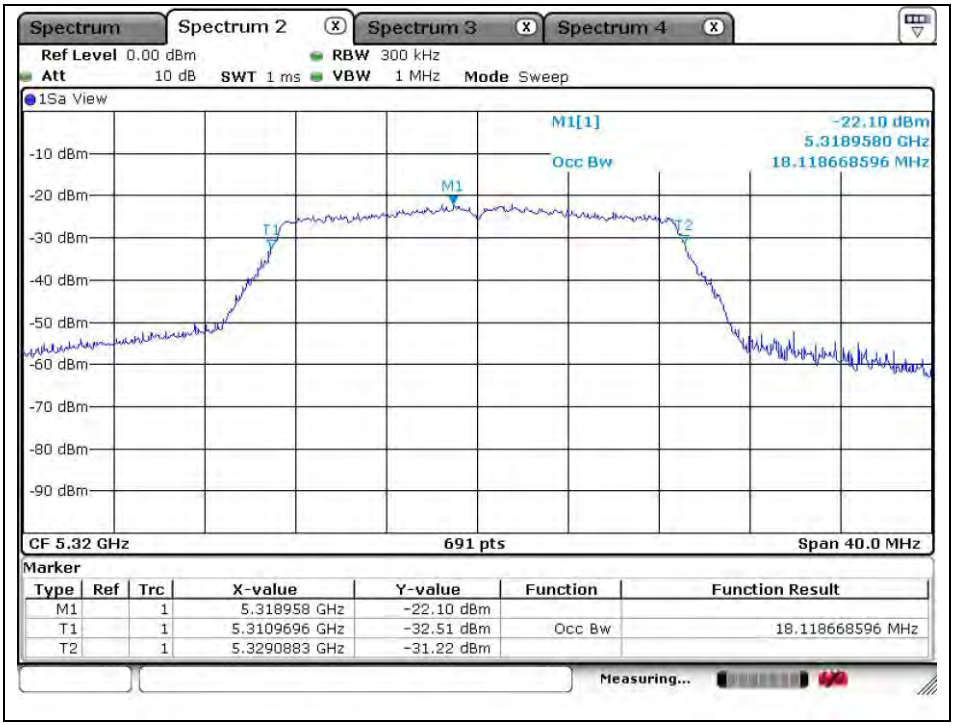
Low channel (5 260 ㎒)



Middle channel (5 280 ㎒)



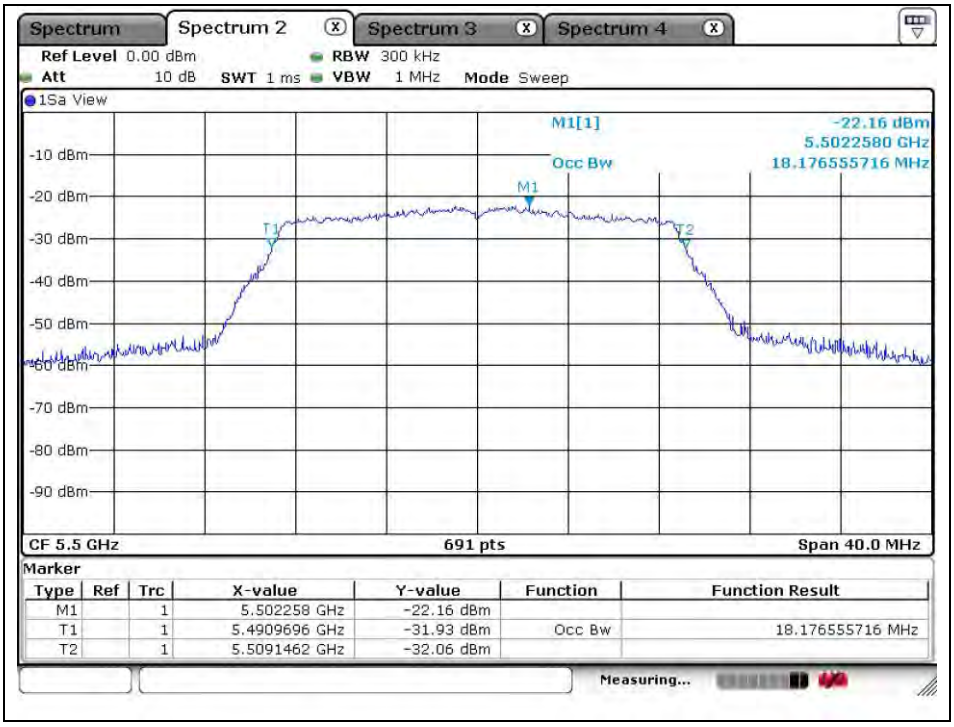
High channel (5 320 ㎒)



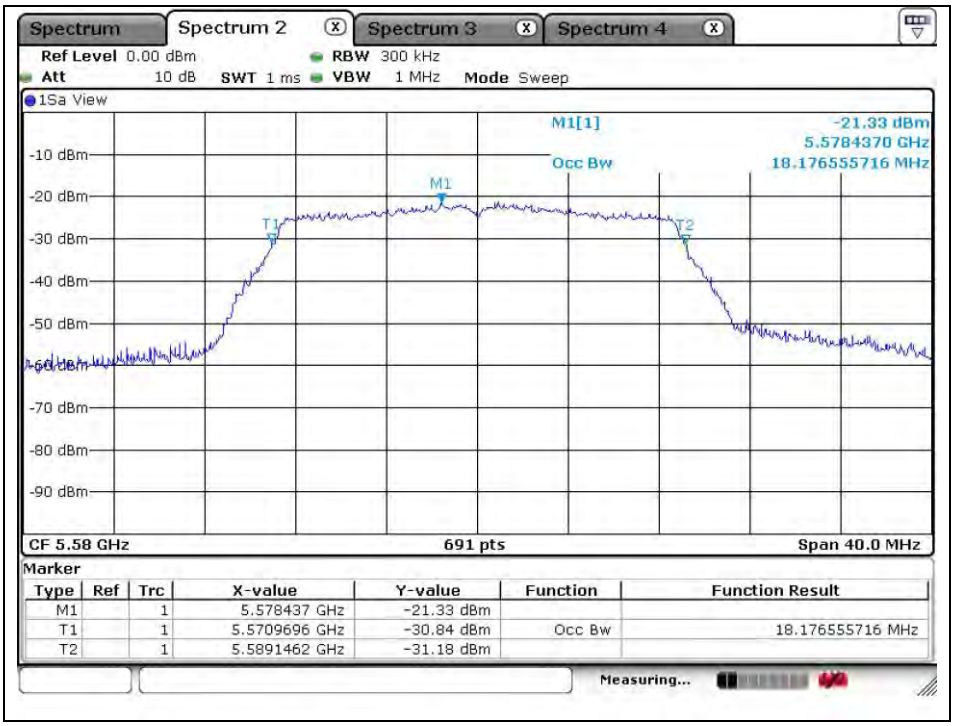
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT20 (Band 2C)

Low channel (5 500 ㎒)

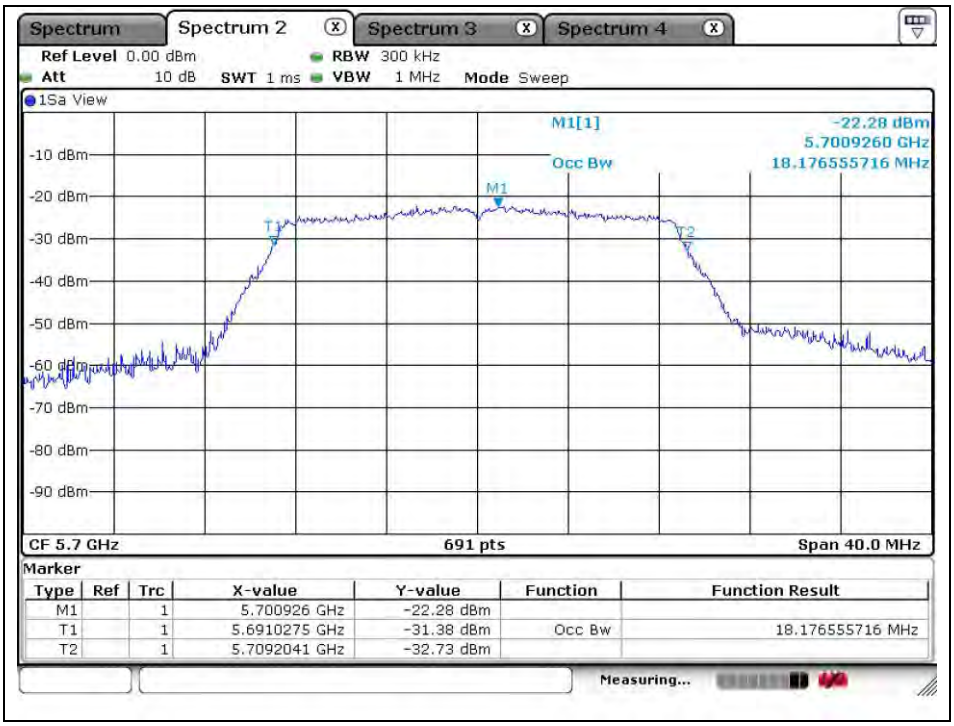


Middle channel (5 580 ㎒)



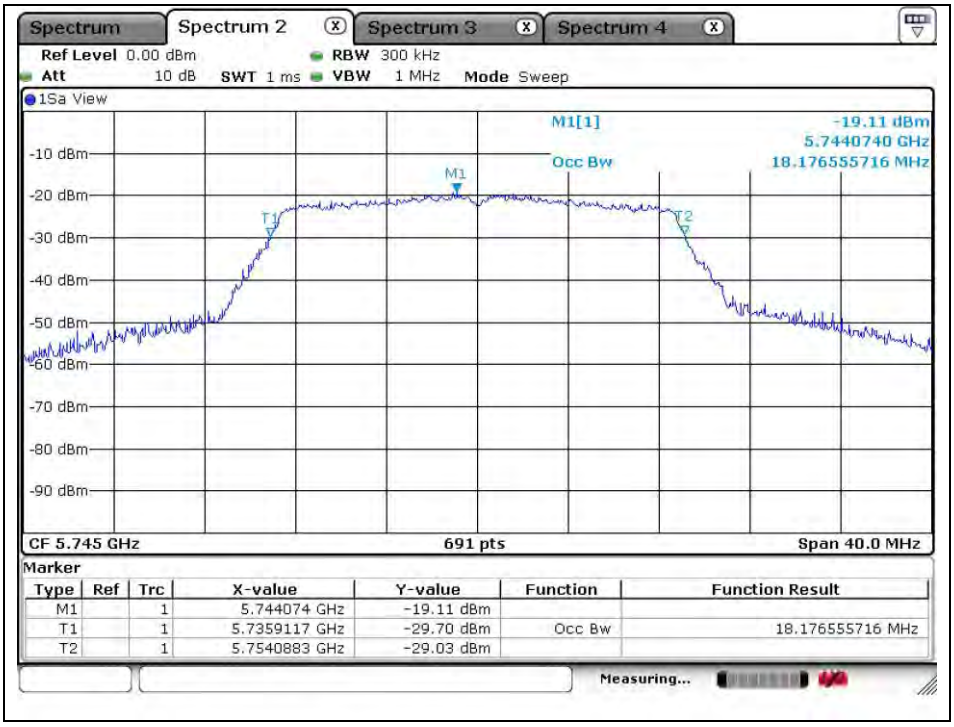
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 700 ㎒)

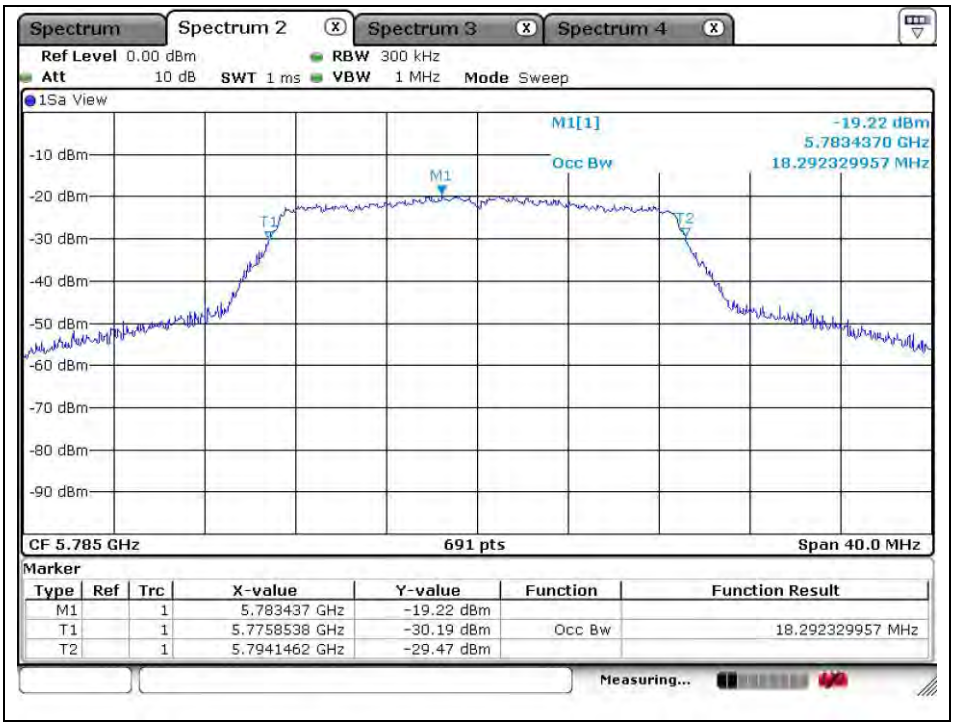


802.11n_HT20 (Band 3)

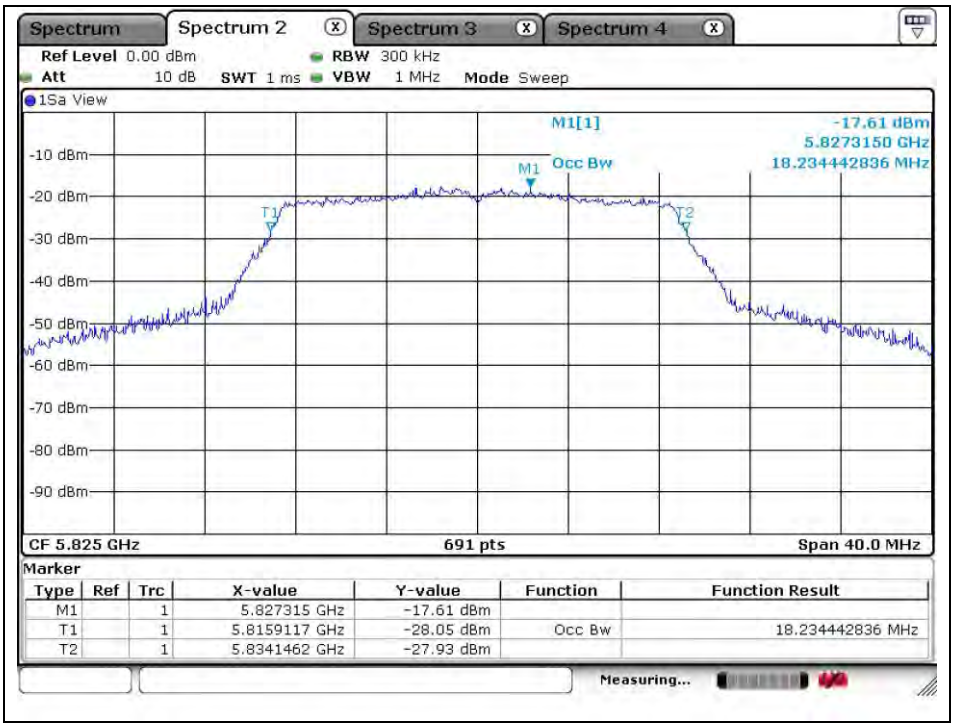
Low channel (5 745 ㎒)



Middle channel (5 785 ㎒)



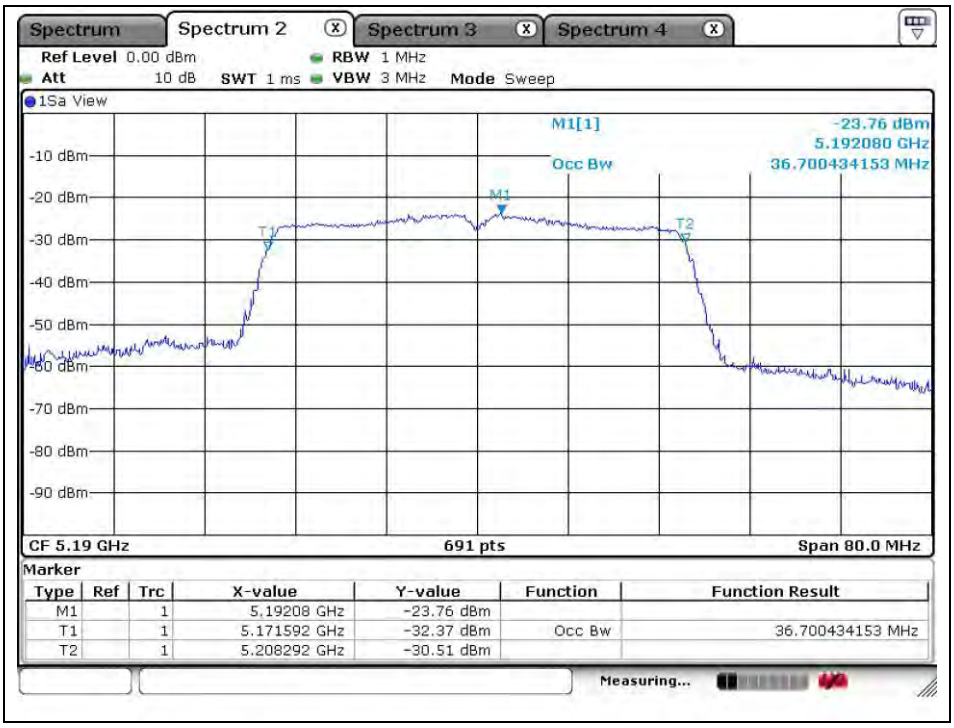
High channel (5 825 ㎒)



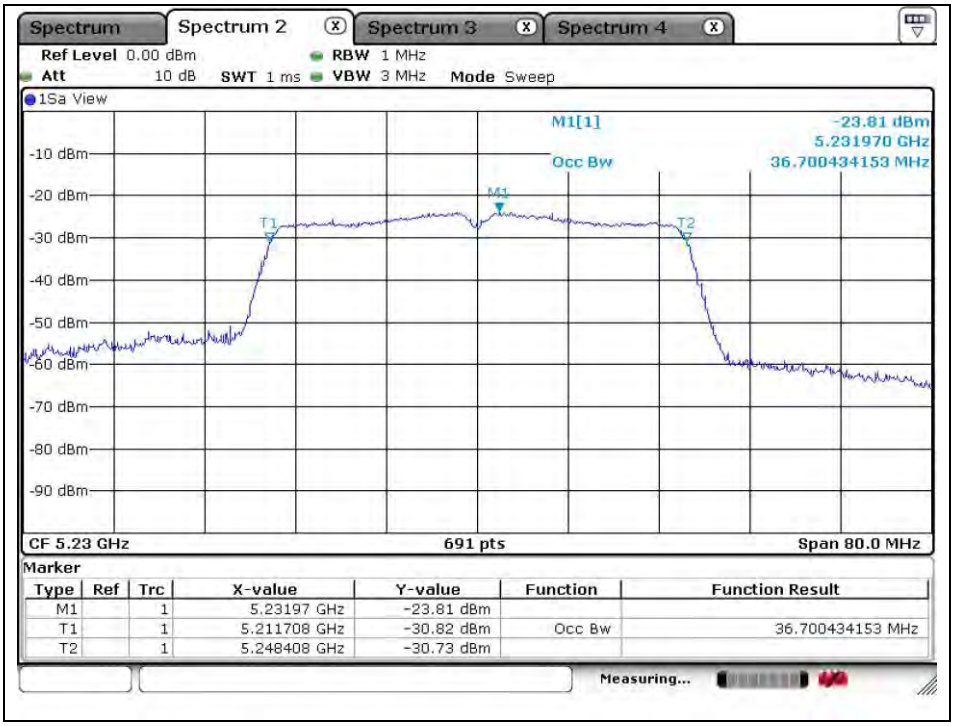
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 1)

Low channel (5 190 ㎒)



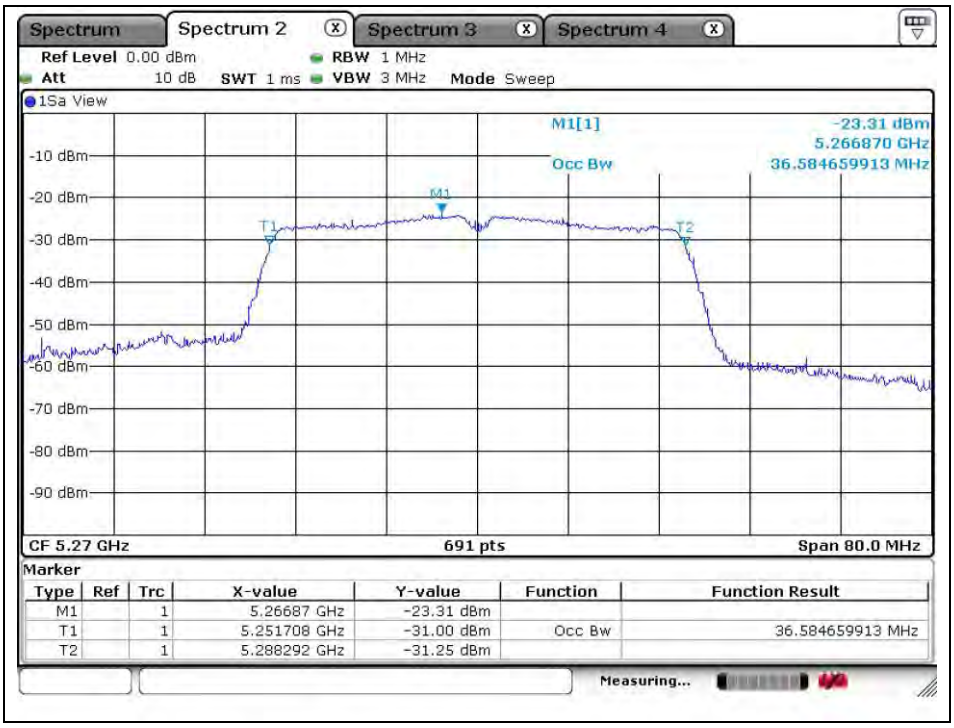
High channel (5 230 ㎒)



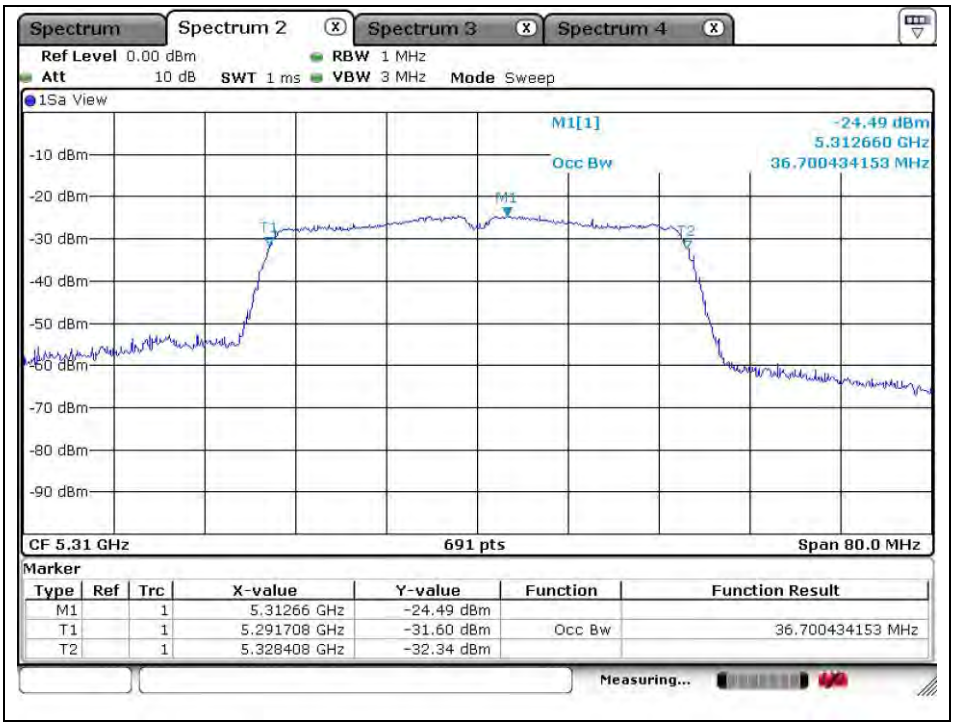
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 2A)

Low channel (5 270 ㎒)



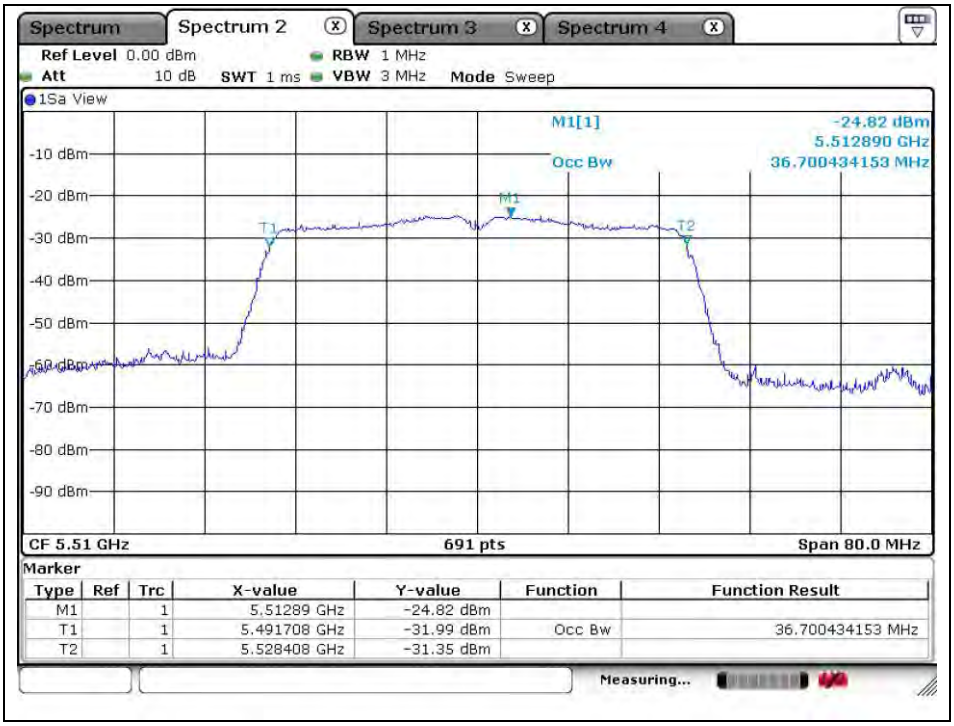
High channel (5 310 ㎒)



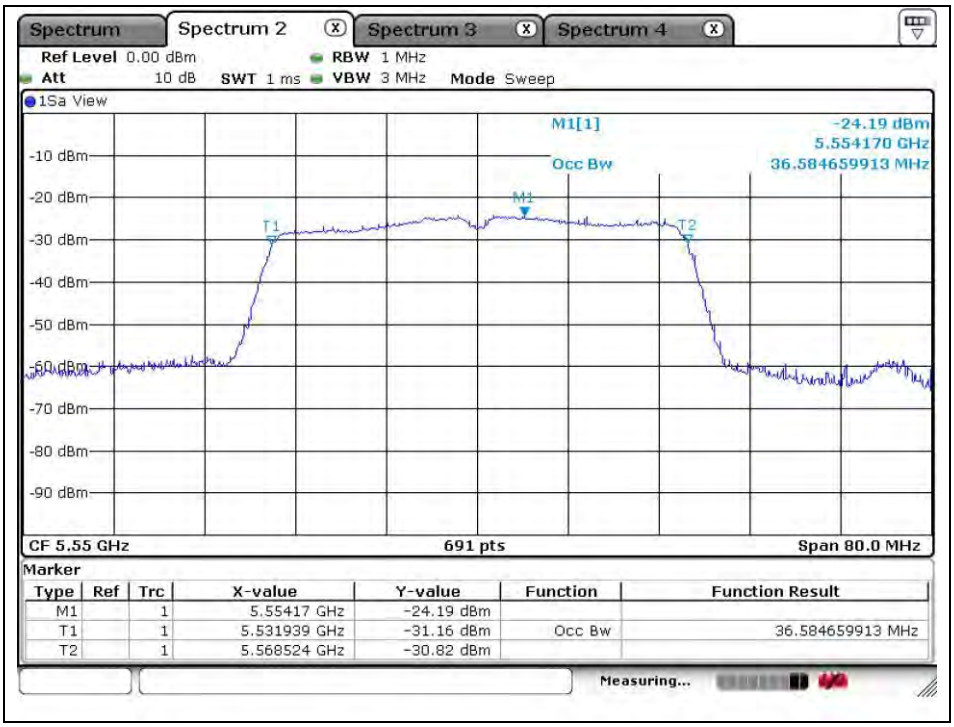
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 2C)

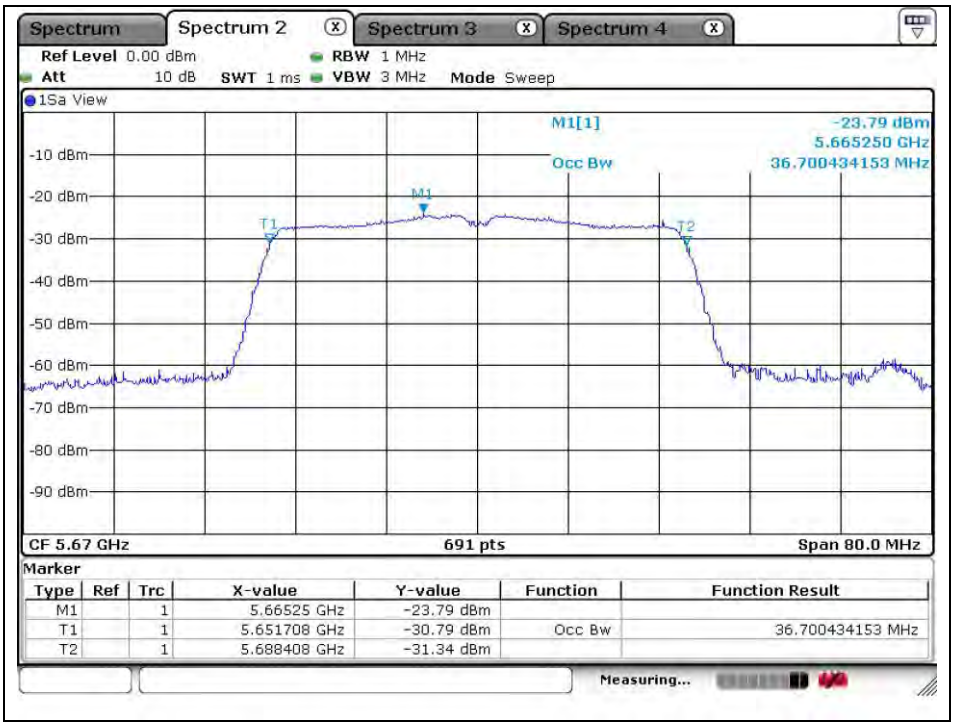
Low channel (5 510 ㎒)



Middle channel (5 550 ㎒)

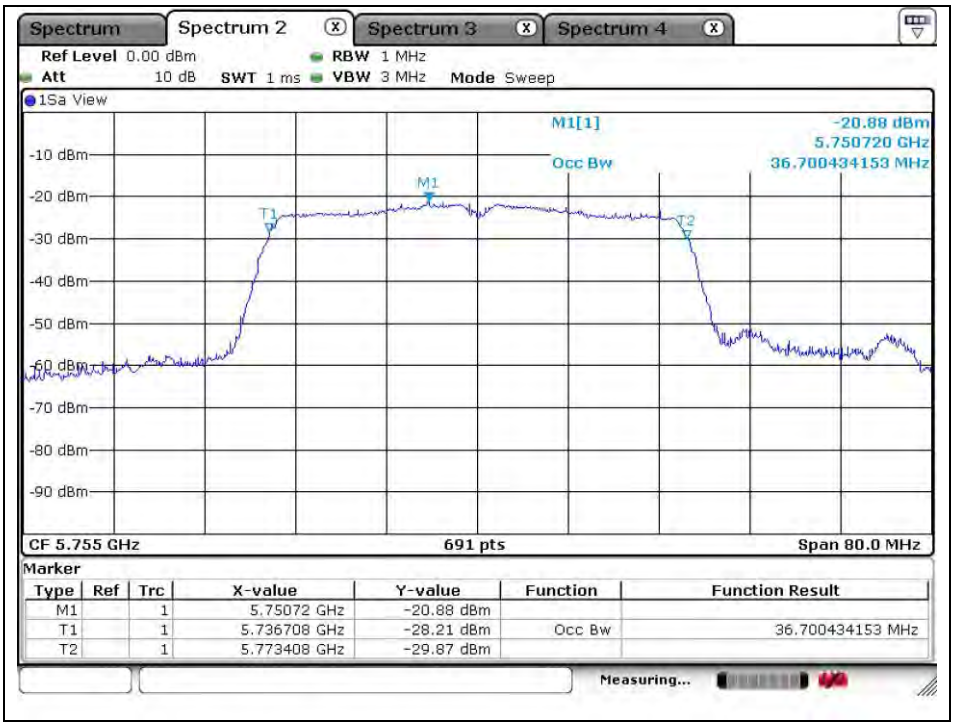


High channel (5 670 ㎒)



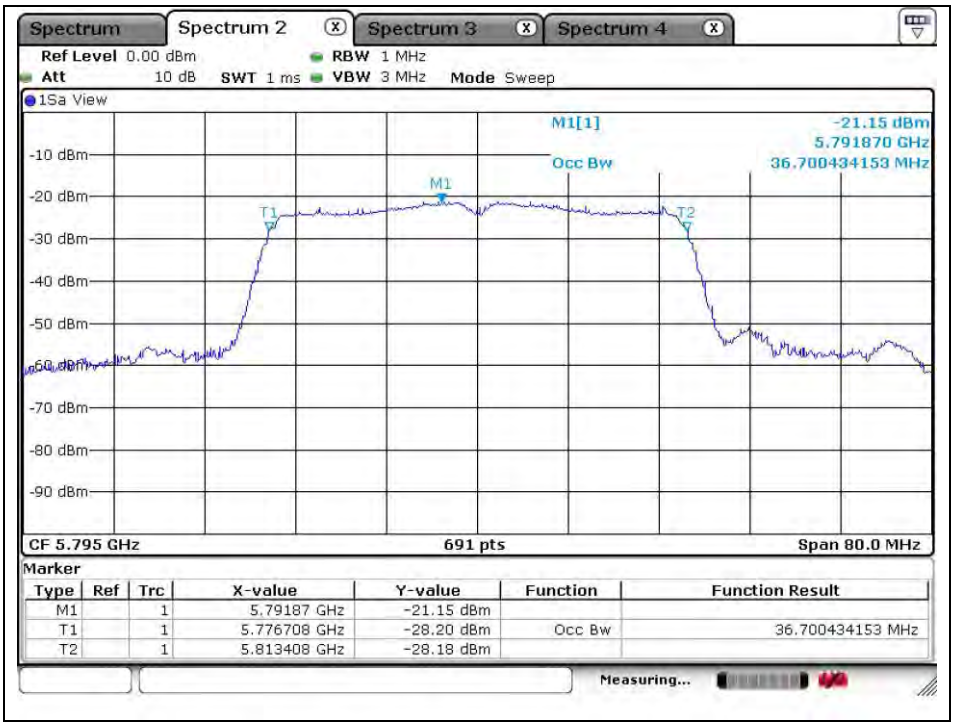
802.11n_HT40 (Band 3)

Low channel (5 755 ㎒)



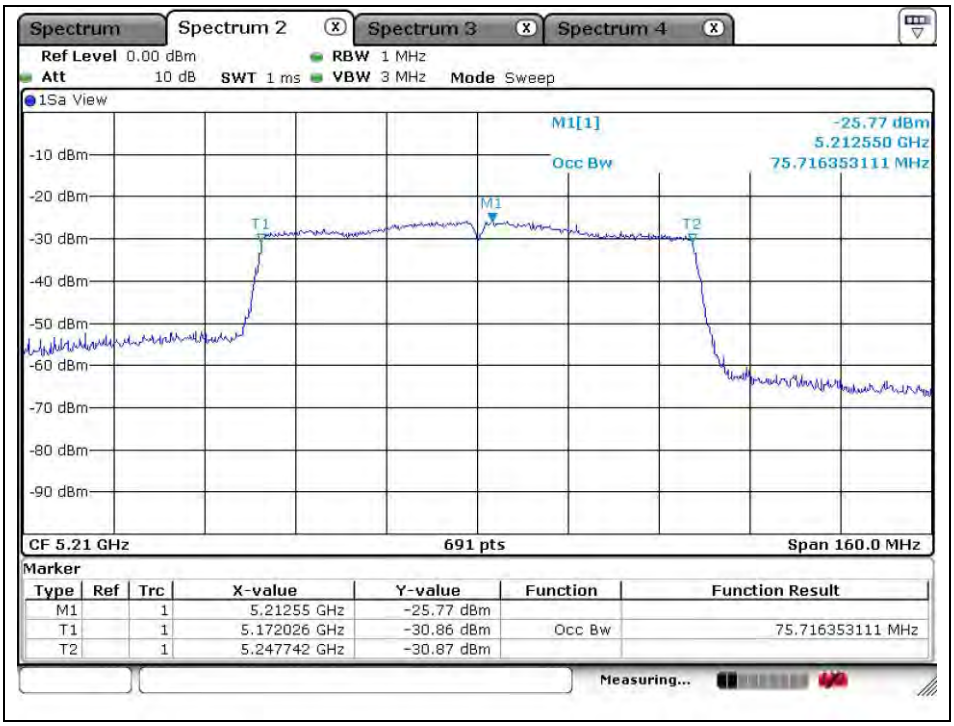
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 795 ㎒)



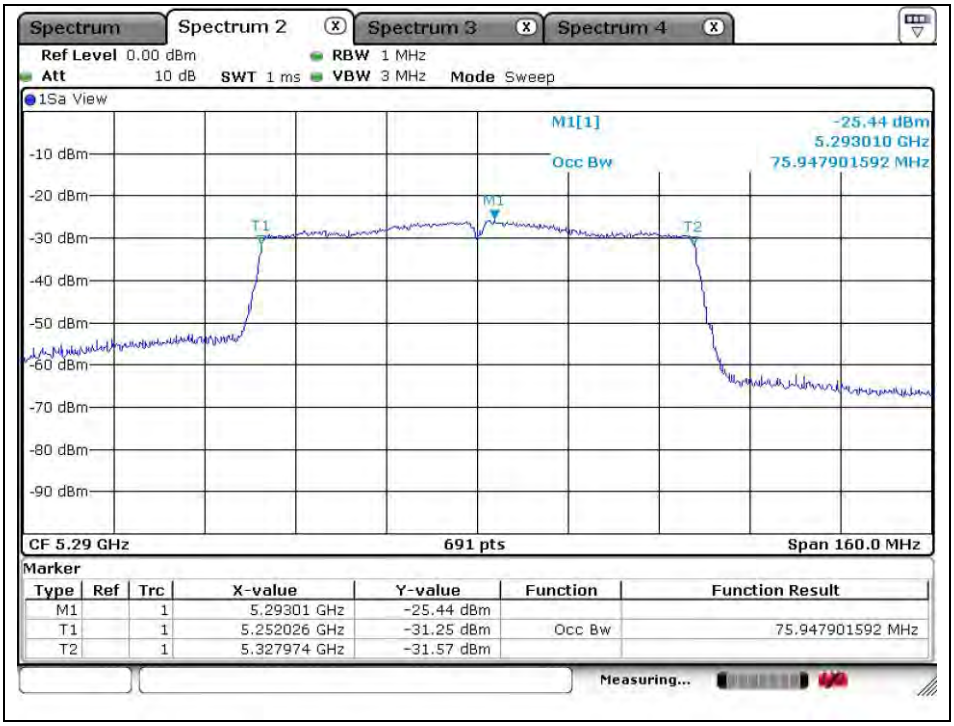
802. 11ac_VHT80 (Band 1)

Middle channel (5 210 ㎒)



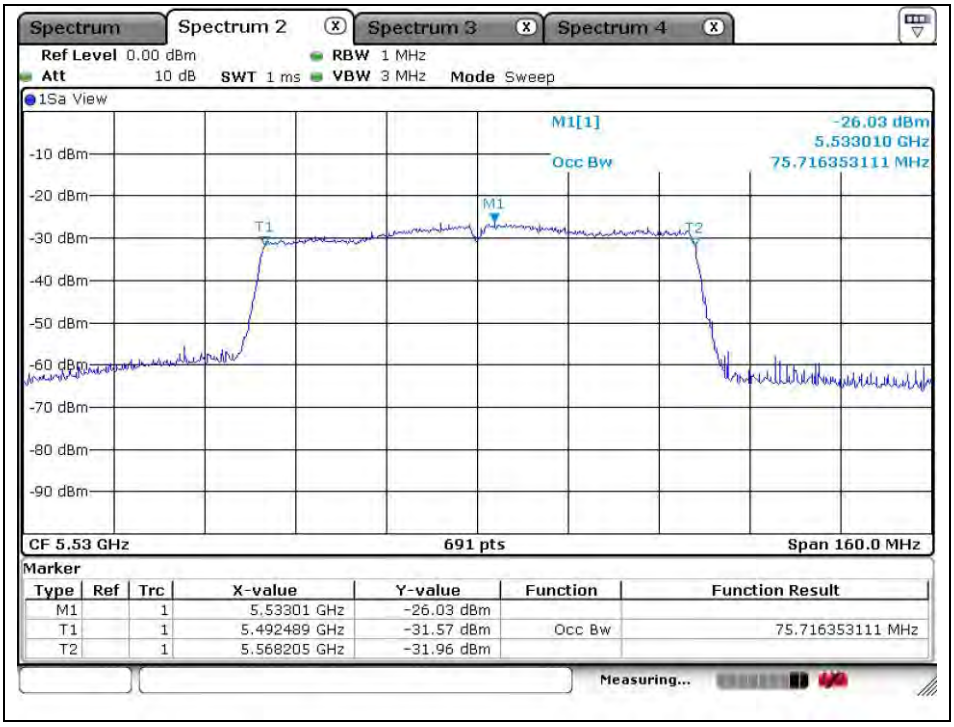
802. 11ac_VHT80 (Band 2A)

Middle channel (5 290 ㎒)



802. 11ac_VHT80 (Band 2C)

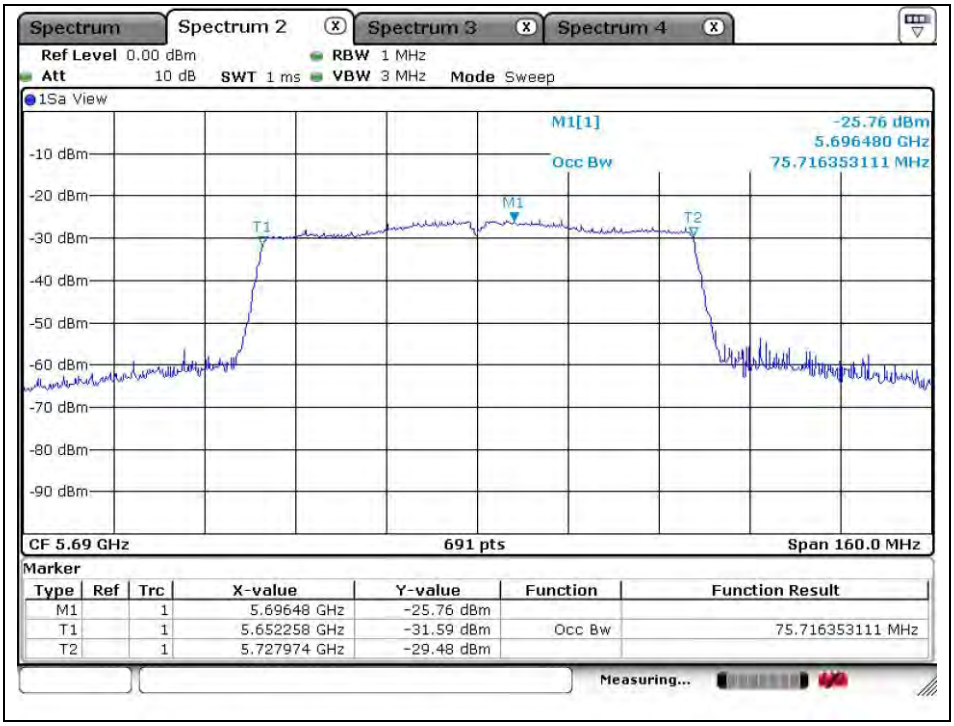
Low channel (5 530 ㎒)



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.

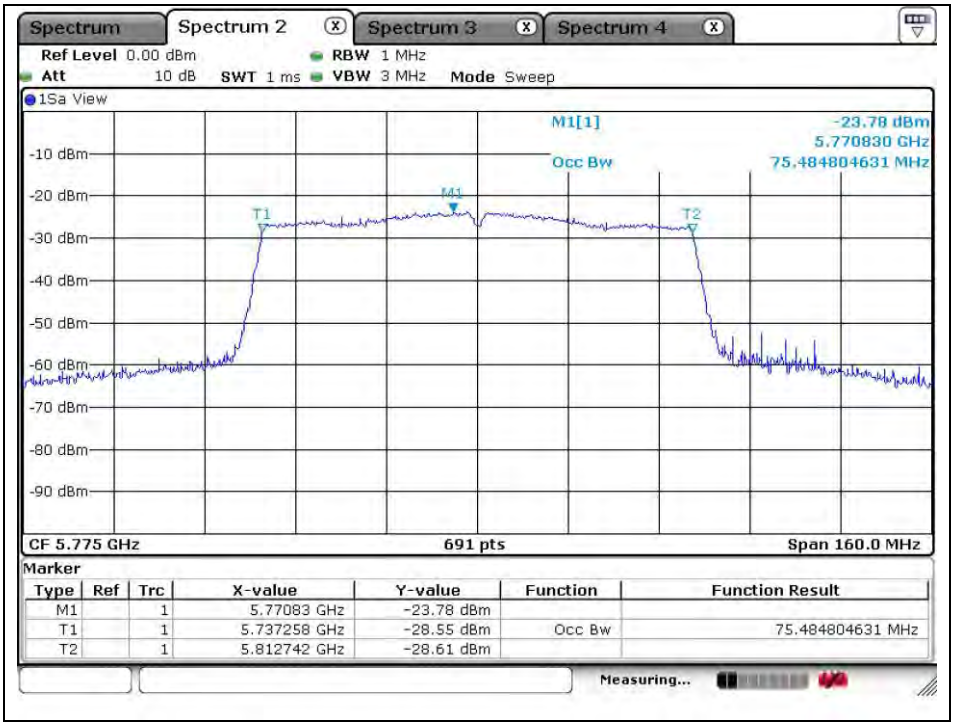
802. 11ac_VHT80 (Band 2C)

High channel (5 690 ㎒)



802. 11ac_VHT80 (Band 3)

Middle channel (5 775 ㎒)

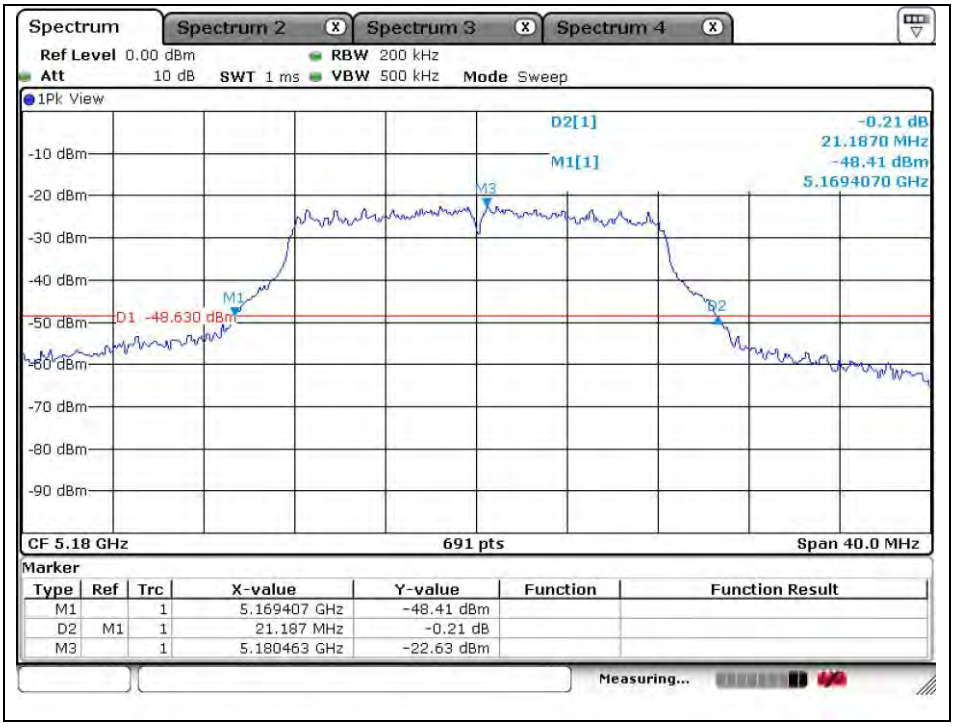


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

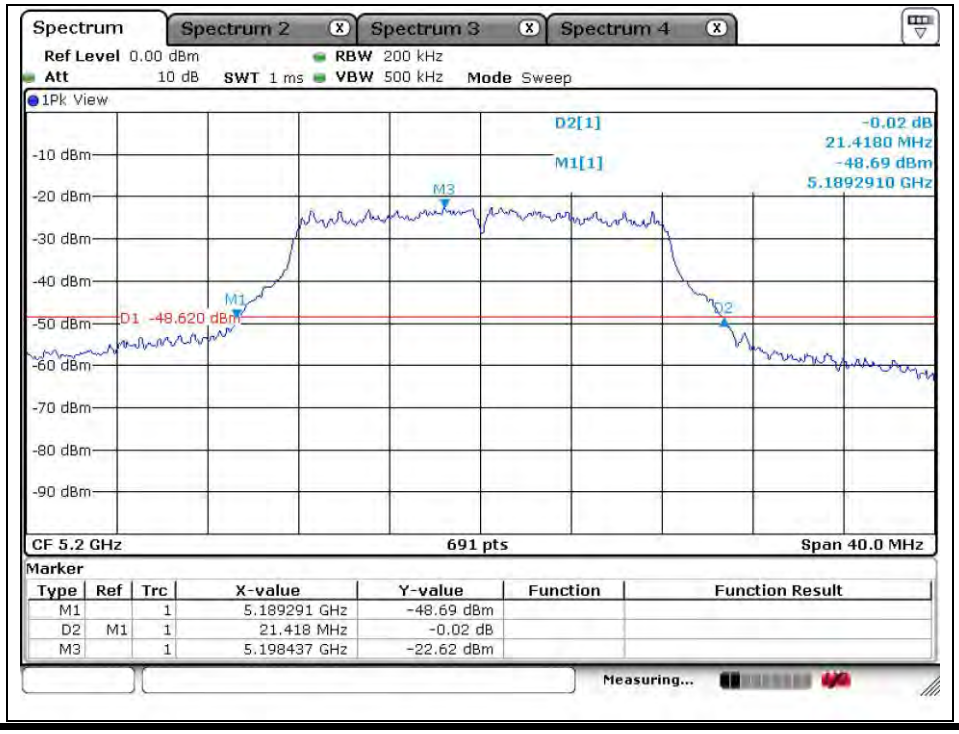
26 dB Bandwidth

802.11a (Band 1)

Low channel (5 180 MHz)

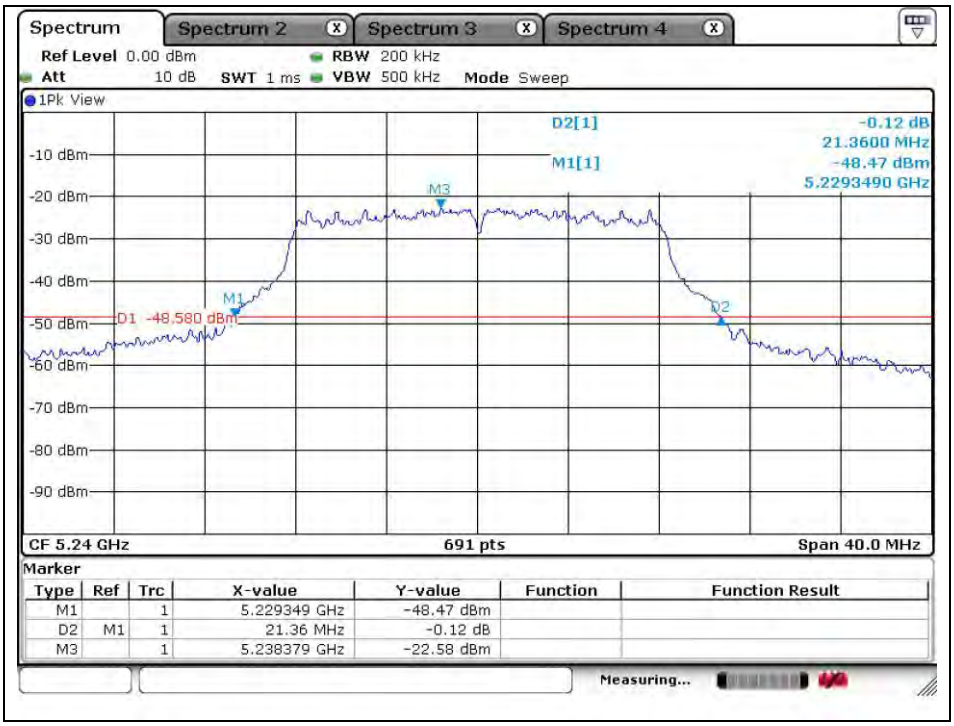


Middle channel (5 200 MHz)



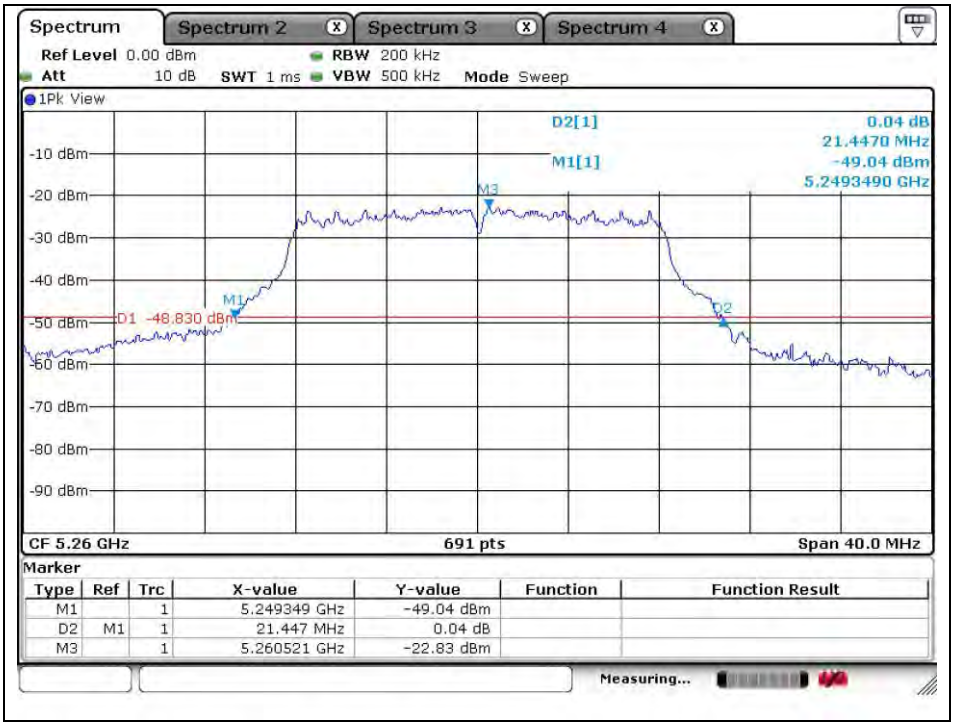
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 240 ㎒)

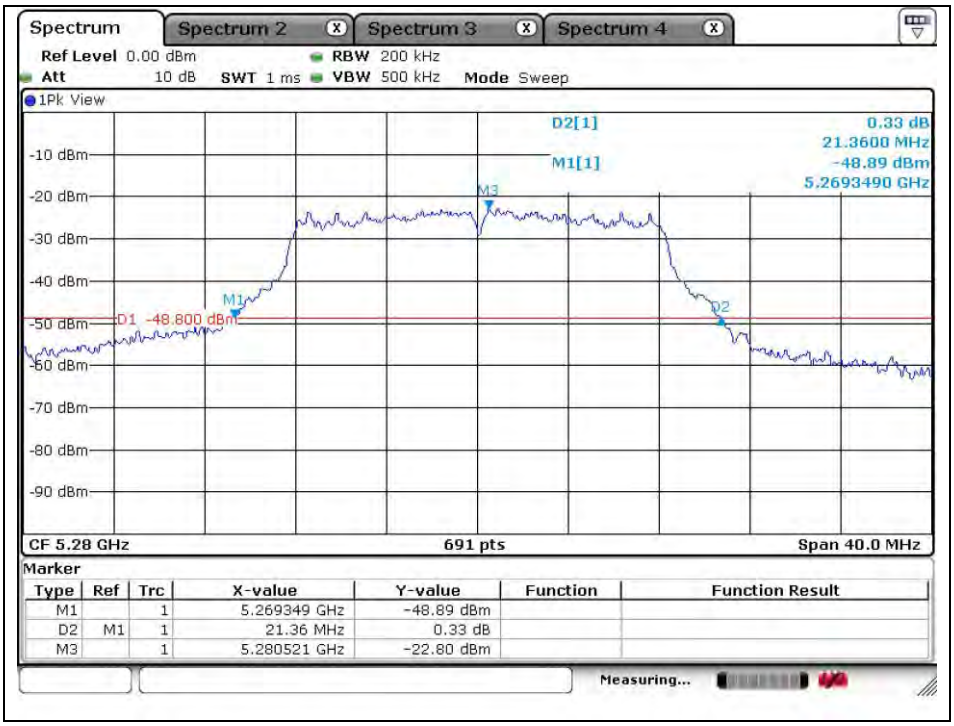


802.11a (Band 2A)

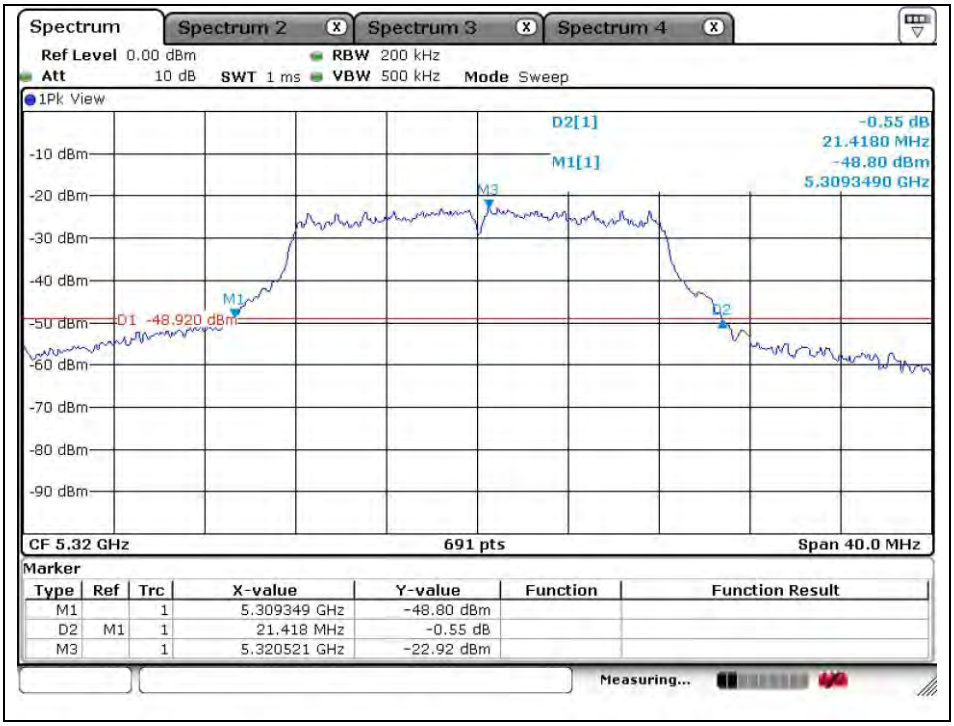
Low channel (5 260 ㎒)



Middle channel (5 280 ㎒)



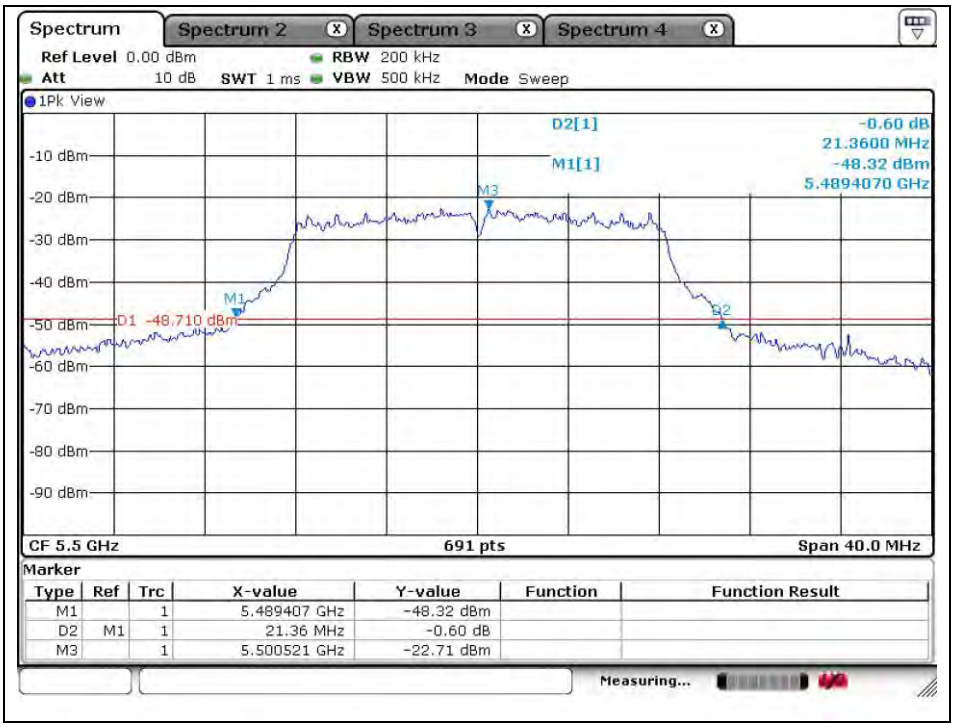
High channel (5 320 ㎒)



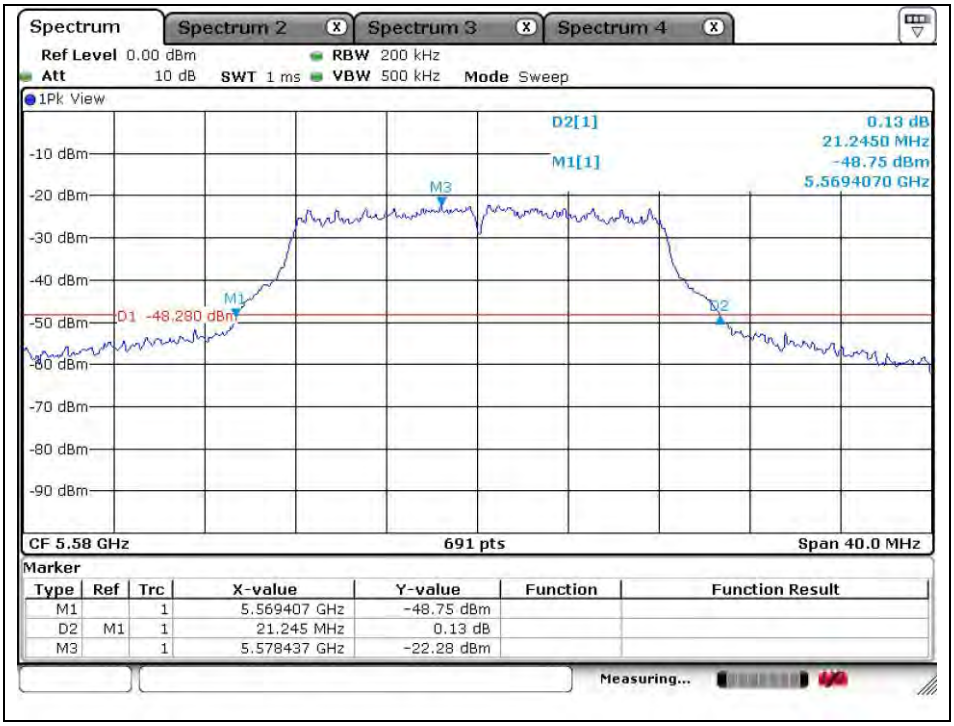
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11a (Band 2C)

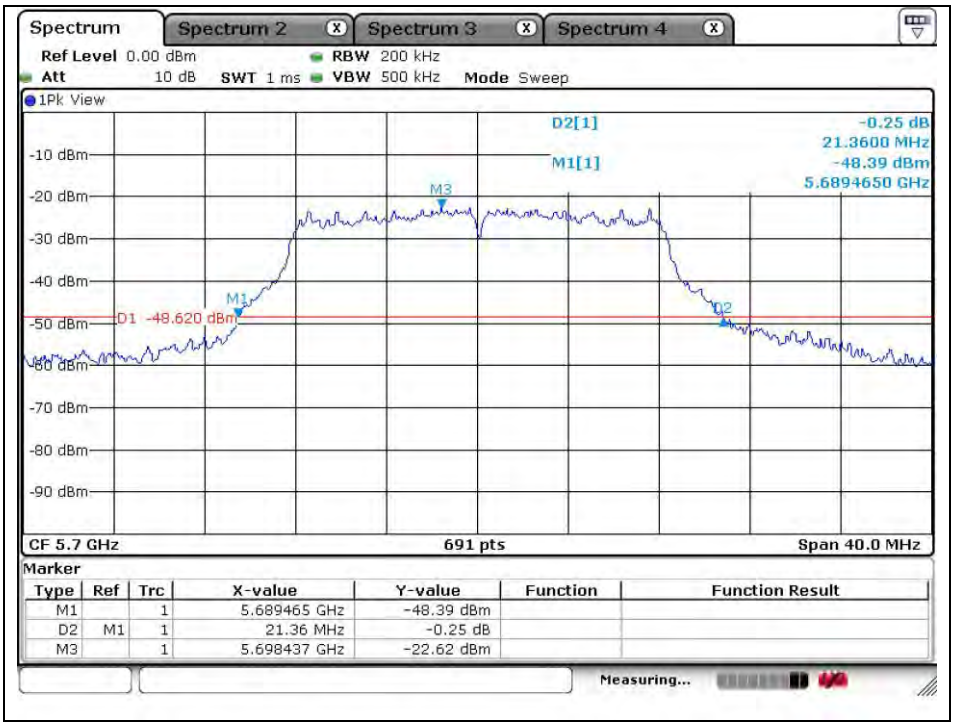
Low channel (5 500 ㎒)



Middle channel (5 580 ㎒)

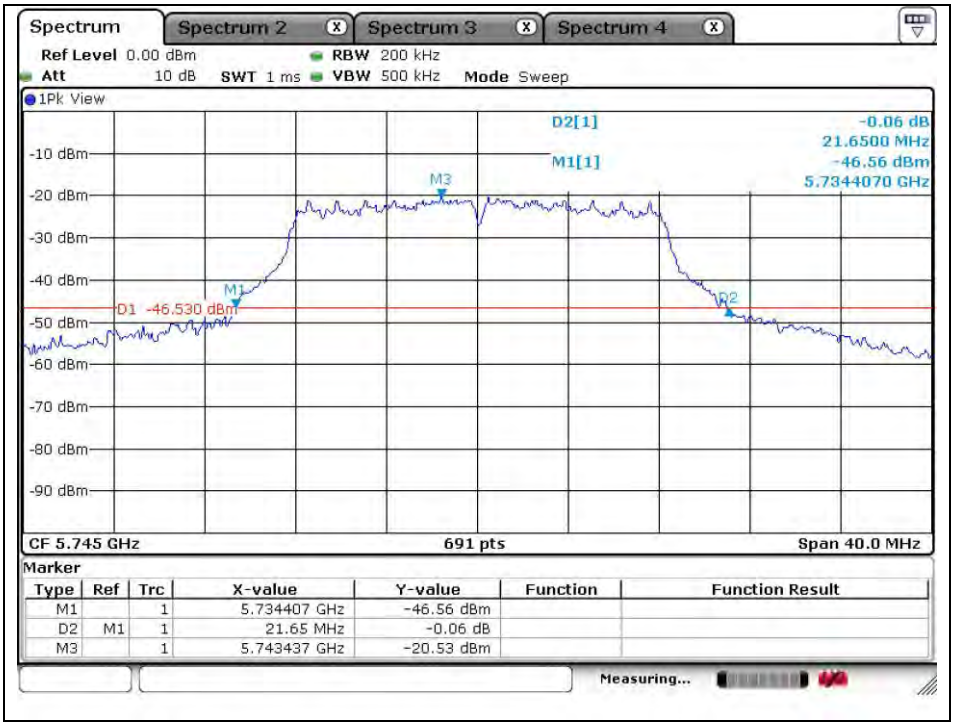


High channel (5 700 ㎒)



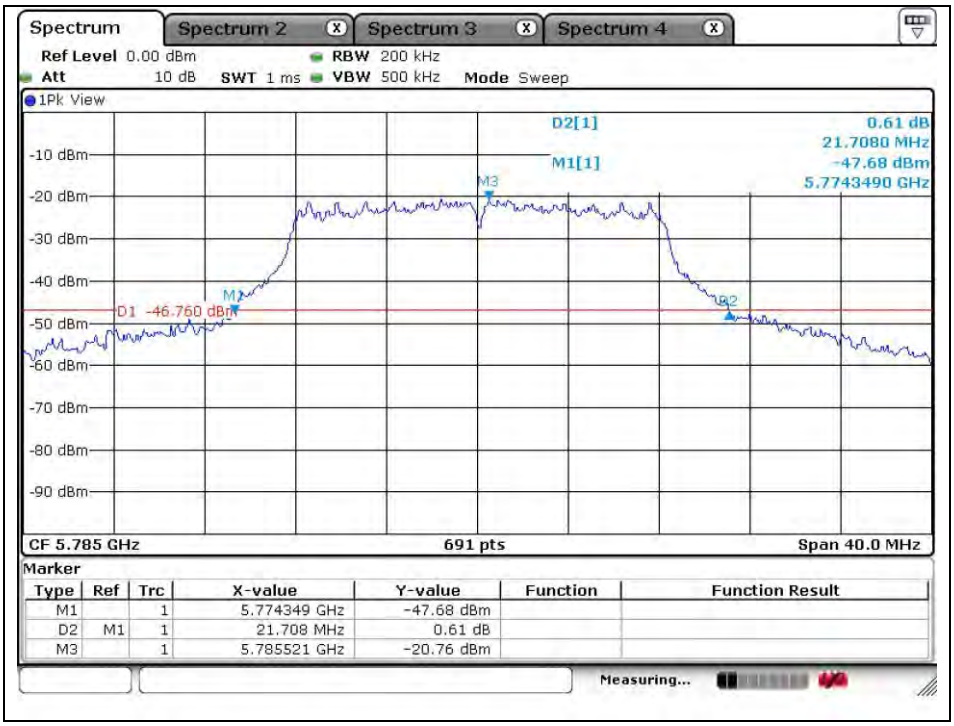
802.11a (Band 3)

Low channel (5 745 ㎒)



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.

Middle channel (5 785 ㎒)

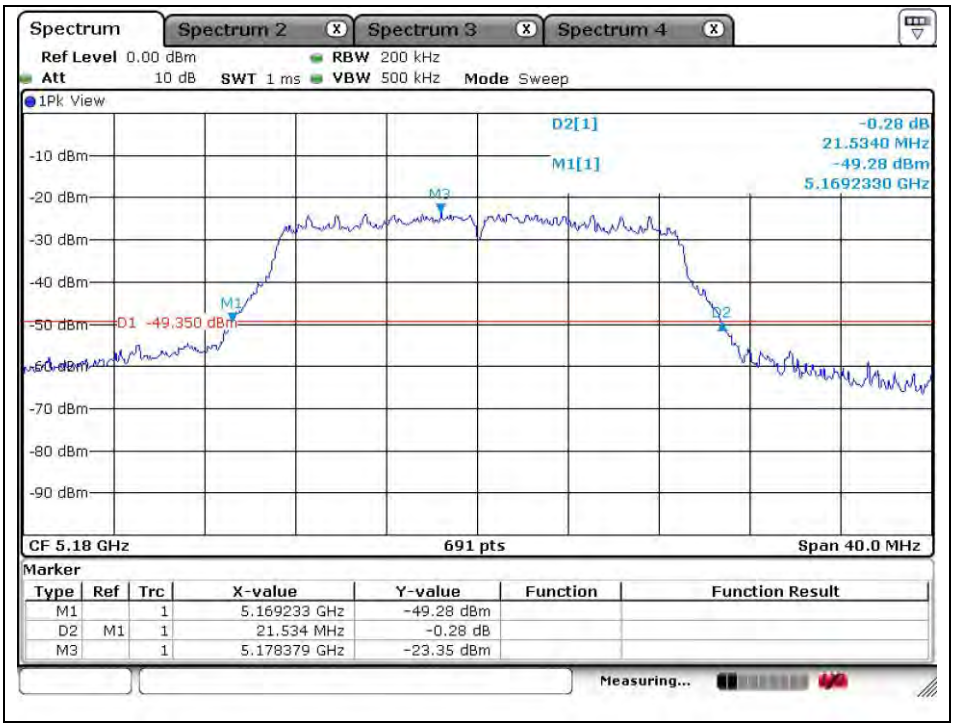


High channel (5 825 ㎒)

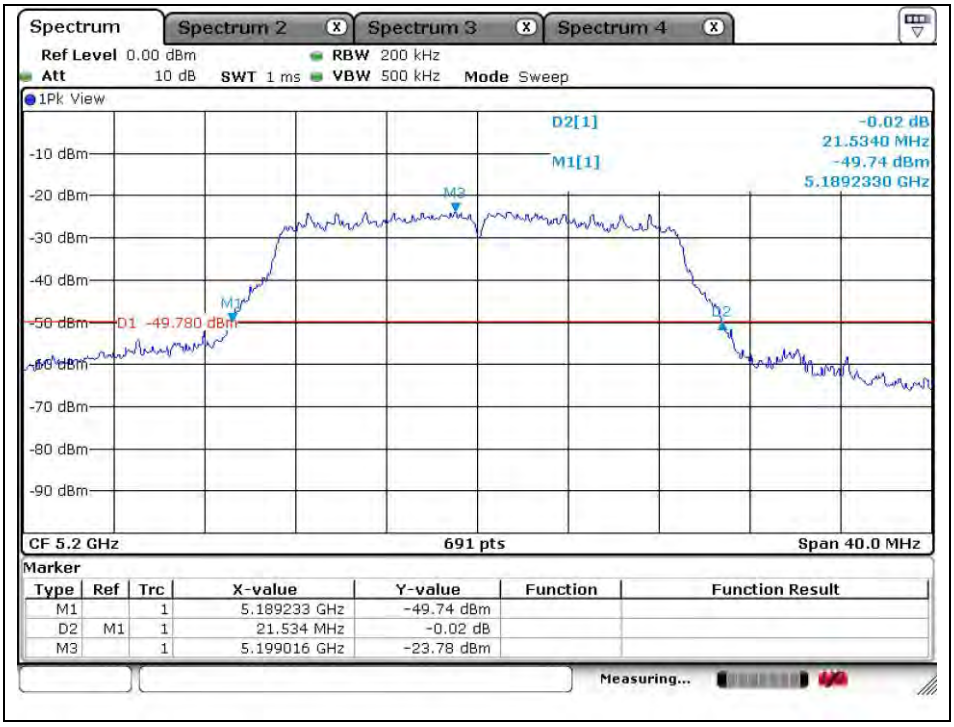
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT20 (Band 1)

Low channel (5 180 ㎒)

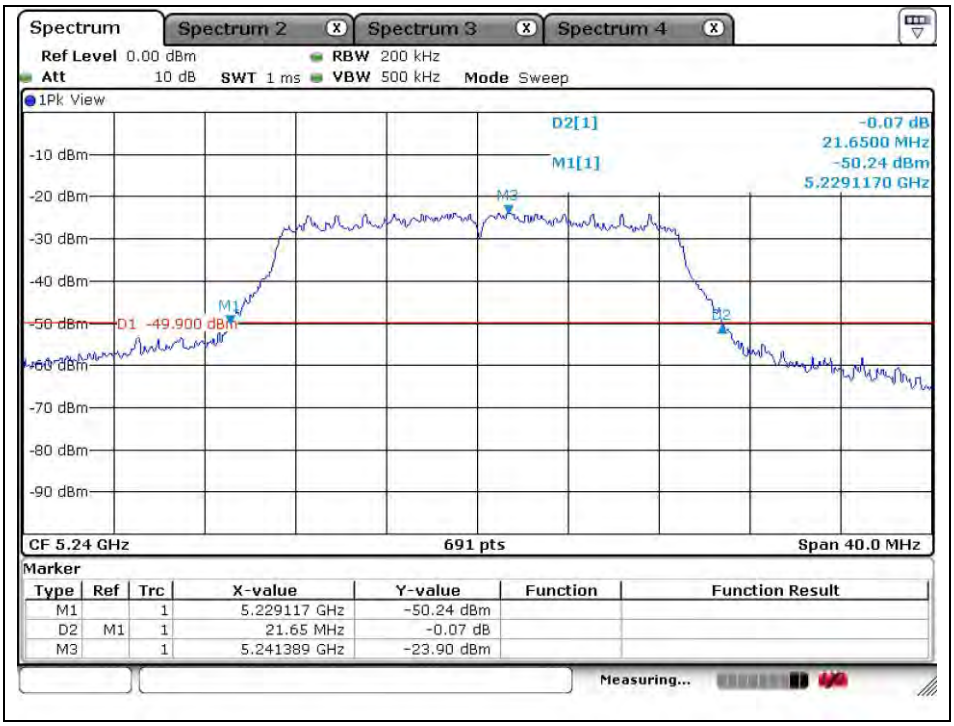


Middle channel (5 200 ㎒)



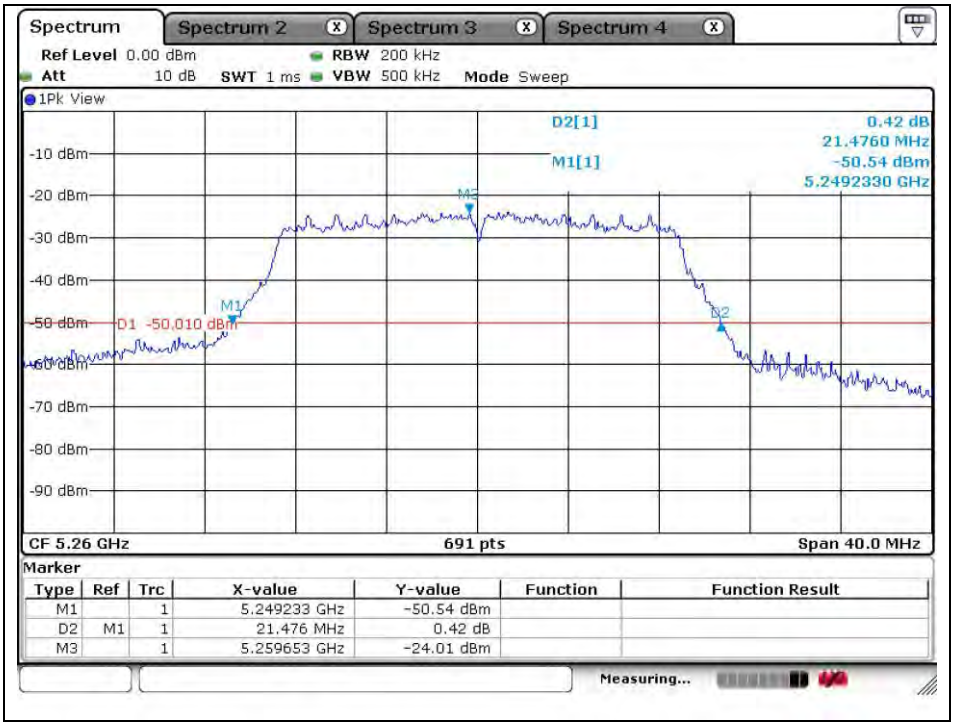
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 240 ㎒)

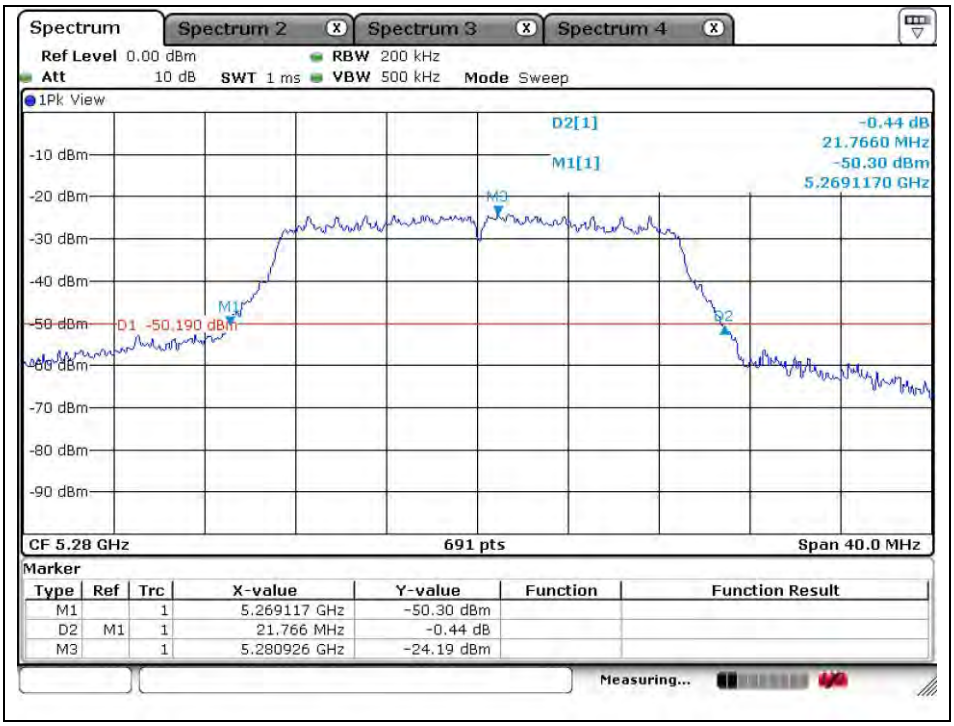


802.11n_HT20 (Band 2A)

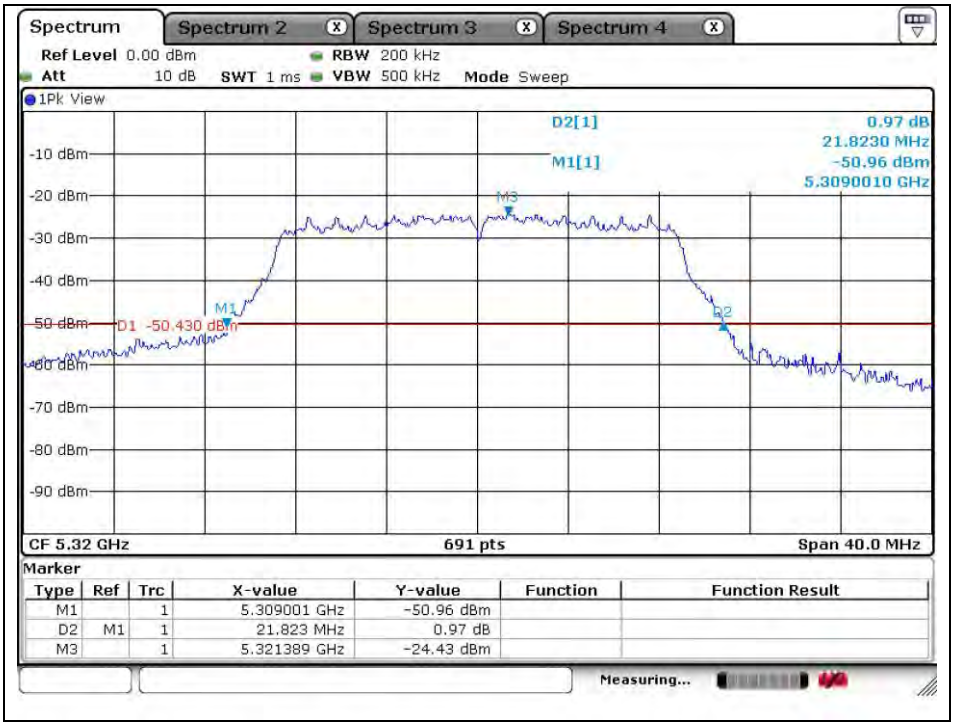
Low channel (5 260 ㎒)



Middle channel (5 280 ㎒)

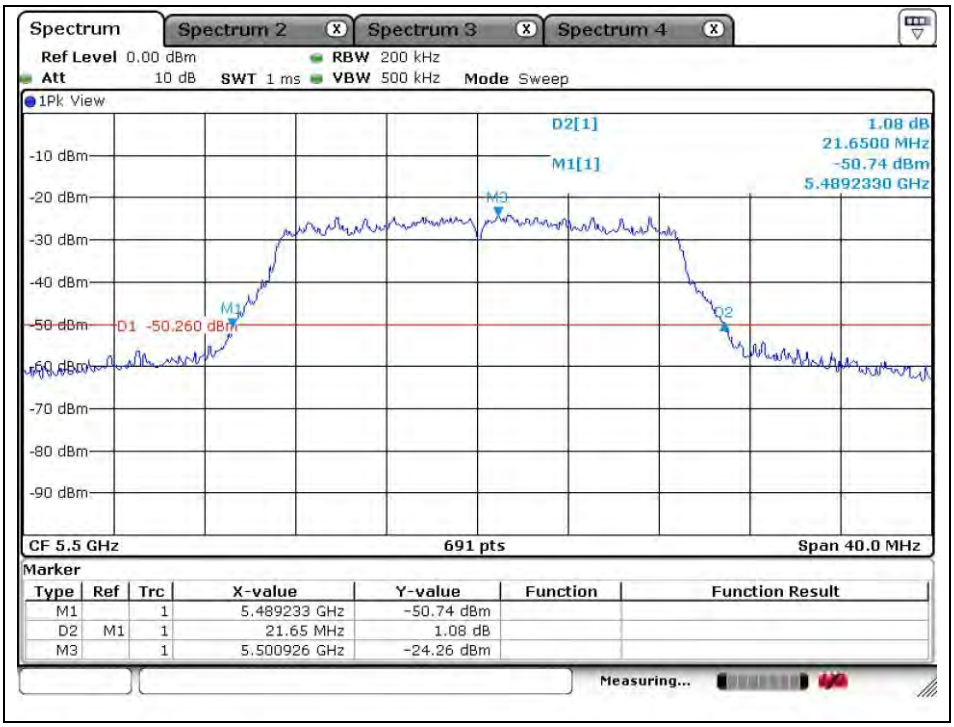


High channel (5 320 ㎒)

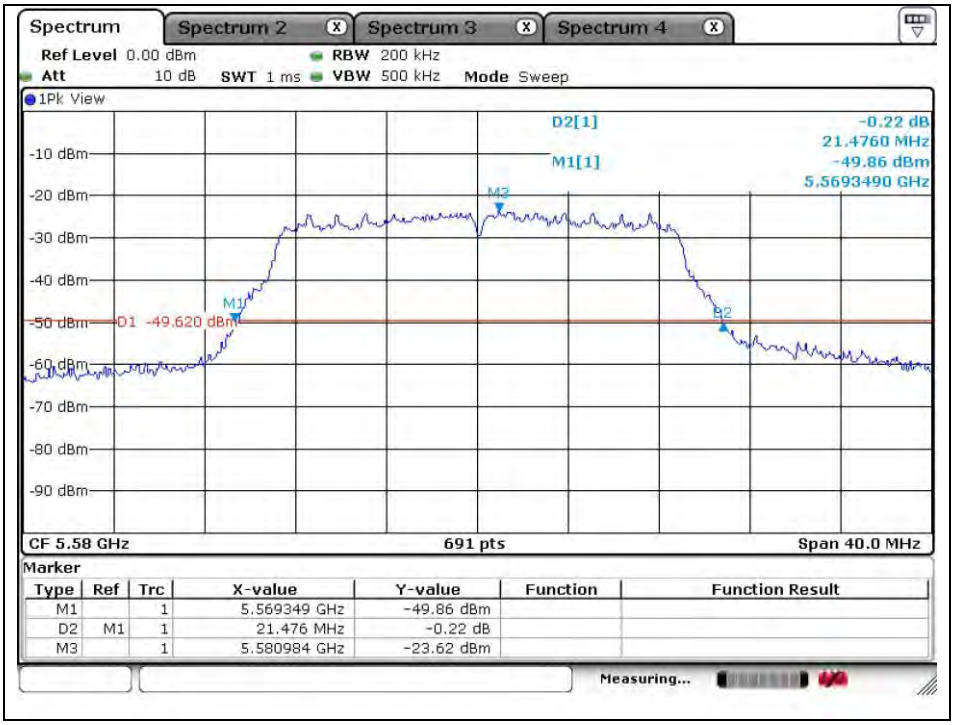


802.11n_HT20 (Band 2C)

Low channel (5 500 ㎒)

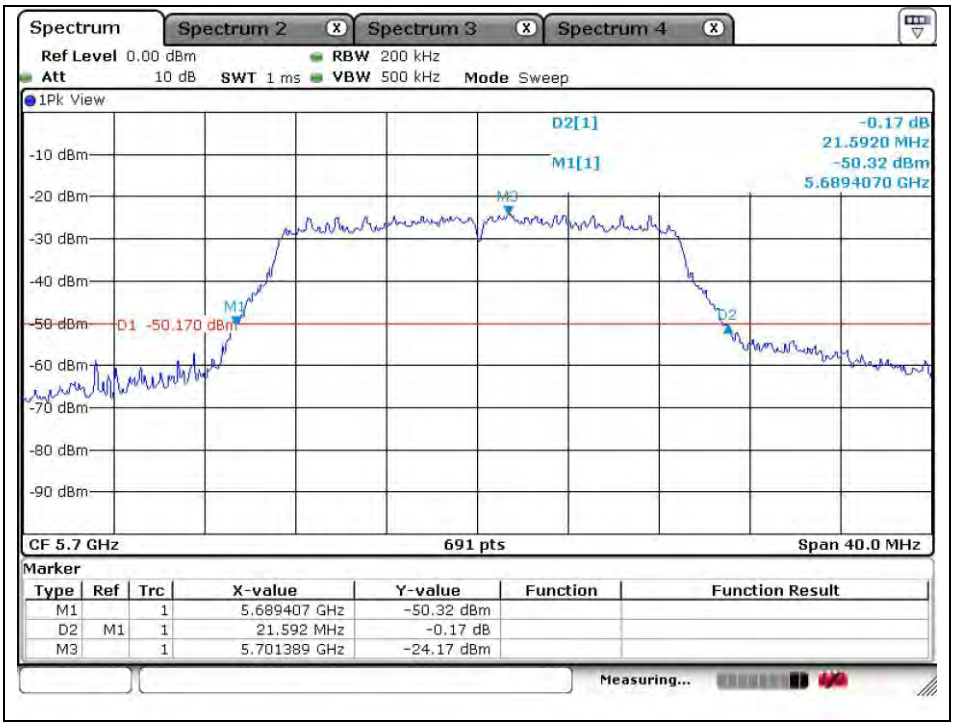


Middle channel (5 580 ㎒)



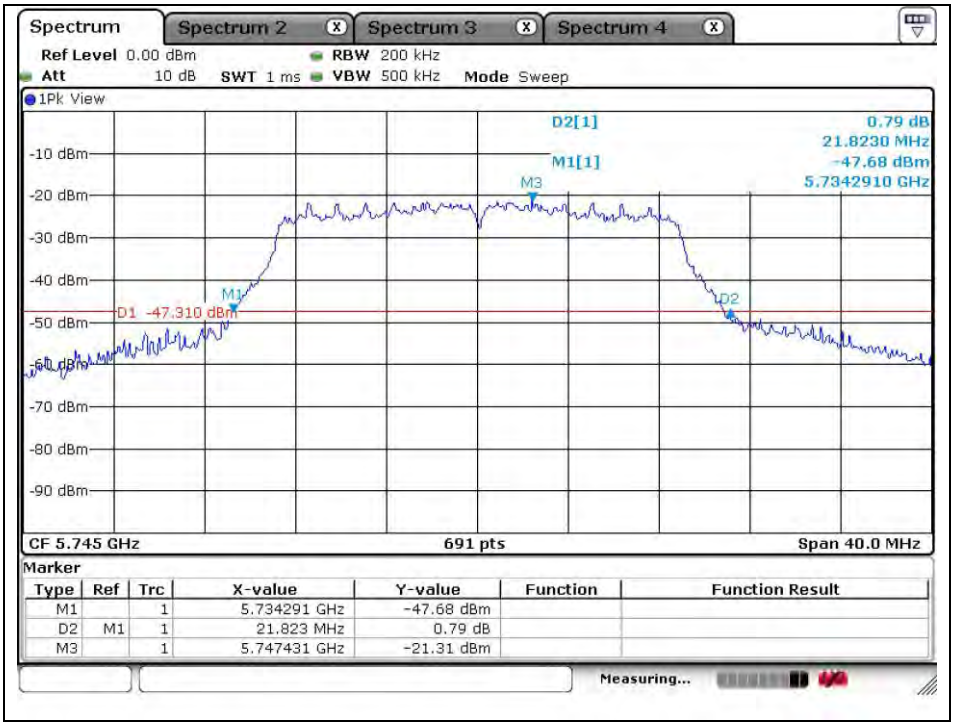
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 700 ㎒)

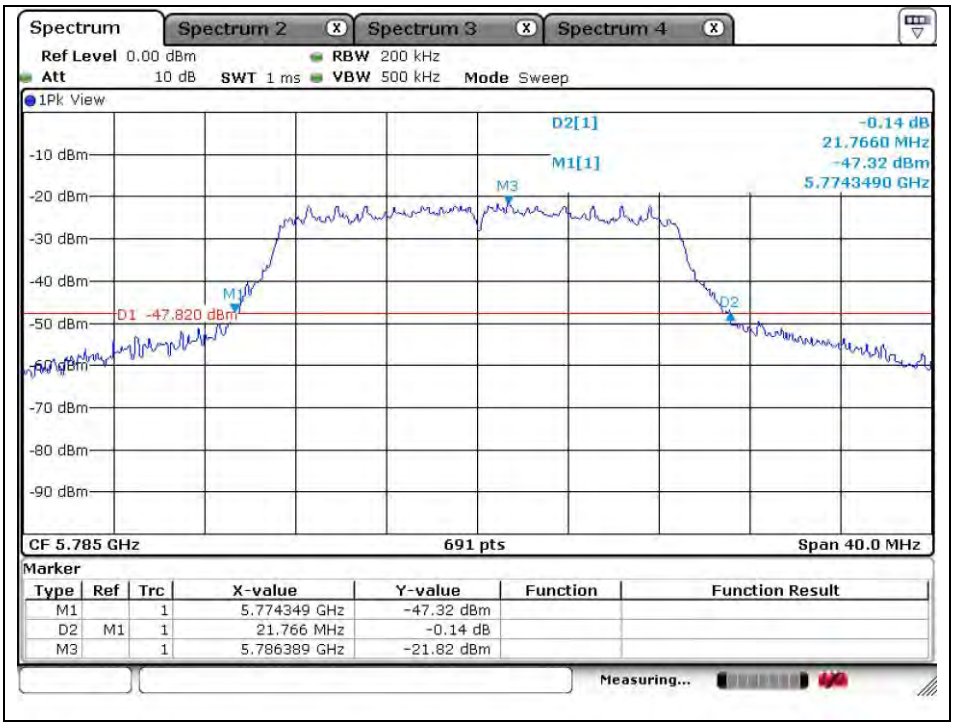


802.11n_HT20 (Band 3)

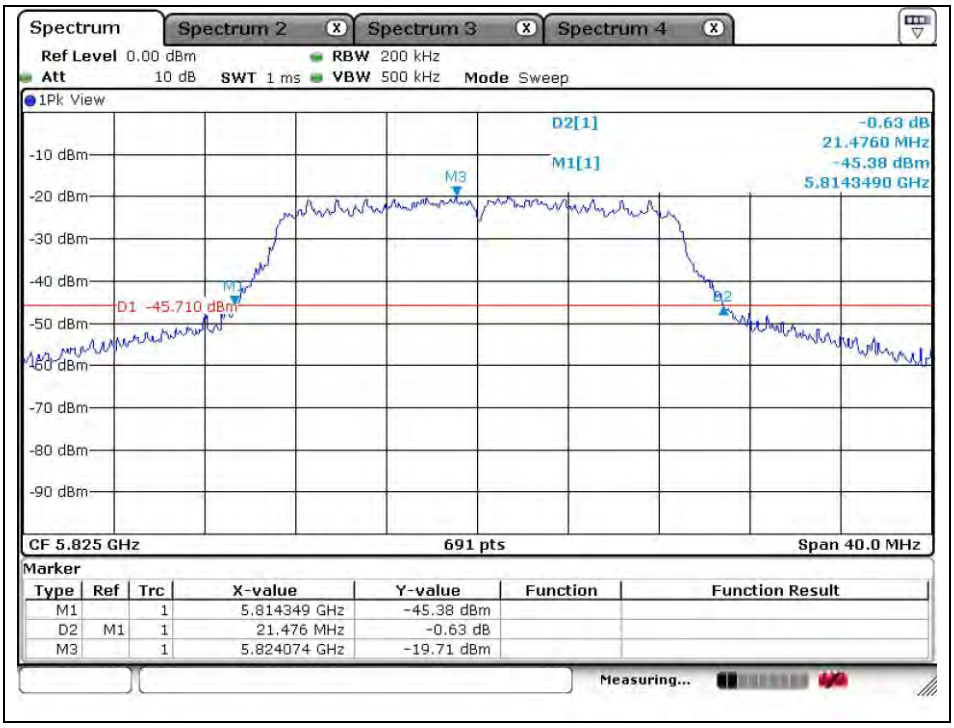
Low channel (5 745 ㎒)



Middle channel (5 785 ㎒)



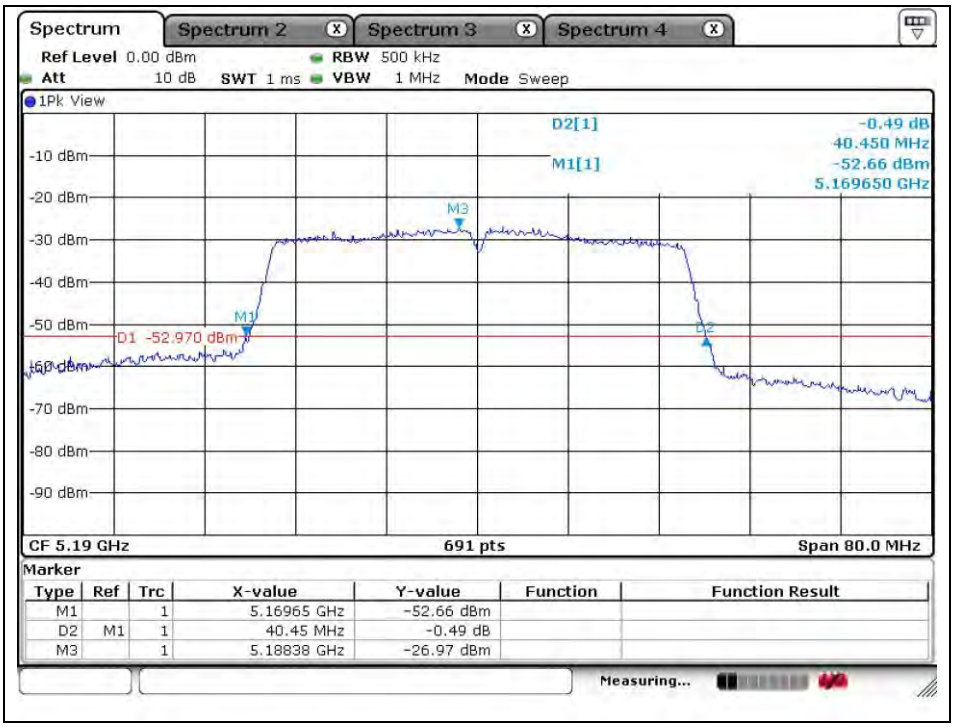
High channel (5 825 ㎒)



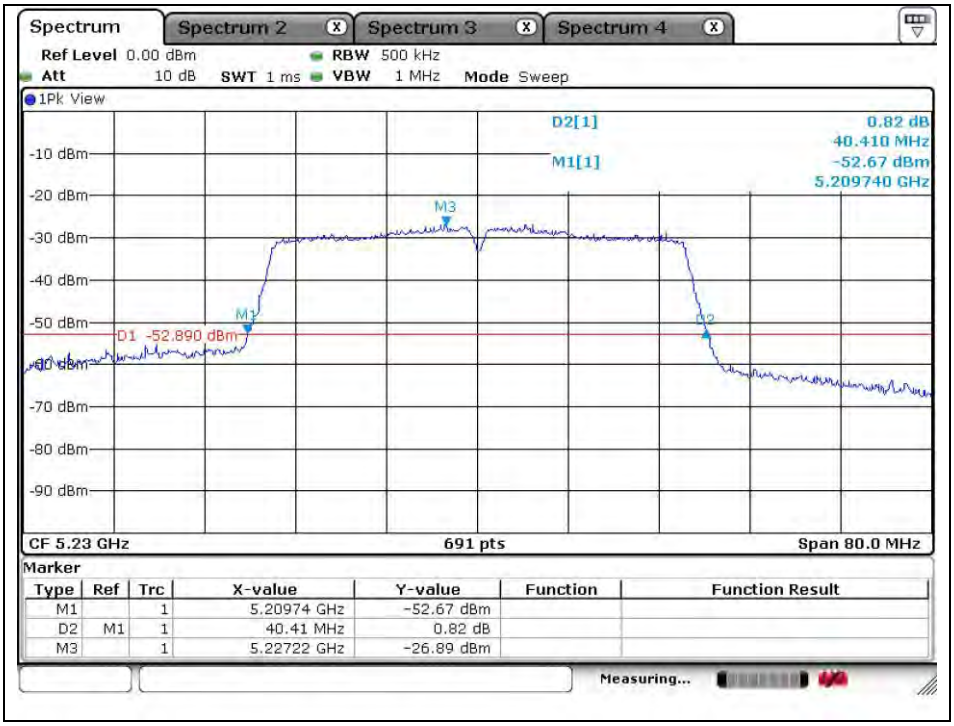
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 1)

Low channel (5 190 ㎒)



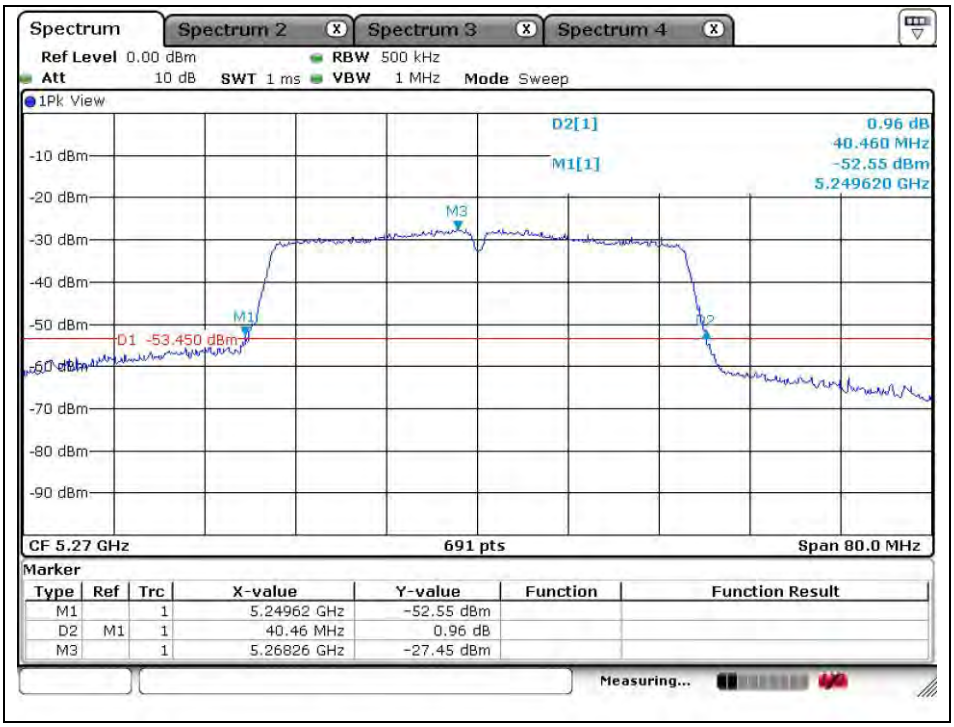
High channel (5 230 ㎒)



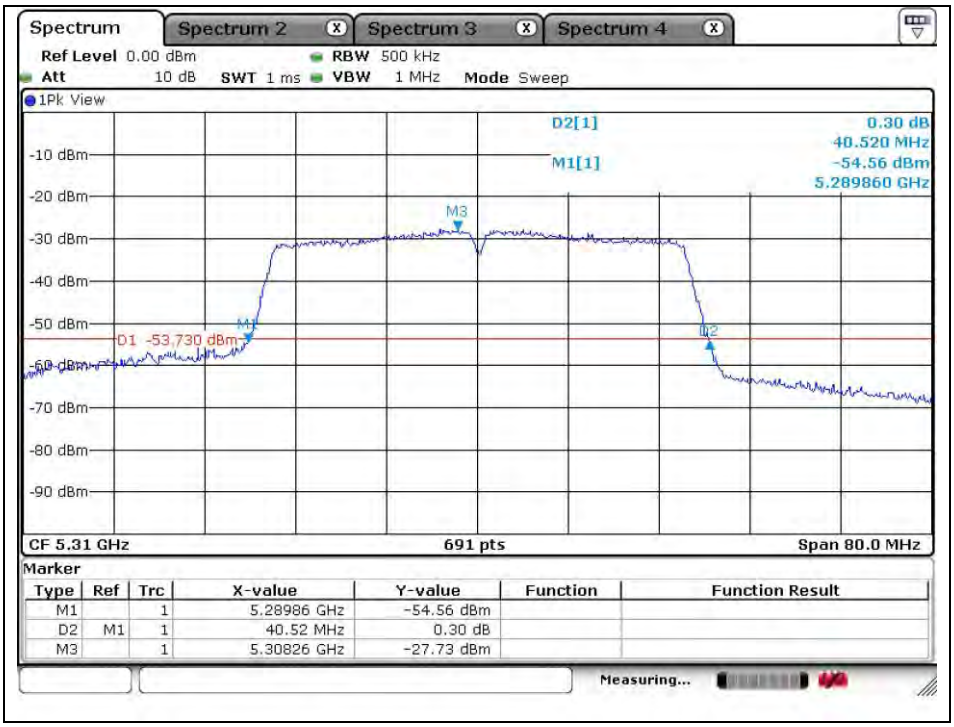
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 2A)

Low channel (5 270 ㎒)

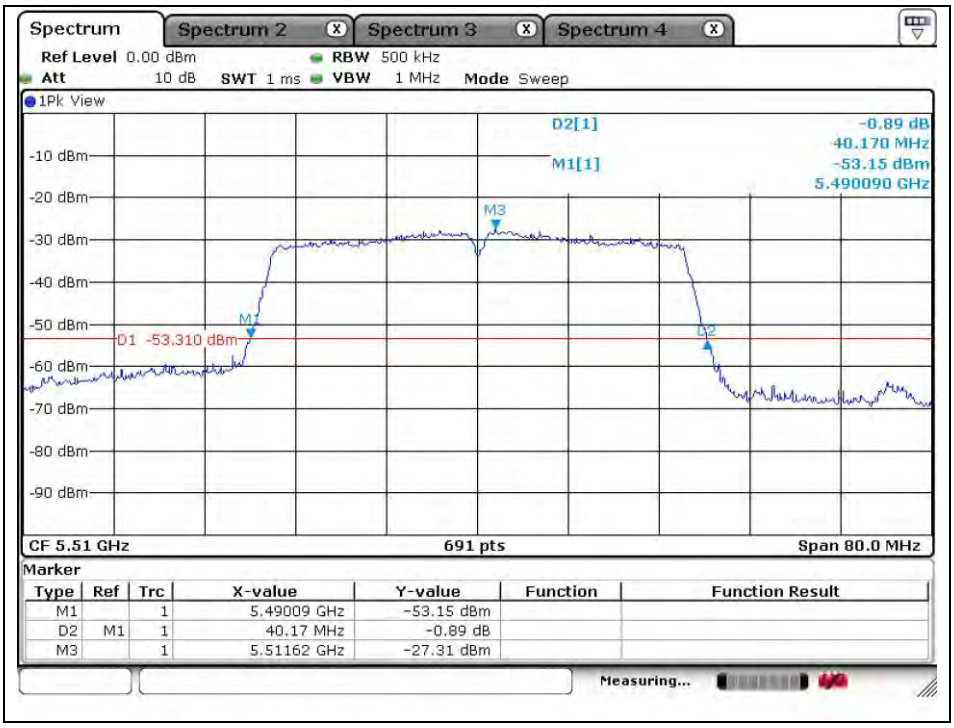


High channel (5 310 ㎒)

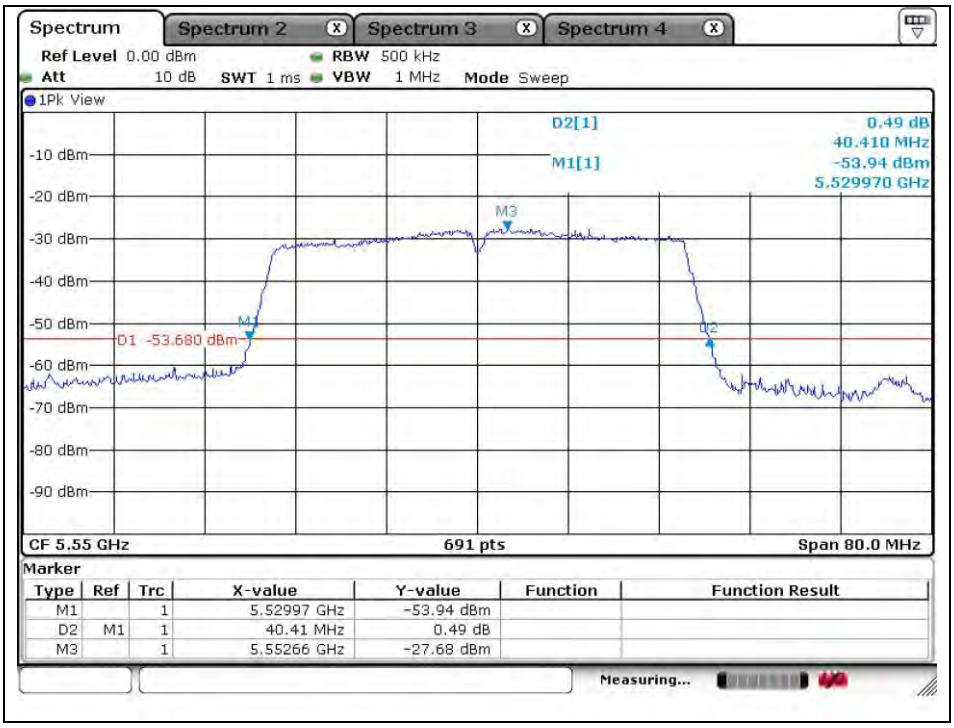


802.11n_HT40 (Band 2C)

Low channel (5 510 ㎒)

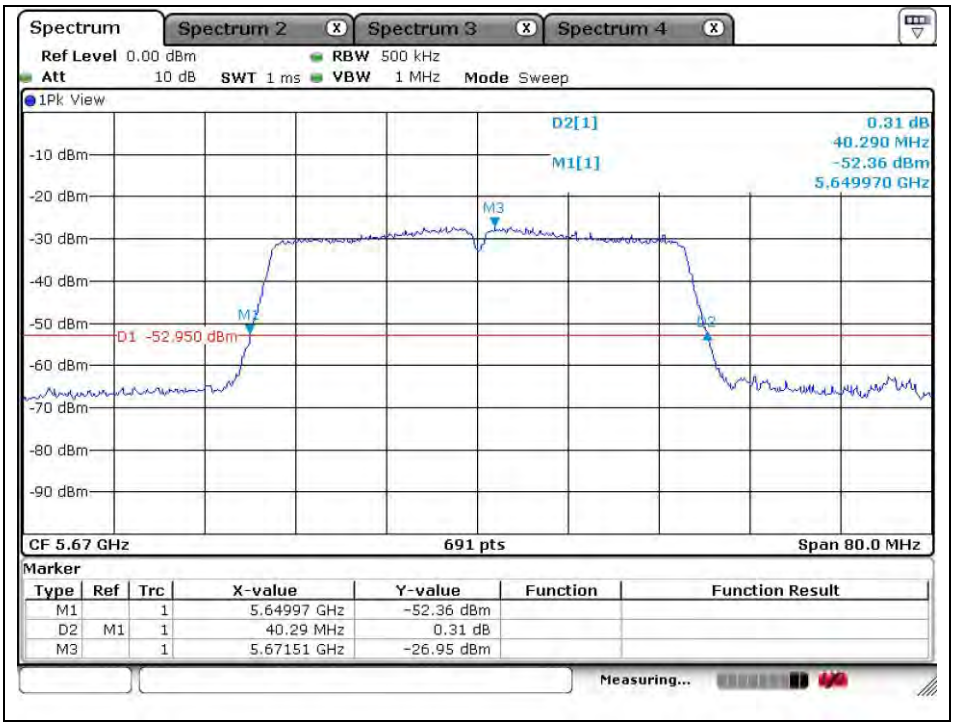


Middle channel (5 550 ㎒)



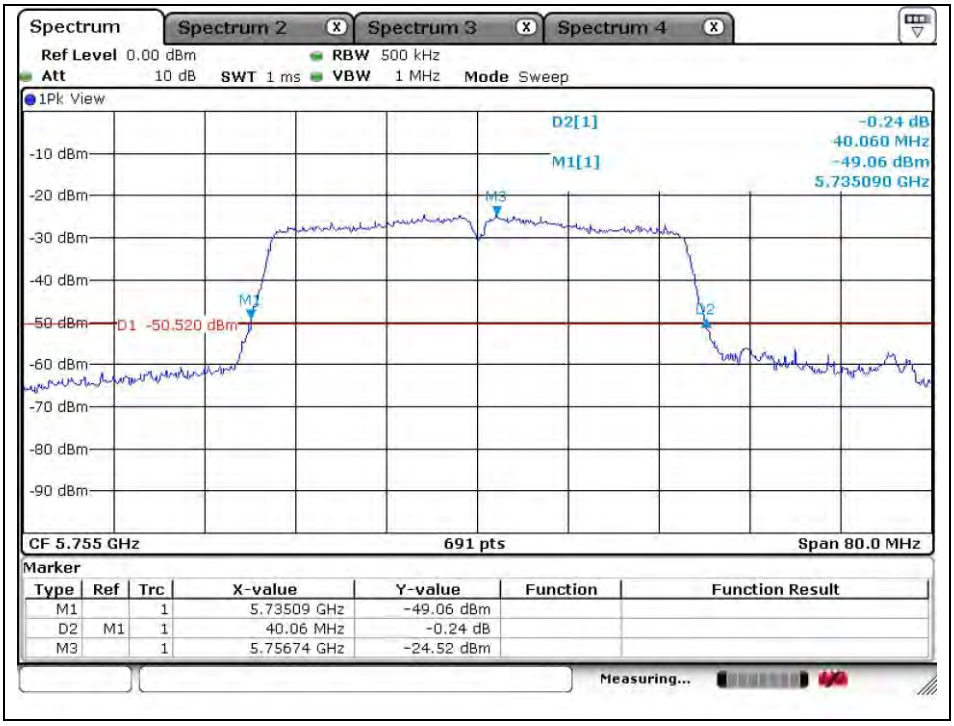
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 670 ㎒)



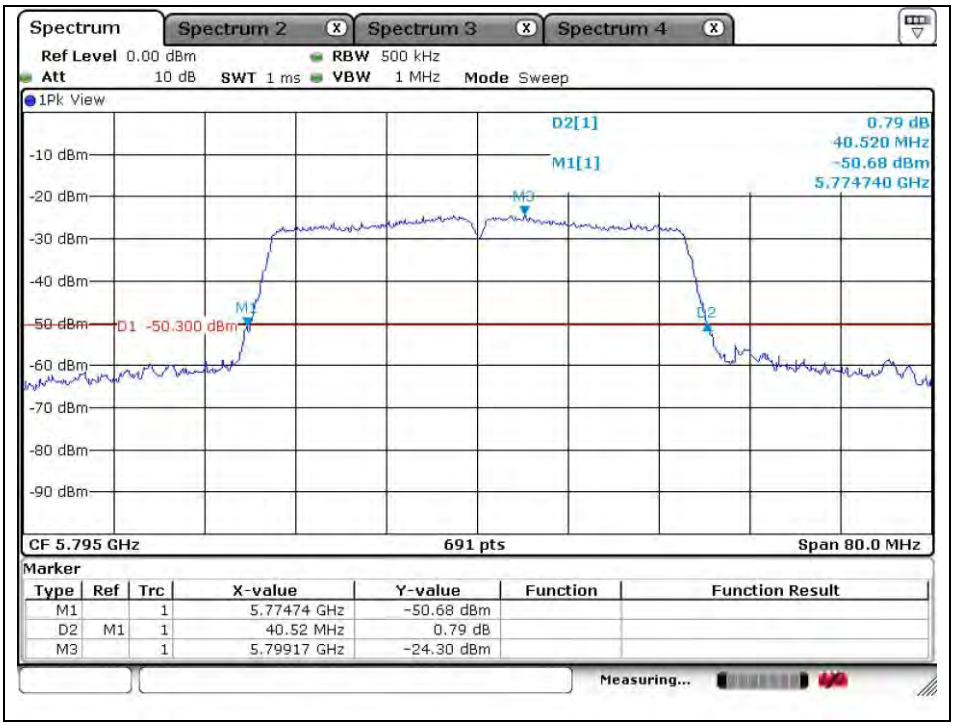
802.11n_HT40 (Band 3)

Low channel (5 755 ㎒)



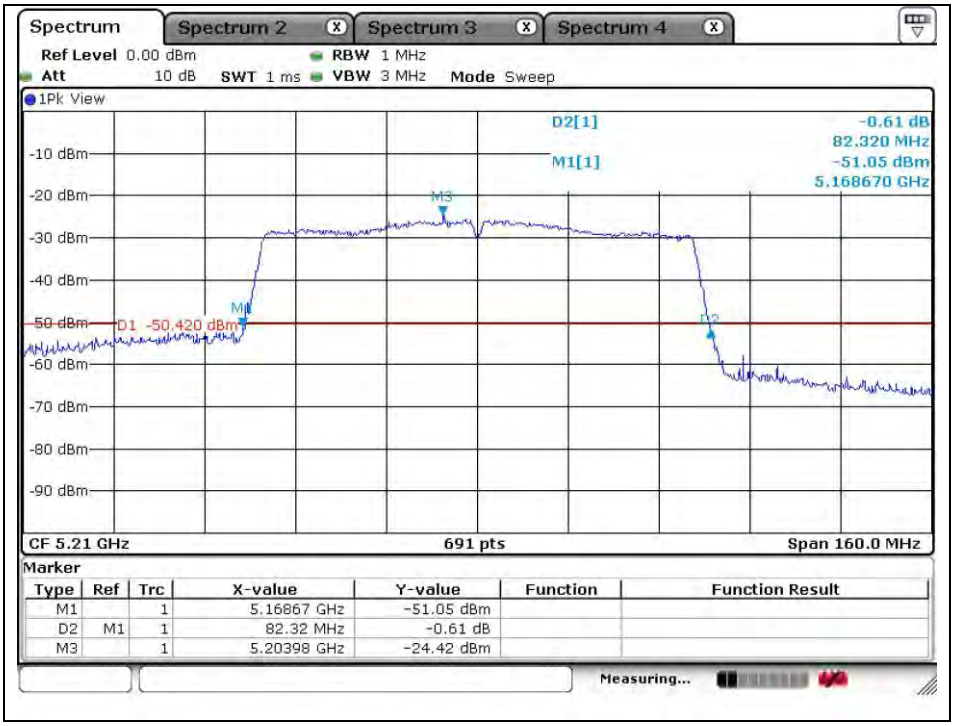
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 795 ㎒)



802.11ac_VHT80 (Band 1)

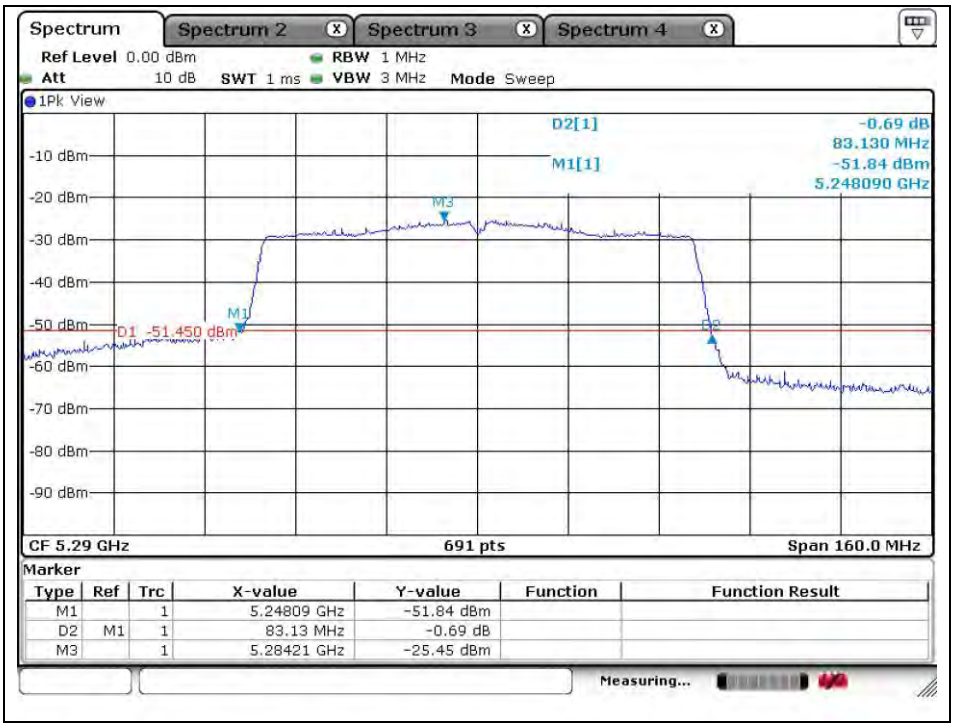
Middle channel (5 210 ㎒)



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.

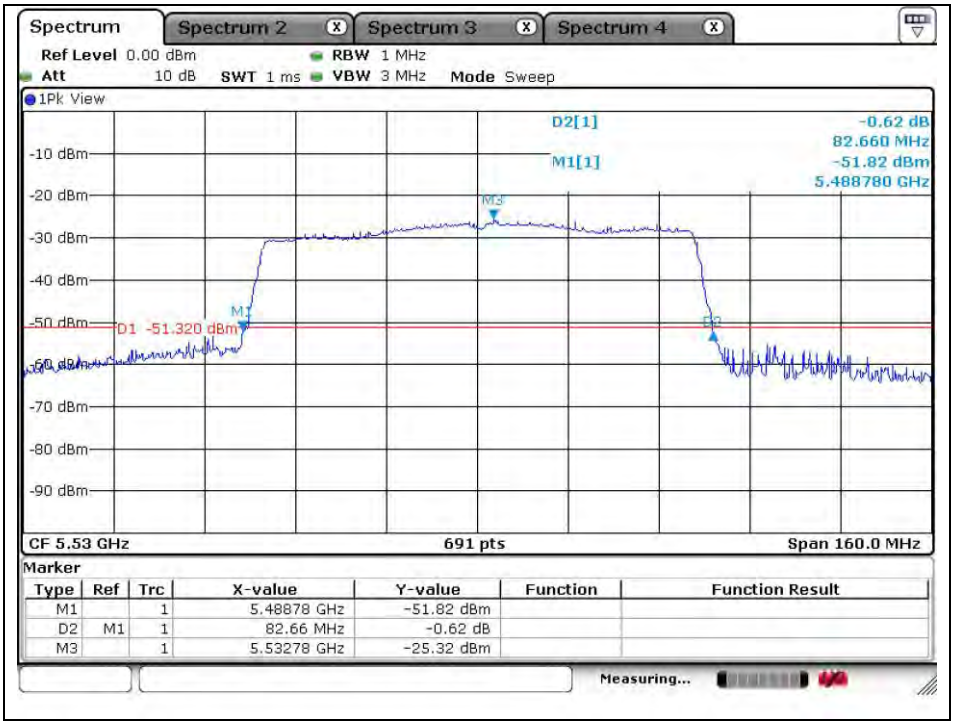
802.11ac_VHT80 (Band 2A)

Middle channel (5 290 ㎒)

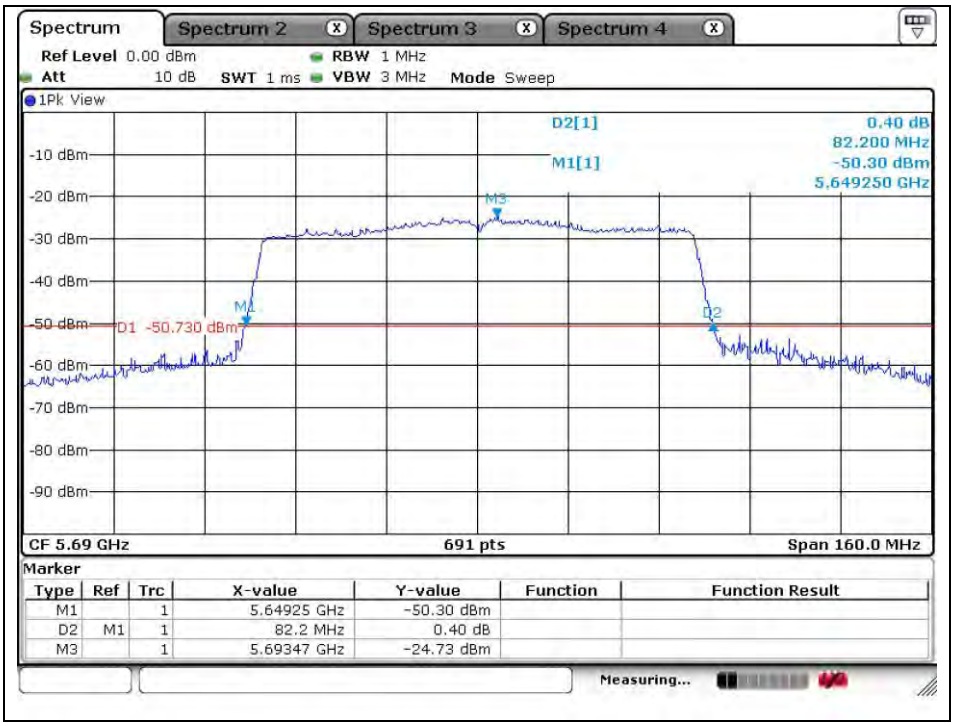


802.11ac_VHT80 (Band 2C)

Low channel (5 530 ㎒)

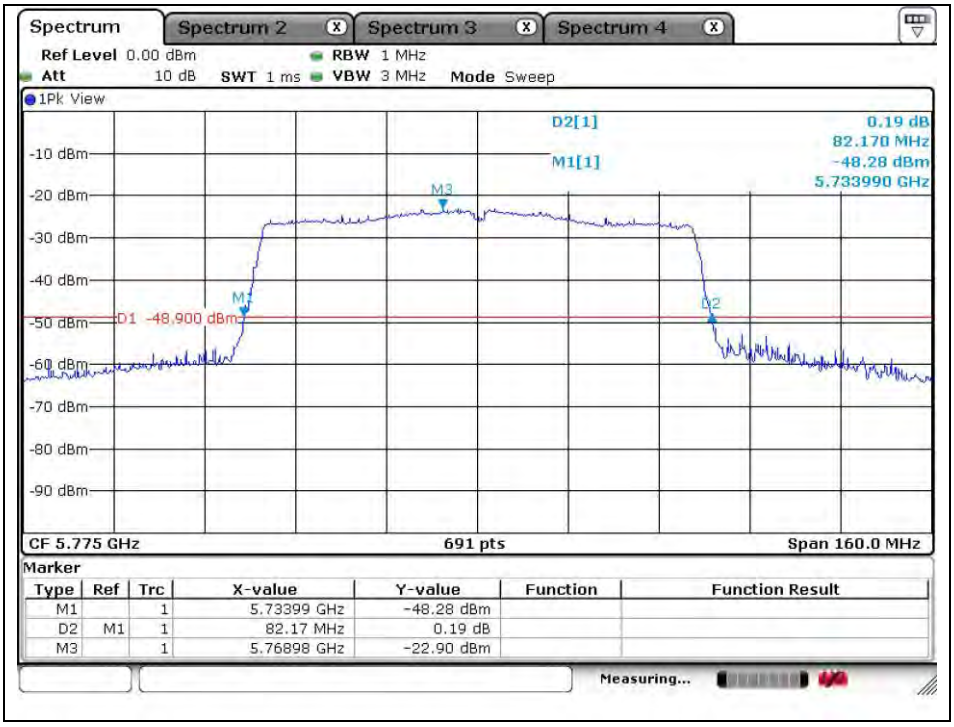


High channel (5 690 ㎒)



802. 11ac_VHT80 (Band 3)

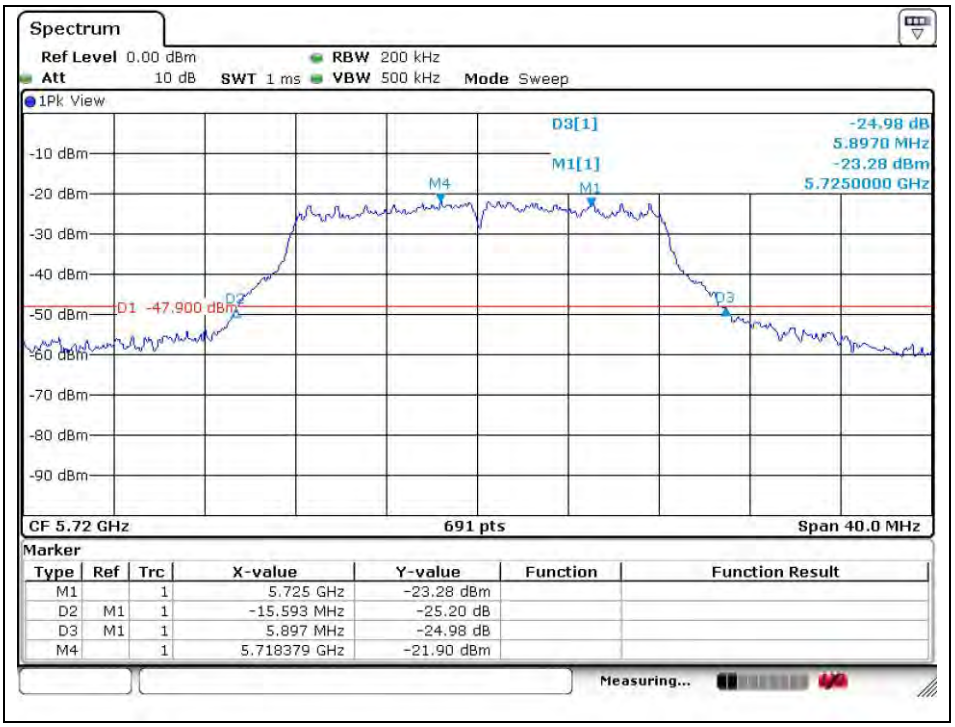
Middle channel (5 775 ㎒)



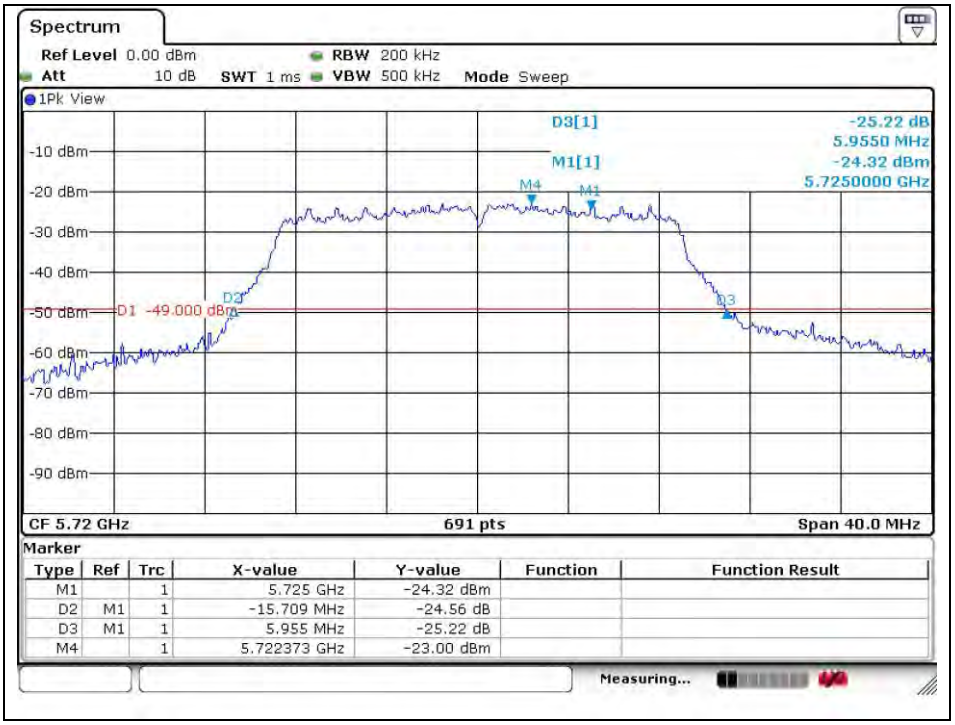
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Band-crossing channels

802.11a (5 720 ㎒)

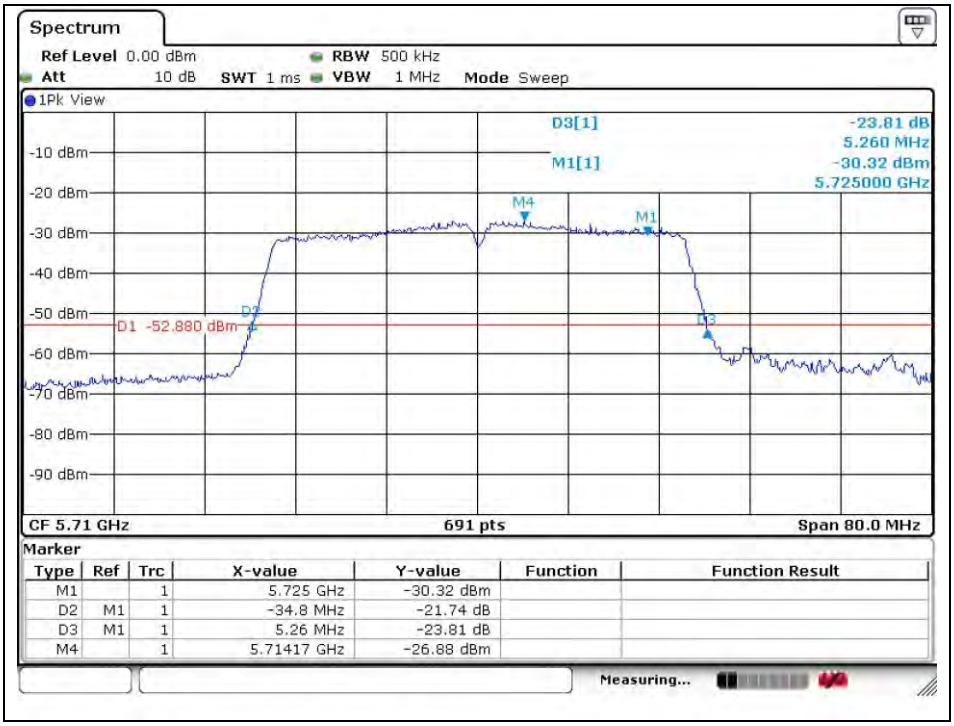


802.11n_HT20 (5 720 ㎒)

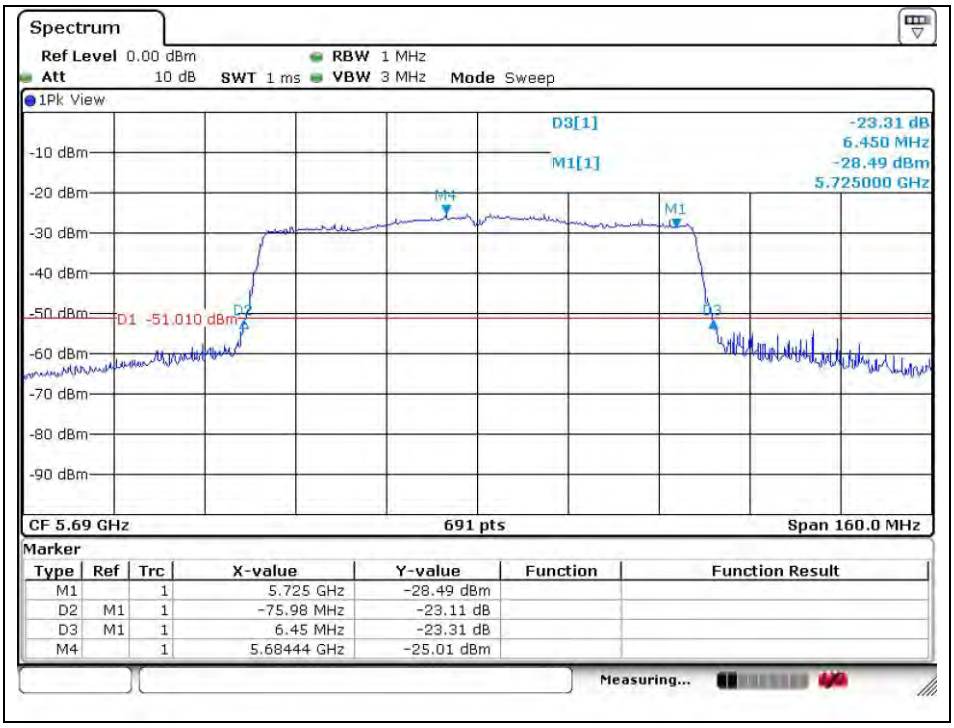


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (5 710 ㎒)



802.11ac_VHT80 (5 690 ㎒)



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.

4. 6 ㏈ bandwidth

4.1. Test setup

EUT	—	Attenuator	—	Spectrum Analyzer

4.2. Limit

FCC

§15.407(e), Within the 5.725-5.85 ㎓ band, the minimum 6 ㏈ bandwidth of U-NII devices shall be at least 500 ㎑.

IC

RSS-247 Issue 1, 6.2.4(1), for equipment operating in the band 5 725-5 850 ㎒ the minimum -6 ㏈ Bandwidth shall be at least 500 ㎑.

4.3. 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 section C.2 of KDB 789033_v01r02.
2. Set RBW: 100 ㎑.
3. Set the video bandwidth (VBW) ≥ 3 x RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 ㏈ relative to the maximum level measured in the fundamental emission.
9. In case of band crossing channels 138, 142 and 144, the measurement is complied with section D of KDB 644545_D03 v01.

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.

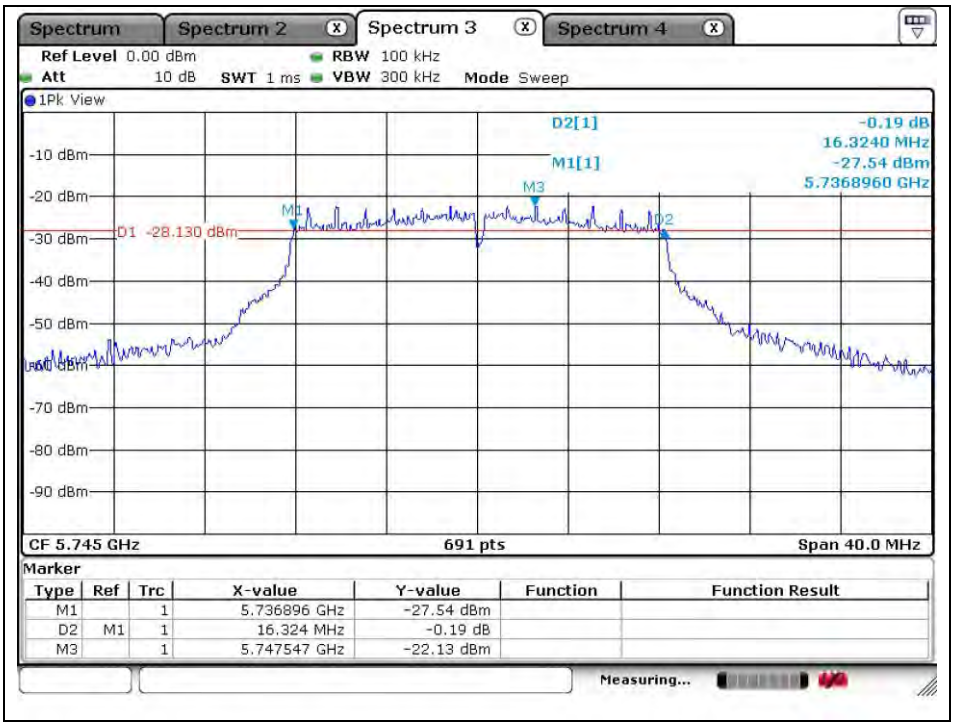
4.4. Test result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

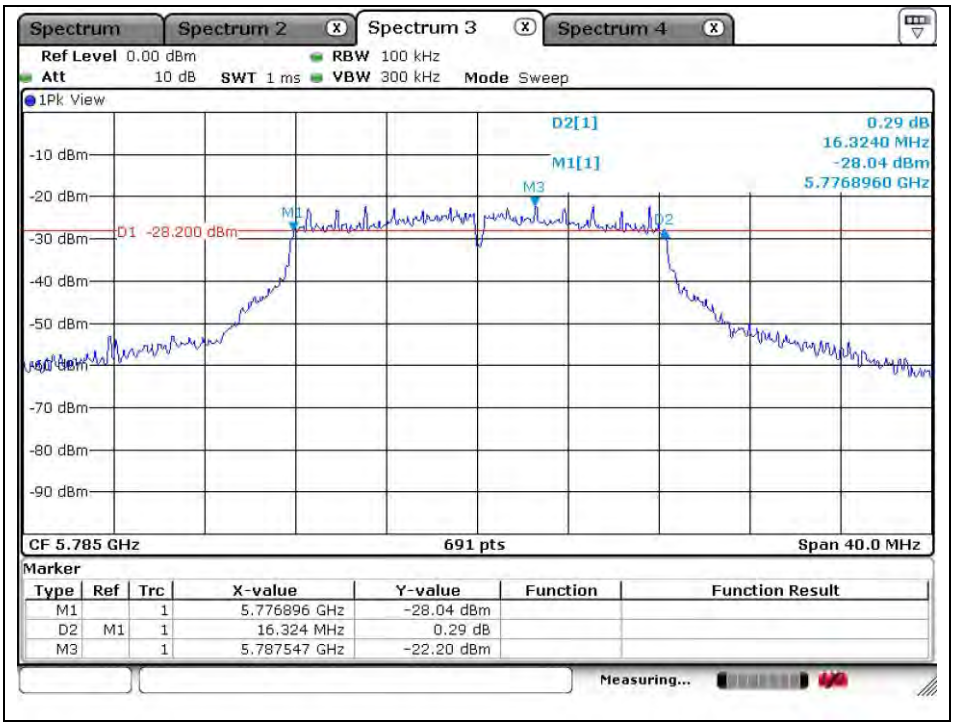
Band	Mode	Frequency (㎒)	Ch.	Data Rate (Mbps)	6 ㏈ Bandwidth (㎒)	Minimum Bandwidth (㎑)
U-NII 3	11a	5 745	149	6	16.324	500
		5 785	157	6	16.324	
		5 825	165	6	16.324	
	11n_HT20	5 745	149	MCS0	17.540	
		5 785	157	MCS0	17.540	
		5 825	165	MCS0	17.540	
	11n_HT40	5 755	151	MCS0	36.280	
		5 795	159	MCS0	36.240	
	11ac_VHT80	5 775	155	MCS0	75.690	
U-NII 3 (Band-Crossing channels)	11a	5 720	144	6	3.220	
	11n_HT20	5 720	144	MCS0	3.857	
	11n_HT40	5 710	142	MCS0	3.280	
	11ac_VHT80	5 690	138	MCS0	3.280	

802.11a (Band 3)

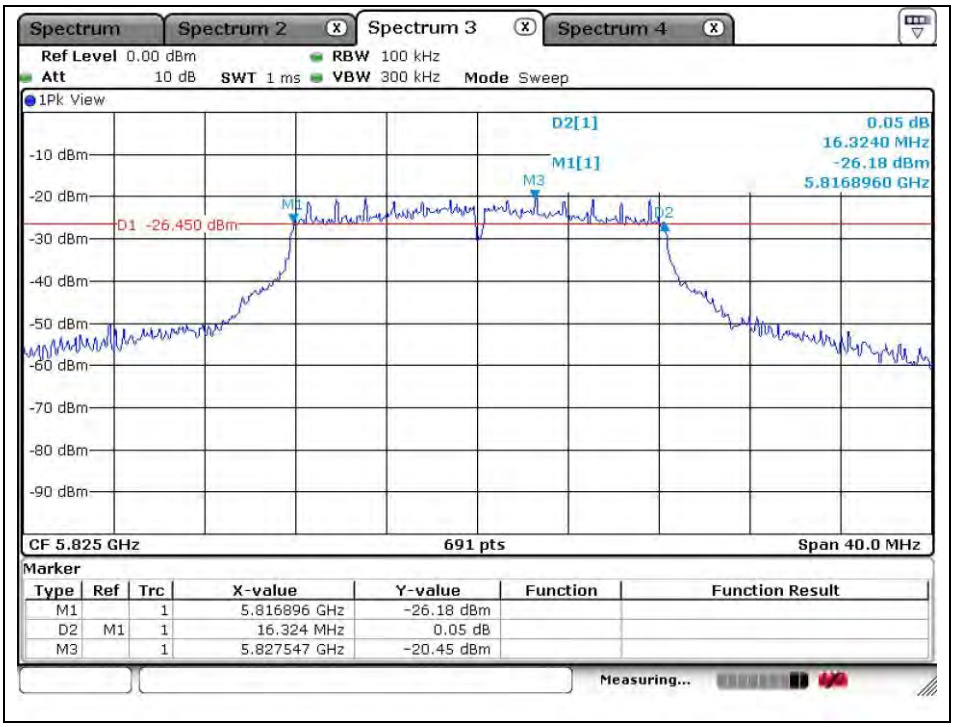
Low channel (5 745 ㎒)



Middle channel (5 785 ㎒)



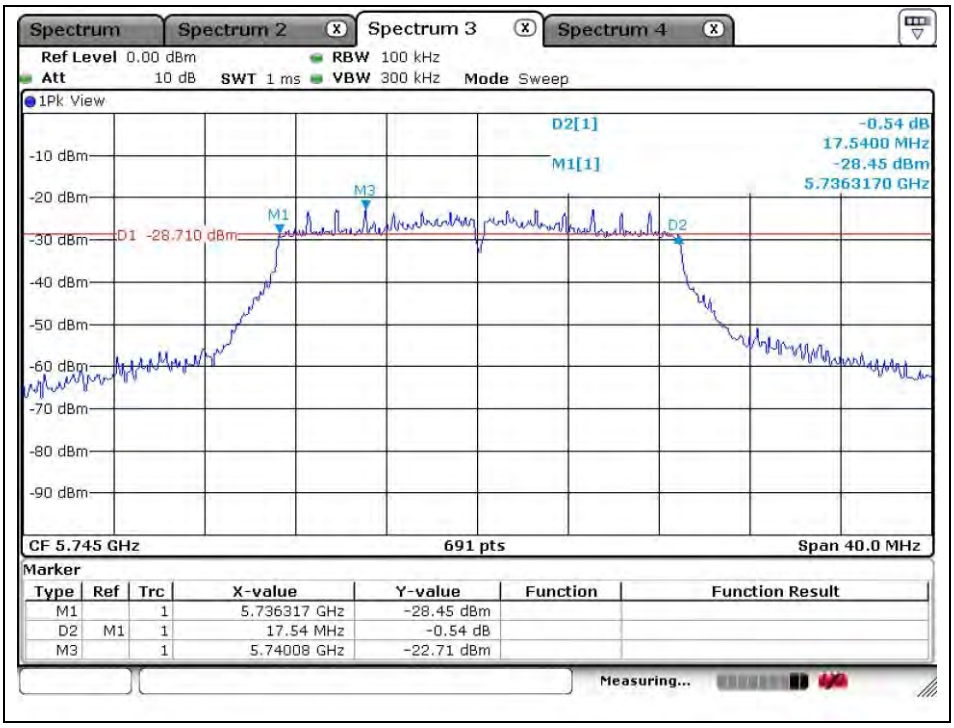
High channel (5 825 ㎒)



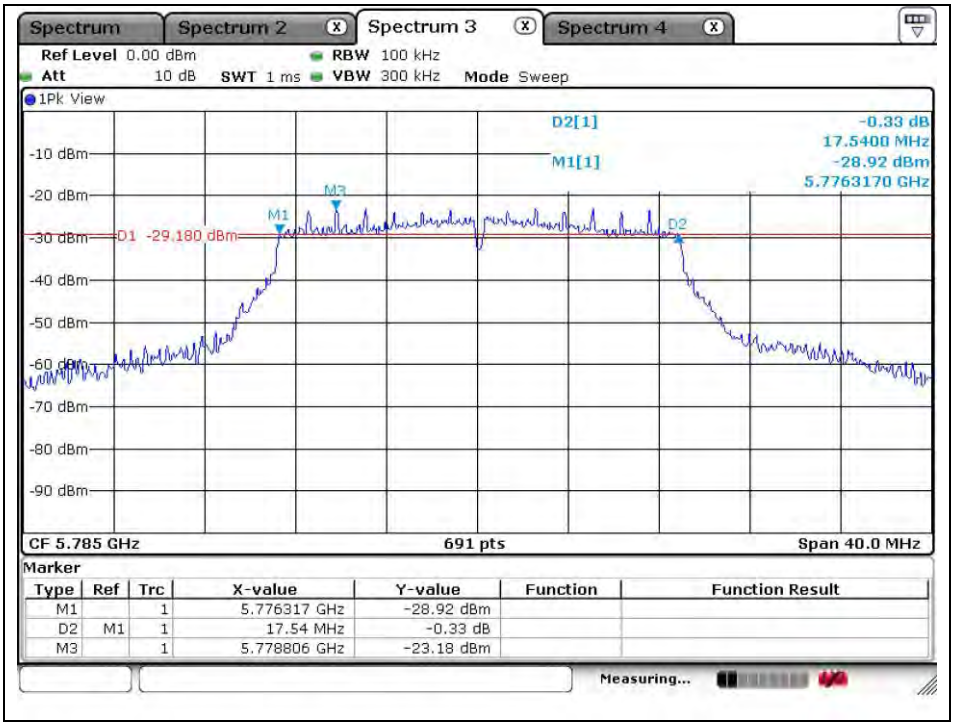
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT20 (Band 3)

Low channel (5 745 ㎒)

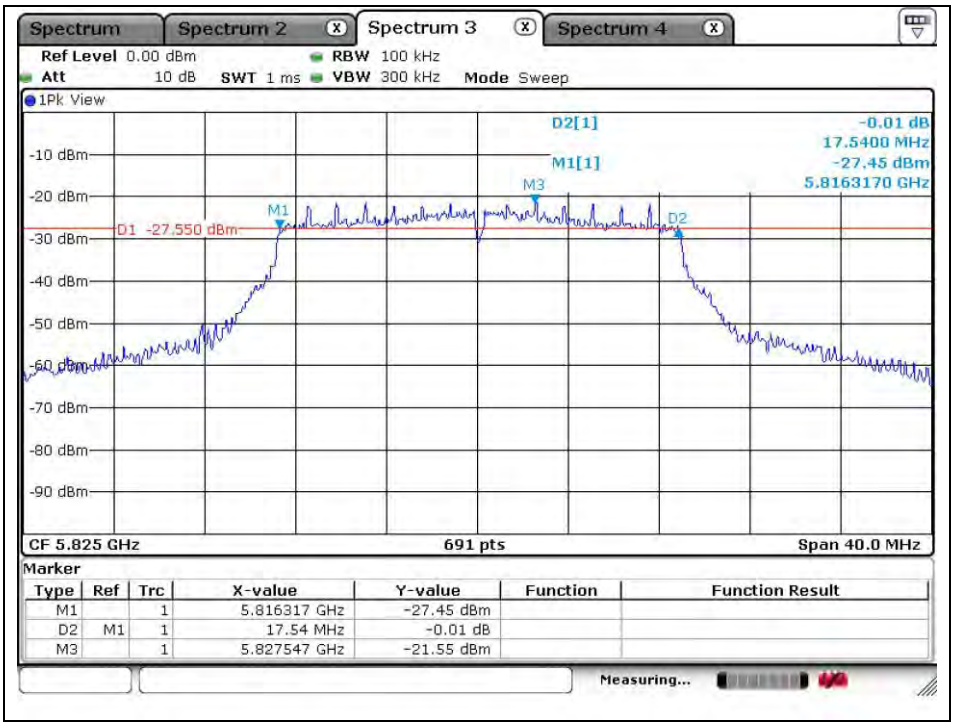


Middle channel (5 785 ㎒)



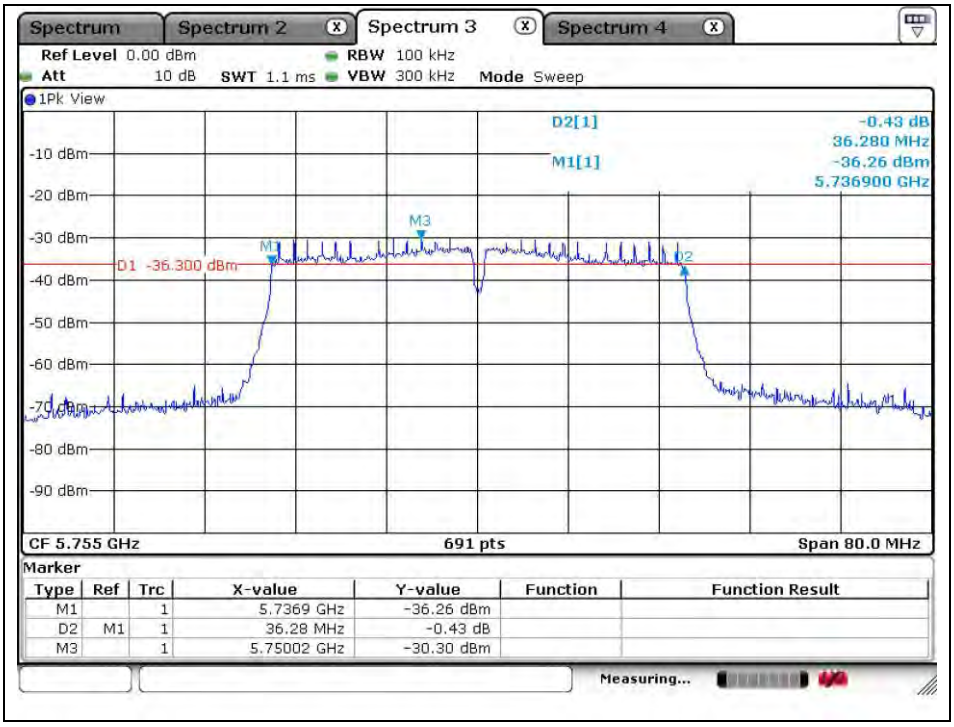
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 825 ㎒)



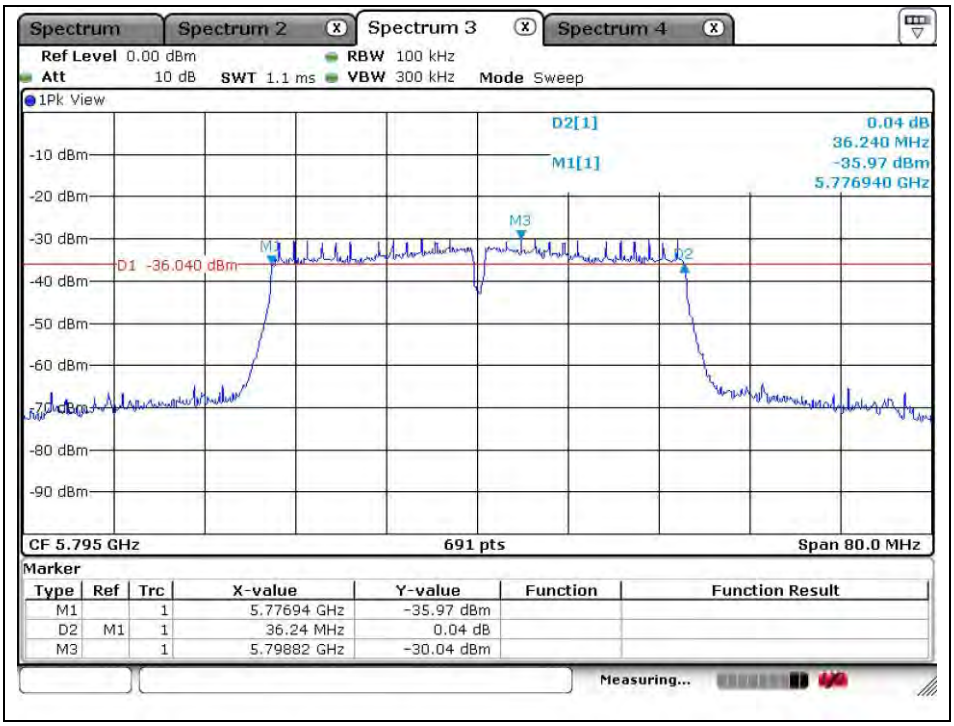
802.11n_HT40 (Band 3)

Low channel (5 755 ㎒)



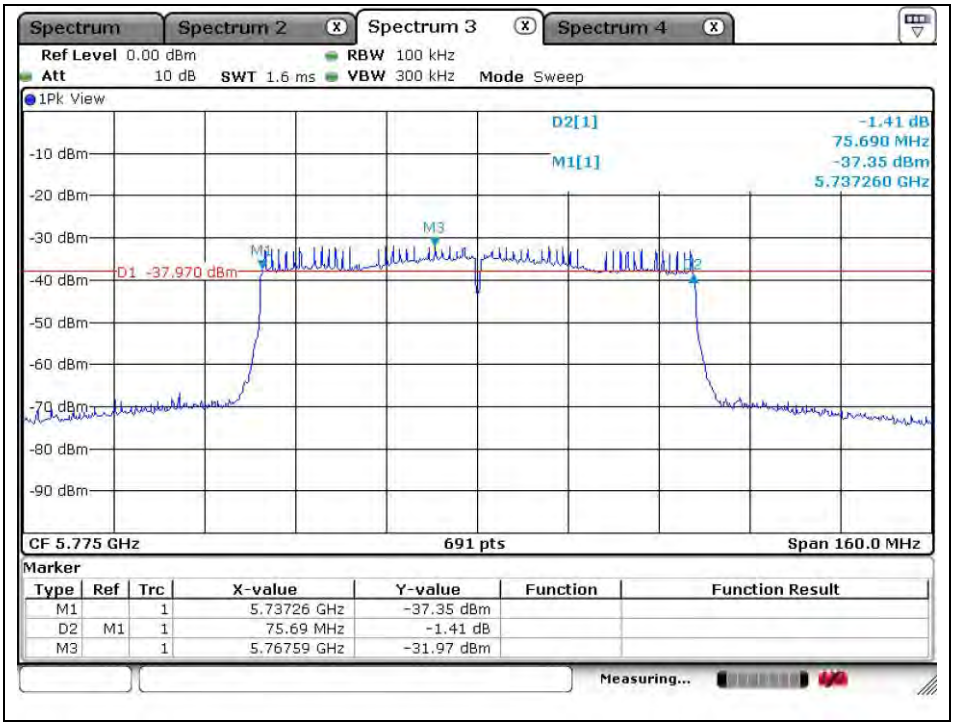
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 795 ㎒)



802.11ac_VHT80 (Band 3)

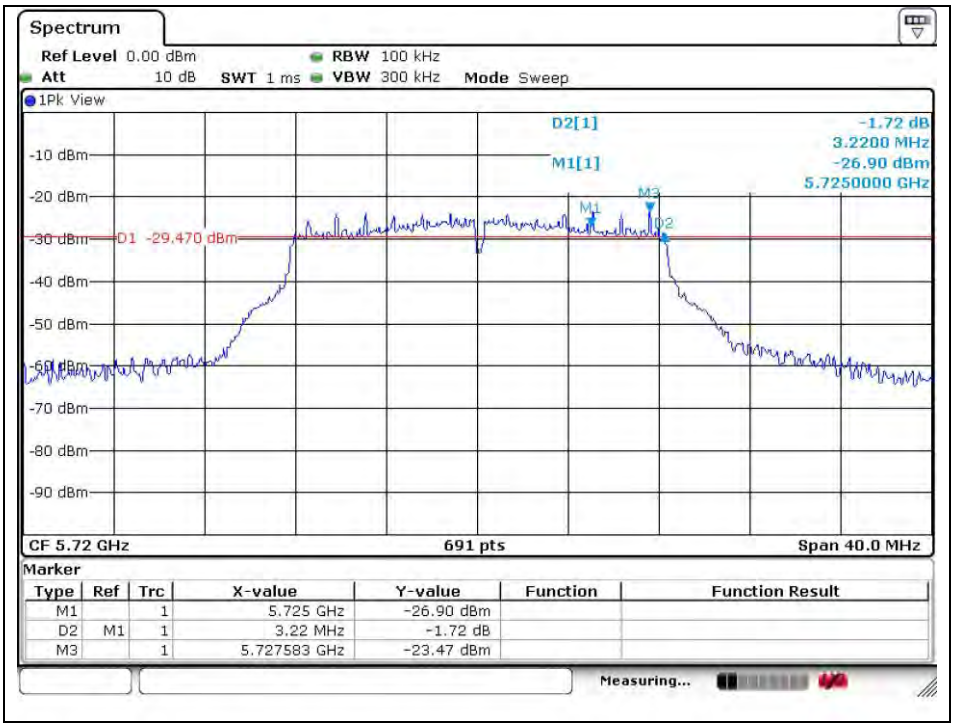
Middle channel (5 775 ㎒)



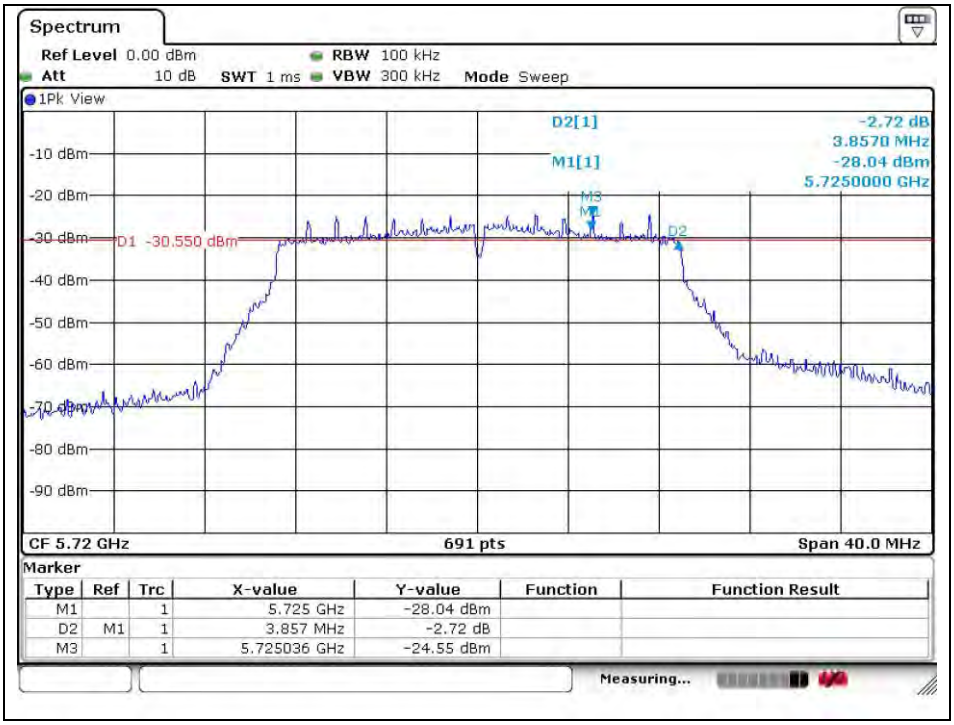
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Band-crossing channels

802.11a (5 720 ㎒)

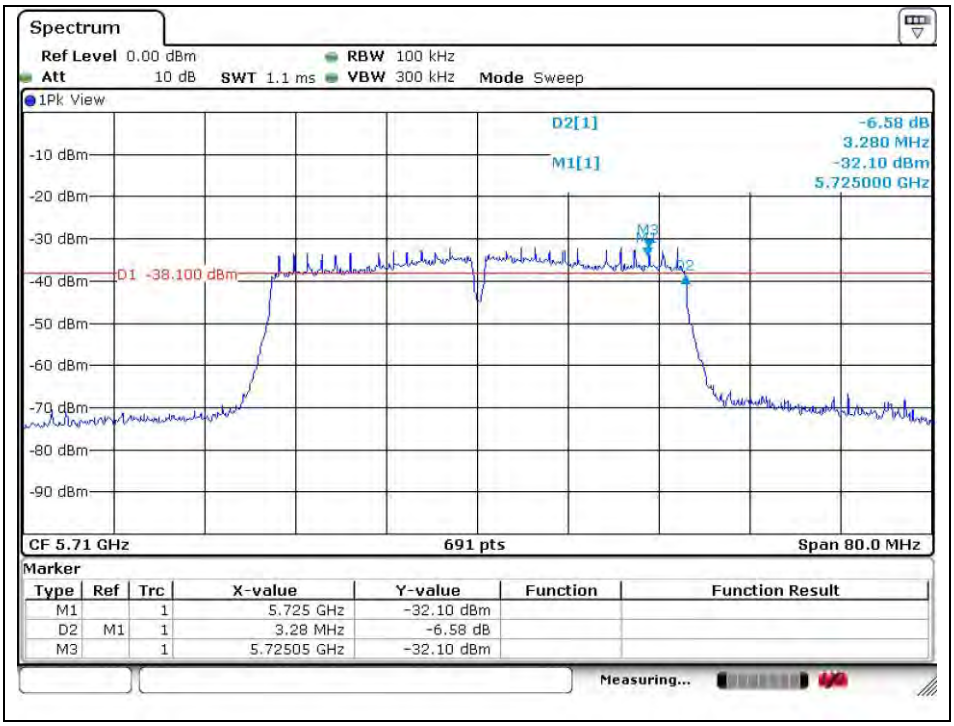


802.11n_HT20 (5 720 ㎒)

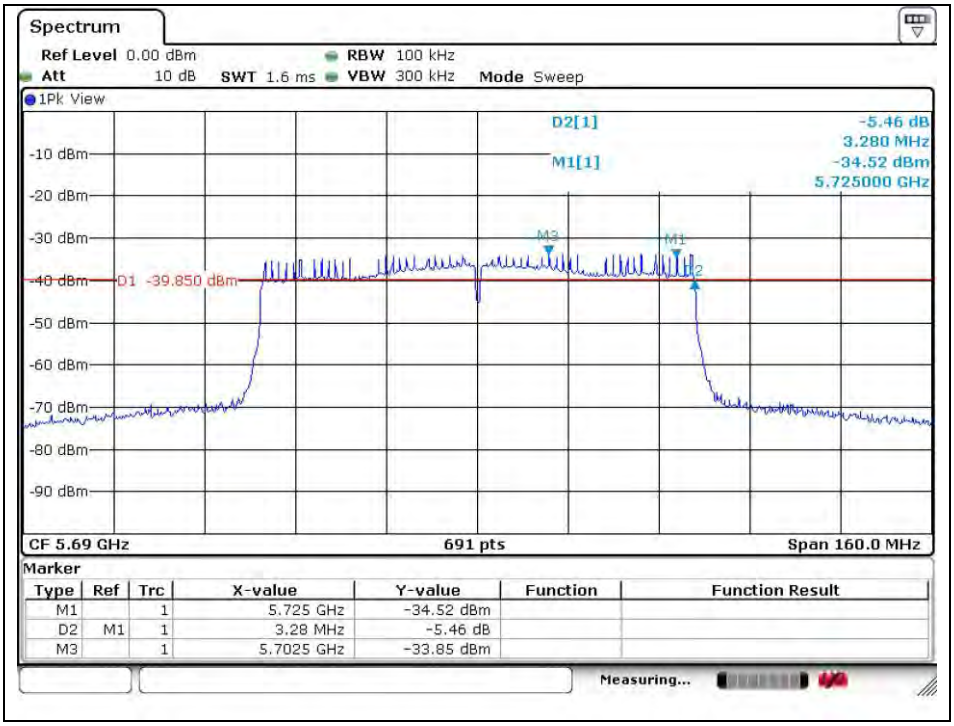


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (5 710 ㎒)

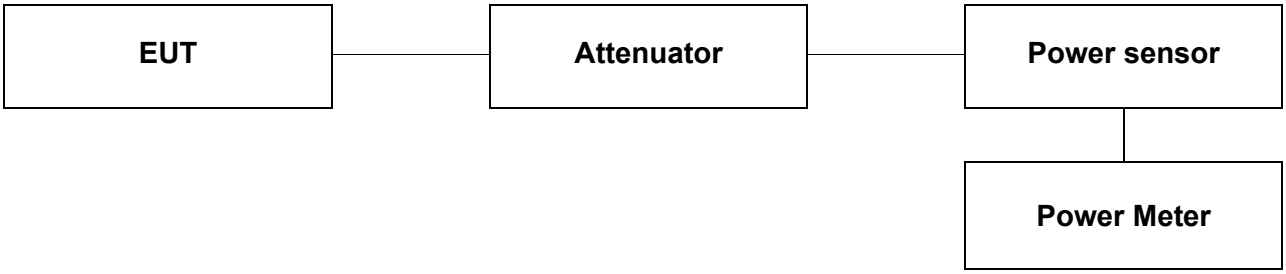


802.11ac_VHT80 (5 690 ㎒)



5. Maximum Conducted Output Power

5.1. Test setup



5.2. Limit

FCC

15.407 (a)(1)(iv)

For client devices in the 5.15-5.25 ㎓ band, the maximum conducted output power over the frequency band of operation shall not exceed 250 ㎽ provided the maximum antenna gain does not exceed 6 ㏈ i. In addition, the maximum power spectral density shall not exceed 11 ㏈ m in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 ㏈ i are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in ㏈ that the directional gain of the antenna exceeds 6 ㏈ i.

15.407 (a)(2)

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

15.407 (a)(3)

For the band 5.725-5.85 ㎓, 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 ㏈ m in any 500-㎑ band. If transmitting antennas of directional gain greater than 6 ㏈ i are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in ㏈ that the directional gain of the antenna exceeds 6 ㏈ i. However, fixed point-to point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 ㏈ i 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.

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.

IC

RSS-247 Issue 1, 6.2.1 (1) Band 5 150-5 250 ㎒

The maximum e.i.r.p. shall not exceed 200 ㎽ or 10 + 10 $\log_{10}$B, ㏈m, whichever power is less. B is the 99 % emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 ㏈m in any 1.0 ㎒ band.

RSS-247 Issue 1, 6.2.2 (1) Band 5 250-5 350 ㎒

The maximum conducted output power shall not exceed 250 ㎽ or 11 + 10 $\log_{10}$B, ㏈m, whichever is less. The power spectral density shall not exceed 11 ㏈m in any 1.0 ㎒ band.

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

RSS-247 Issue 1, 6.2.3 (1) Band 5 470-5 600 ㎒ and 5 650-5 725 ㎒

The maximum conducted output power shall not exceed 250 ㎽ or 11 + 10 $\log_{10}$B, ㏈m, whichever is less. The power spectral density shall not exceed 11 ㏈m in any 1.0 ㎒ band.

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

RSS-247 Issue 1, 6.2.4 (1) Band 5 725-5 825 ㎒

For equipment operating in the band 5 725-5 850 ㎒, the minimum 6 ㏈ bandwidth shall be at least 500 ㎑. The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 ㏈m in any 500 ㎑ band. If transmitting antennas of directional gain greater than 6 ㏈i are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in ㏈ that the directional gain of the antenna exceeds 6 ㏈i. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 ㏈i without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

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.

5.3. Test procedure

1. This measurement settings are specified in section E.3.a of KDB 789033_v01r02.
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 II.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 dBm 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).
6. In case of band crossing channels 138, 142 and 144, the measurement is complied with section E.2.d of KDB 789033_D02 v01r02 and section D of KDB 644545_D03 v01.

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.

5.4. Test result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

Mode	Band	Frequency (㎒)	Conducted Power (㏈m)			
			Data Rate [Mbps]	Average Power (㏈m)	Duty Correction Factor (㏈)	Average Power Result (㏈m)
11a	U-NII 1	5 180	6	15.28	0.09	15.37
		5 200	6	15.04	0.09	15.13
		5 240	6	14.77	0.09	14.86
	U-NII 2A	5 260	6	14.50	0.09	14.59
		5 280	6	14.25	0.09	14.34
		5 320	6	14.58	0.09	14.67
	U-NII 2C	5 500	6	13.86	0.09	13.95
		5 580	6	12.65	0.09	12.74
		5 700	6	12.06	0.09	12.15
	U-NII 3	5 745	6	12.10	0.09	12.19
		5 785	6	12.69	0.09	12.78
		5 825	6	13.20	0.09	13.29

FCC Limit

Band	Conducted Power Limit (㏈m)					
	Frequency (㎒)	Fixed Limit (㏈m)	26 ㏈ BW (㎒)	11+10LogB (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 1	5 180	23.98			0.91	23.98
	5 200					
	5 240					
U-NII 2A	5 260	23.98	21.447	24.31	0.91	23.98
	5 280		21.360	24.30		23.98
	5 320		21.418	24.31		23.98
U-NII 2C	5 500	23.98	21.360	24.30	0.69	23.98
	5 580		21.245	24.27		23.98
	5 700		21.360	24.30		23.98
U-NII 3	5 745	30			-1.52	30
	5 785					
	5 825					

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.

IC Limit

Band	Conducted Power Limit (dBm)					
	Frequency (MHz)	Fixed Limit (dBm)	99 % BW (MHz)	10+10Log$_{10}$B (dBm)	Antenna gain (dBi)	Limit (dBm)
U-NII 1	5 180	23.98	17.077	22.32	0.91	22.32
	5 200		17.077	22.32		22.32
	5 220		17.077	22.32		22.32
Band	**Frequency (MHz)**	**Fixed Limit (dBm)**	**99 % BW (MHz)**	**11+10Log$_{10}$B (dBm)**	**Antenna gain (dBi)**	**Limit (dBm)**
U-NII 2A	5 260	23.98	17.077	23.32	0.91	23.32
	5 280		17.135	23.34		23.34
	5 320		17.135	23.34		23.34
U-NII 2C	5 500	23.98	17.192	23.35	0.69	23.35
	5 580		17.135	23.34		23.34
	5 700		17.192	23.35		23.35
U-NII 3	5 745	30			-1.52	30
	5 785					
	5 825					

Remark:

1. Result (dBm) = Average Power(dBm) + Duty Correction Factor (dB)

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.

Mode	Band	Frequency (㎒)	Conducted Power (㏈m)			
			Data Rate [Mbps]	Average Power (㏈m)	Duty Correction Factor (㏈)	Average Power Result (㏈m)
11n_HT20	U-NII 1	5 180	MCS0	14.79	0.09	14.88
		5 200	MCS0	14.68	0.09	14.77
		5 240	MCS0	14.43	0.09	14.52
	U-NII 2A	5 260	MCS0	13.96	0.09	14.05
		5 280	MCS0	13.87	0.09	13.96
		5 320	MCS0	14.10	0.09	14.19
	U-NII 2C	5 500	MCS0	13.21	0.09	13.30
		5 580	MCS0	12.29	0.09	12.38
		5 700	MCS0	11.71	0.09	11.80
	U-NII 3	5 745	MCS0	11.66	0.09	11.75
		5 785	MCS0	12.36	0.09	12.45
		5 825	MCS0	12.79	0.09	12.88

FCC Limit

Band	Conducted Power Limit (㏈m)					
	Frequency (㎒)	Fixed Limit (㏈m)	26 ㏈ BW (㎒)	11+10LogB (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 1	5 180	23.98			0.91	23.98
	5 200					
	5 240					
U-NII 2A	5 260	23.98	21.476	24.32	0.91	23.98
	5 280		21.766	24.38		23.98
	5 320		21.823	24.39		23.98
U-NII 2C	5 500	23.98	21.650	24.35	0.69	23.98
	5 580		21.476	24.32		23.98
	5 700		21.592	24.34		23.98
U-NII 3	5 745	30			-1.52	30
	5 785					
	5 825					

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.

IC Limit

Band	Conducted Power Limit (dBm)					
	Frequency (MHz)	Fixed Limit (dBm)	99 % BW (MHz)	10+10Log$_{10}$B (dBm)	Antenna gain (dBi)	Limit (dBm)
U-NII 1	5 180	23.98	18.119	22.58	0.91	22.58
	5 200		18.177	22.60		22.60
	5 240		18.177	22.60		22.60
Band	**Frequency (MHz)**	**Fixed Limit (dBm)**	**99 % BW (MHz)**	**11+10Log$_{10}$B (dBm)**	**Antenna gain (dBi)**	**Limit (dBm)**
U-NII 2A	5 260	23.98	18.177	23.60	0.91	23.60
	5 280		18.177	23.60		23.60
	5 320		18.119	23.58		23.58
U-NII 2C	5 500	23.98	18.177	23.60	0.69	23.60
	5 580		18.177	23.60		23.60
	5 700		18.177	23.60		23.60
U-NII 3	5 745	30			-1.52	30
	5 785					
	5 825					

Remark:

1. Result (dBm) = Average Power(dBm) + Duty Correction Factor (dB)

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.

Mode	Band	Frequency (㎒)	Conducted Power (㏈m)			
			Data Rate [Mbps]	Average Power (㏈m)	Duty Correction Factor (㏈)	Average Power Result (㏈m)
11n_HT40	U-NII 1	5 190	MCS0	12.71	0.13	12.84
		5 230	MCS0	12.61	0.13	12.74
	U-NII 2A	5 270	MCS0	12.18	0.13	12.31
		5 310	MCS0	12.23	0.13	12.36
	U-NII 2C	5 510	MCS0	11.16	0.13	11.29
		5 550	MCS0	10.20	0.13	10.33
		5 670	MCS0	10.66	0.13	10.79
	U-NII 3	5 755	MCS0	9.95	0.13	10.08
		5 795	MCS0	10.71	0.13	10.84

FCC Limit

Band	Conducted Power Limit (㏈m)					
	Frequency (㎒)	Fixed Limit (㏈m)	26 ㏈ BW (㎒)	11+10LogB (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 1	5 190	23.98			0.91	23.98
	5 230					
U-NII 2A	5 270	23.98	40.460	27.07	0.91	23.98
	5 310		40.520	27.08		23.98
U-NII 2C	5 510	23.98	40.170	27.04	0.69	23.98
	5 550		40.410	27.06		23.98
	5 670		40.290	27.05		23.98
U-NII 3	5 755	30			-1.52	30
	5 955					

IC Limit

Band	Conducted Power Limit (㏈m)					
	Frequency (㎒)	Fixed Limit (㏈m)	99 % BW (㎒)	10+10Log$_{10}$B (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 1	5 190	23.98	36.700	25.65	0.91	23.98
	5 230	23.98	36.700	25.65		23.98
Band	**Frequency (㎒)**	**Fixed Limit (㏈m)**	**99 % BW (㎒)**	**11+10Log$_{10}$B (㏈m)**	**Antenna gain (㏈i)**	**Limit (㏈m)**
U-NII 2A	5 270	23.98	36.585	26.63	0.91	23.98
	5 310		36.700	26.65		23.98
U-NII 2C	5 510	23.98	36.700	26.65	0.69	23.98
	5 550		36.585	26.63		23.98
	5 670		36.700	26.65		23.98
U-NII 3	5 755	30			-1.52	30
	5 955					

Remark:

1. Result (㏈m) = Average Power (㏈m) + Duty Correction Factor (㏈)

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.

Mode	Band	Frequency (㎒)	Conducted Power (㏈m)			
			Data Rate [Mbps]	Average Power (㏈m)	Duty Correction Factor (㏈)	Average Power Result (㏈m)
11ac_VHT80	U-NII 1	5 210	MCS0	10.87	0.32	11.19
	U-NII 2A	5 290	MCS0	10.40	0.32	10.72
	U-NII 2C	5 530	MCS0	8.70	0.32	9.02
		5 690	MCS0	7.96	0.32	8.28
	U-NII 3	5 775	MCS0	8.35	0.32	8.67

FCC Limit

Band	Conducted Power Limit (㏈m)					
	Frequency (㎒)	Fixed Limit (㏈m)	26 ㏈ BW (㎒)	11+10LogB (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 1	5 210	23.98			0.91	23.98
U-NII 2A	5 290	23.98	83.130	30.20	0.91	23.98
U-NII 2C	5 530	23.98	82.660	30.17	0.69	23.98
	5 690		82.200	30.15		23.98
U-NII 3	5 775	30			-1.52	30

IC Limit

Band	Conducted Power Limit (㏈m)					
	Frequency (㎒)	Fixed Limit (㏈m)	99 % BW (㎒)	10+10Log$_{10}$B (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 1	5 210	23.98	75.716	28.79	0.91	23.98
Band	Frequency (㎒)	Fixed Limit (㏈m)	99 % BW (㎒)	11+10Log$_{10}$B (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 2A	5 290	23.98	75.948	29.81	0.91	23.98
U-NII 2C	5 530	23.98	75.716	29.79	0.69	23.98
	5 690		75.716	29.79		23.98
U-NII 3	5 775	30			-1.52	30

Remark:

1. Result (㏈m) = Average Power (㏈m) + Duty Correction Factor (㏈)

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.

-Band-crossing channels

Band	Mode	Frequency (㎒)	Conducted Power (㏈m)			
			Data Rate [Mbps]	Average Power (㏈m)	Duty Correction Factor (㏈)	Average Power Result (㏈m)
U-NII 2C	11a	5 720	6	11.21	0.09	11.30
U-NII 3			6	4.01		4.10
U-NII 2C	11n_HT20	5 720	MCS0	10.87	0.09	10.96
U-NII 3			MCS0	4.10		4.19
U-NII 2C	11n_HT40	5 710	MCS0	9.85	0.13	9.98
U-NII 3			MCS0	-1.31		-1.18
U-NII 2C	11ac_VHT80	5 690	MCS0	8.53	0.32	8.85
U-NII 3			MCS0	-6.45		-6.13

Band	Mode	Conducted Power Limit (㏈m)					
		Frequency (㎒)	Fixed Limit (㏈m)	26 ㏈ BW (㎒)	11+10LogB (㏈m)	Antenna gain (㏈i)	Limit (㏈m)
U-NII 2C	11a	5 720	23.98	15.593	22.93	0.69	22.93
U-NII 3							30
U-NII 2C	11n_HT20	5 720	23.98	15.709	22.96	0.69	22.96
U-NII 3							30
U-NII 2C	11n_HT40	5 710	23.98	34.800	26.42	0.69	23.98
U-NII 3							30
U-NII 2C	11ac_VHT80	5 690	23.98	75.980	29.81	0.69	23.98
U-NII 3							30

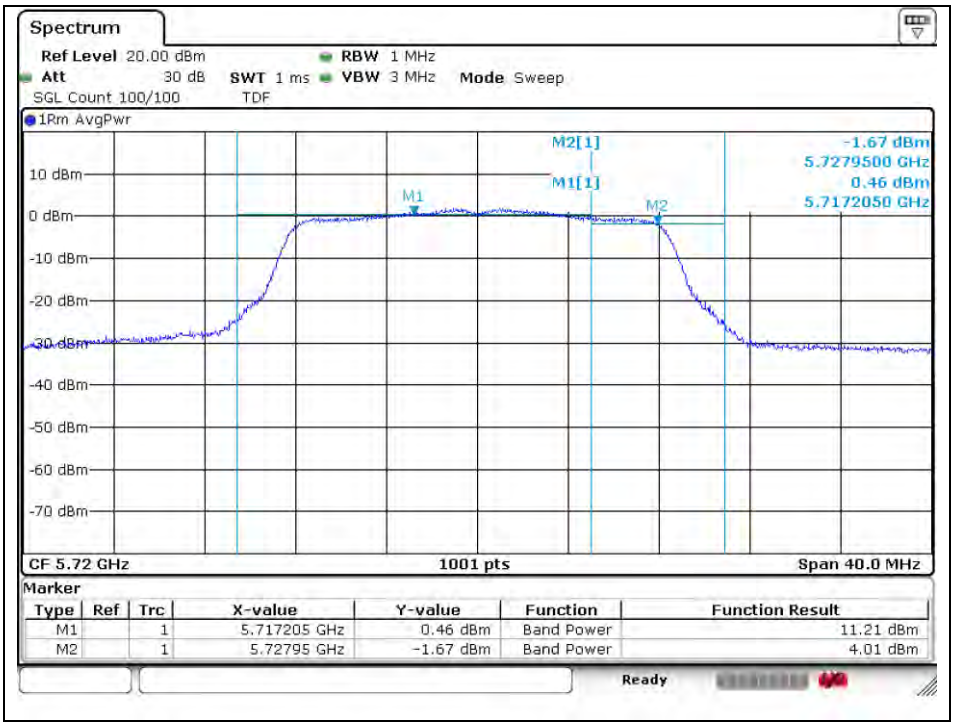
Remark:

1. Result (㏈m) = Average Power(㏈m) + Duty Correction Factor (㏈)

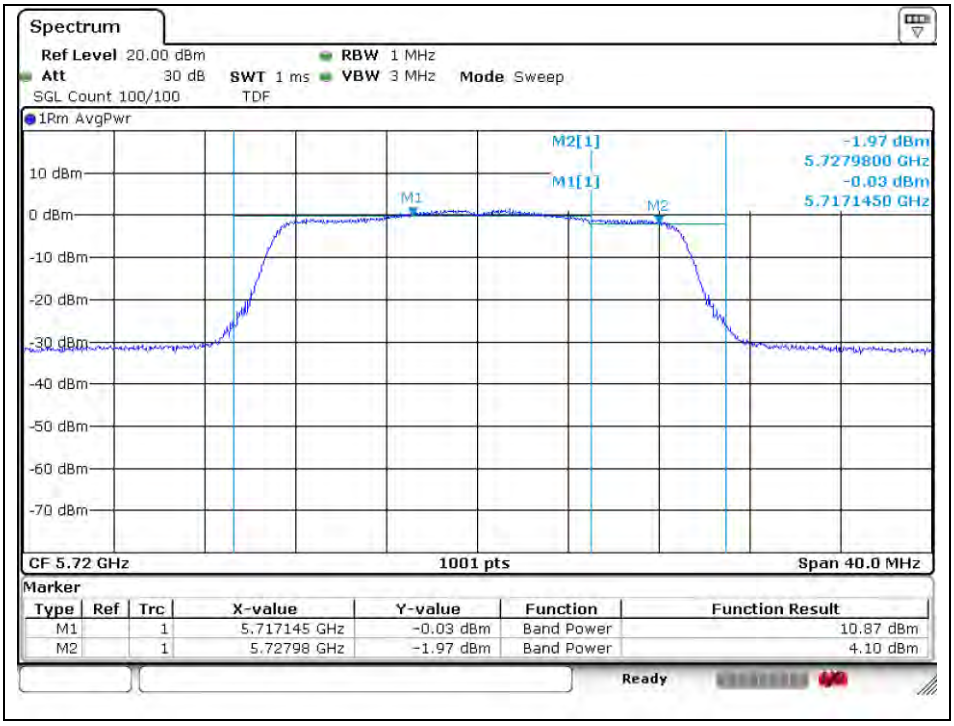
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Band-crossing channels

802.11a (5 720 ㎒)

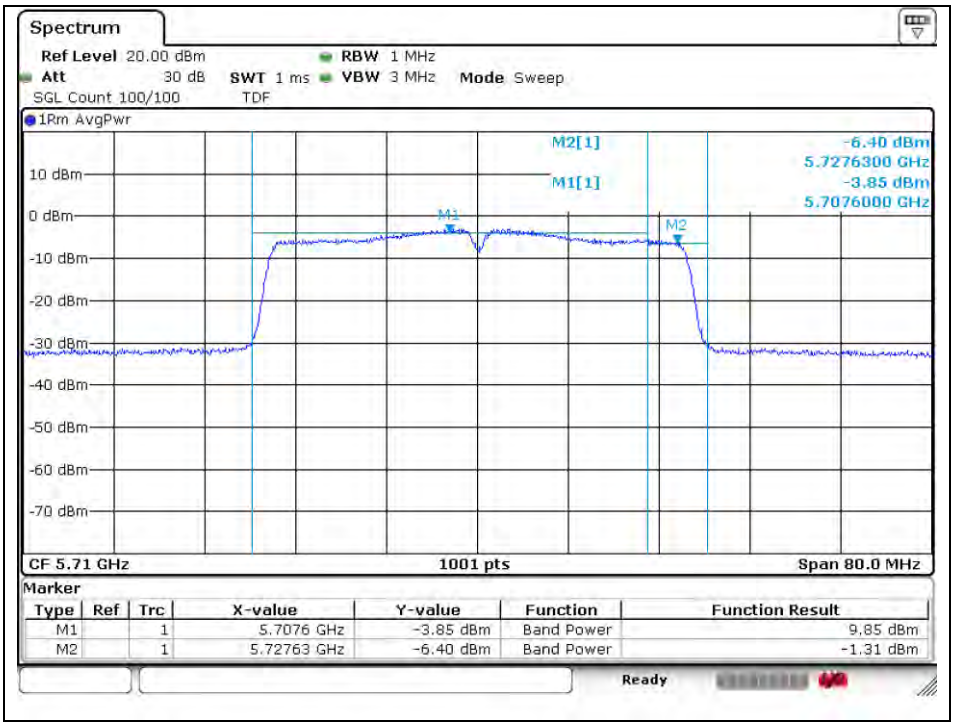


802.11n_HT20 (5 720 ㎒)

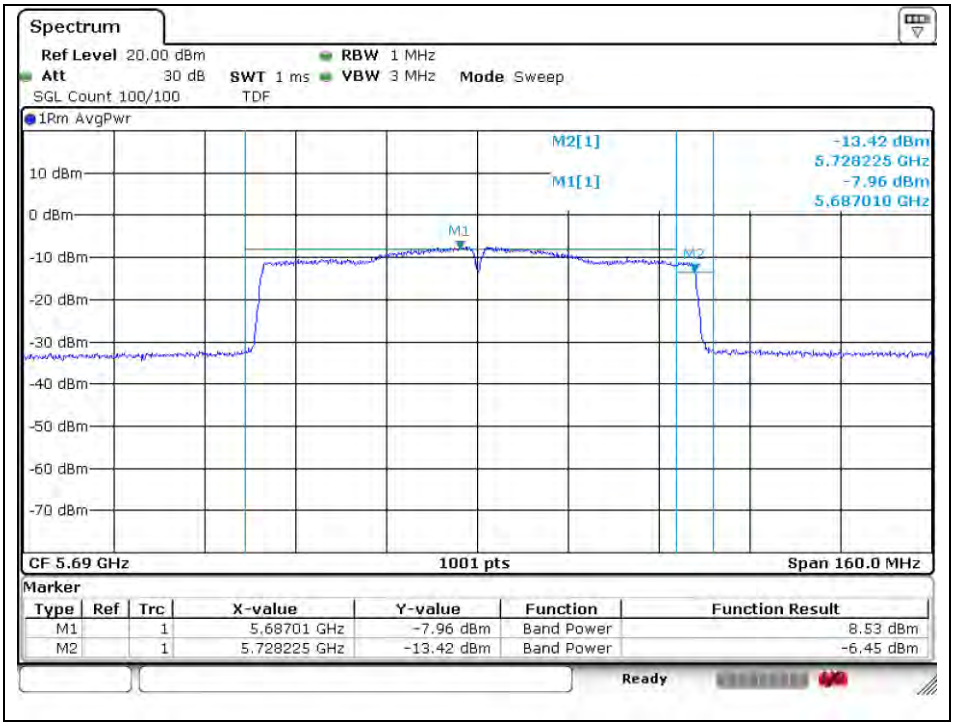


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (5 710 ㎒)



802.11ac_VHT80 (5 690 ㎒)



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.

6. Peak Power Spectral Density

6.1. Test setup

EUT	—	Attenuator	—	Spectrum Analyzer

6.2. Limit

FCC

15.407 (a)(1)(iv)

For client devices in the 5.15-5.25 ㎓ band, the maximum conducted output power over the frequency band of operation shall not exceed 250 ㎽ provided the maximum antenna gain does not exceed 6 ㏈ i. In addition, the maximum power spectral density shall not exceed 11 ㏈ m in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 ㏈ i are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in ㏈ that the directional gain of the antenna exceeds 6 ㏈ i.

15.407 (a)(2)

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

15.407 (a)(3)

For the band 5.725-5.85 ㎓, 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 ㏈ m in any 500-㎑ band. If transmitting antennas of directional gain greater than 6 ㏈ i are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in ㏈ that the directional gain of the antenna exceeds 6 ㏈ i. However, fixed point-to point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 ㏈ i 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.

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.

IC

RSS-247 Issue 1, 6.2.1 (1) Band 5 150-5 250 ㎒

The maximum e.i.r.p. shall not exceed 200 ㎽ or 10 + 10 $\log_{10}$B, ㏈m, whichever power is less. B is the 99 % emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 ㏈m in any 1.0 ㎒ band.

RSS-247 Issue 1, 6.2.2 (1) Band 5 250-5 350 ㎒

The maximum conducted output power shall not exceed 250 ㎽ or 11 + 10 $\log_{10}$B, ㏈m, whichever is less. The power spectral density shall not exceed 11 ㏈m in any 1.0 ㎒ band.

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

RSS-247 Issue 1, 6.2.3 (1) Band 5 470-5 600 ㎒ and 5 650-5 725 ㎒

The maximum conducted output power shall not exceed 250 ㎽ or 11 + 10 $\log_{10}$B, ㏈m, whichever is less. The power spectral density shall not exceed 11 ㏈m in any 1.0 ㎒ band.

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

RSS-247 Issue 1, 6.2.4 (1) Band 5 725-5 825 ㎒

For equipment operating in the band 5 725-5 850 ㎒, the minimum 6 ㏈ bandwidth shall be at least 500 ㎑. The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 ㏈m in any 500 ㎑ band. If transmitting antennas of directional gain greater than 6 ㏈i are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in ㏈ that the directional gain of the antenna exceeds 6 ㏈i. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 ㏈i without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

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.

6.3. 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 section F of KDB 789033_v01r02.

2. Create an average power spectrum for the EUT operating mode being tested by following the instructions in section II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, "Compute power…". (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)

3. Use the peak search function on the instrument to find the peak of the spectrum and record its value.

4. Make the following adjustments to the peak value of the spectrum, if applicable:

a) **If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.**

b) If Method SA-3 Alternative was used and the linear mode was used in step II.E.2.g)(viii), add 1 ㎧ to the final result to compensate for the difference between linear averaging and power averaging.

5. The result is the Maximum PSD over 1 ㎒ reference bandwidth.

6. For devices operating in the bands 5.15-5.25 ㎓, 5.25-5.35 ㎓, and 5.47-5.725 ㎓, the above procedures make use of 1 ㎒ RBW to satisfy directly the 1 ㎒ reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 ㎓, the rules specify a measurement bandwidth of 500 ㎑. Many spectrum analyzers do not have 500 ㎑ RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 ㎒, or 500 ㎑, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (*i.e.,* 1 ㎒, or 500 ㎑). If measurements are performed using a reduced resolution bandwidth (< 1 ㎒, or < 500 ㎑) and integrated over 1 ㎒, or 500 ㎑ bandwidth, the following adjustments to the procedures apply:

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

Note: As a practical matter, it is recommended to use reduced RBW of 100 ㎑ for the sections 5.c) and 5.d) above, since RBW = 100 ㎑ is available on nearly all spectrum analyzers.

7. In case of band crossing channels 138, 142 and 144, the measurement is complied with section D of KDB 644545_D03 v01.

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.

6.4. Test result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

Mode	Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
11a	U-NII 1	5 180	36	6	4.93	0.09	5.02	10
		5 200	40	6	4.89	0.09	4.98	
		5 240	48	6	4.65	0.09	4.74	
	U-NII 2A	5 260	52	6	4.22	0.09	4.31	11
		5 280	56	6	3.95	0.09	4.04	
		5 320	64	6	4.29	0.09	4.38	
	U-NII 2C	5 500	100	6	3.57	0.09	3.66	
		5 580	116	6	2.70	0.09	2.79	
		5 700	140	6	2.62	0.09	2.71	
	Band	**Frequency (MHz)**	**Ch.**	**Data Rate (Mbps)**	**Measured PPSD (dB m)**	**Duty Factor (dB)**	**Final PPSD (dB m)**	**Limit (dB m/500 kHz)**
	U-NII 3	5 745	149	6	-0.43	0.09	-0.34	30
		5 785	157	6	0.28	0.09	0.37	
		5 825	165	6	0.54	0.09	0.63	

Mode	Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
11n_HT20	U-NII 1	5 180	36	MCS0	4.30	0.09	4.39	10
		5 200	40	MCS0	4.25	0.09	4.34	
		5 240	48	MCS0	4.15	0.09	4.24	
	U-NII 2A	5 260	52	MCS0	3.57	0.09	3.66	11
		5 280	56	MCS0	3.63	0.09	3.72	
		5 320	64	MCS0	3.69	0.09	3.78	
	U-NII 2C	5 500	100	MCS0	3.11	0.09	3.20	
		5 580	116	MCS0	2.25	0.09	2.34	
		5 700	140	MCS0	1.95	0.09	2.04	
	Band	**Frequency (MHz)**	**Ch.**	**Data Rate (Mbps)**	**Measured PPSD (dB m)**	**Duty Factor (dB)**	**Final PPSD (dB m)**	**Limit (dB m/500 kHz)**
	U-NII 3	5 745	149	MCS0	-0.87	0.09	-0.78	30
		5 785	157	MCS0	-0.47	0.09	-0.38	
		5 825	165	MCS0	-0.04	0.09	0.05	

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.

Mode	Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
11n_HT40	U-NII 1	5 190	38	MCS0	-0.63	0.13	-0.50	10
		5 230	40	MCS0	-0.79	0.13	-0.66	
	U-NII 2A	5 270	54	MCS0	-1.32	0.13	-1.19	11
		5 310	62	MCS0	-1.18	0.13	-1.05	
	U-NII 2C	5 510	102	MCS0	-1.94	0.13	-1.81	
		5 550	110	MCS0	-2.88	0.13	-2.75	
		5 670	134	MCS0	-2.17	0.13	-2.04	
	Band	**Frequency (MHz)**	**Ch.**	**Data Rate (Mbps)**	**Measured PPSD (dB m)**	**Duty Factor (dB)**	**Final PPSD (dB m)**	**Limit (dB m/500 kHz)**
	U-NII 3	5 755	151	MCS0	-5.60	0.13	-5.47	30
		5 795	159	MCS0	-5.20	0.13	-5.07	

Mode	Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Factor (dB)	Final PPSD (dB m)	Limit (dB m/1 MHz)
11ac_VHT80	U-NII 1	5 210	42	MCS0	-5.28	0.32	-4.96	10
	U-NII 2A	5 290	58	MCS0	-6.09	0.32	-5.77	11
	U-NII 2C	5 530	106	MCS0	-7.35	0.32	-7.03	
		5 690	138	MCS0	-7.72	0.32	-7.40	
	Band	**Frequency (MHz)**	**Ch.**	**Data Rate (Mbps)**	**Measured PPSD (dB m)**	**Duty Factor (dB)**	**Final PPSD (dB m)**	**Limit (dB m/500 kHz)**
	U-NII 3	5 775	155	MCS0	-9.90	0.32	-9.58	30

Band-crossing channels

Band	Mode	Frequency (MHz)	Ch.	Data Rate (Mbps)	Measured PPSD (dB m)	Duty Factor (dB)	Final PPSD (dB m)	Limit (dB m/500 kHz)
U-NII 3	11a	5 720	144	6	-2.99	0.09	-2.90	30
	11n_HT20	5 720	144	MCS0	-3.97	0.09	-3.88	
	11n_HT40	5 710	142	MCS0	-8.48	0.13	-8.35	
	11ac_VHT80	5 690	138	MCS0	-13.90	0.32	-13.58	

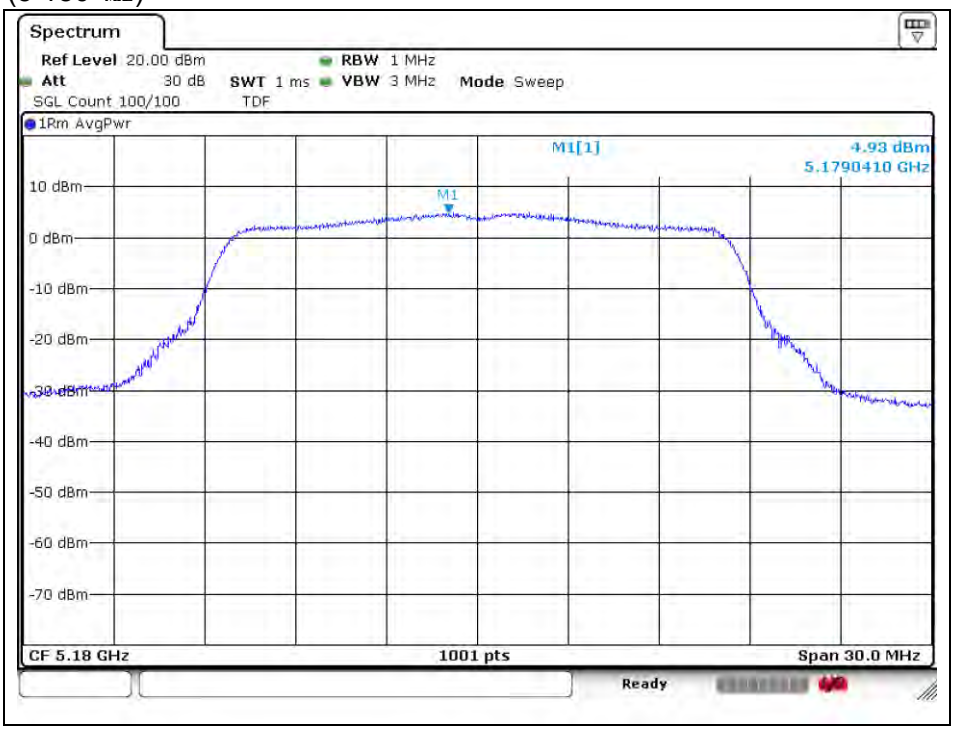
Note :

Final PPSD = Measured PPSD + Duty Factor

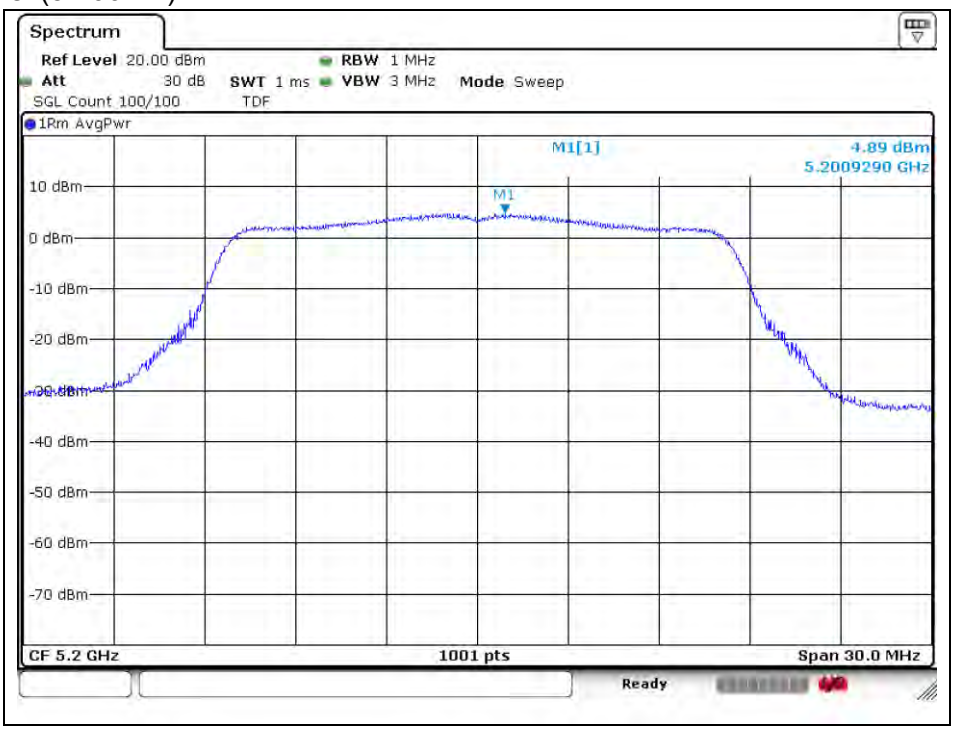
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11a (Band 1)

Low channel (5 180 ㎒)

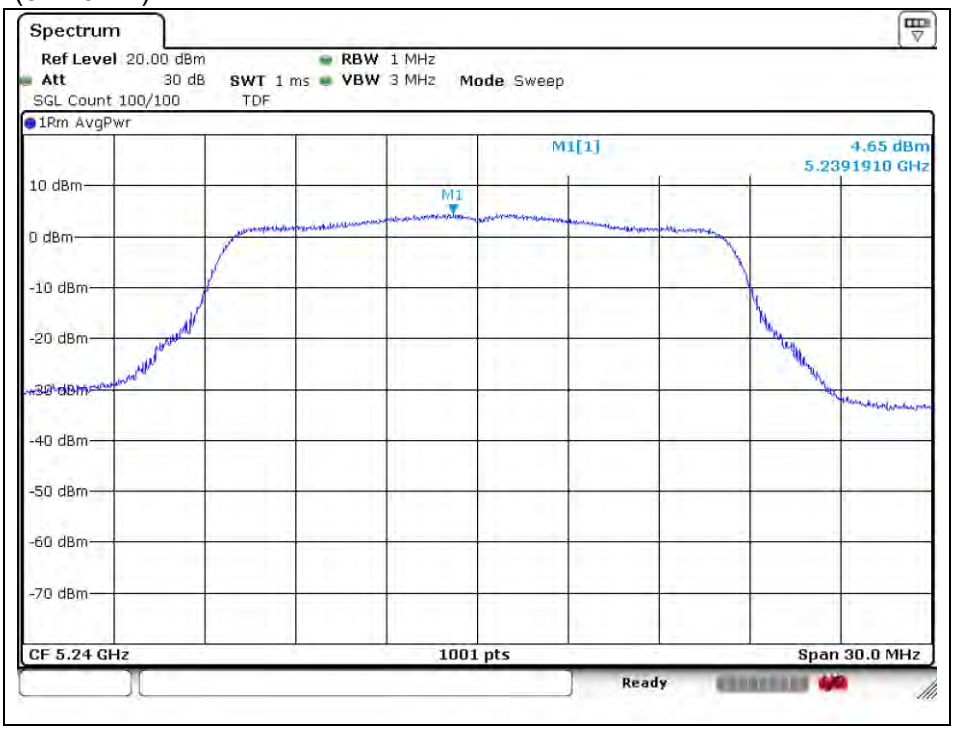


Middle channel (5 200 ㎒)



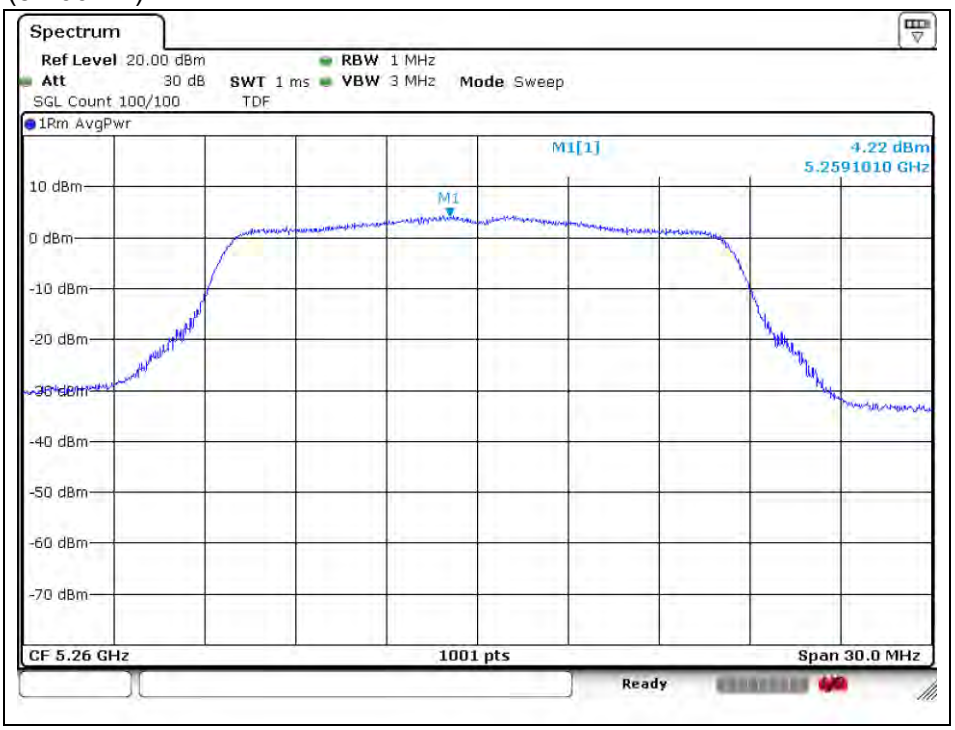
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 240 ㎒)

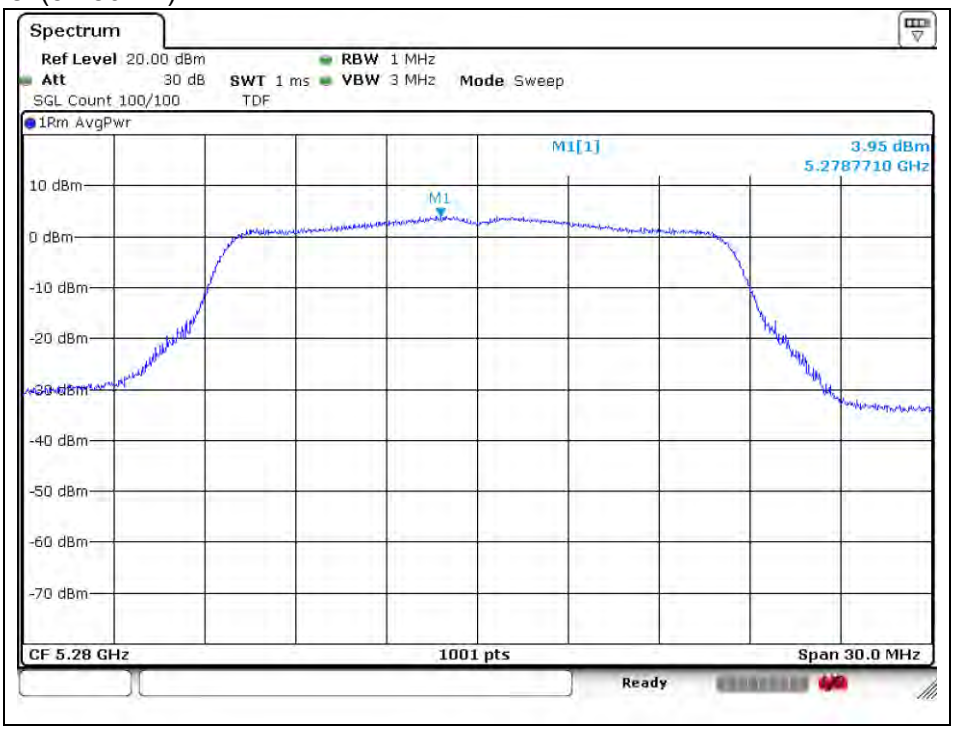


802.11a (Band 2A)

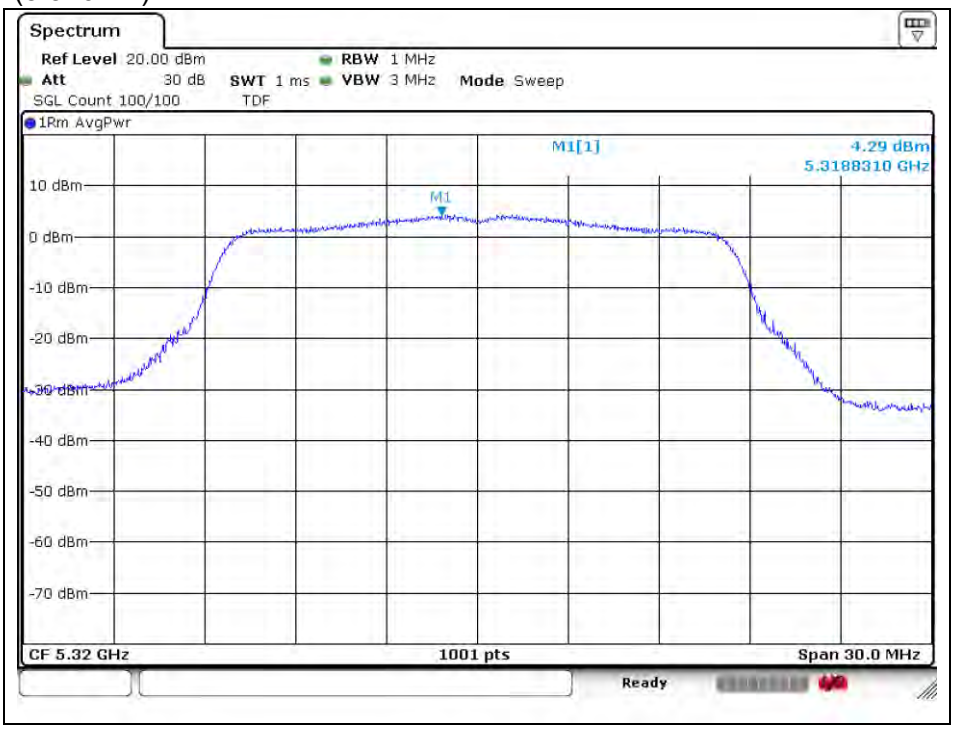
Low channel (5 260 ㎒)



Middle channel (5 280 ㎒)



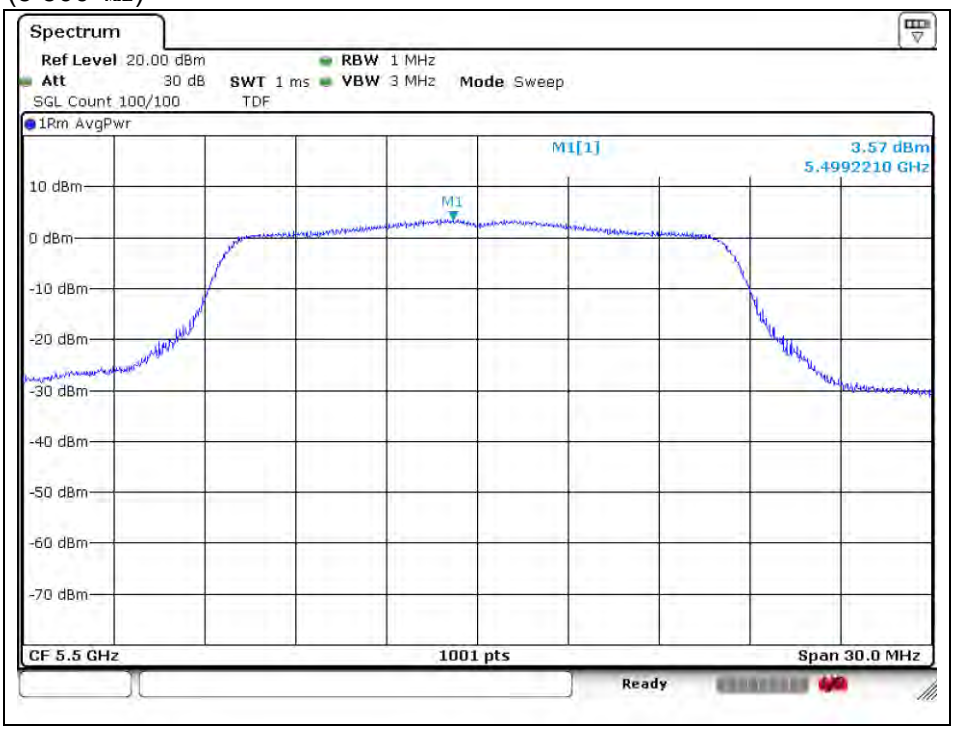
High channel (5 320 ㎒)



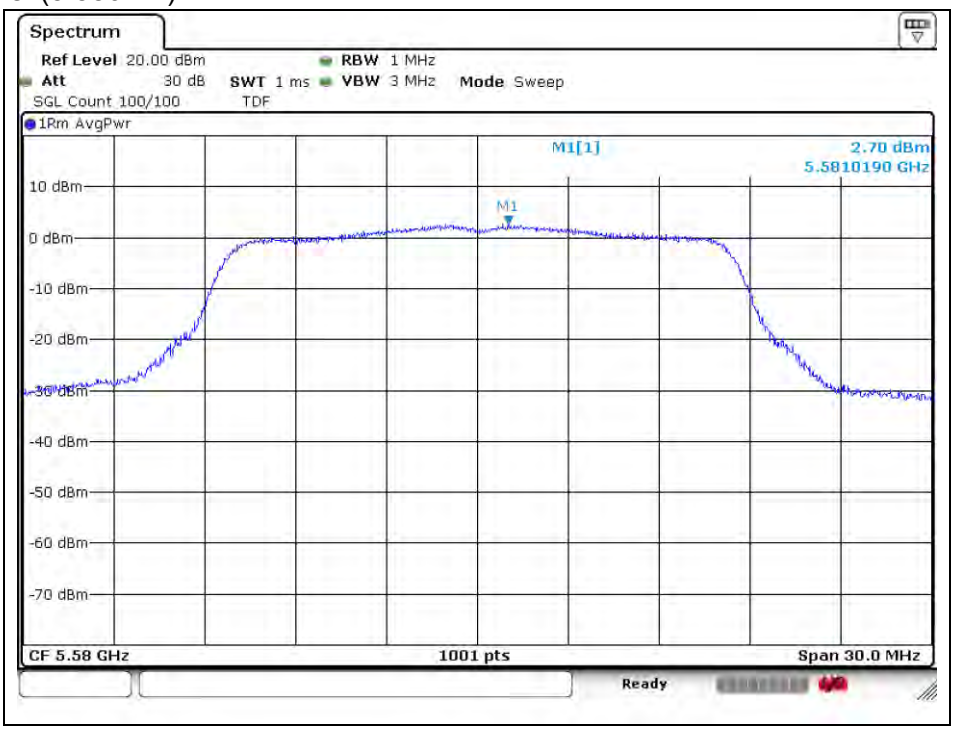
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11a (Band 2C)

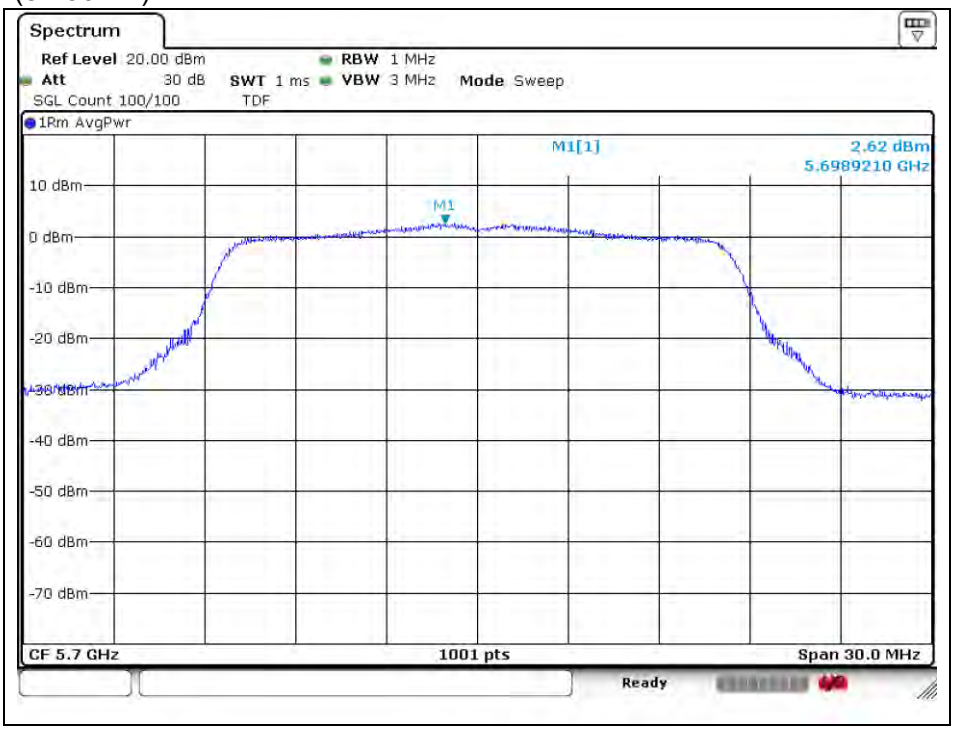
Low channel (5 500 ㎒)



Middle channel (5 580 ㎒)

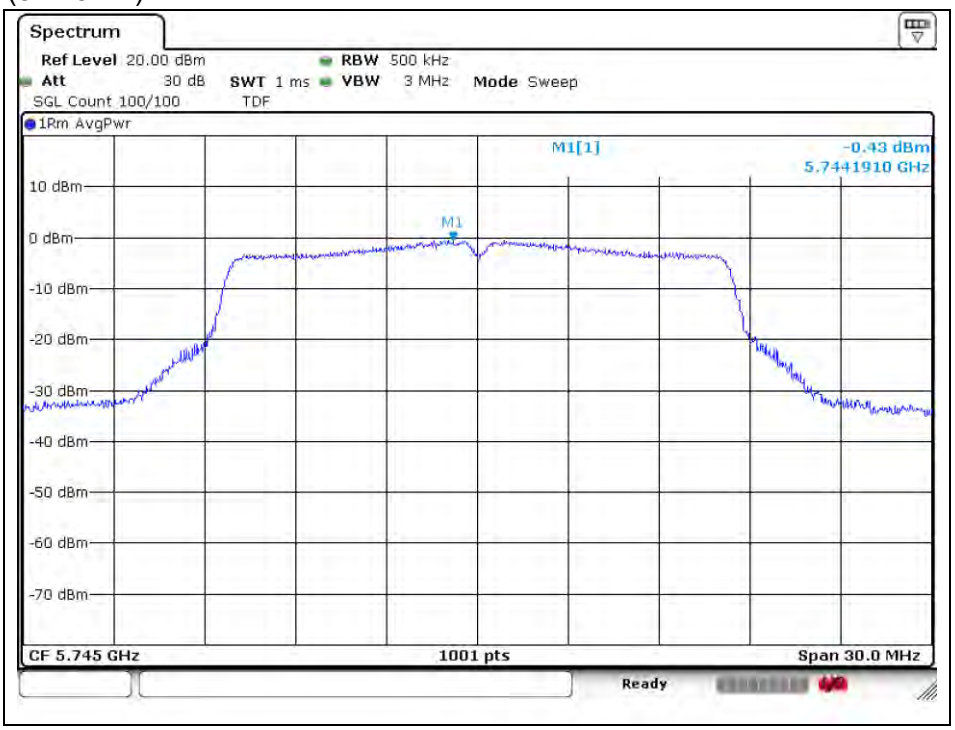


High channel (5 700 ㎒)



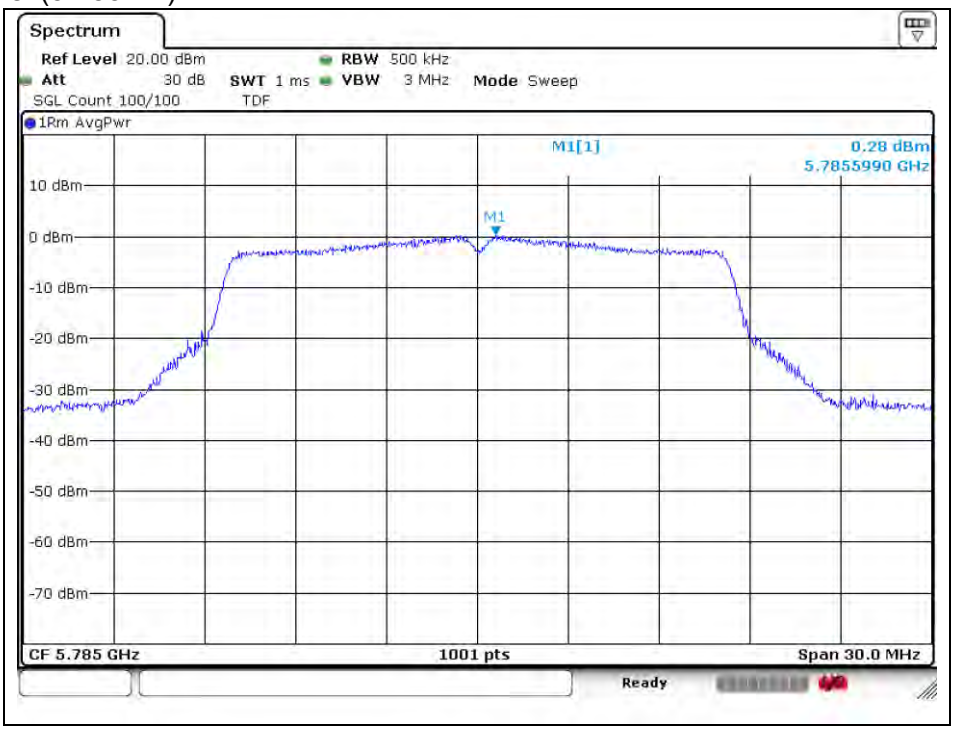
802.11a (Band 3)

Low channel (5 745 ㎒)

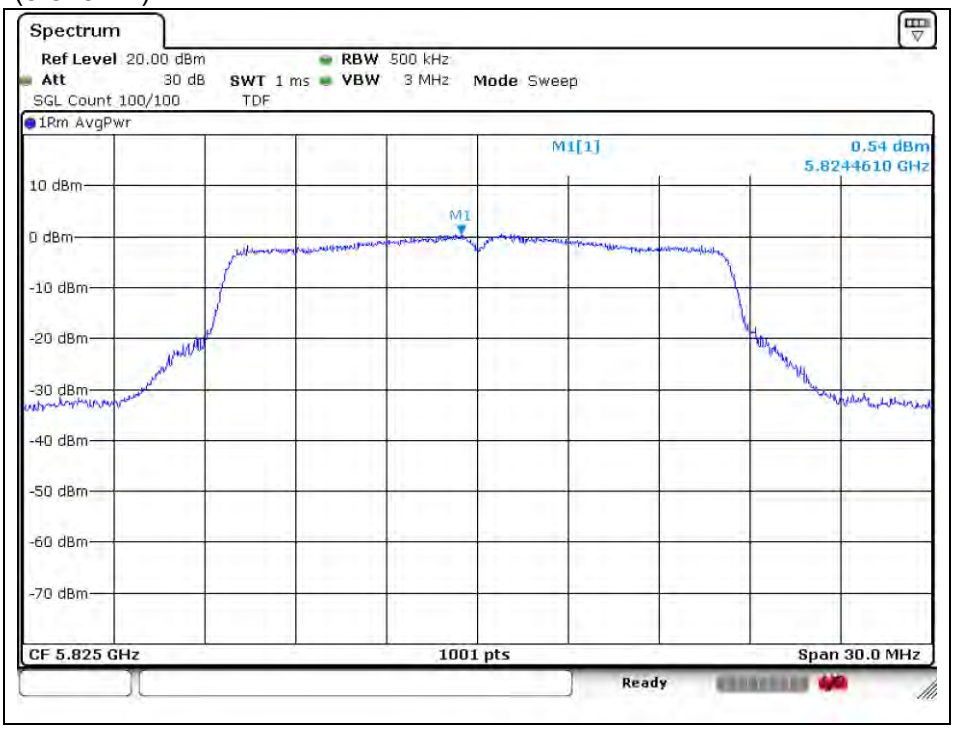


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Middle channel (5 785 ㎒)



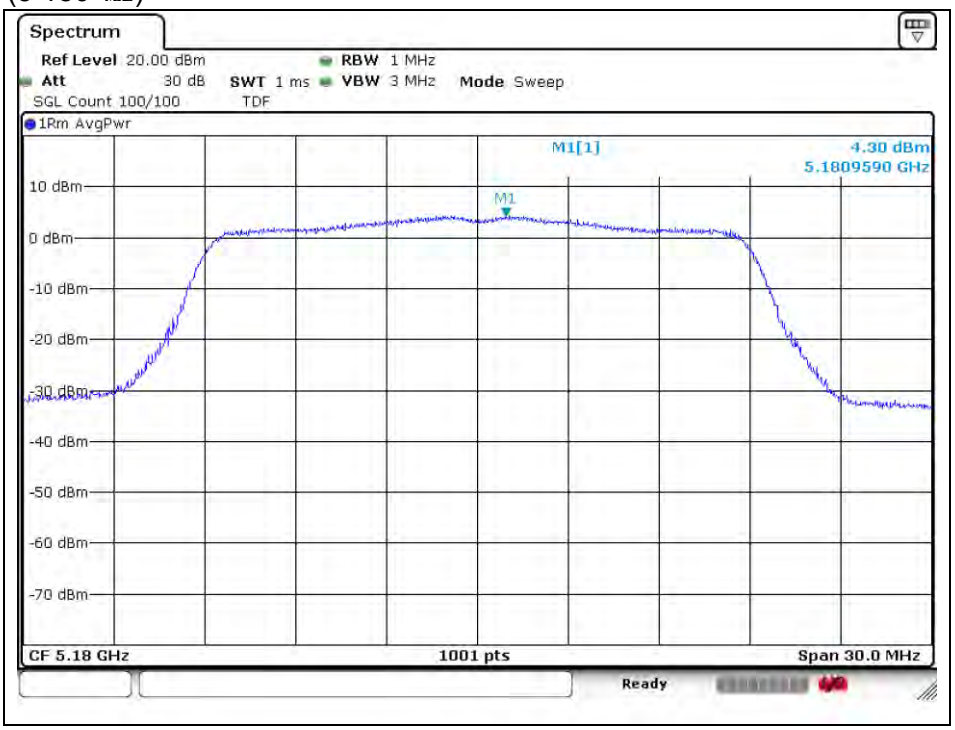
High channel (5 825 ㎒)



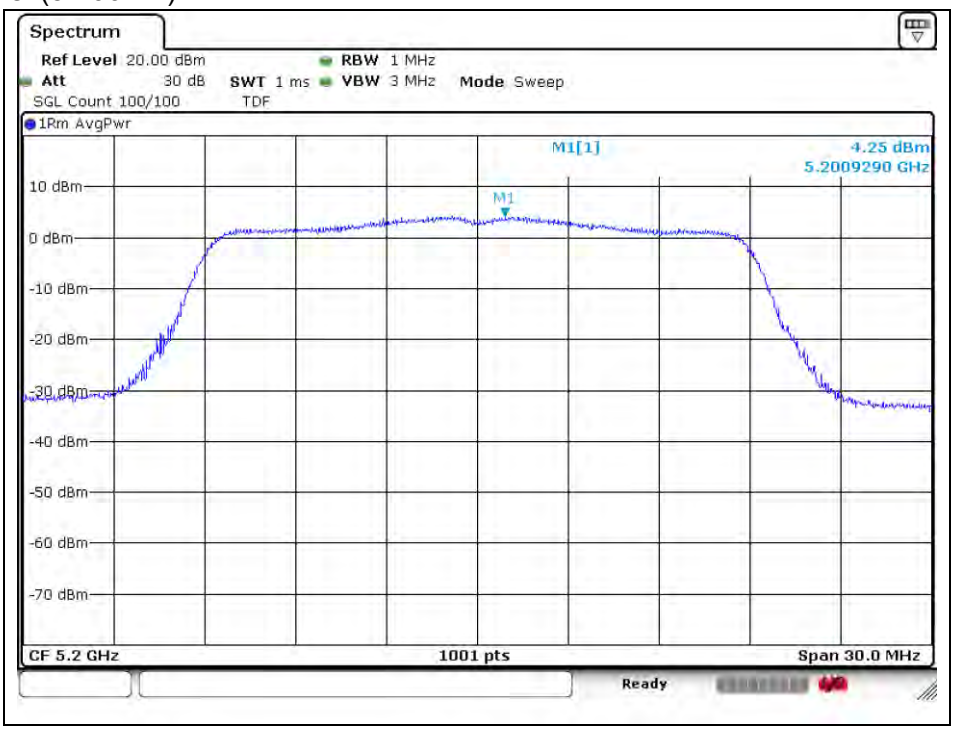
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT20 (Band 1)

Low channel (5 180 ㎒)

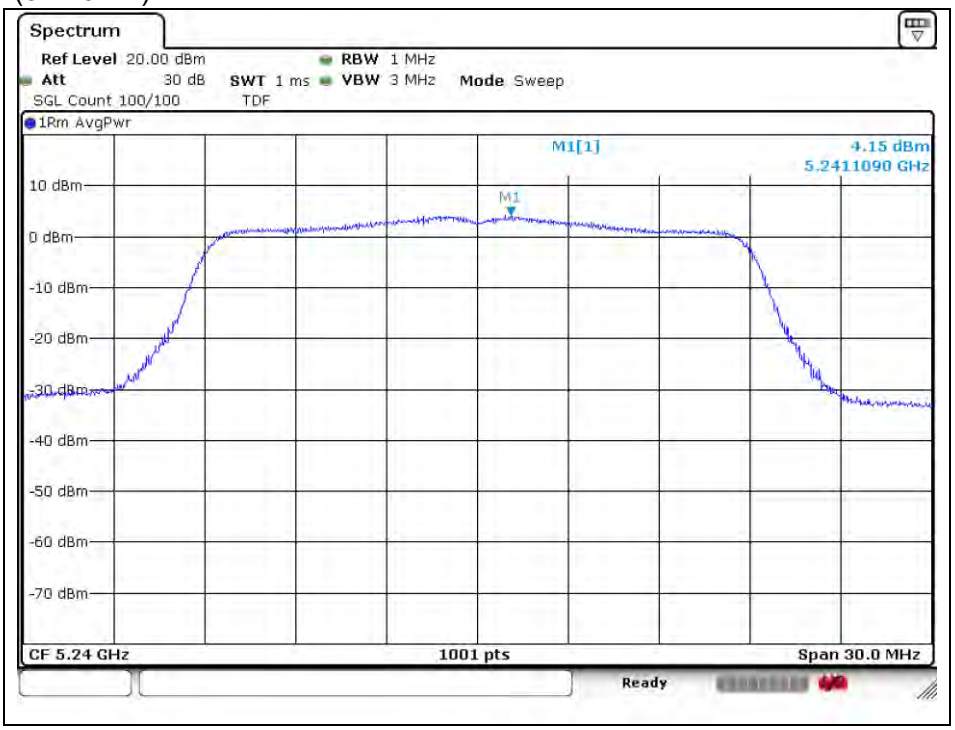


Middle channel (5 200 ㎒)



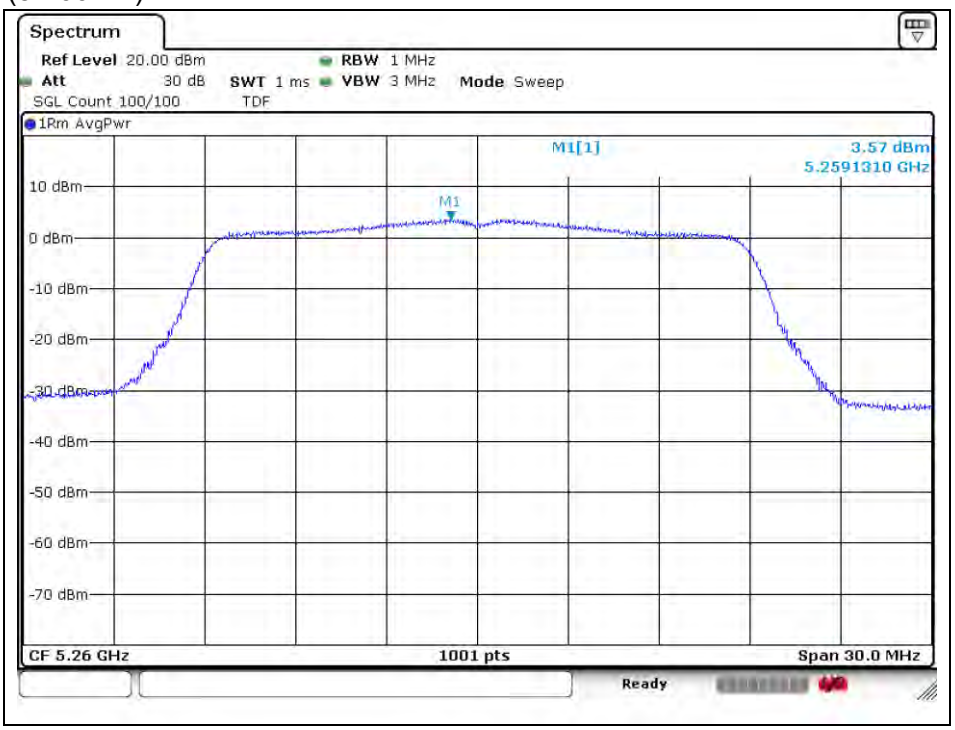
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 240 ㎒)

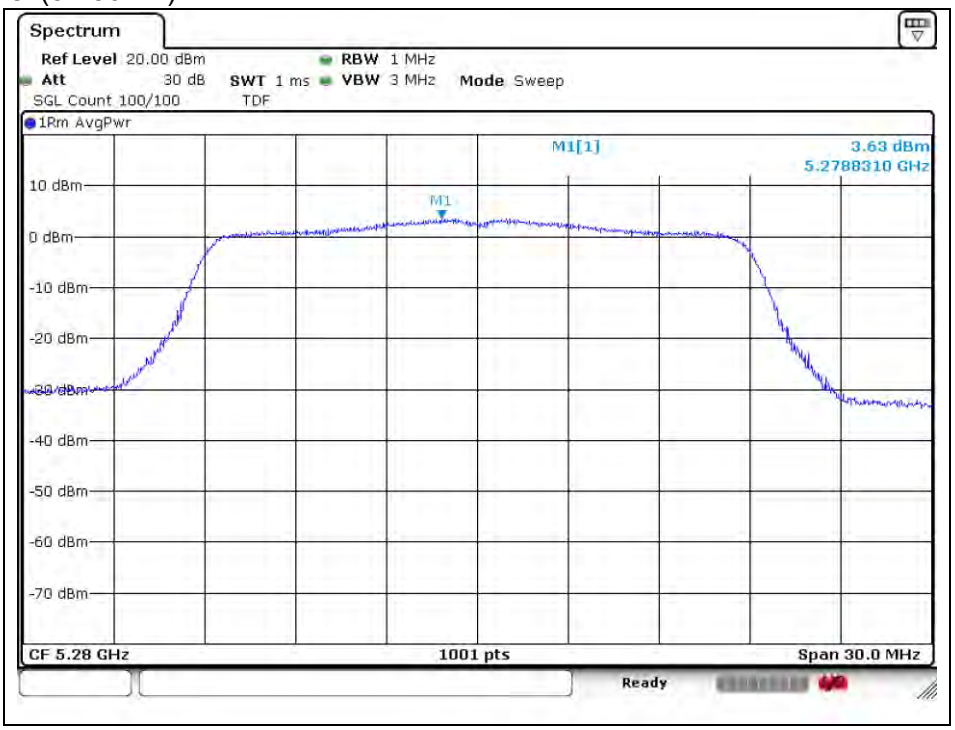


802.11n_HT20 (Band 2A)

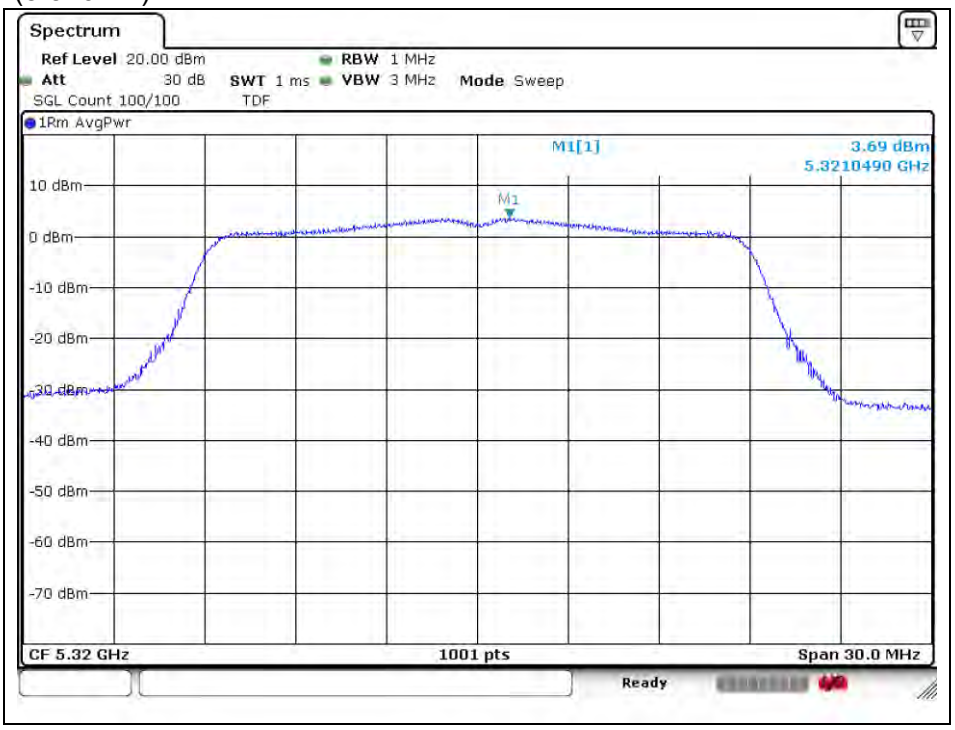
Low channel (5 260 ㎒)



Middle channel (5 280 ㎒)



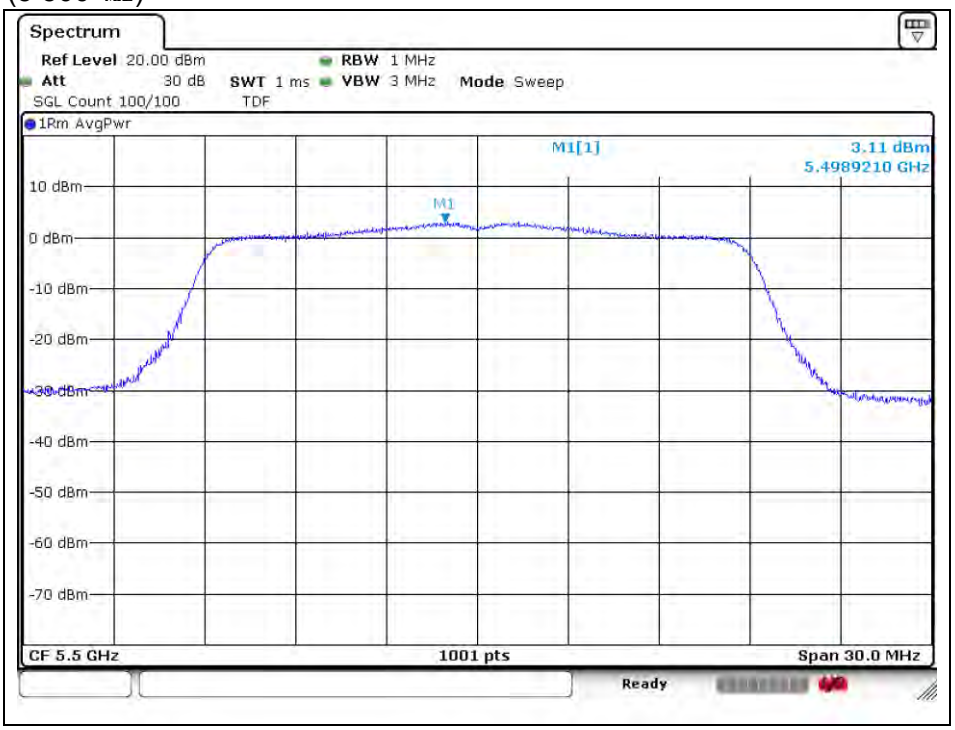
High channel (5 320 ㎒)



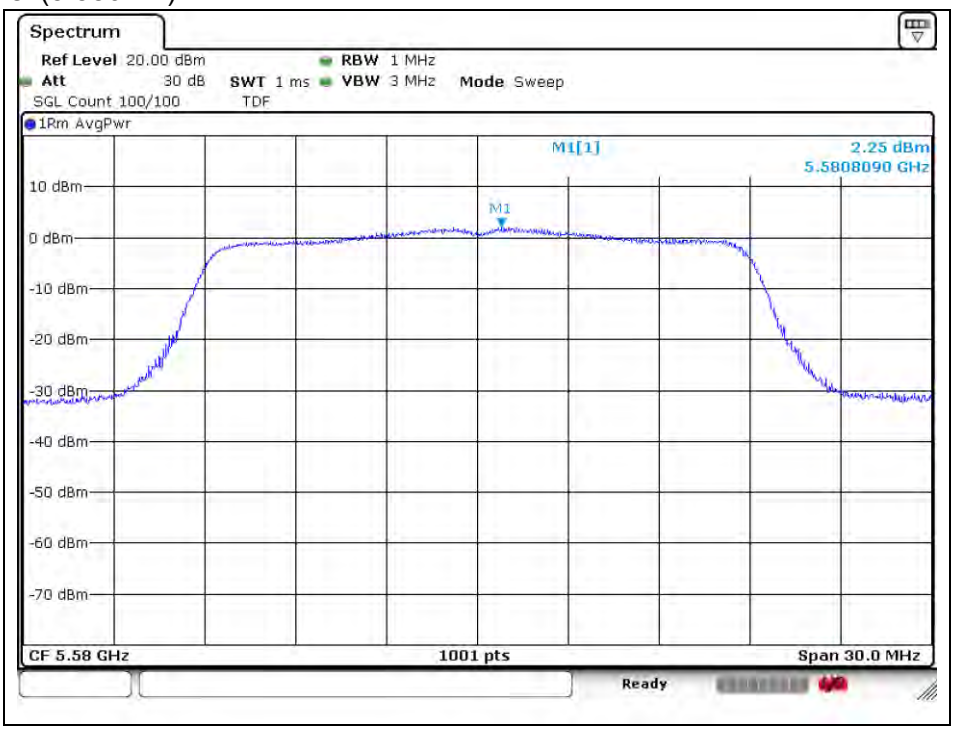
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT20 (Band 2C)

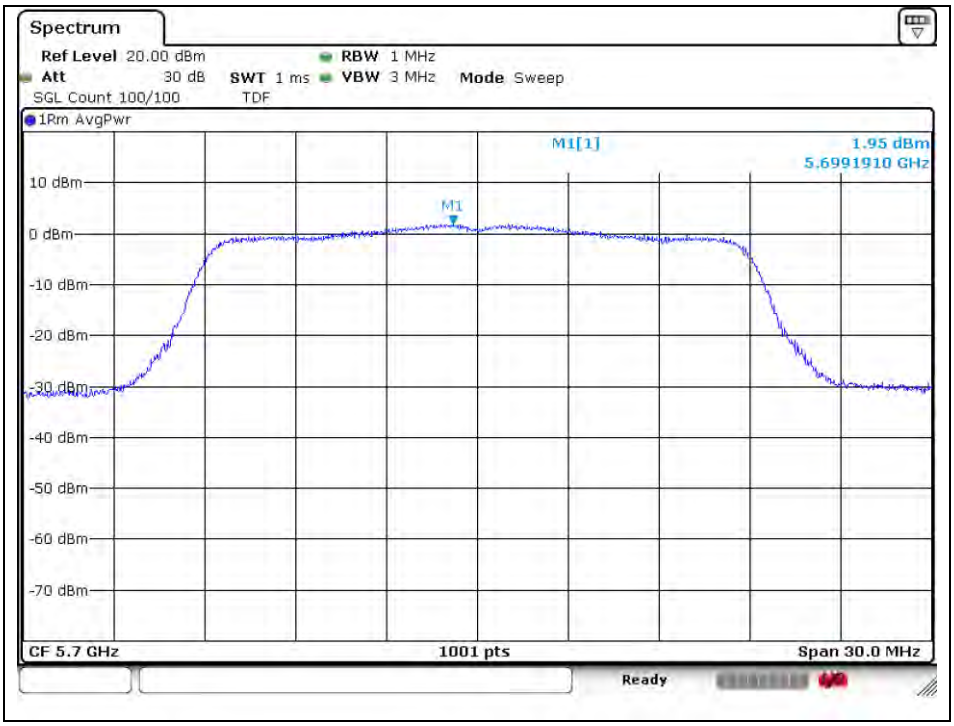
Low channel (5 500 ㎒)



Middle channel (5 580 ㎒)

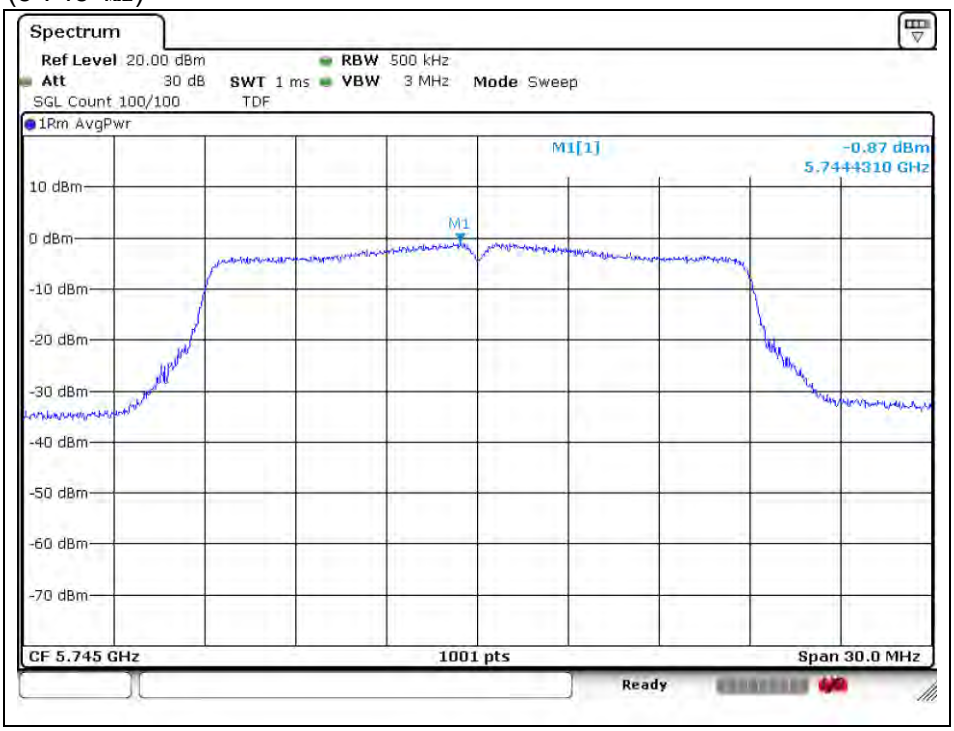


High channel (5 700 ㎒)



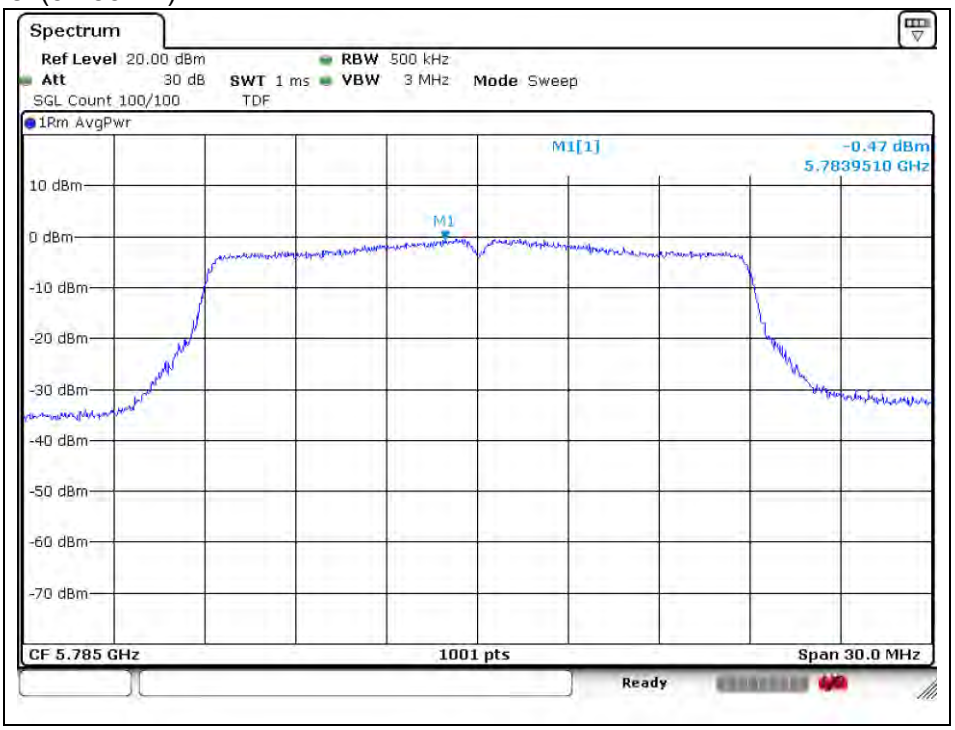
802.11n_HT20 (Band 3)

Low channel (5 745 ㎒)

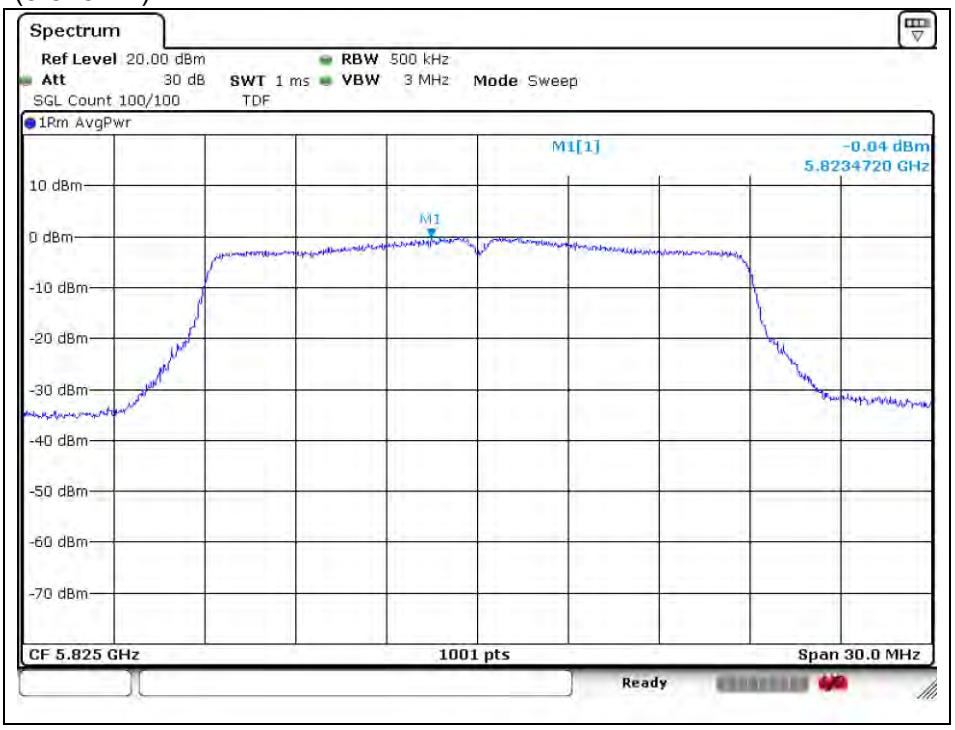


The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Middle channel (5 785 ㎒)



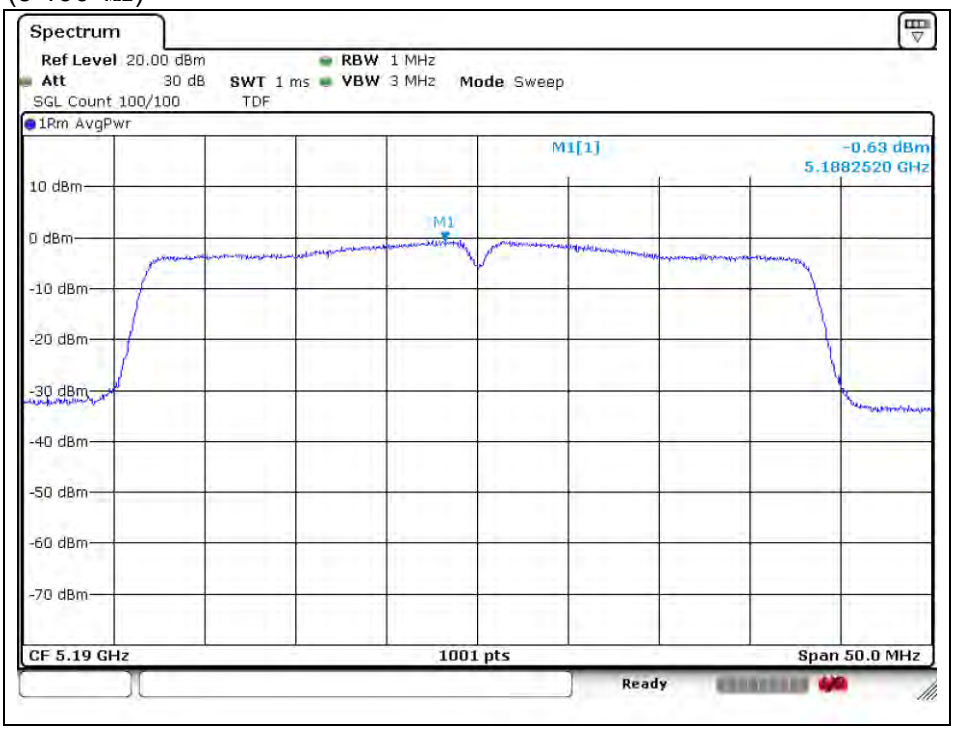
High channel (5 825 ㎒)



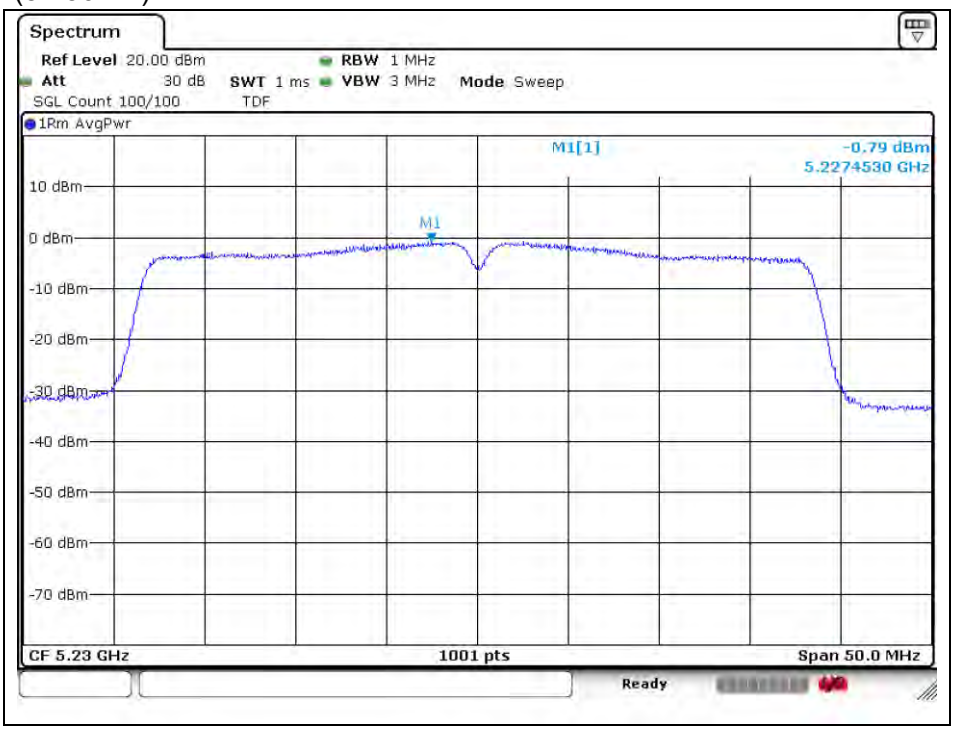
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 1)

Low channel (5 190 ㎒)



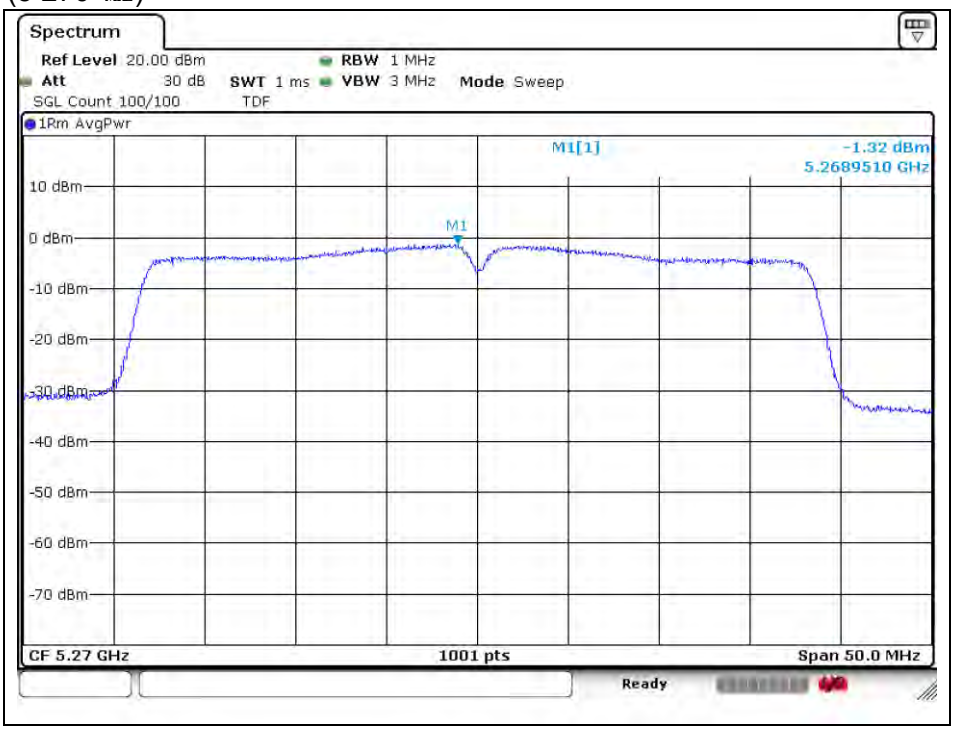
High channel (5 230 ㎒)



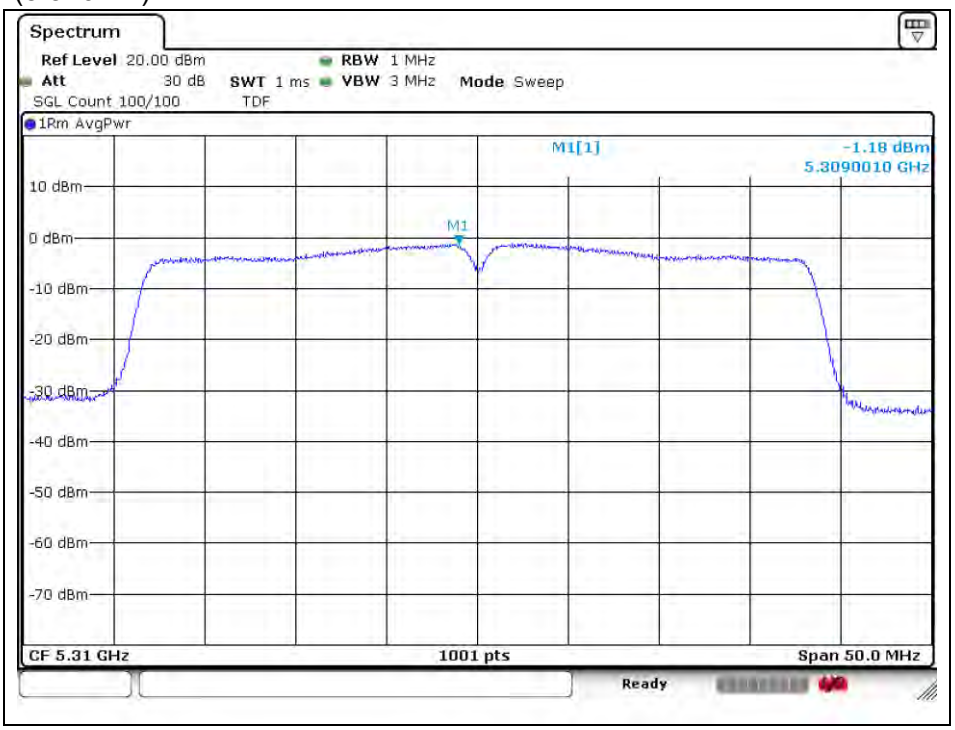
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 2A)

Low channel (5 270 ㎒)



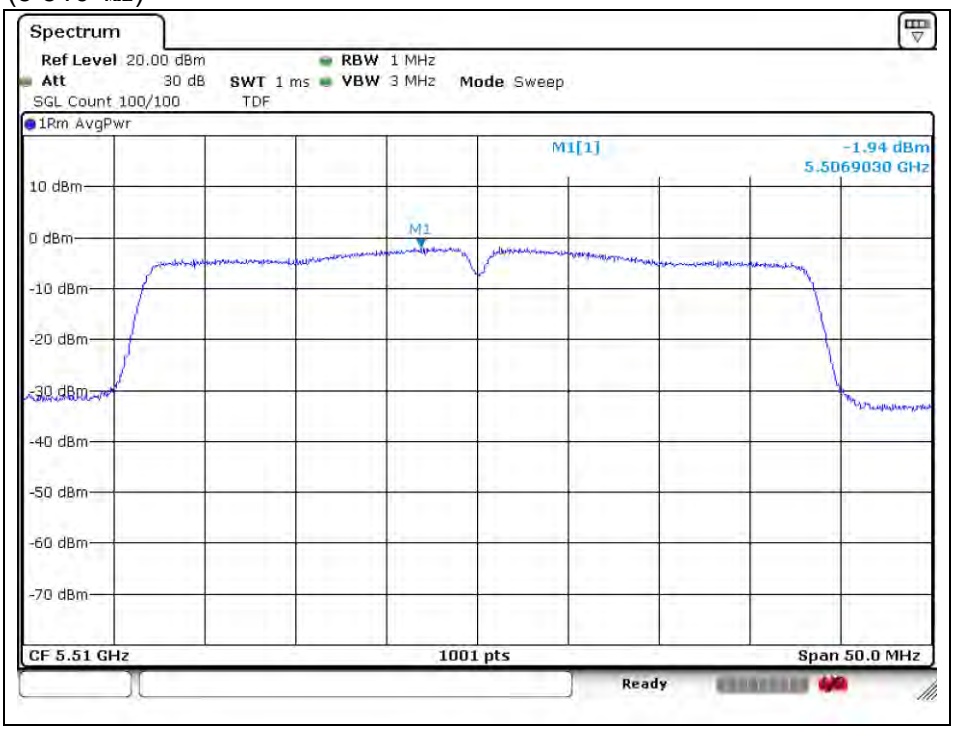
High channel (5 310 ㎒)



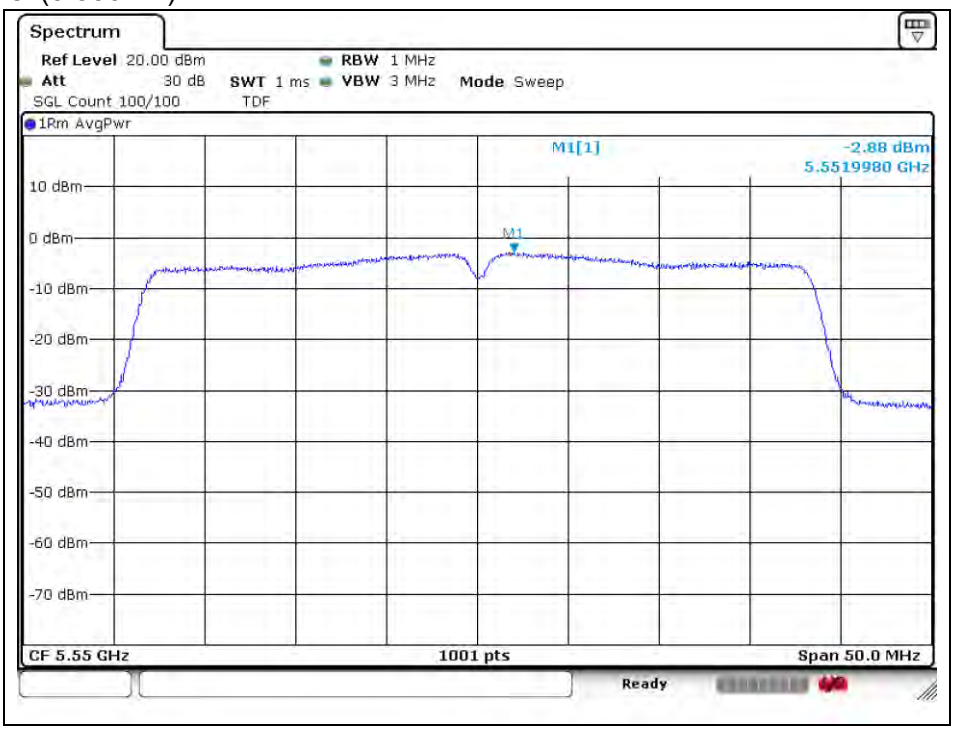
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

802.11n_HT40 (Band 2C)

Low channel (5 510 ㎒)

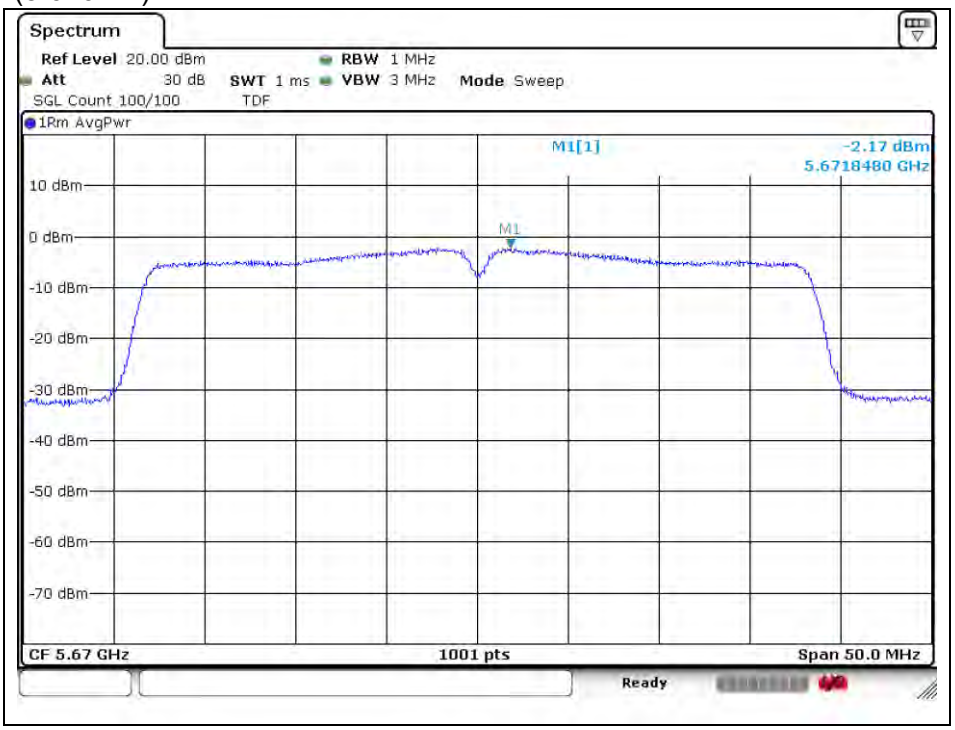


Middle channel (5 550 ㎒)



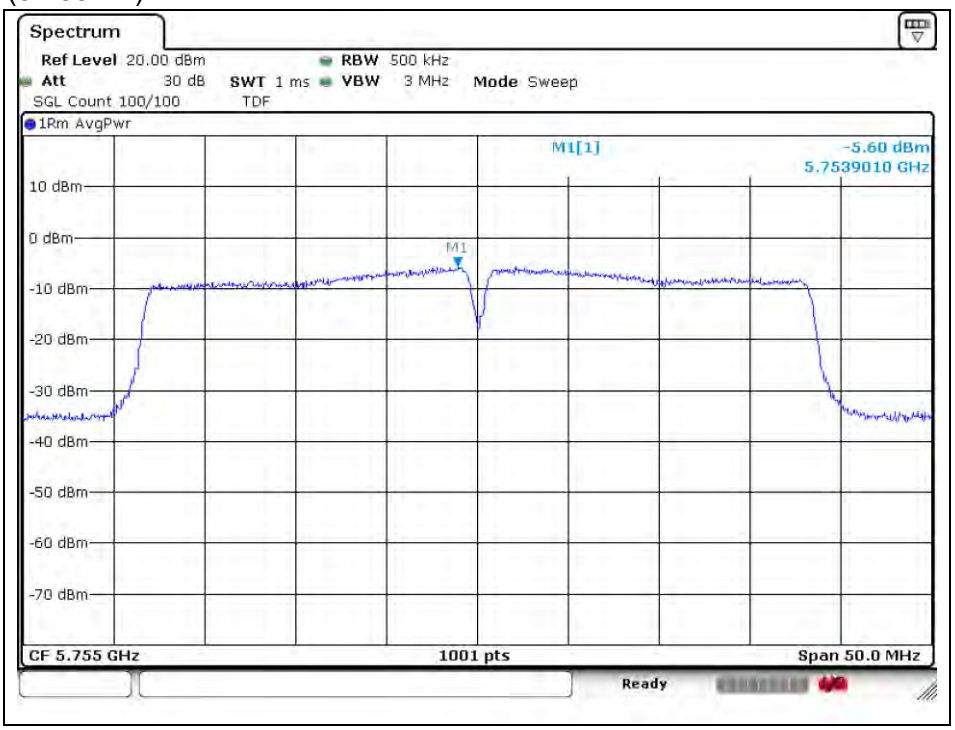
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

High channel (5 670 ㎒)

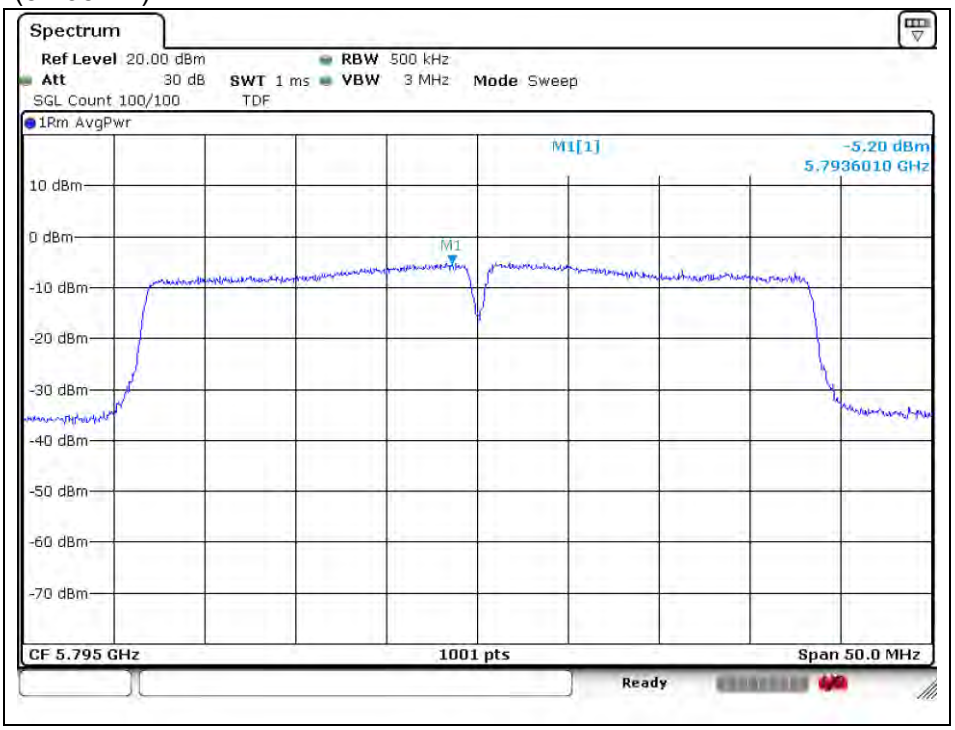


802.11n_HT40 (Band 3)

Low channel (5 755 ㎒)

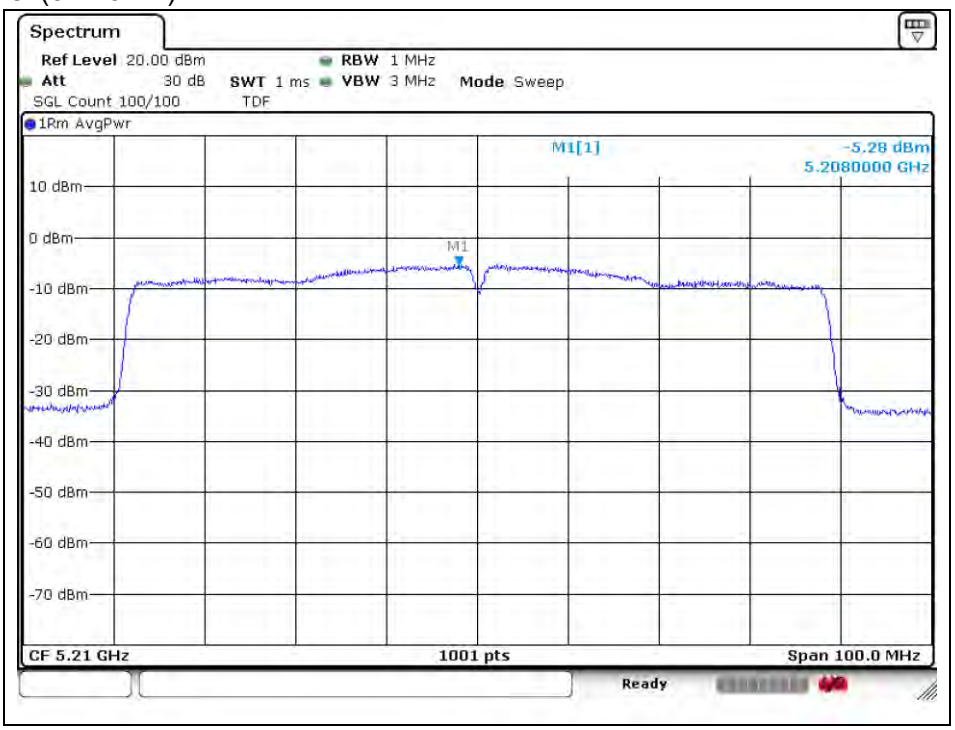


High channel (5 795 ㎒)



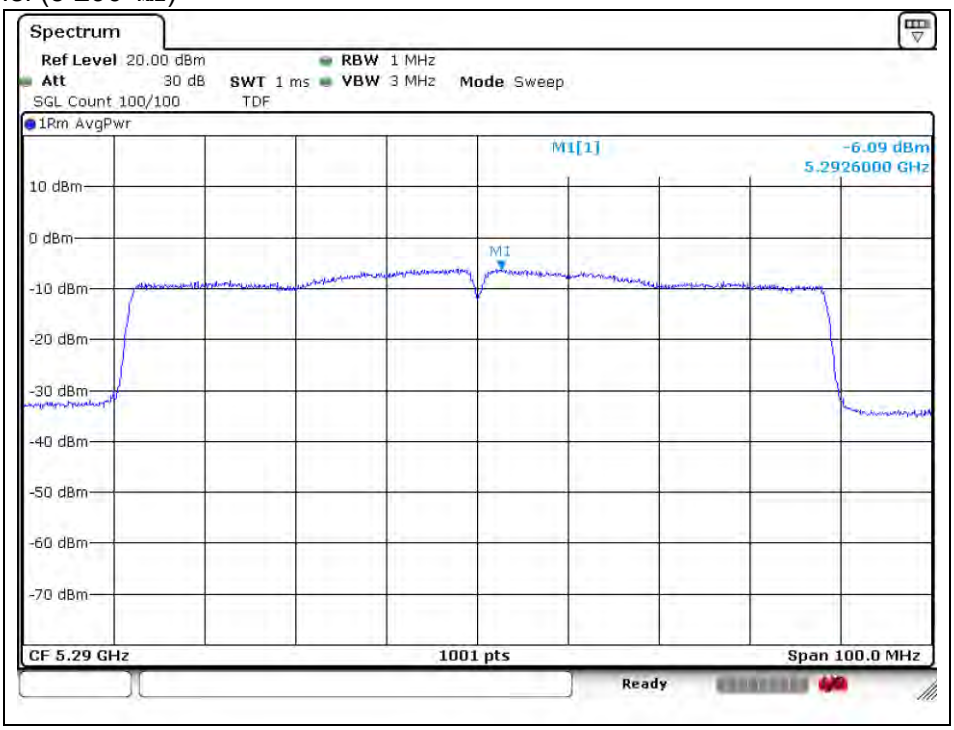
802.11ac_VHT80 (Band 1)

Middle channel (5 210 ㎒)



802.11ac_VHT80 (Band 2A)

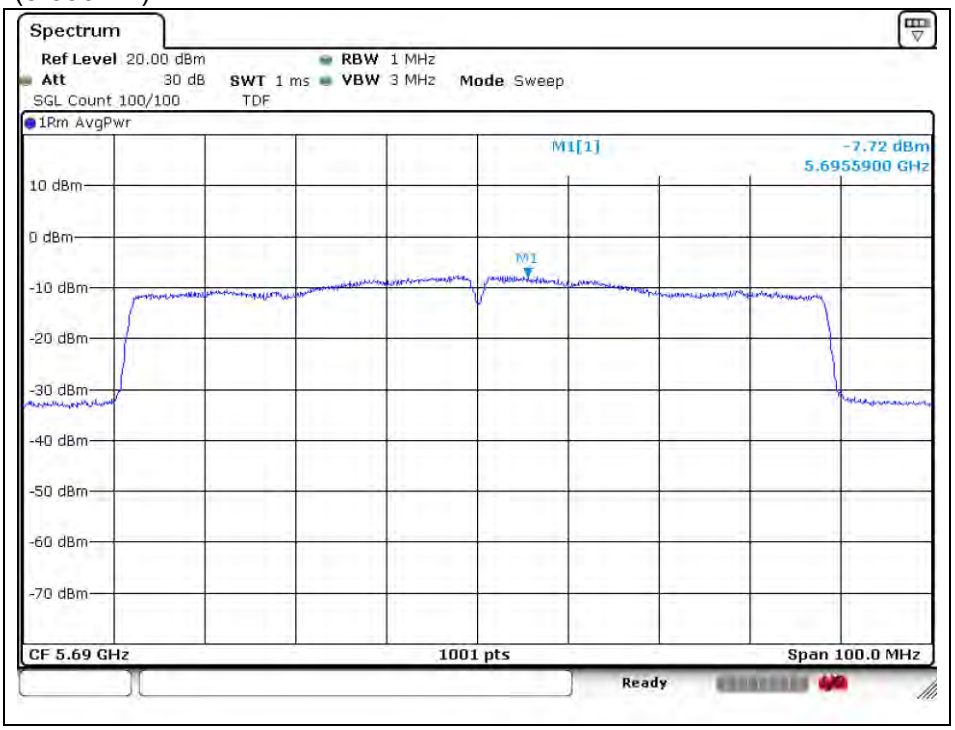
Middle channel (5 290 ㎒)



802.11ac_VHT80 (Band 2C)

Low channel (5 530 ㎒)

High channel (5 690 ㎒)

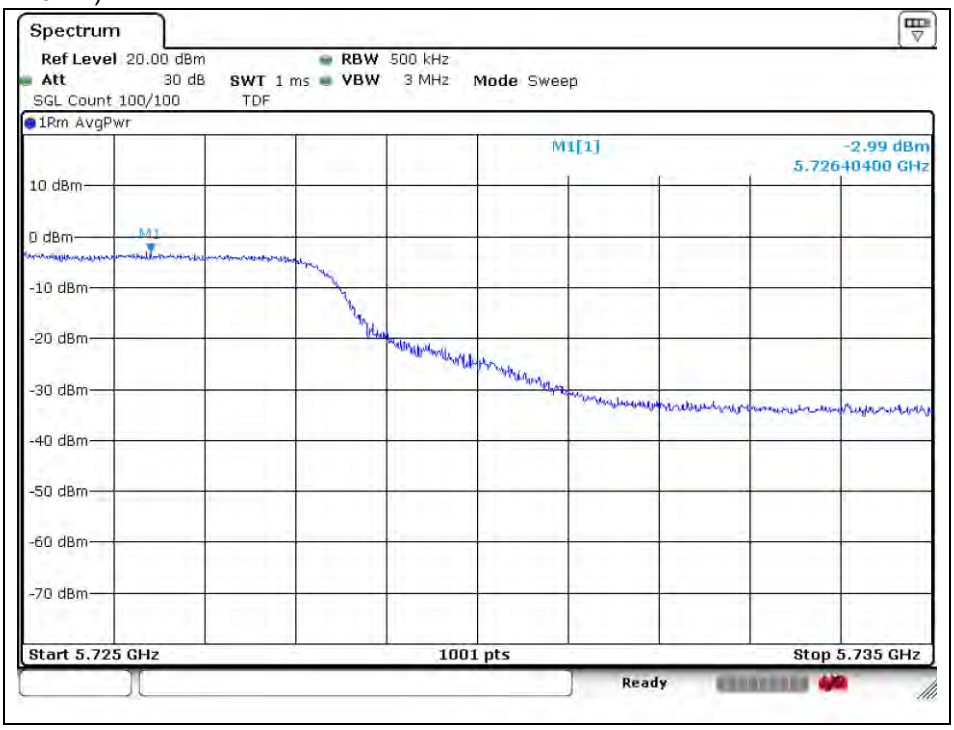


802.11ac_VHT80 (Band 3)

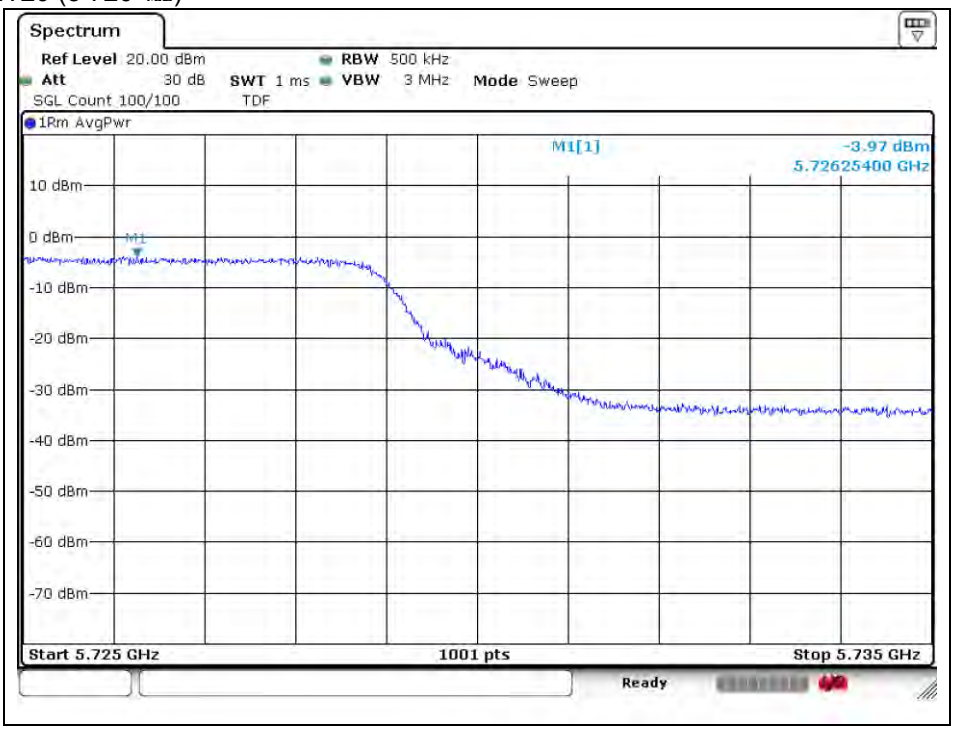
Middle channel (5 775 ㎒)

Band-crossing channels

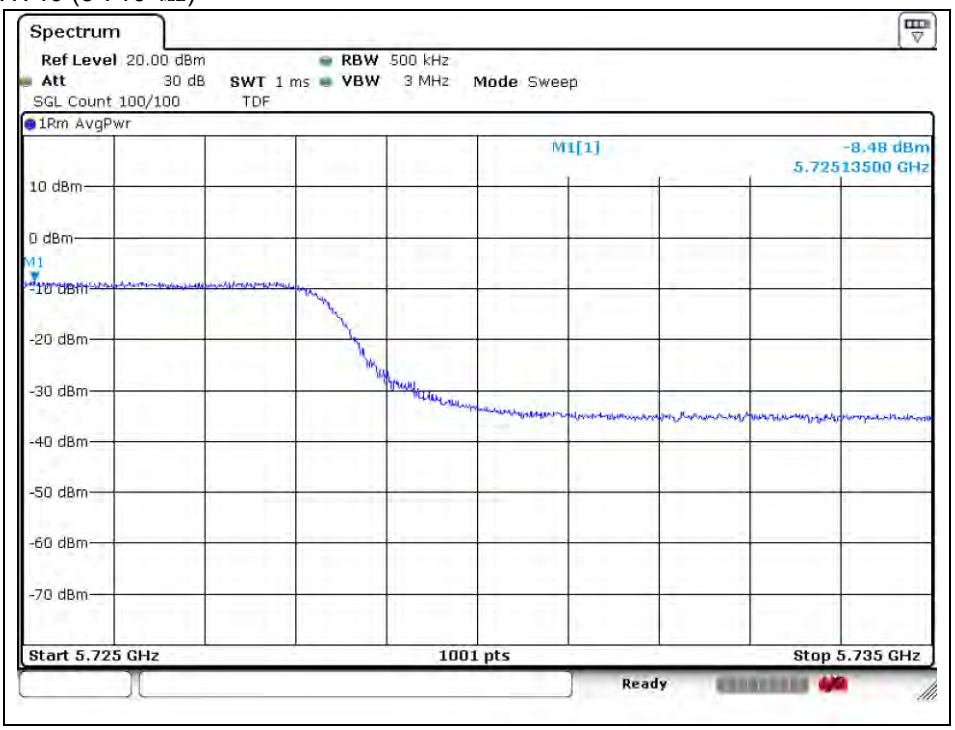
U-NII 3 11a (5 720 ㎒)



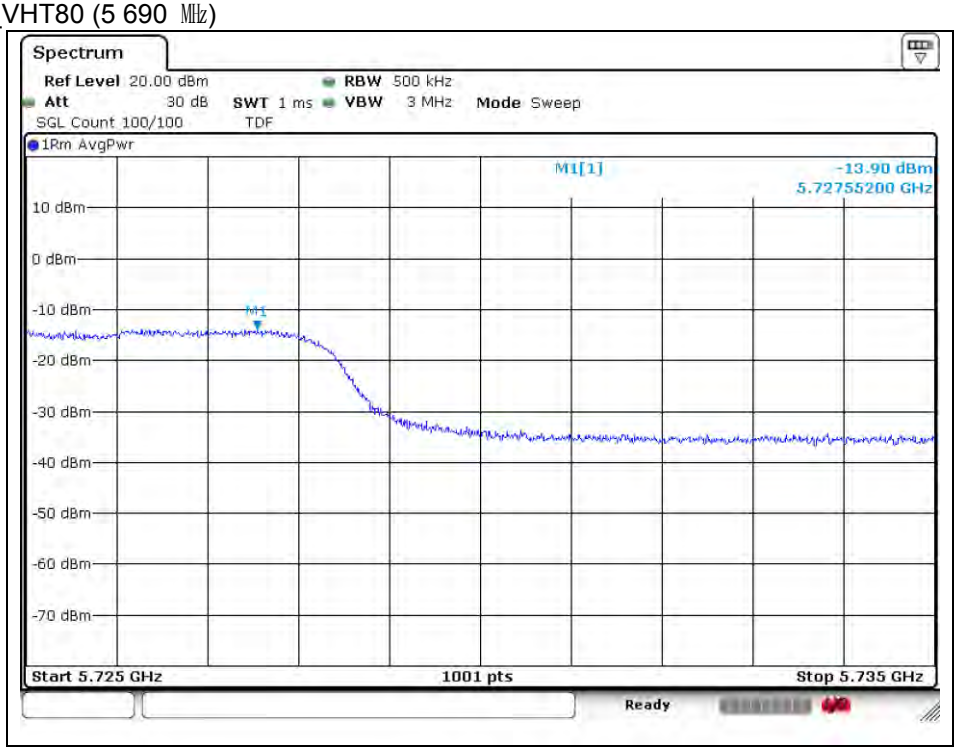
U-NII 3 11n_HT20 (5 720 ㎒)



U-NII 3 11n_HT40 (5 710 ㎒)

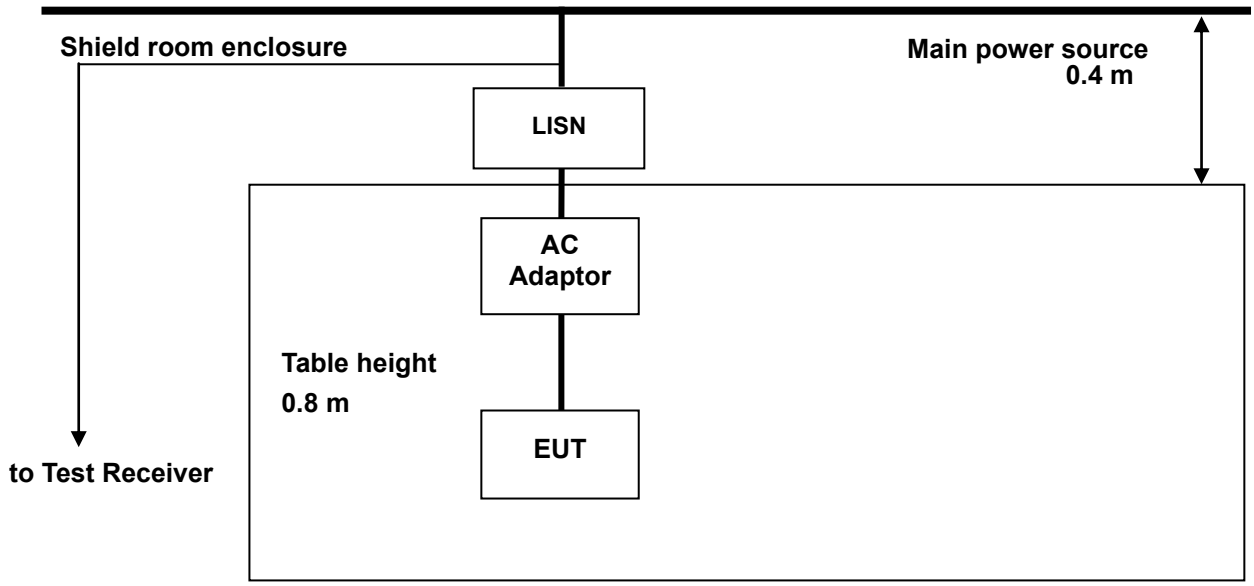


U-NII 3 11ac_VHT80 (5 690 ㎒)



7. AC Power Line Conducted Emission

7.1. Test Setup



7.2. Limit

FCC

§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 50 ㎕H /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 frequency ranges.

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

* Decreases with the logarithm of the frequency.

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.

IC

RSS-Gen Issue 4, 8.8, A radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which 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 Table 3.

Unless the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the AC power lines in the frequency range of 0.15 ㎒ to 30 ㎒ shall not exceed the limits shown in Table 3 below. The more stringent limit applies at the frequency range boundaries.

The conducted emissions shall be measured in accordance with the reference publication mentioned in Section 3.

Table 3 – AC Power Line Conducted Emissions Limits

Frequency (㎒)	Conducted limit (dBμV)	
	Quasi-peak	Average**
0.15 - 0.50	66 - 56*	56 - 46*
0.50 - 5.00	56	46
5.00 - 30.0	60	50

* Decreases with the logarithm of the frequency.
** A linear average detector is required.

7.3. Test Procedures

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

AC line conducted emissions from the EUT were measured according to the dictates of ANSI C63.10-2013

1. The test procedure is performed in a 6.5 m × 3.6 m × 3.6 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. The excess power cable between the EUT and the LISN was bundled. All connecting cables of EUT were moved to find the maximum emission.

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.

7.4. Test Results

The following table shows the highest levels of conducted emissions on both phase of Hot and Neutral line

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

Frequency range : 0.15 ㎒ - 30 ㎒
Measured Bandwidth : 9 ㎑

FREQ.	LEVEL(dBμV)		LINE	LIMIT(dBμV)		MARGIN(dB)	
(㎒)	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.46	30.80	24.60	N	56.69	46.69	25.89	22.09
0.52	21.50	14.40	N	56.00	46.00	34.50	31.60
0.92	17.50	13.10	N	56.00	46.00	38.50	32.90
1.58	17.10	12.60	N	56.00	46.00	38.90	33.40
2.24	16.50	12.00	N	56.00	46.00	39.50	34.00
18.55	17.60	12.80	N	60.00	50.00	42.40	37.20
0.47	28.90	22.60	H	56.51	46.51	27.61	23.91
0.92	15.20	11.40	H	56.00	46.00	40.80	34.60
1.29	16.10	11.80	H	56.00	46.00	39.90	34.20
1.95	15.50	11.20	H	56.00	46.00	40.50	34.80
6.01	15.90	11.20	H	60.00	50.00	44.10	38.80
26.50	15.70	10.50	H	60.00	50.00	44.30	39.50

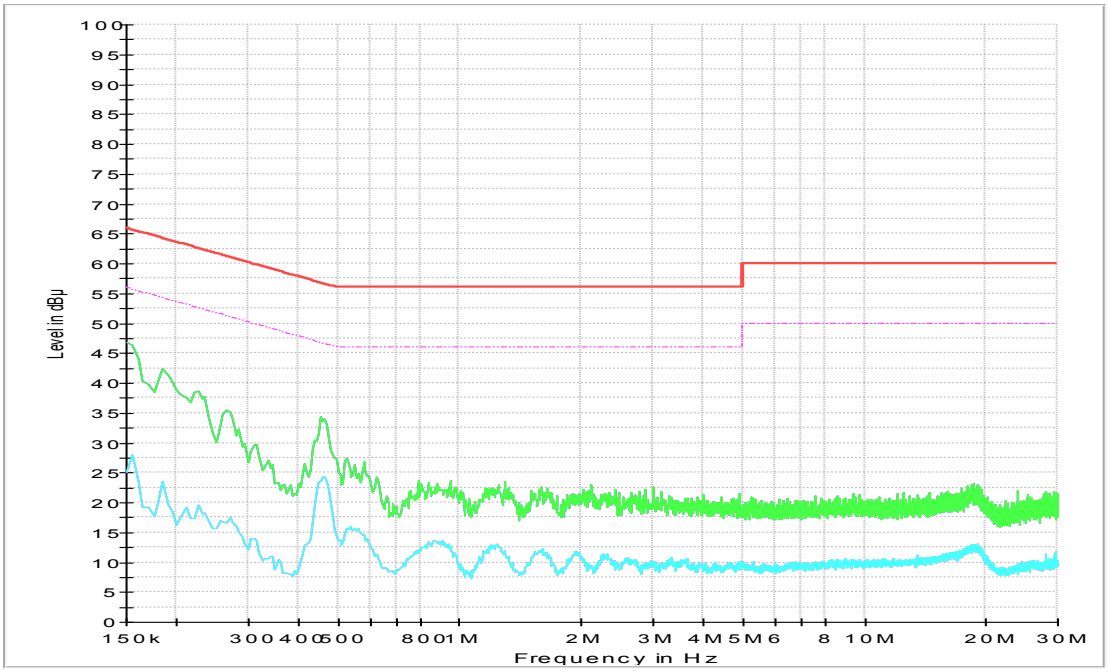
Remark;

1. Line (H): Hot, Line (N): Neutral.
2. All modes of operation were investigated and the worst-case emissions were reported using 11a (Band 1) Mode, 6Mbps, Low channel.
3. Traces shown in plot mad using a peak detector and average detector.
4. The limit for Class B device(s) from 150 ㎑ to 30 ㎒ are specified in Section of the Title 47 CFR.
5. Deviations to the Specifications: None.

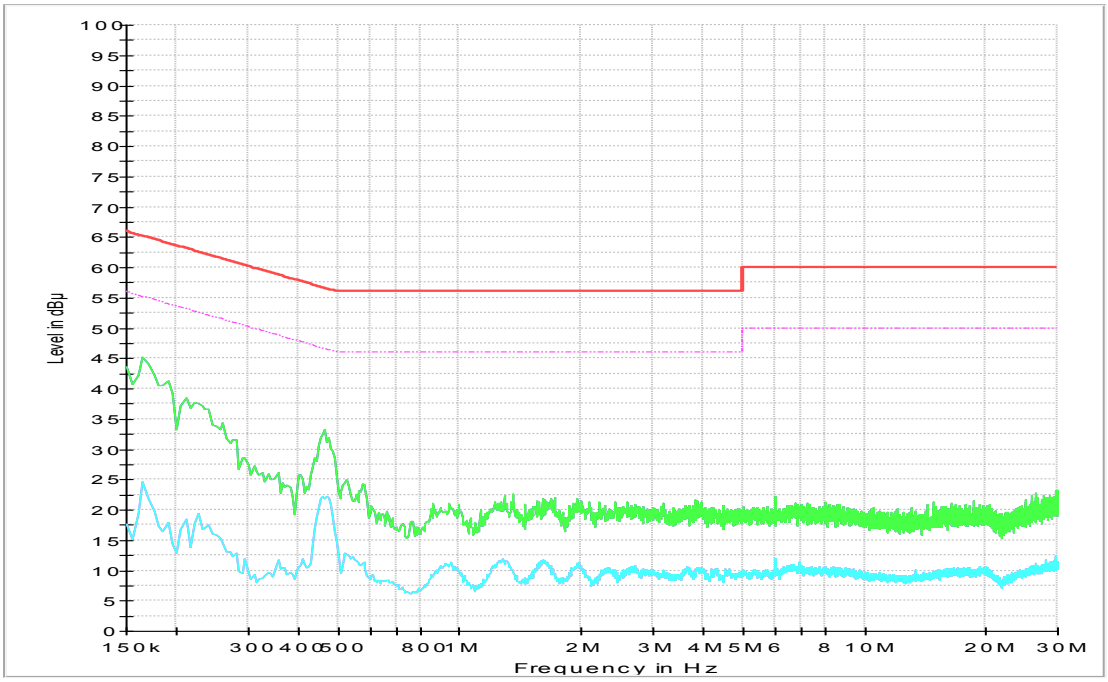
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

Plots of Conducted Power line

Test mode: (Neutral)



Test mode: (Hot)



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.

8. Antenna Requirement

8.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section §15.407 (a) if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the gain of the antenna exceeds 6 dBi.

8.2. Antenna Connected Construction

Antenna used in this product is Dipole type and peak max gain of antenna as below.

Band	5 150 MHz - 5 350 MHz	5 470 MHz - 5 725 MHz	5 725 MHz - 5 850 MHz
Mode	11a/n_HT20, HT40, 11ac_VHT20, VHT40, VHT80		
Gain	0.91 dBi	0.69 dBi	-1.52 dBi

- End of the Test Report -

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.