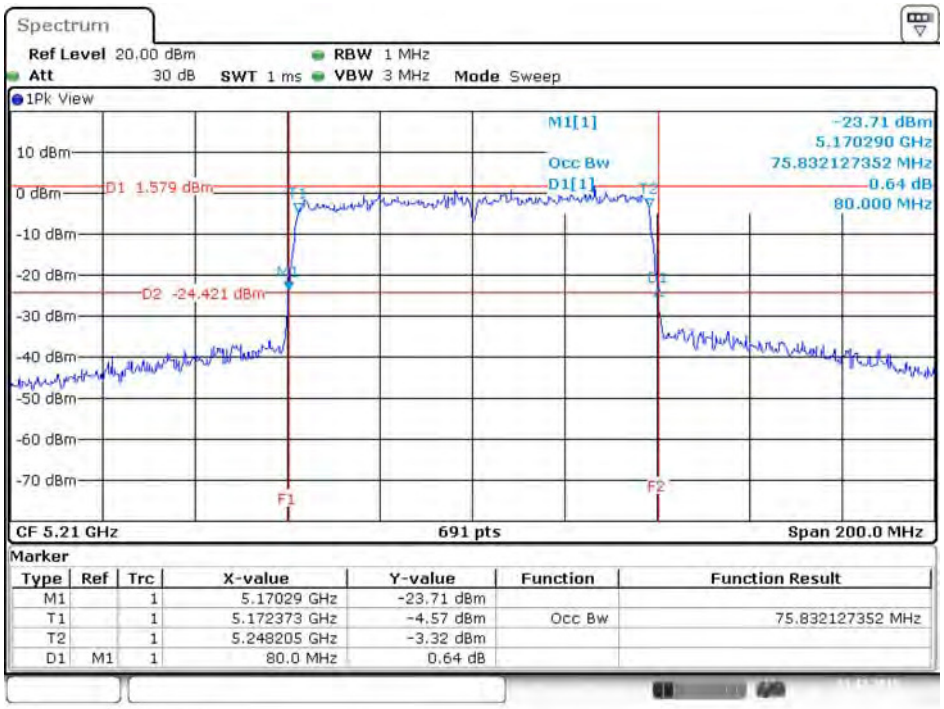
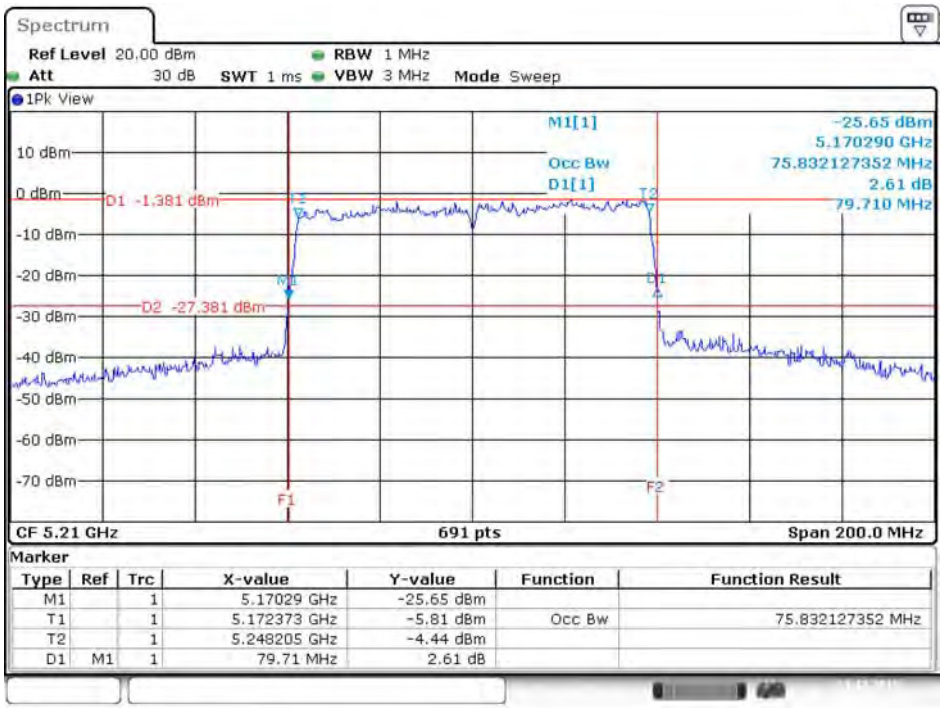
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 7 / 5210 MHz



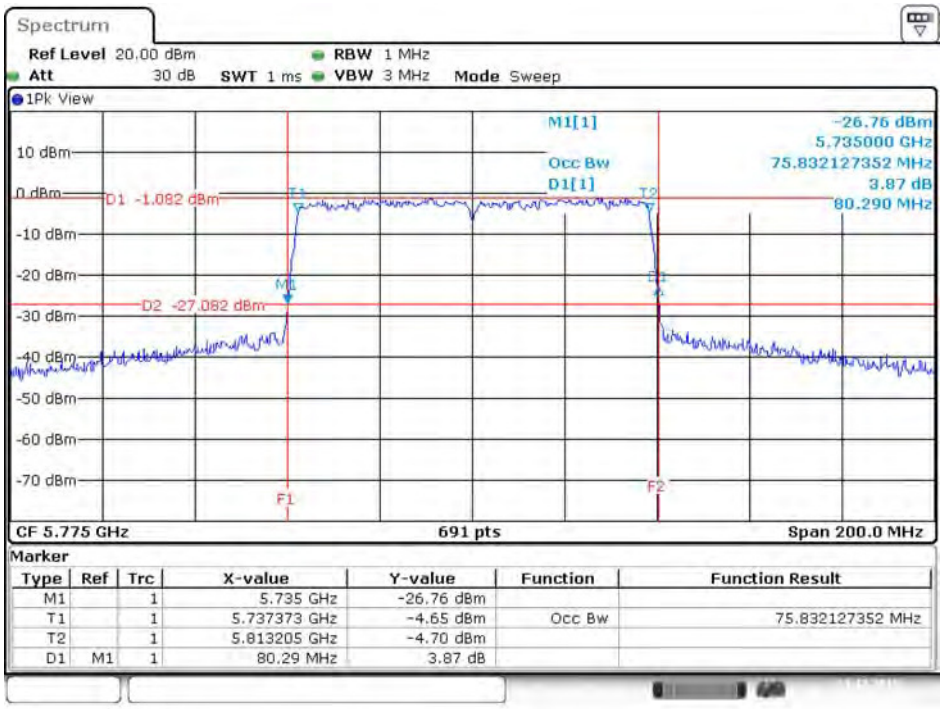
Date: 21.DEC.2015 11:27:02

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 8 / 5210 MHz



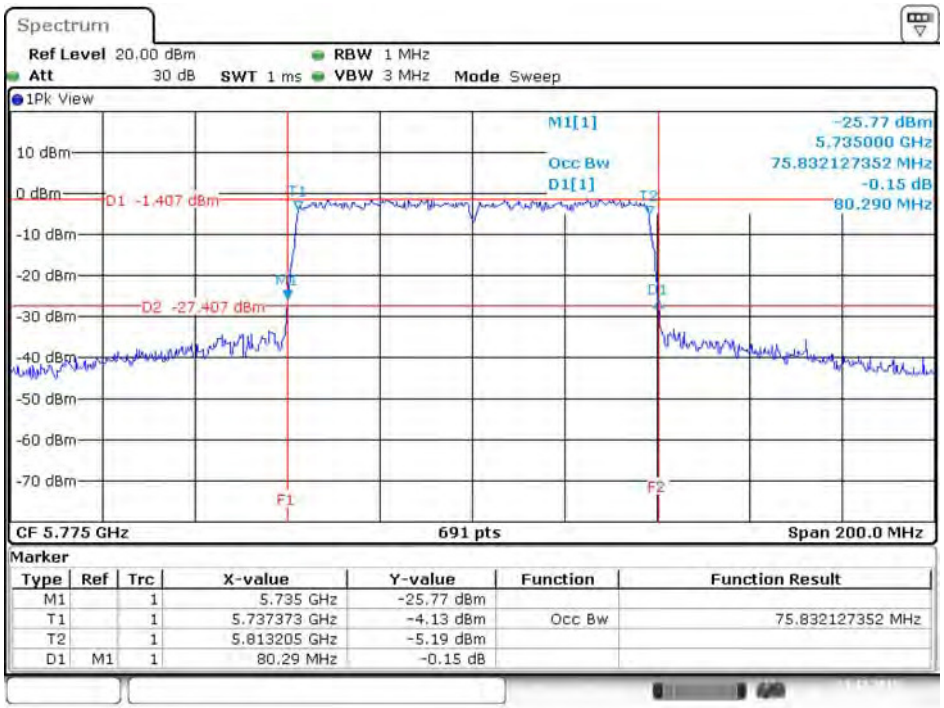
Date: 21.DEC.2015 11:27:26

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 5 / 5775 MHz



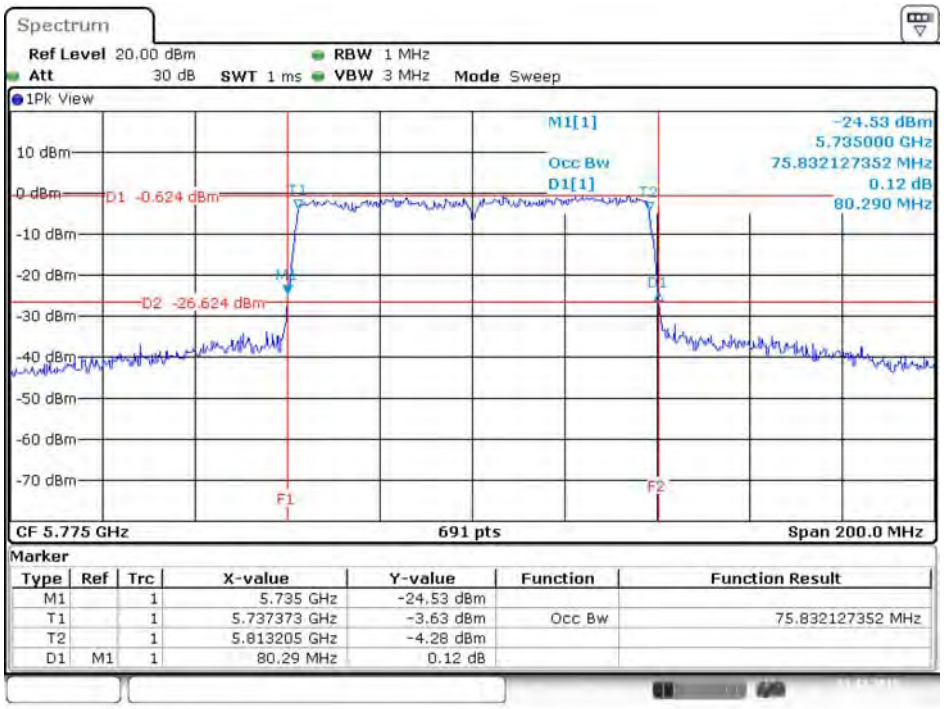
Date: 21.DEC.2015 11:39:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 6 / 5775 MHz



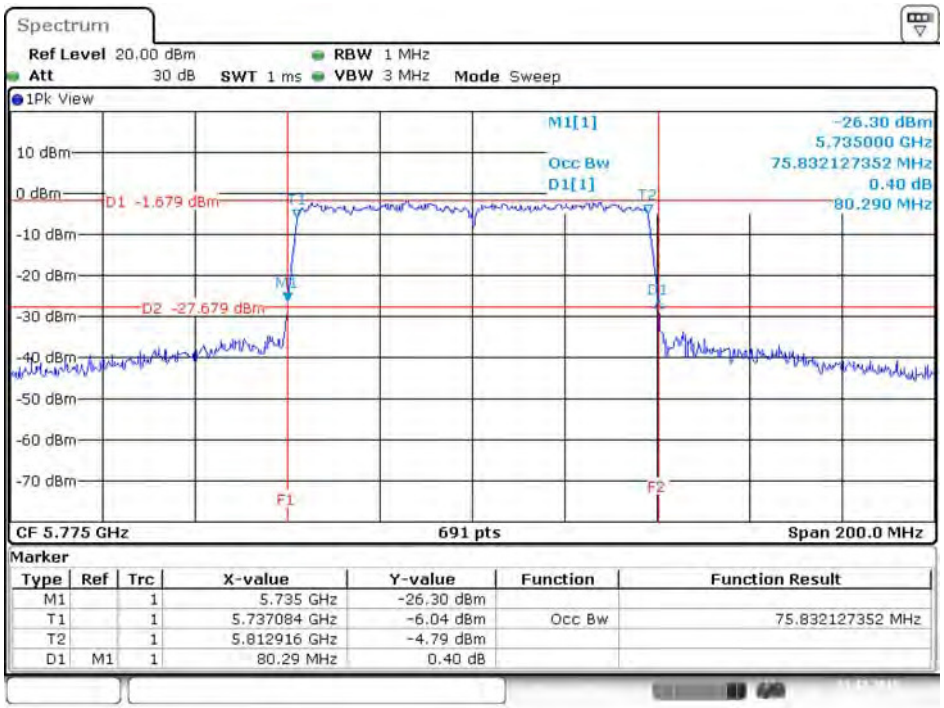
Date: 21.DEC.2015 11:39:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 7 / 5775 MHz



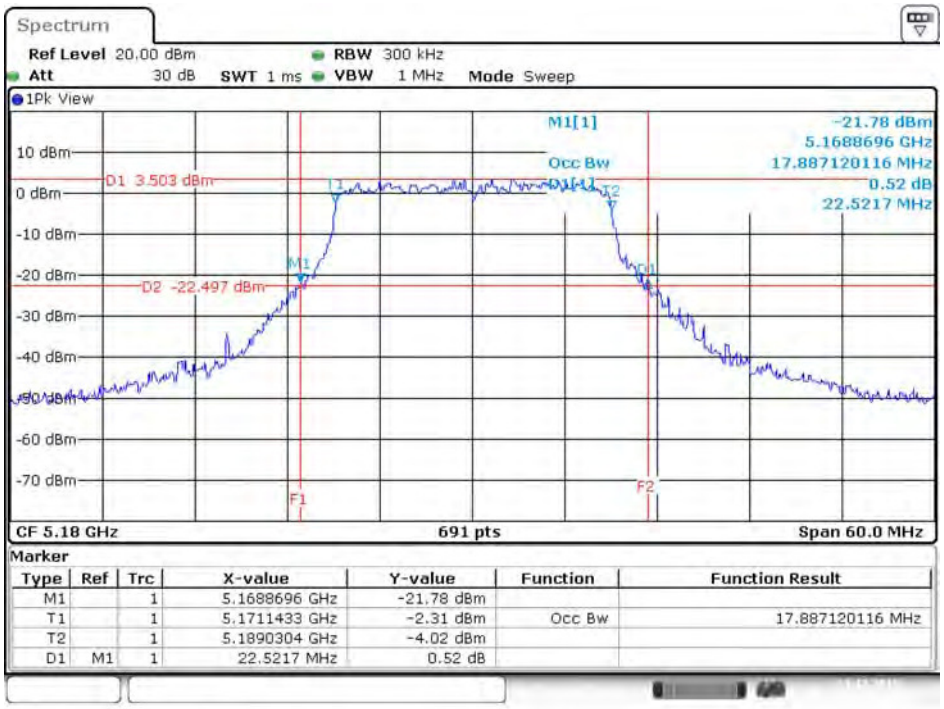
Date: 21.DEC.2015 11:39:30

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 8 / 5775 MHz



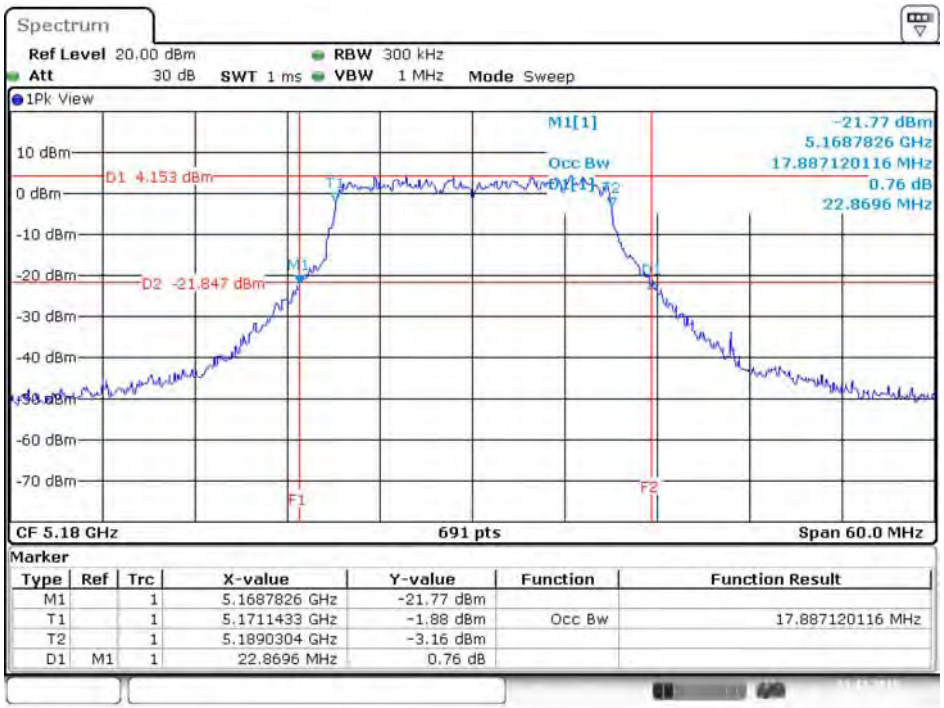
Date: 21.DEC.2015 11:38:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 / 5180 MHz



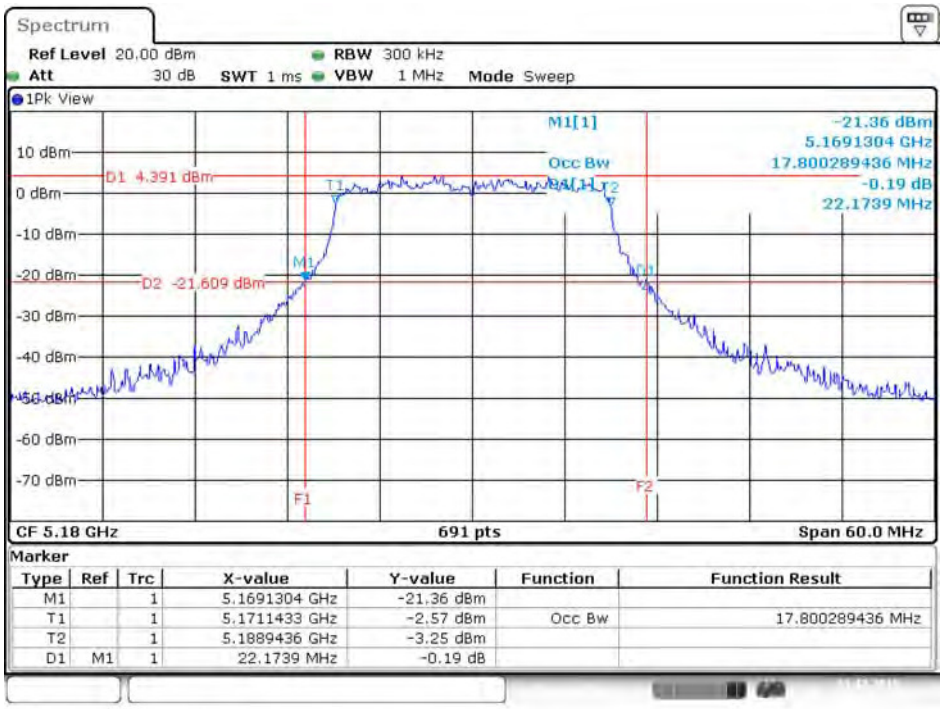
Date: 21.DEC.2015 15:14:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 6 / 5180 MHz



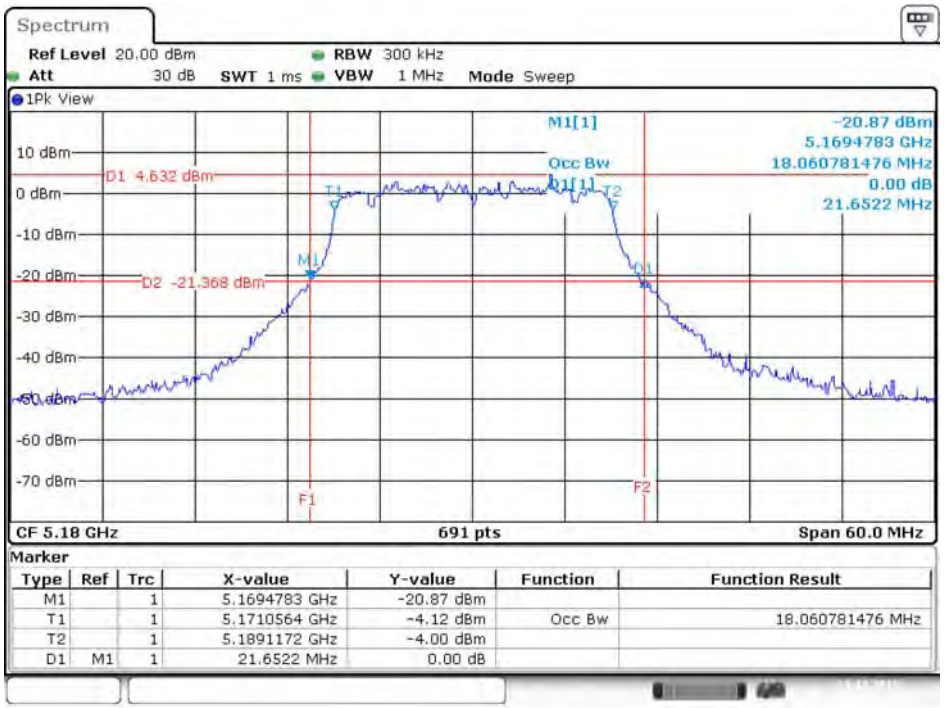
Date: 21.DEC.2015 15:13:16

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 7 / 5180 MHz



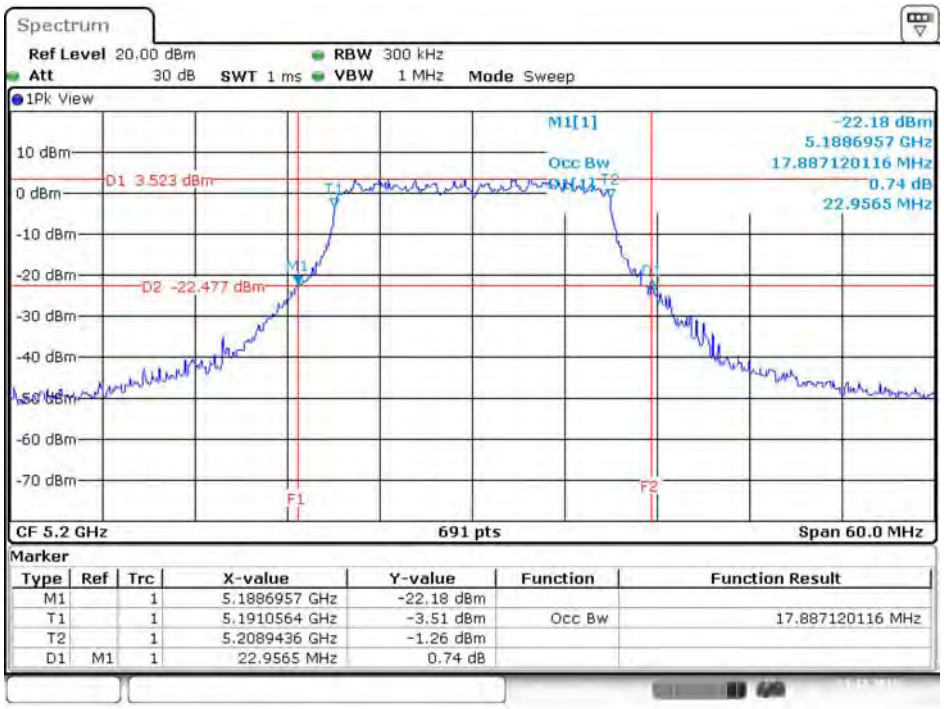
Date: 21.DEC.2015 15:12:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 8 / 5180 MHz



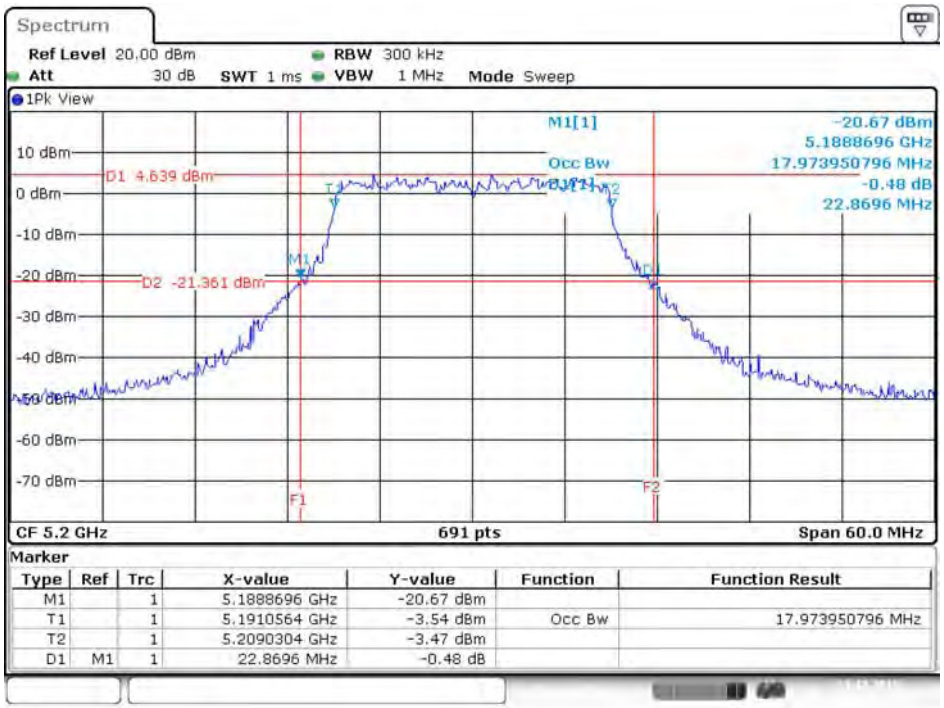
Date: 21.DEC.2015 15:12:23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 / 5200 MHz



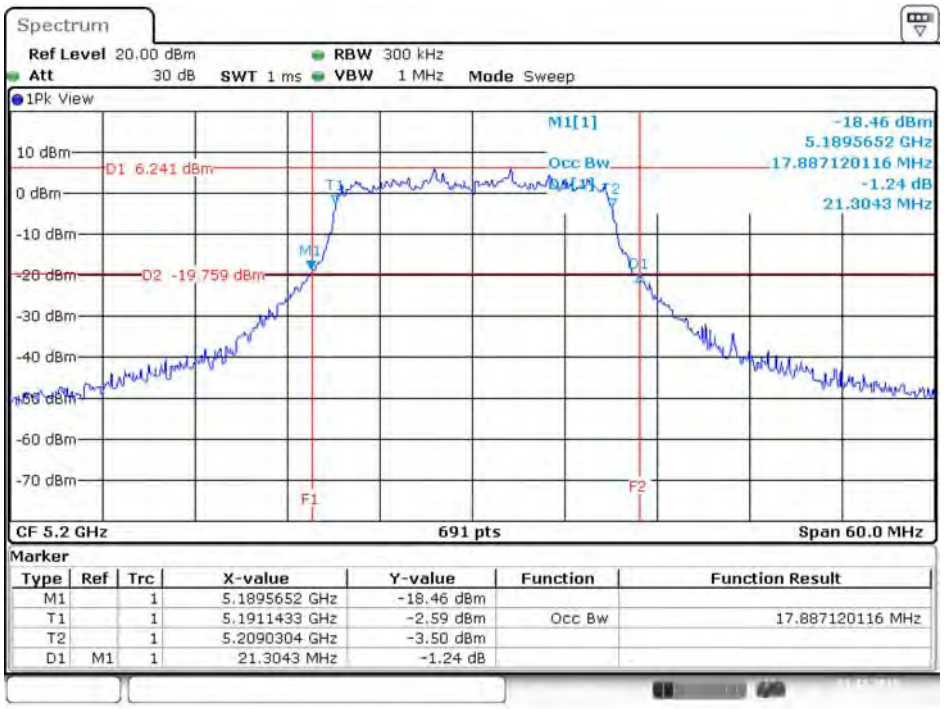
Date: 21.DEC.2015 15:17:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 6 / 5200 MHz



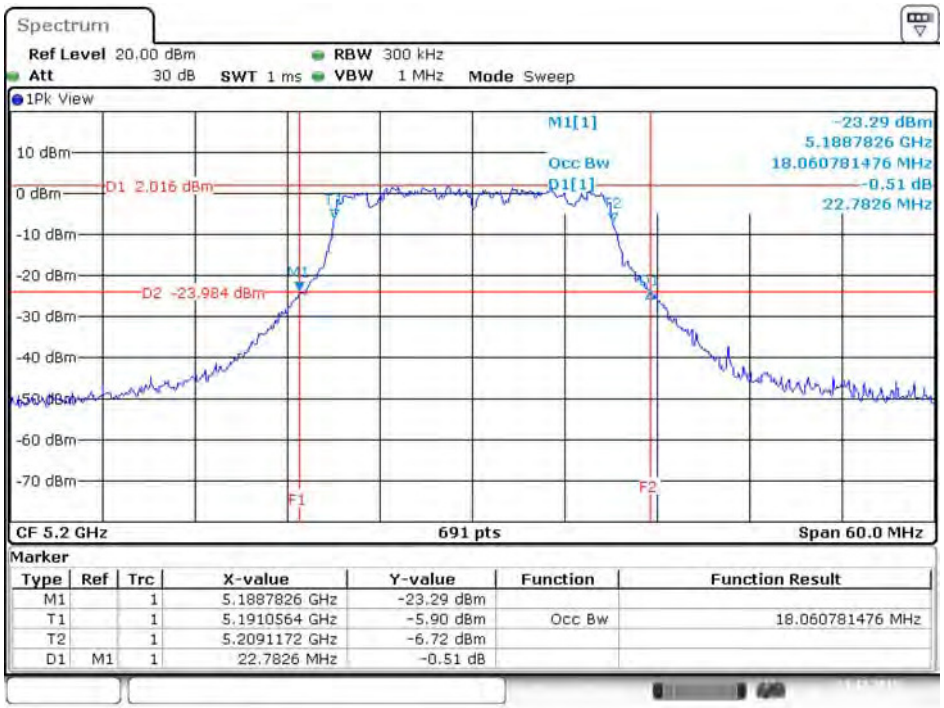
Date: 21.DEC.2015 15:18:13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 7 / 5200 MHz



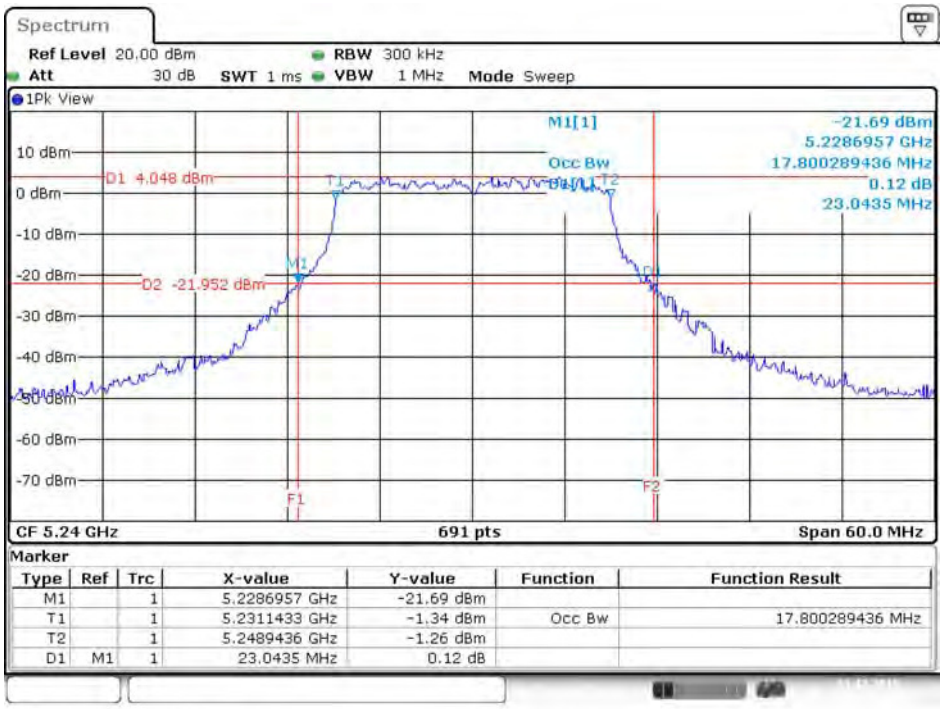
Date: 21.DEC.2015 15:18:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 8 / 5200 MHz



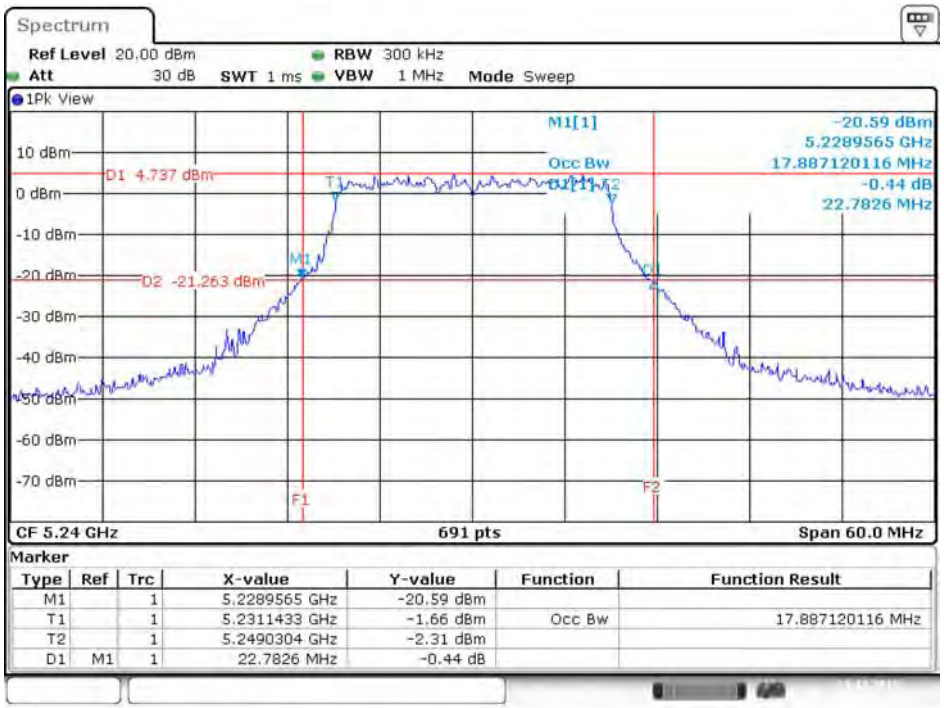
Date: 21.DEC.2015 15:18:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 / 5240 MHz



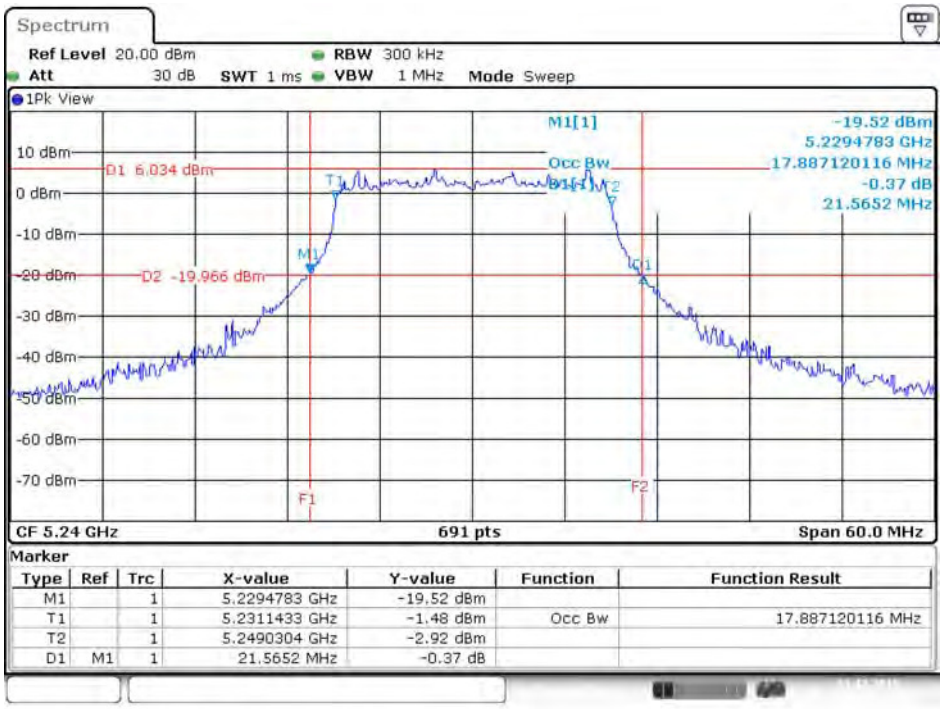
Date: 21.DEC.2015 15:22:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 6 / 5240 MHz



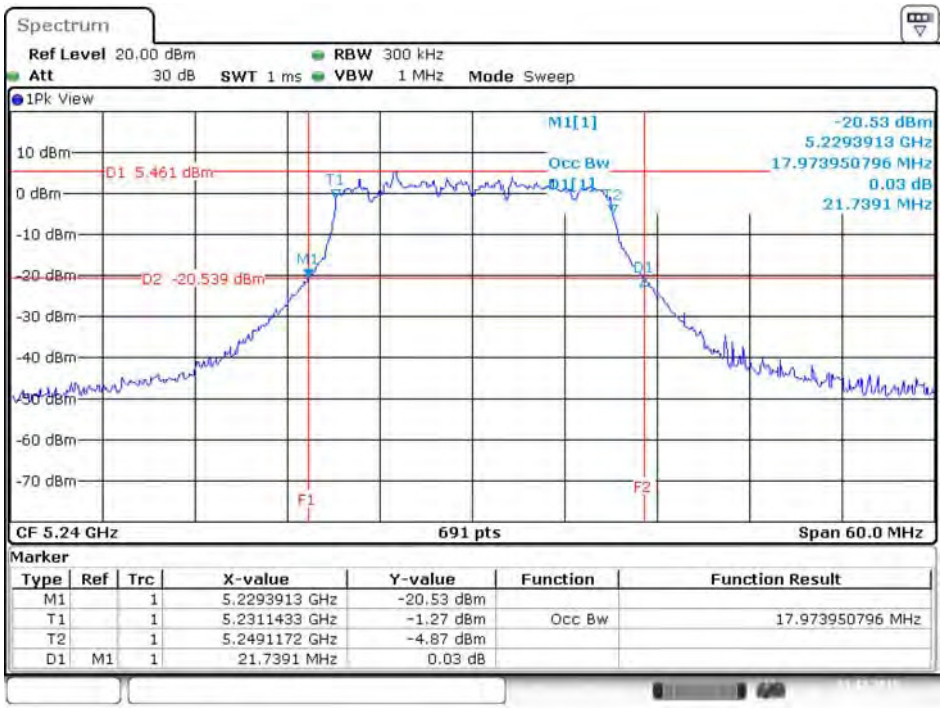
Date: 21.DEC.2015 15:22:16

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 7 / 5240 MHz



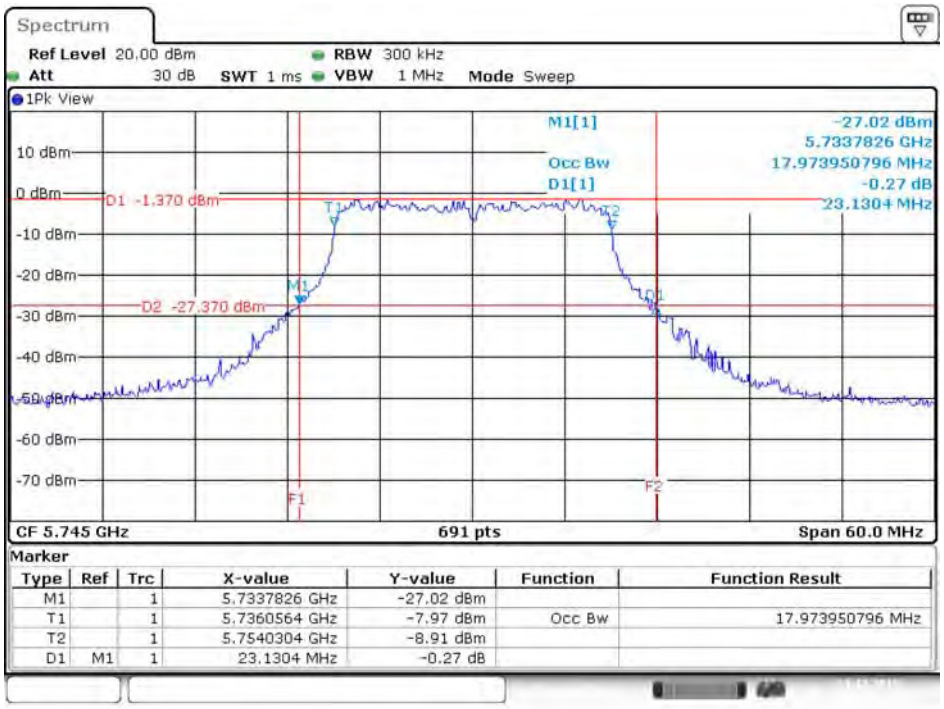
Date: 21.DEC.2015 15:21:25

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 8 / 5240 MHz



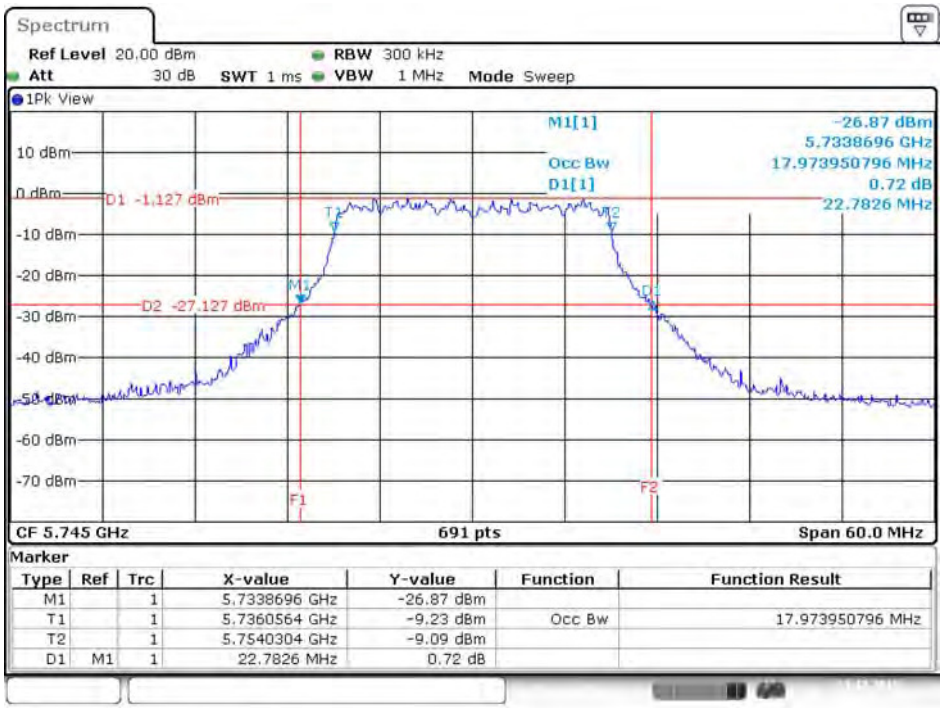
Date: 21.DEC.2015 15:19:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 / 5745 MHz



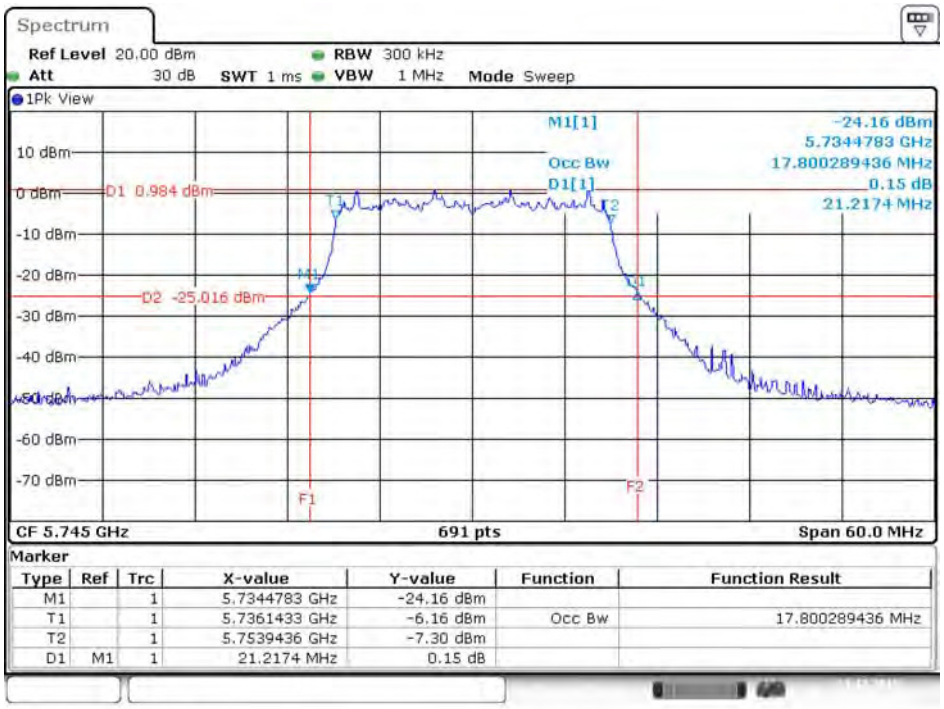
Date: 21.DEC.2015 15:43:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 6 / 5745 MHz



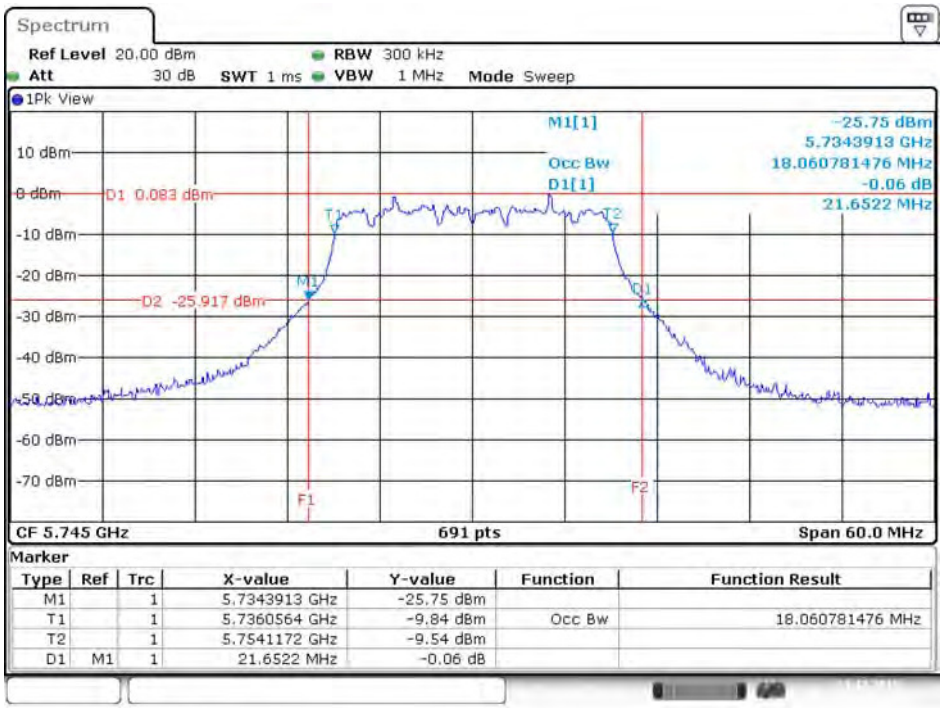
Date: 21.DEC.2015 15:44:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 7 / 5745 MHz



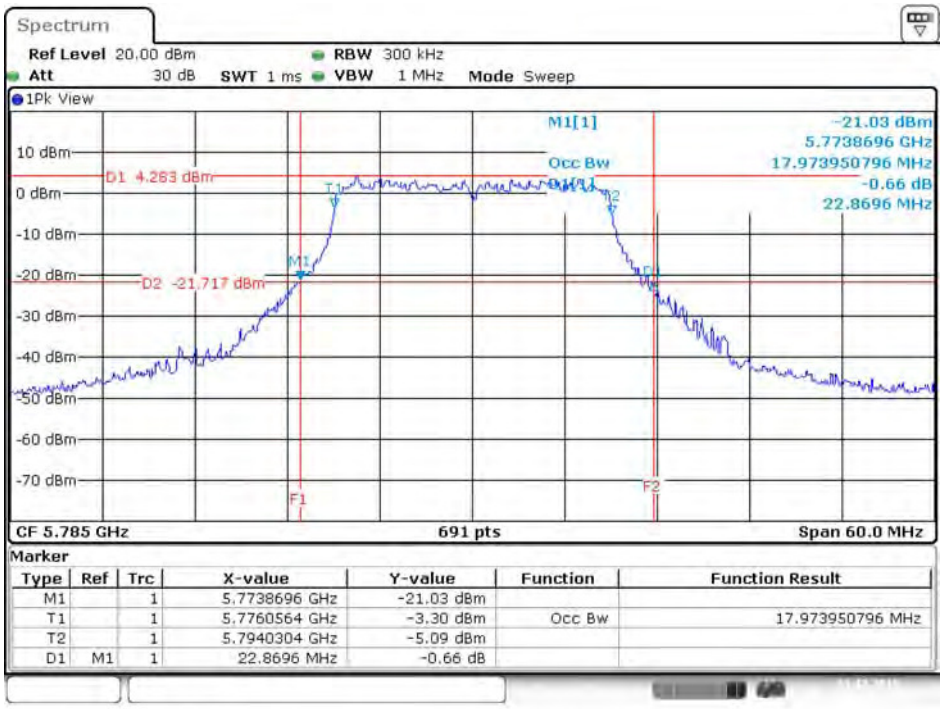
Date: 21.DEC.2015 15:44:42

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 8 / 5745 MHz



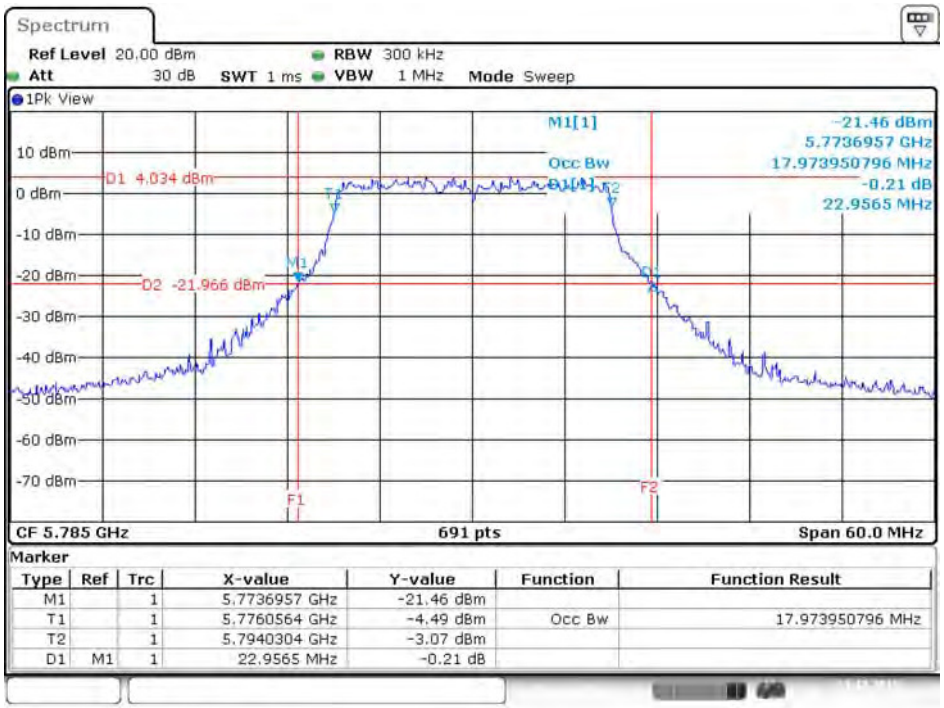
Date: 21.DEC.2015 15:46:17

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 / 5785 MHz



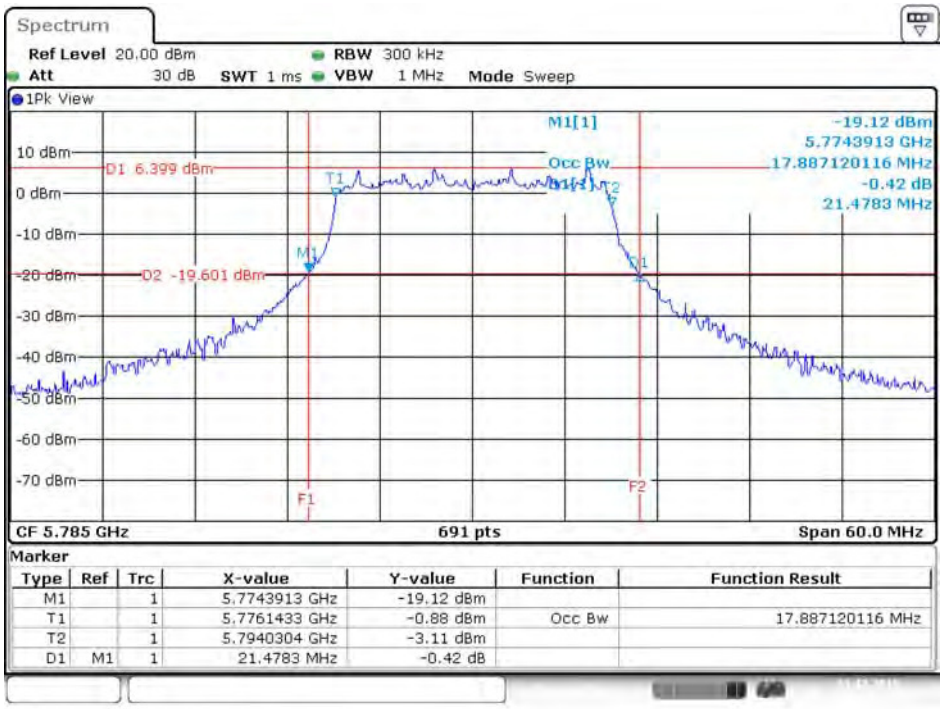
Date: 21.DEC.2015 15:49:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 6 / 5785 MHz



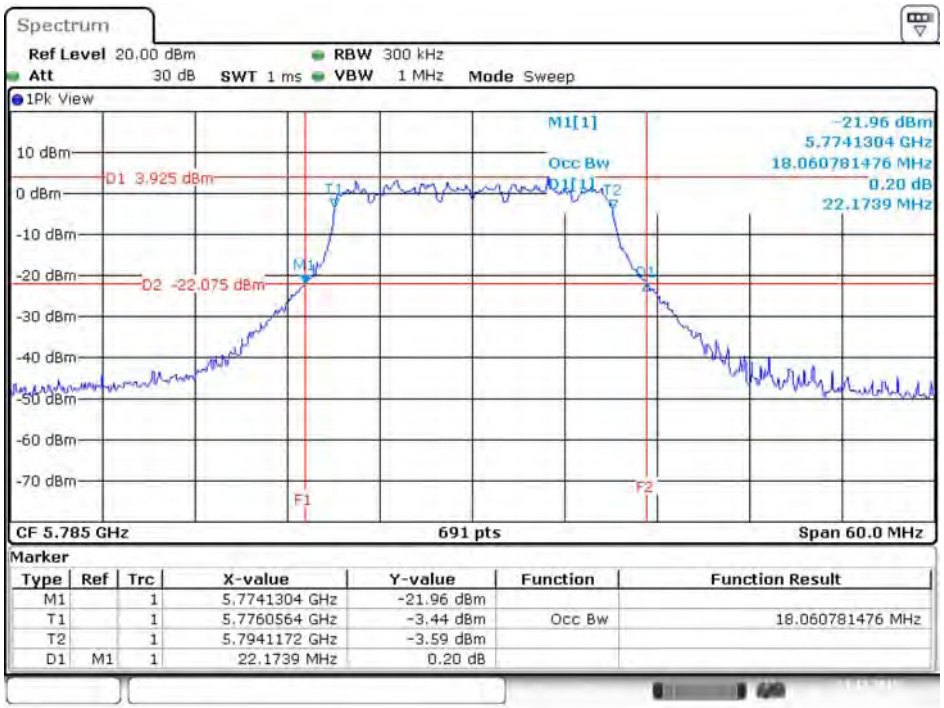
Date: 21.DEC.2015 15:49:25

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 7 / 5785 MHz



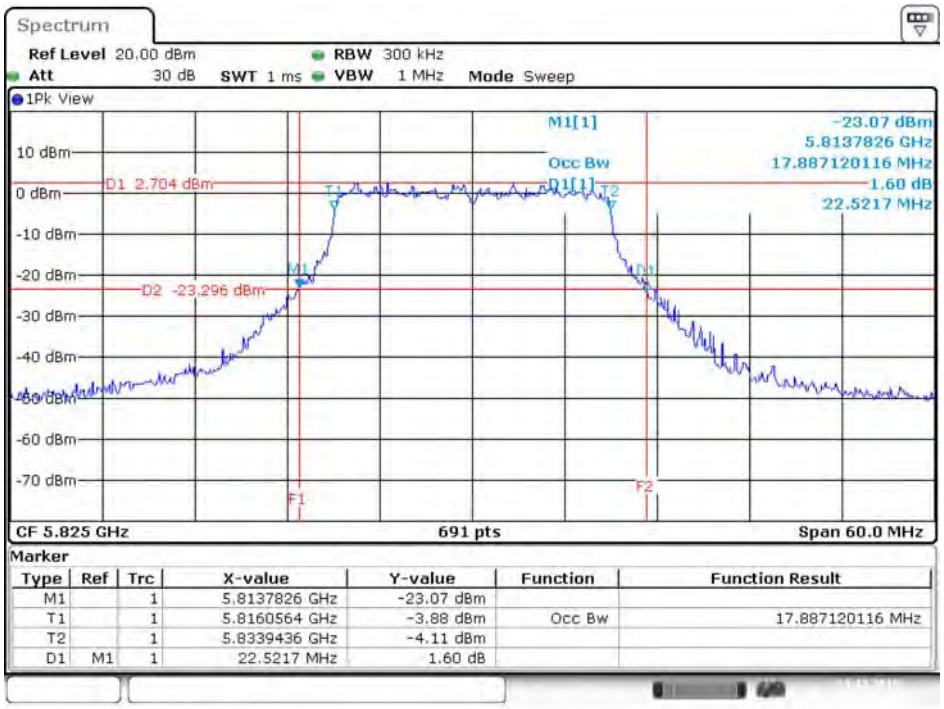
Date: 21.DEC.2015 15:48:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 8 / 5785 MHz



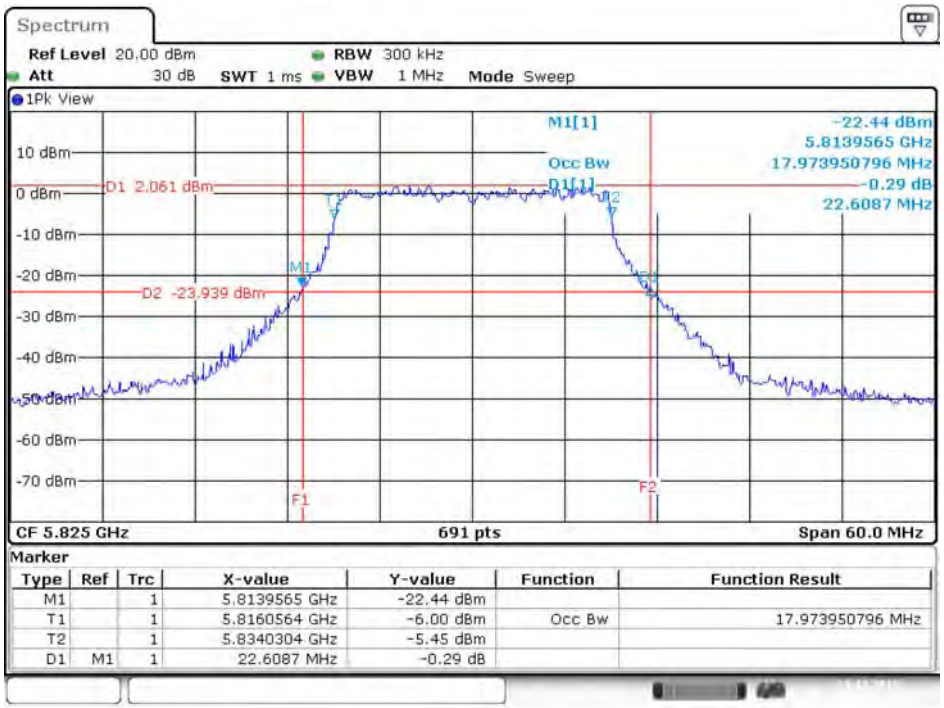
Date: 21.DEC.2015 15:48:10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 / 5825 MHz



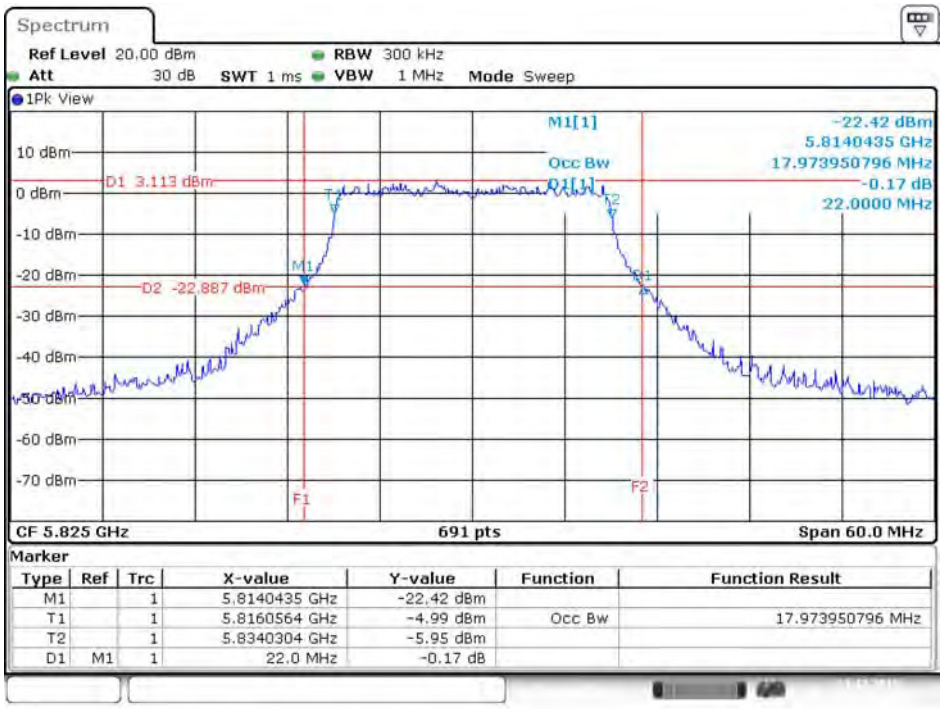
Date: 21.DEC.2015 15:50:37

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 6 / 5825 MHz



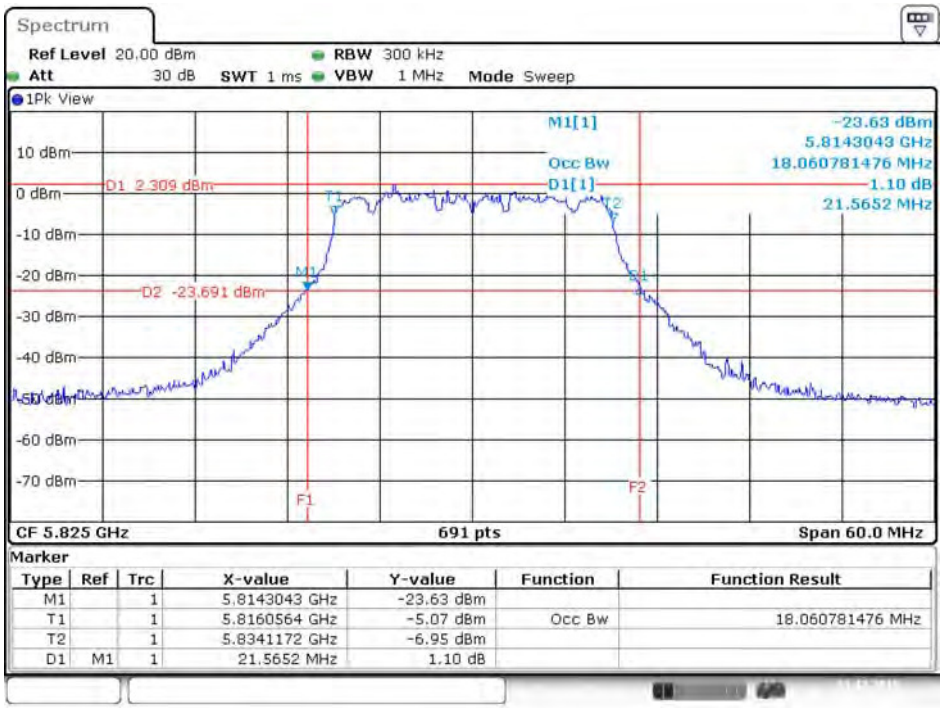
Date: 21.DEC.2015 15:51:06

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 7 / 5825 MHz



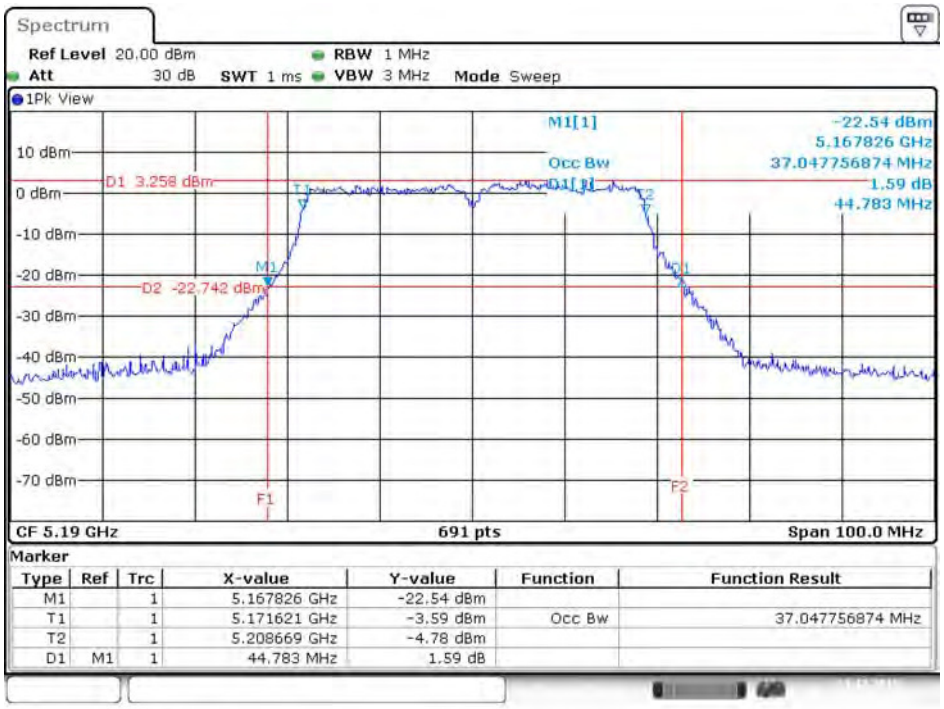
Date: 21.DEC.2015 15:51:38

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 8 / 5825 MHz



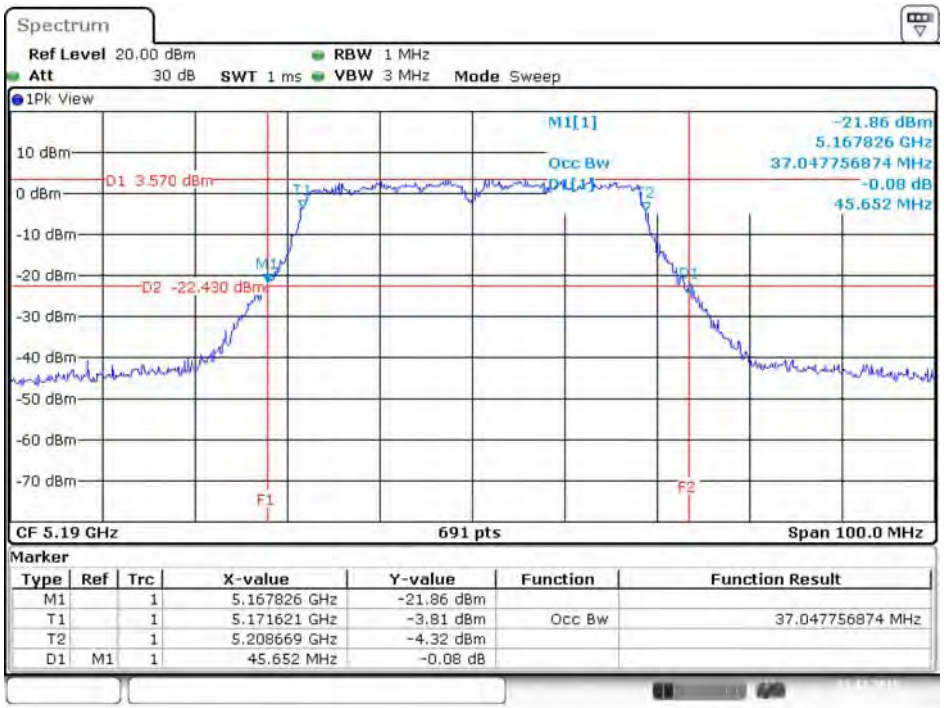
Date: 21.DEC.2015 15:52:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 / 5190 MHz



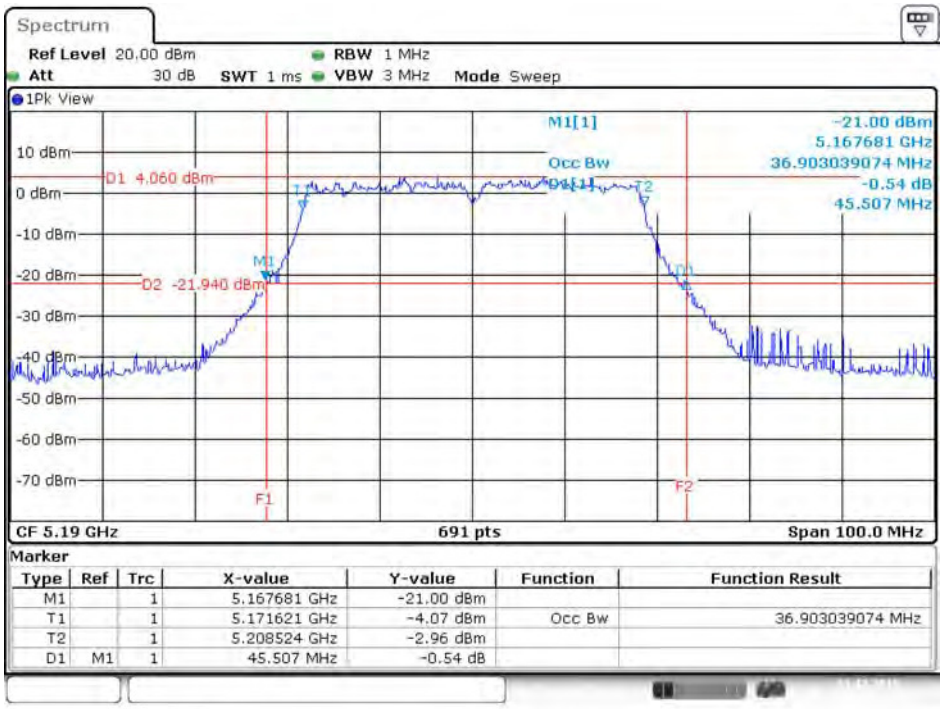
Date: 21.DEC.2015 14:31:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 6 / 5190 MHz



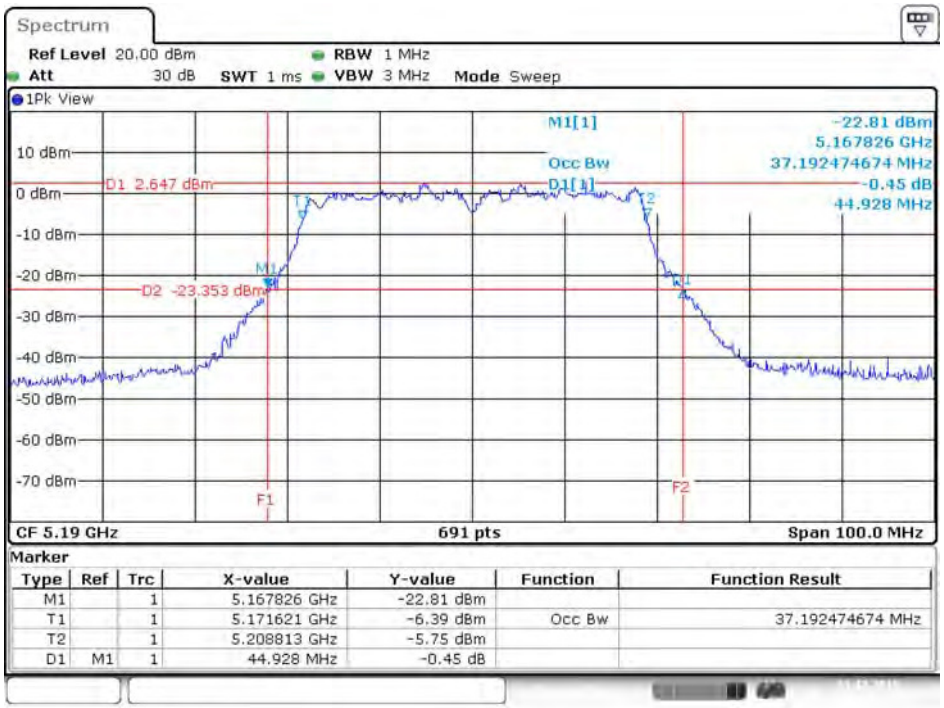
Date: 21.DEC.2015 14:32:29

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 7 / 5190 MHz



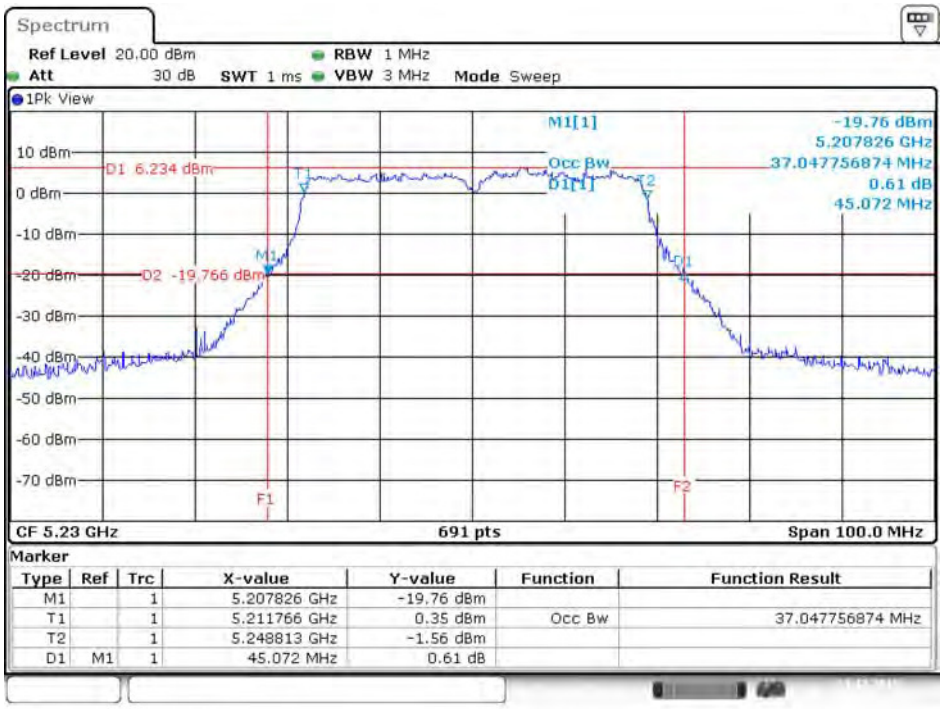
Date: 21.DEC.2015 14:33:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 8 / 5190 MHz



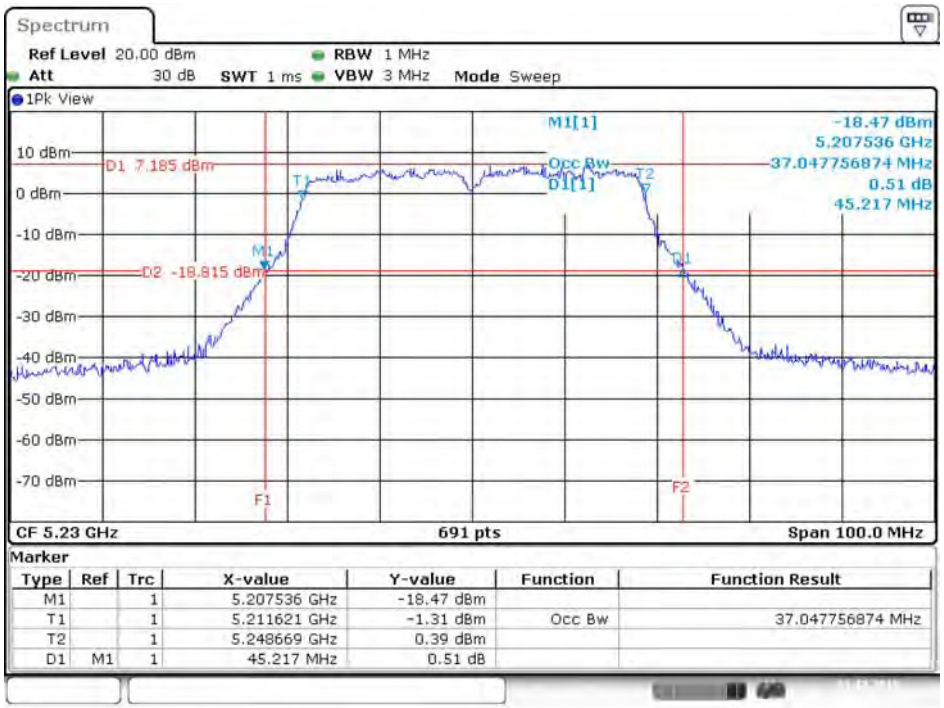
Date: 21.DEC.2015 14:33:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 / 5230 MHz



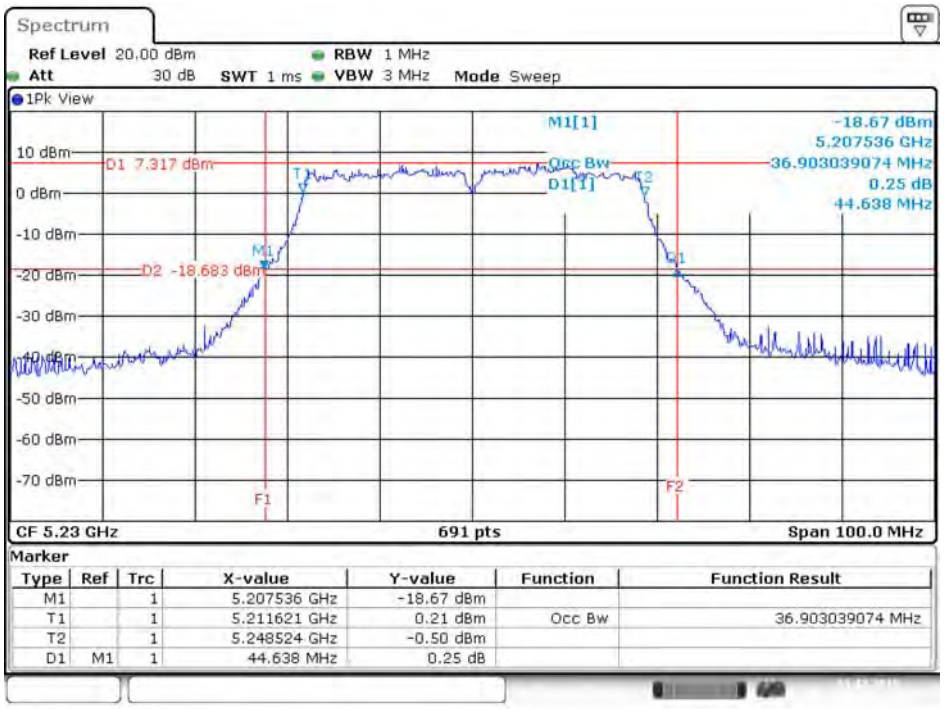
Date: 21.DEC.2015 14:39:11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 6 / 5230 MHz



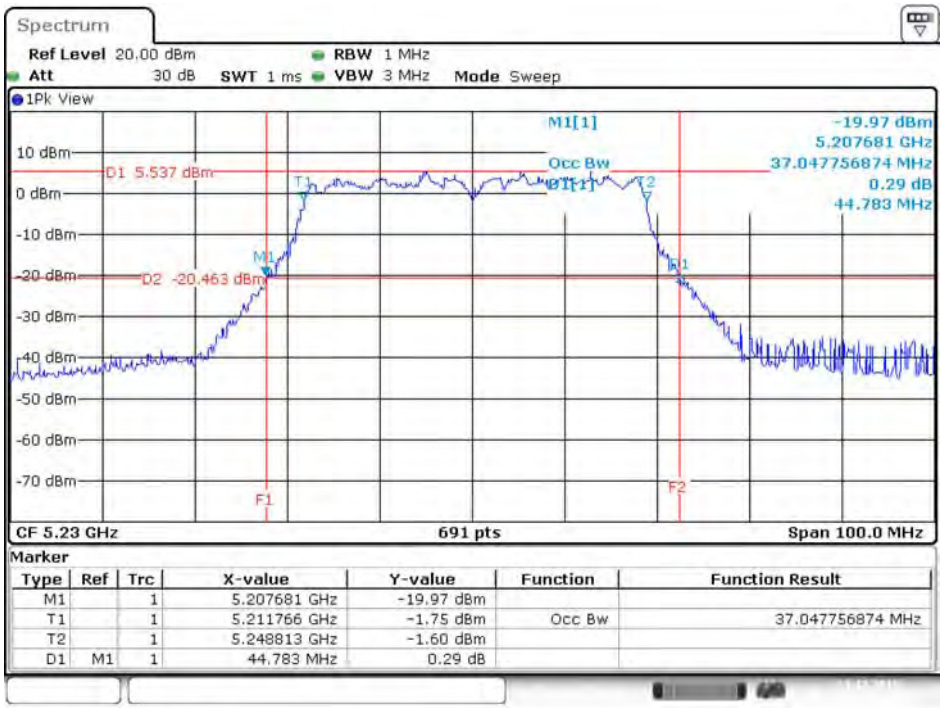
Date: 21.DEC.2015 14:38:49

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 7 / 5230 MHz



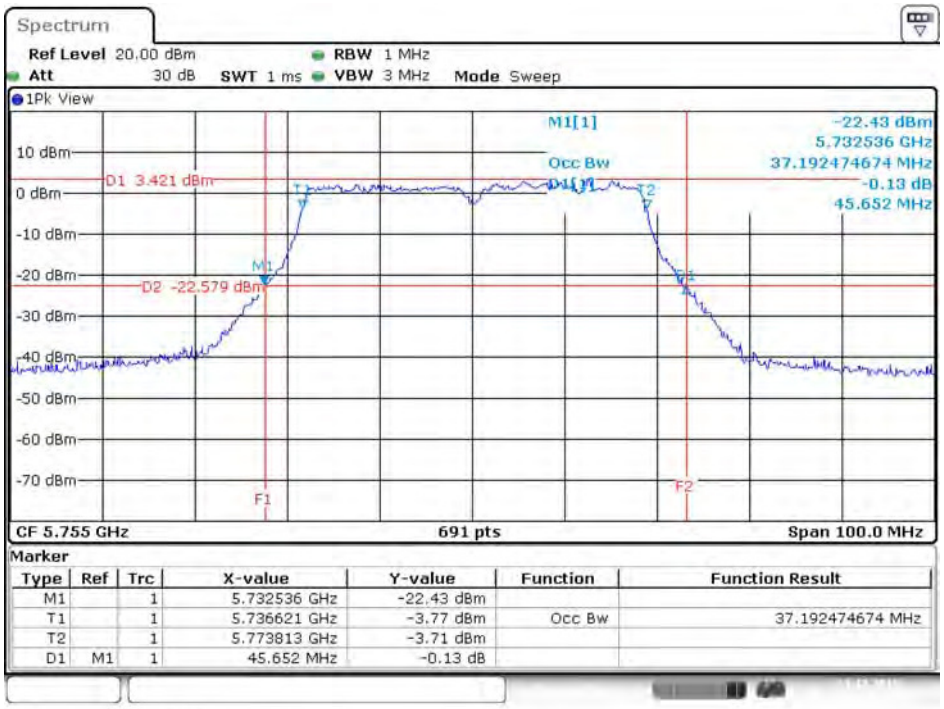
Date: 21.DEC.2015 14:38:23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 8 / 5230 MHz



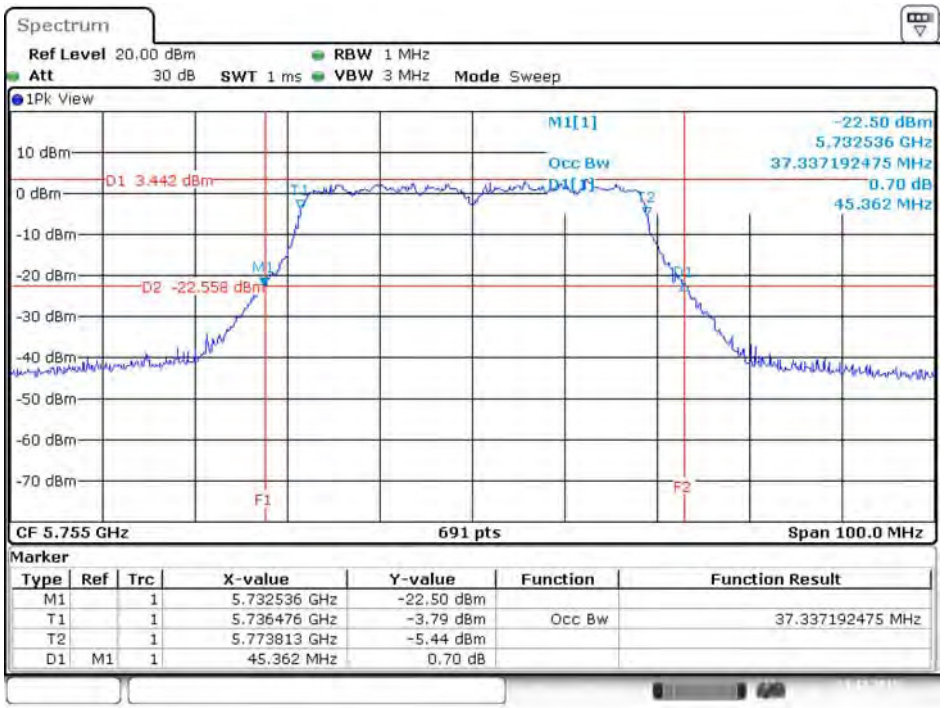
Date: 21.DEC.2015 14:36:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 / 5755 MHz



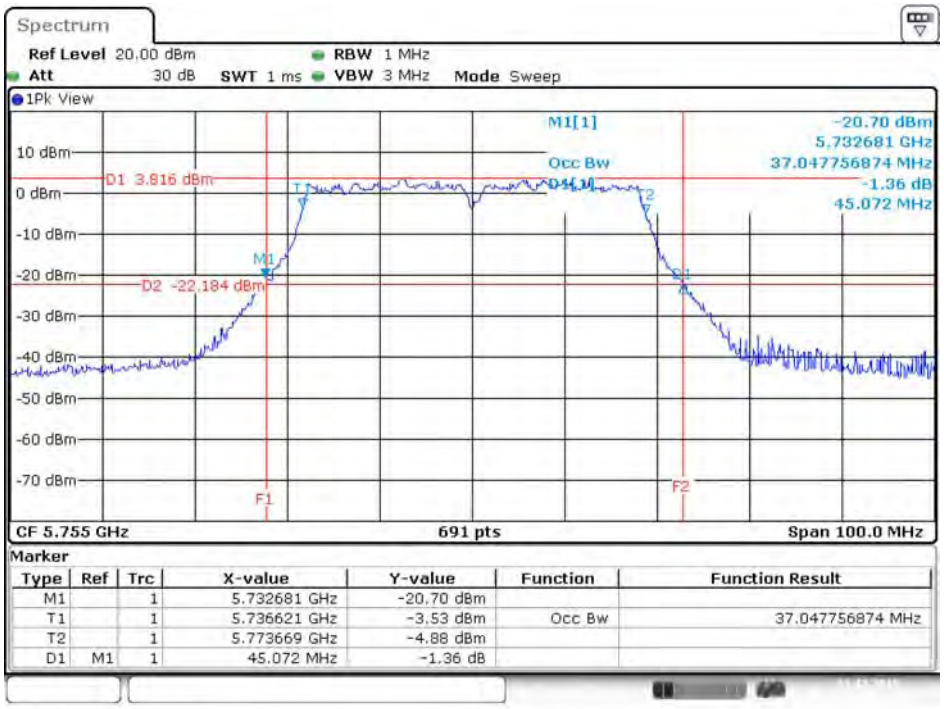
Date: 21.DEC.2015 15:04:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 6 / 5755 MHz



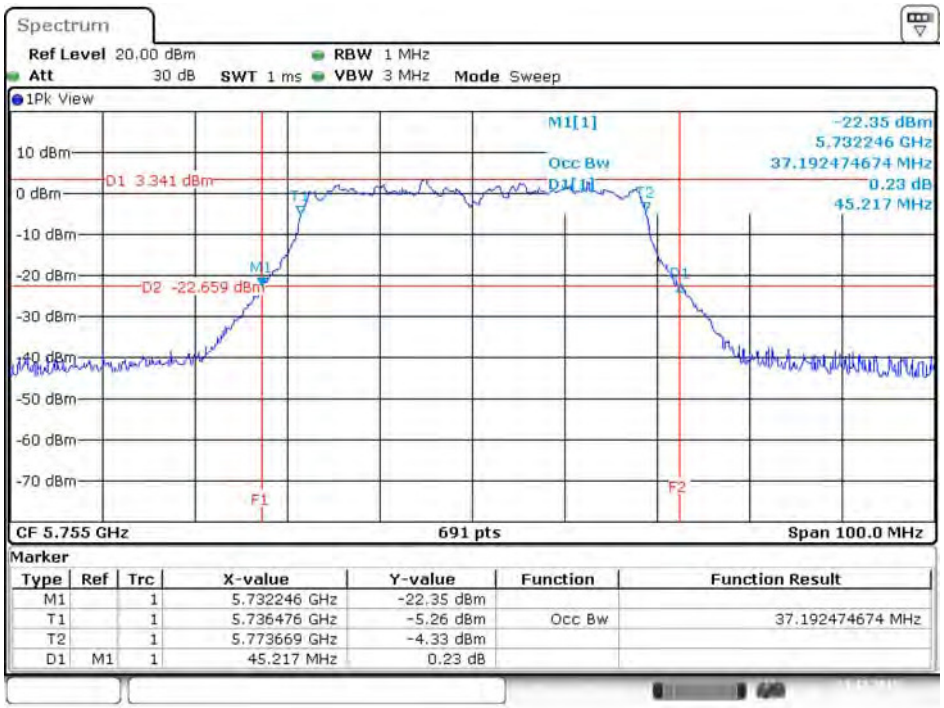
Date: 21.DEC.2015 15:03:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 7 / 5755 MHz



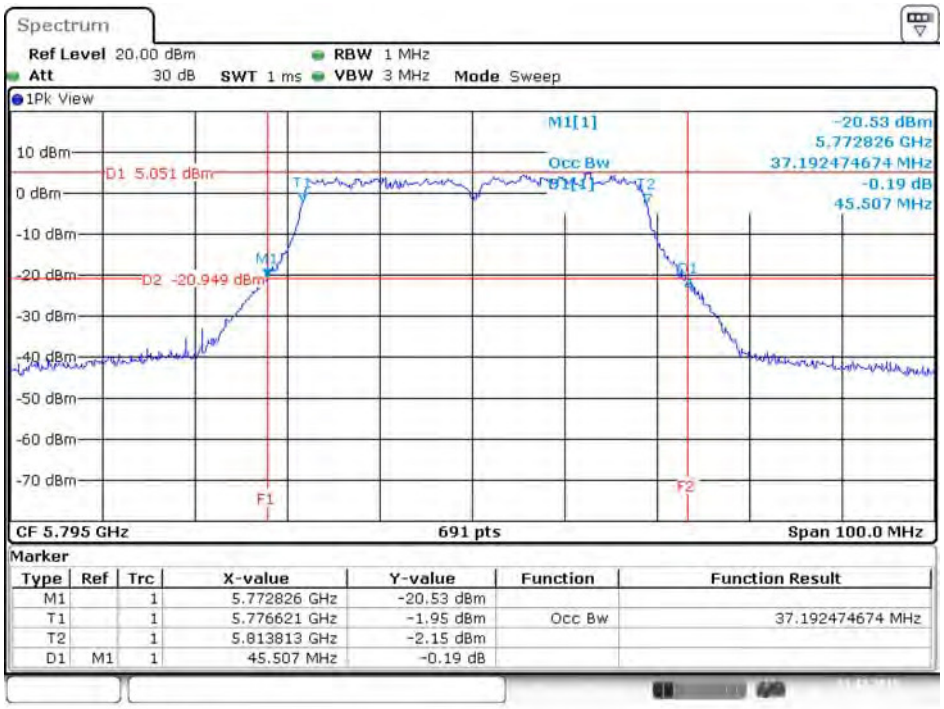
Date: 21.DEC.2015 15:02:42

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 8 / 5755 MHz



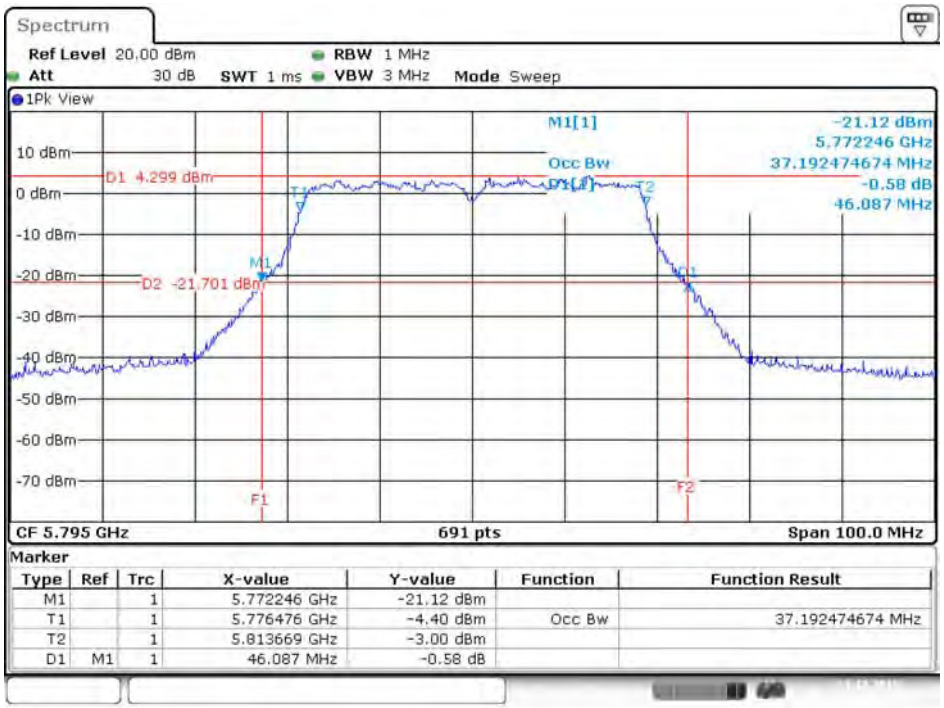
Date: 21.DEC.2015 15:02:17

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 / 5795 MHz



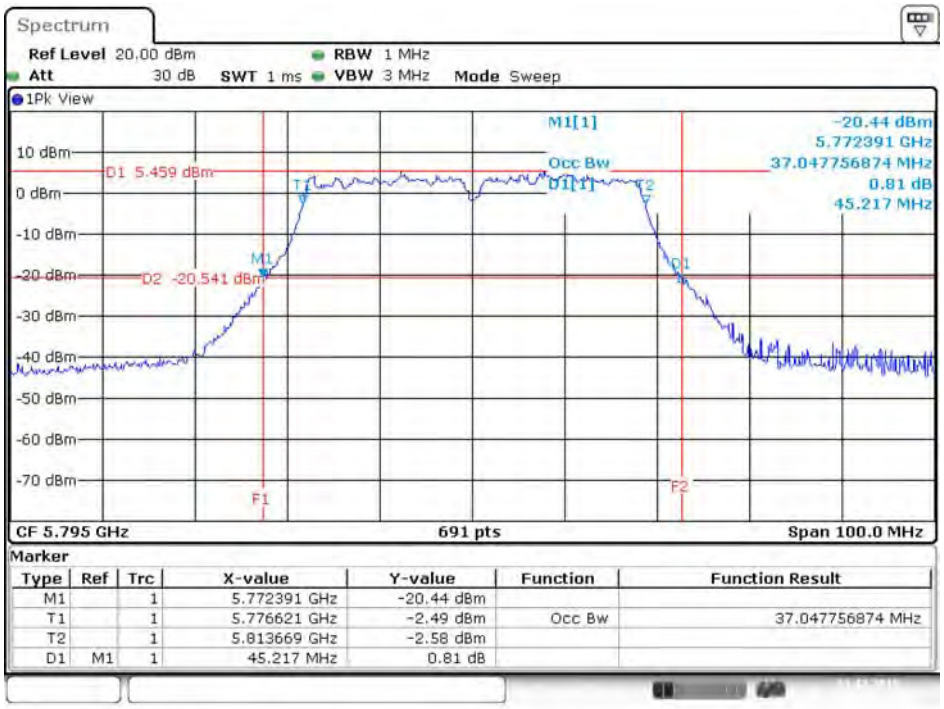
Date: 21.DEC.2015 15:05:53

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 6 / 5795 MHz



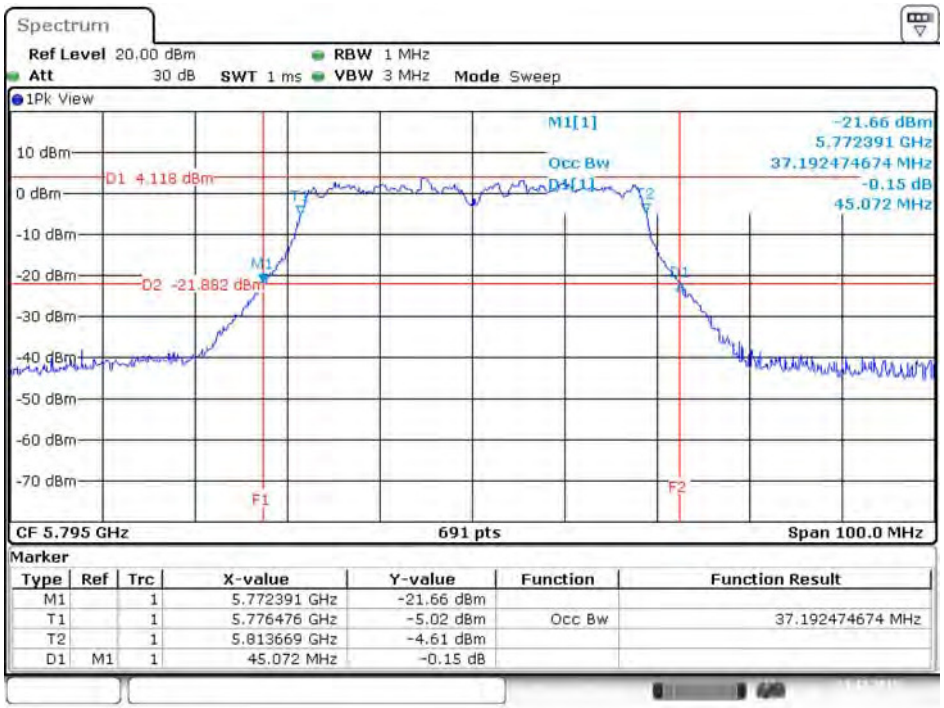
Date: 21.DEC.2015 15:06:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 7 / 5795 MHz



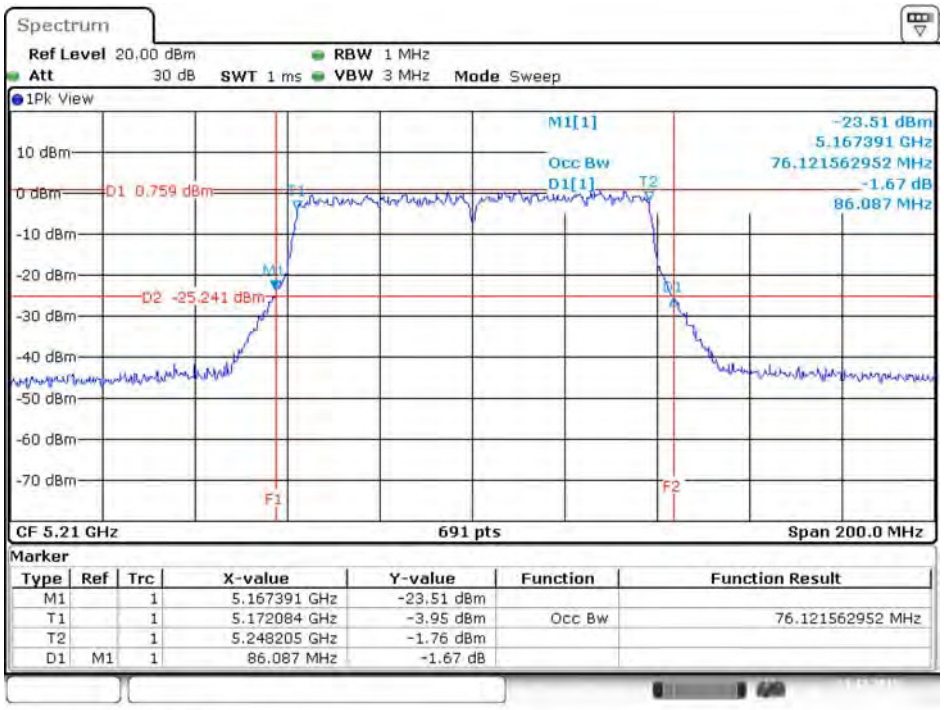
Date: 21.DEC.2015 15:06:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 8 / 5795 MHz



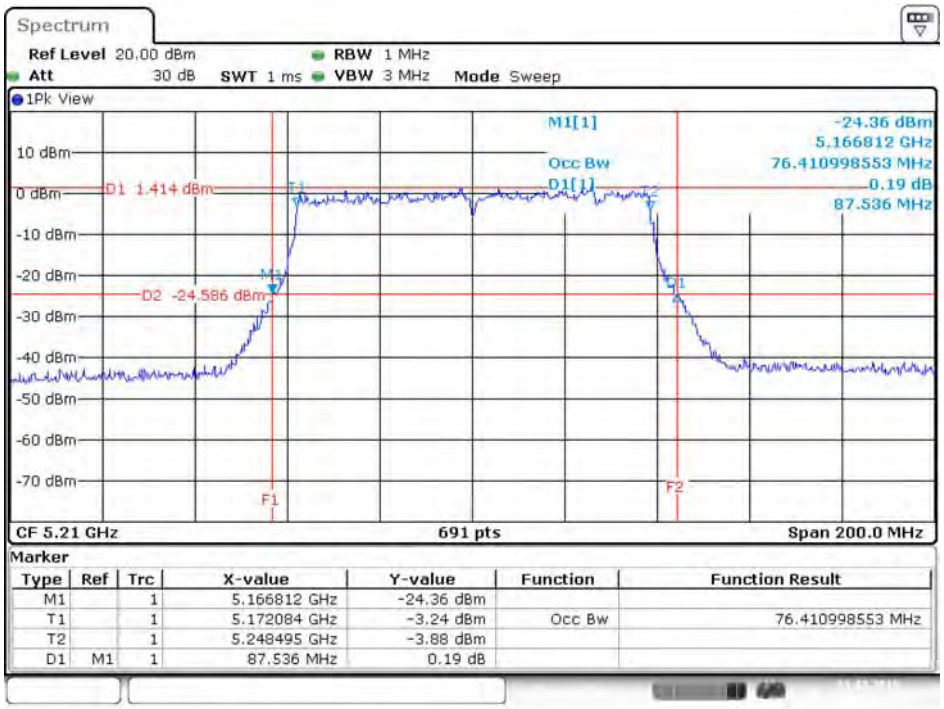
Date: 21.DEC.2015 15:07:15

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 5 / 5210 MHz



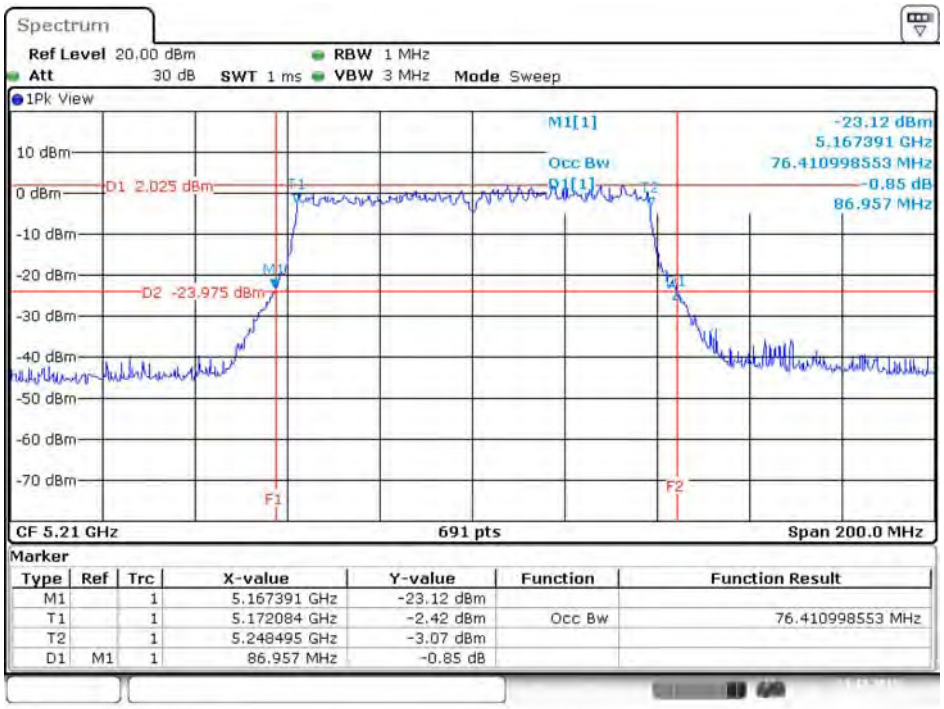
Date: 21.DEC.2015 14:06:02

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 6 / 5210 MHz



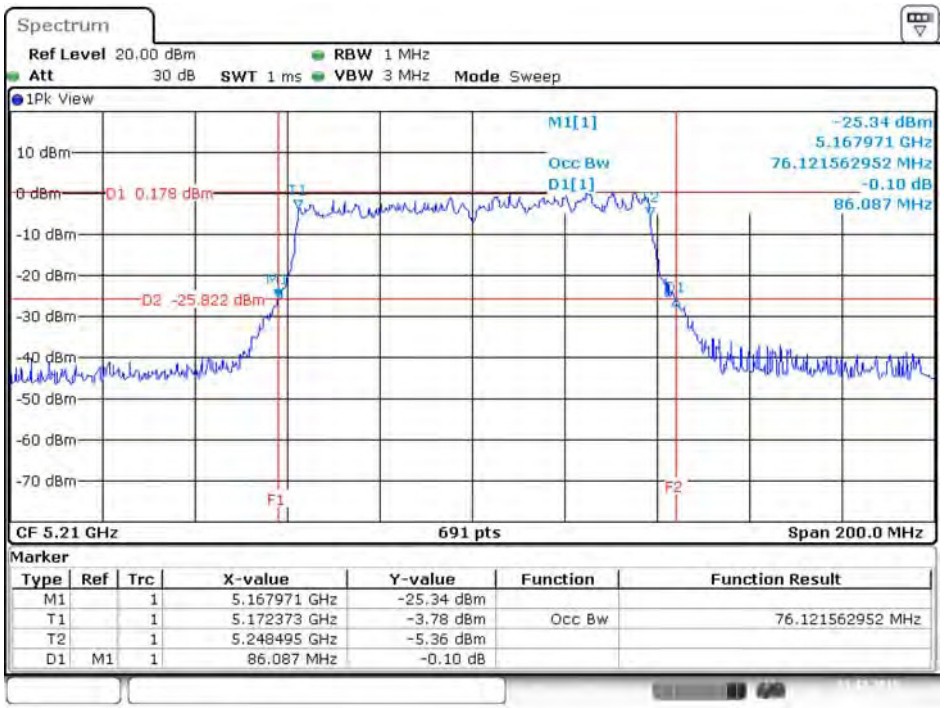
Date: 21.DEC.2015 14:06:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 7 / 5210 MHz



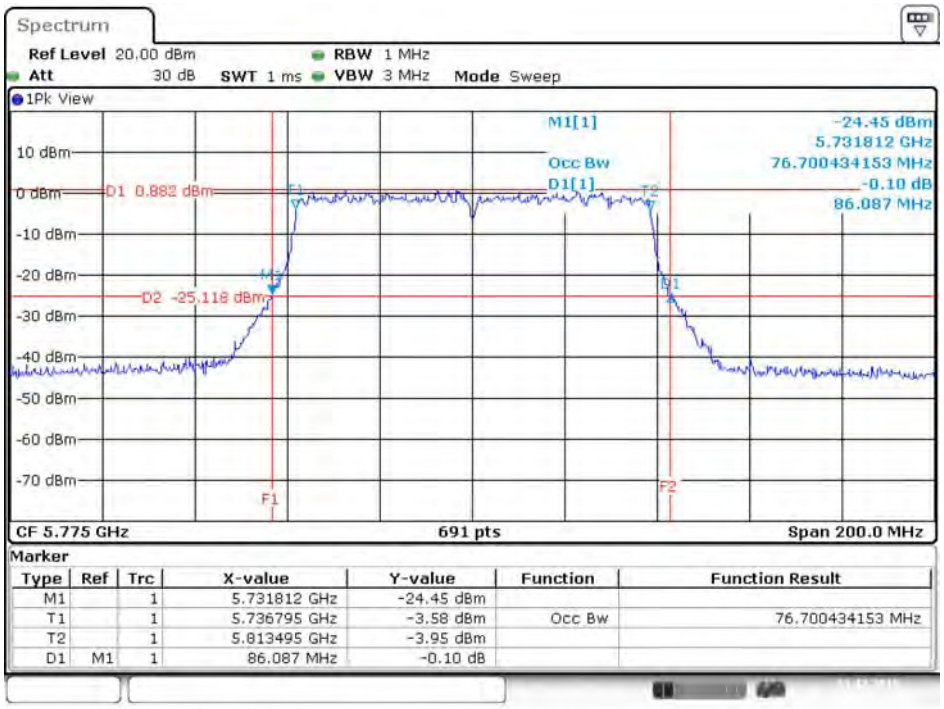
Date: 21.DEC.2015 14:08:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 8 / 5210 MHz



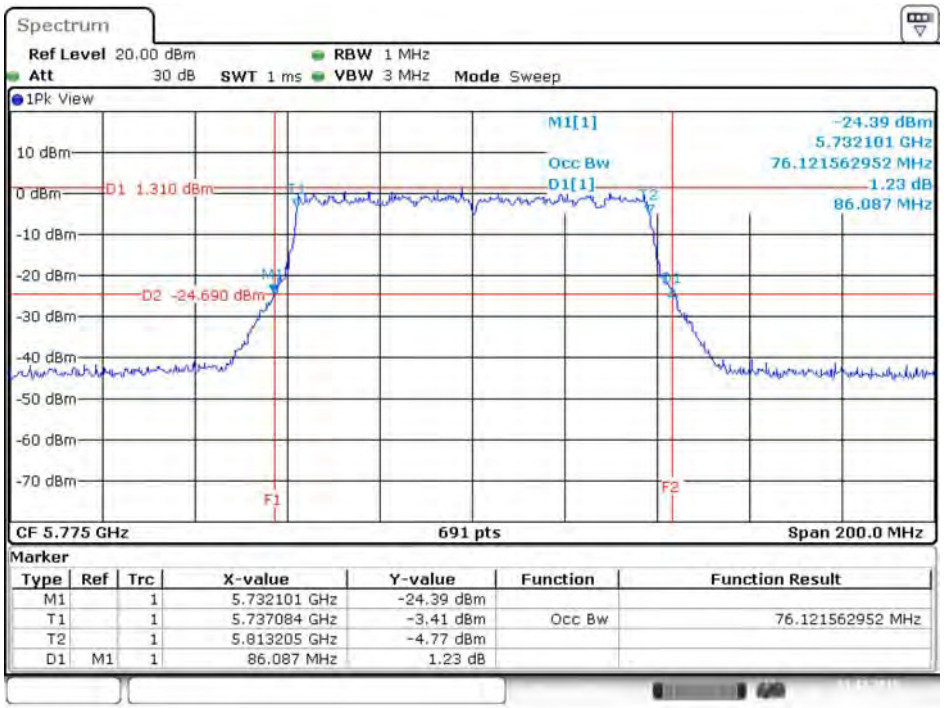
Date: 21.DEC.2015 14:07:26

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 5 / 5775 MHz



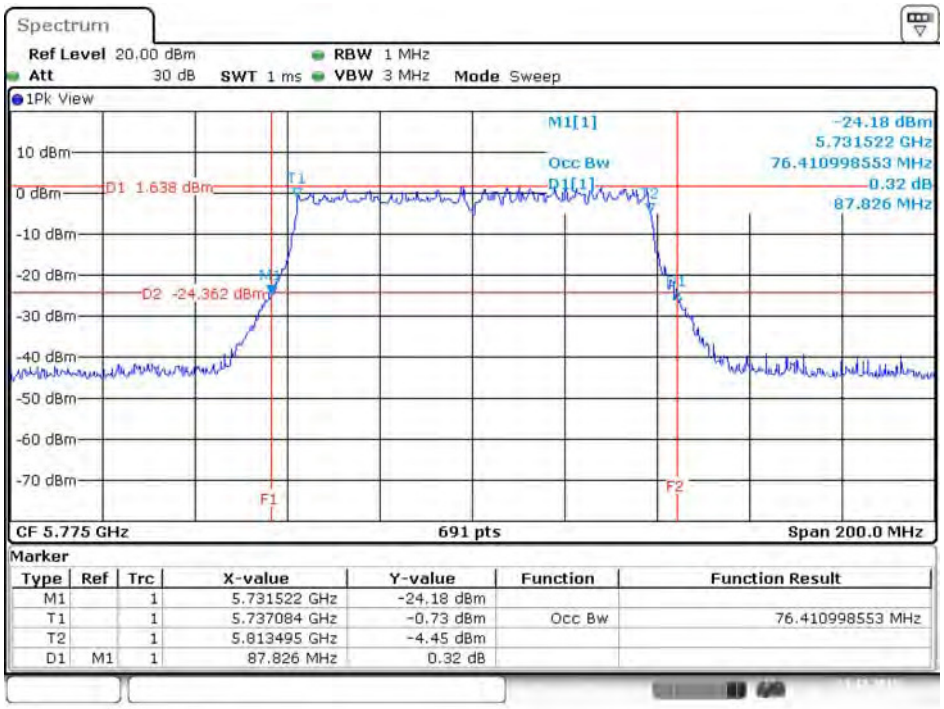
Date: 21.DEC.2015 13:57:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 6 / 5775 MHz



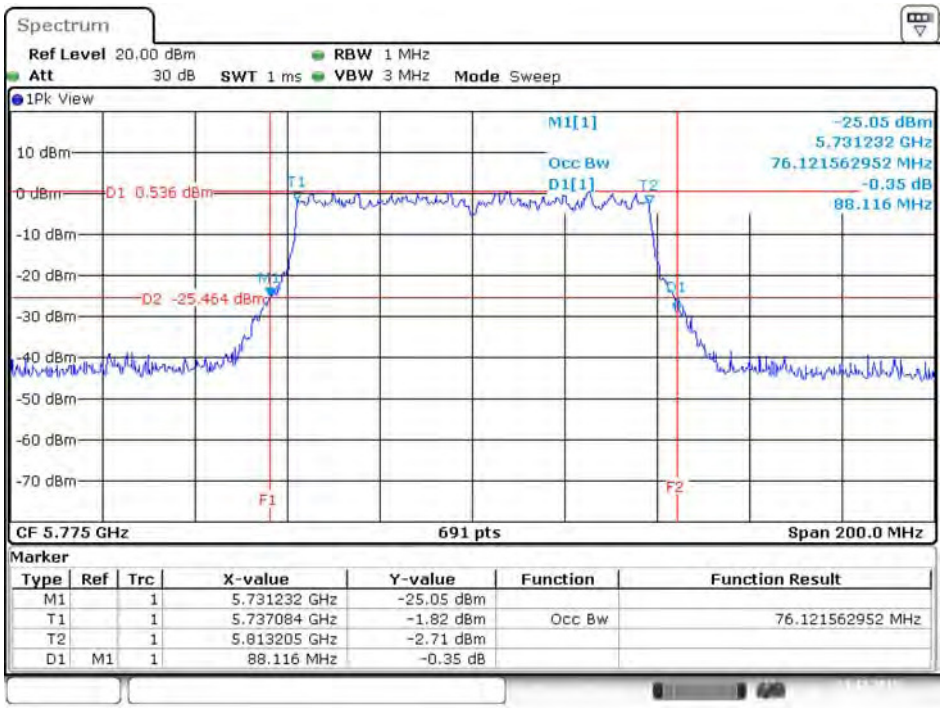
Date: 21.DEC.2015 13:56:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 7 / 5775 MHz



Date: 21.DEC.2015 13:56:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 8 / 5775 MHz

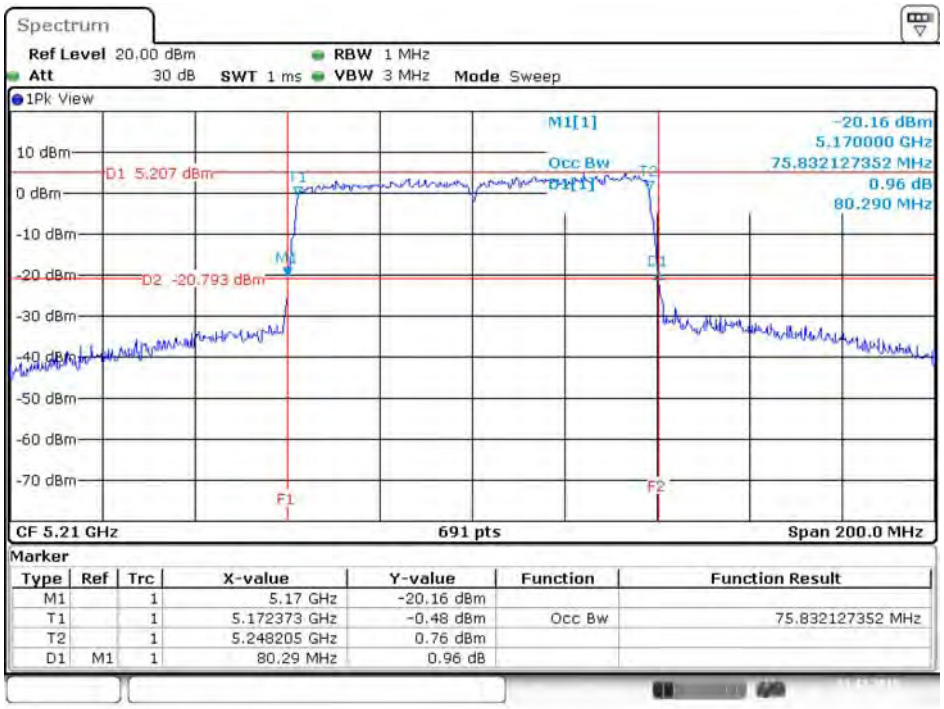


Date: 21.DEC.2015 13:47:54

For 802.11ac MCS0/Nss2 VHT80+80 Mode

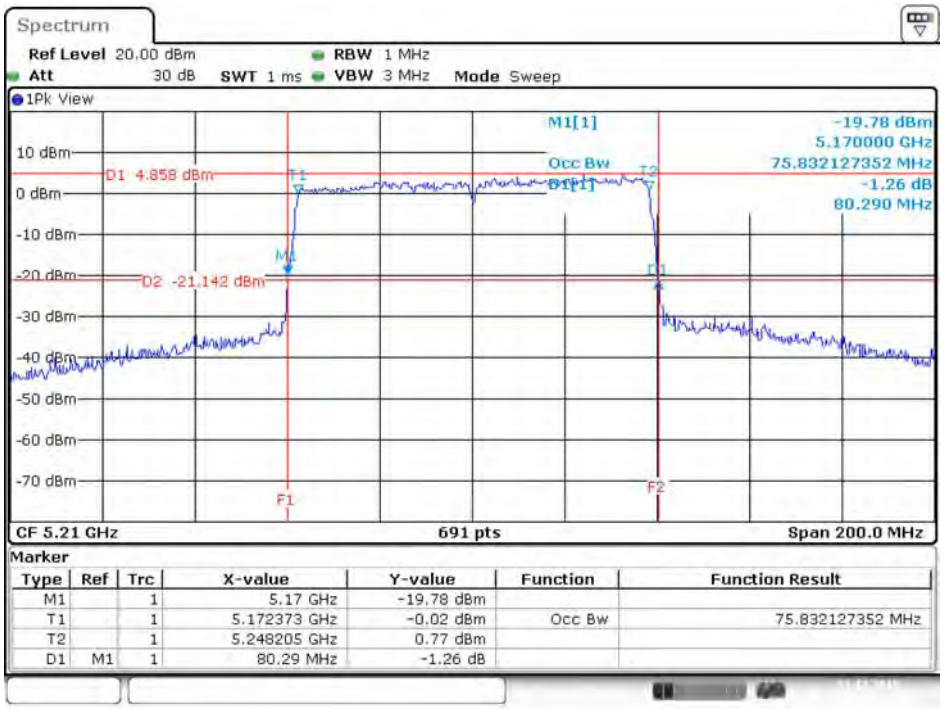
Type 1

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 5 / 5210 MHz



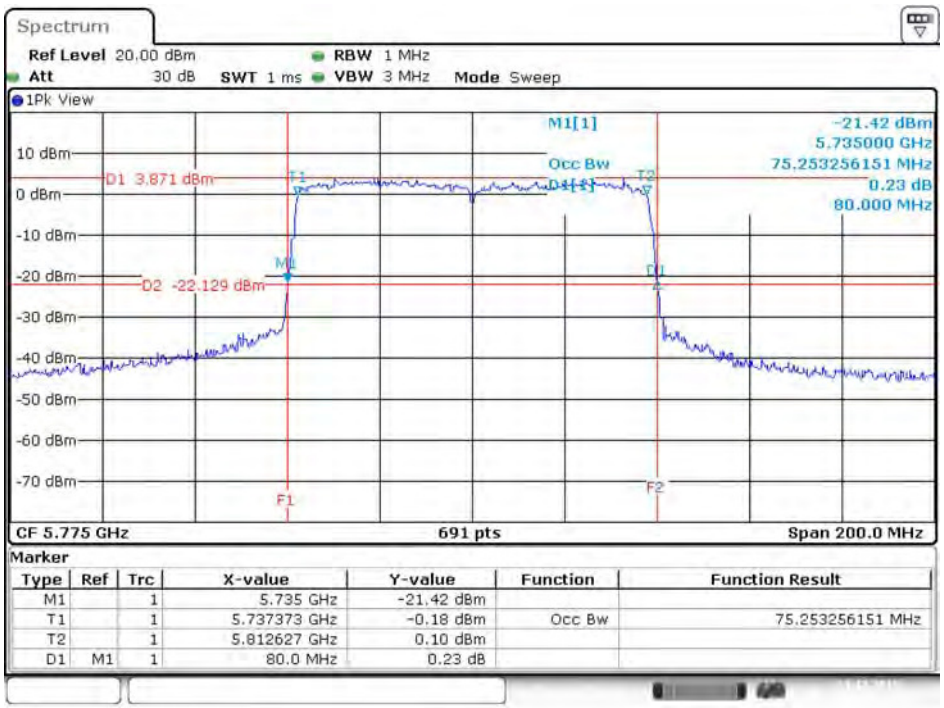
Date: 21.DEC.2015 22:23:07

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 6 / 5210 MHz



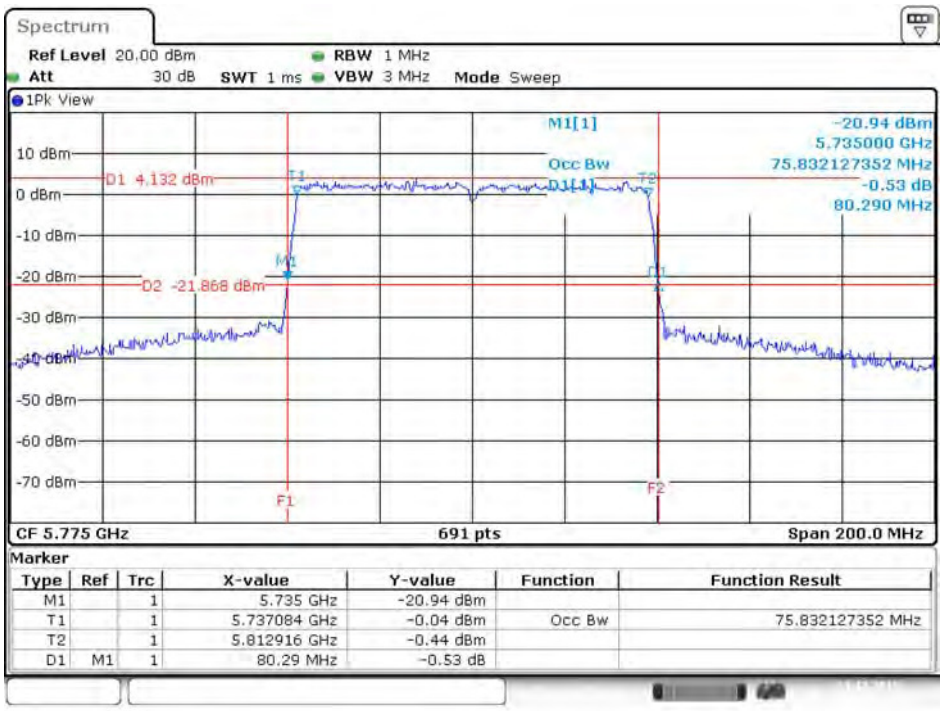
Date: 21.DEC.2015 22:23:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 7 / 5775 MHz



Date: 21.DEC.2015 22:22:39

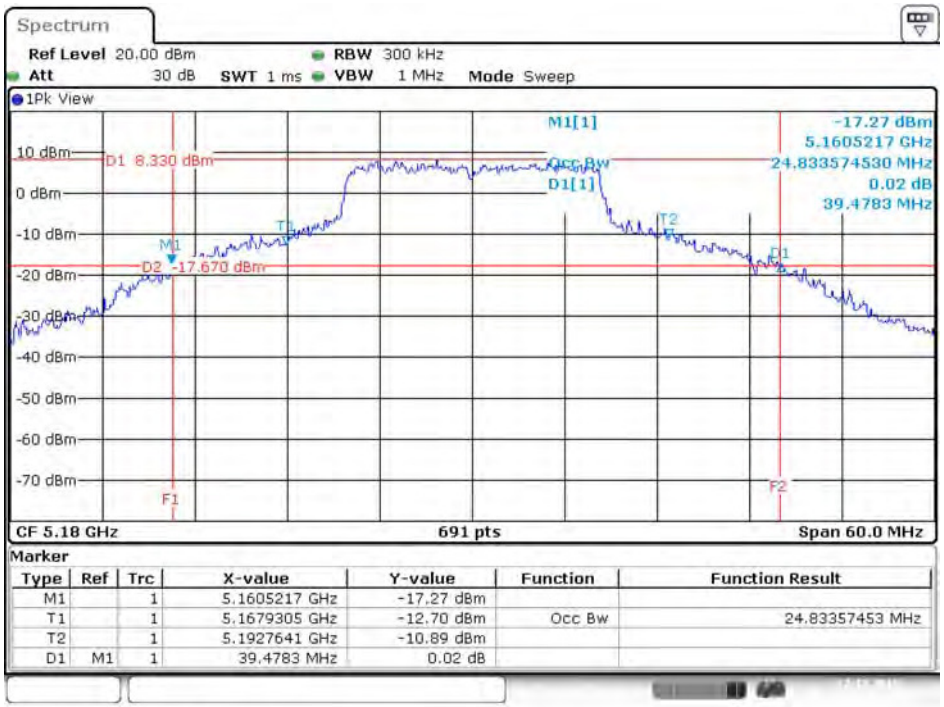
26dB Bandwidth and 99% Occupied Bandwidth Plot on Chain 8 / 5775 MHz



Date: 21.DEC.2015 22:22:07

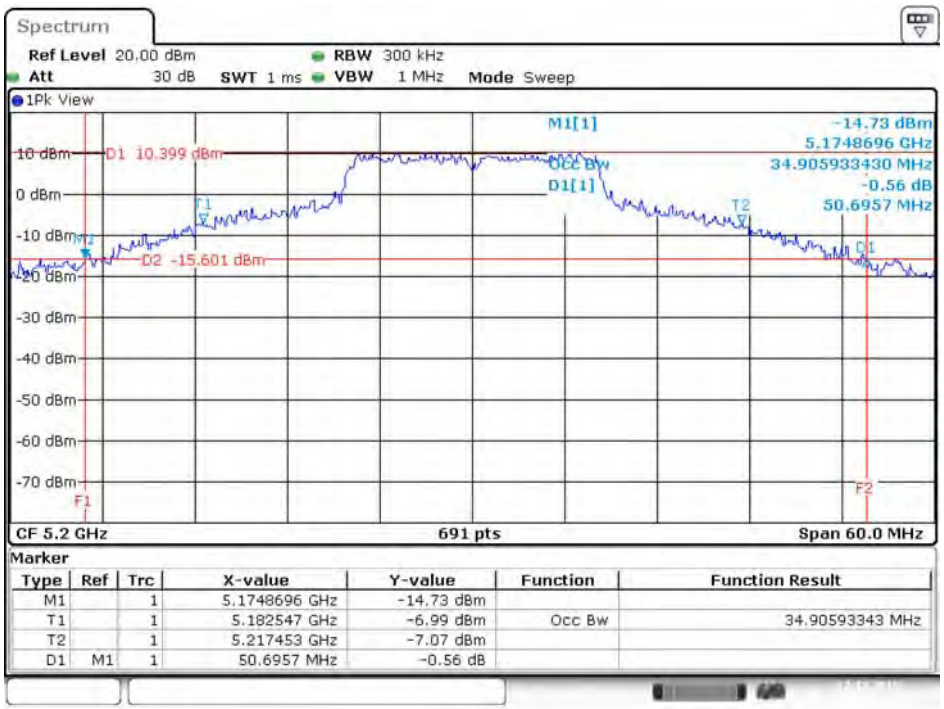
<For Radio 3 Mode>

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 9 / 5180 MHz



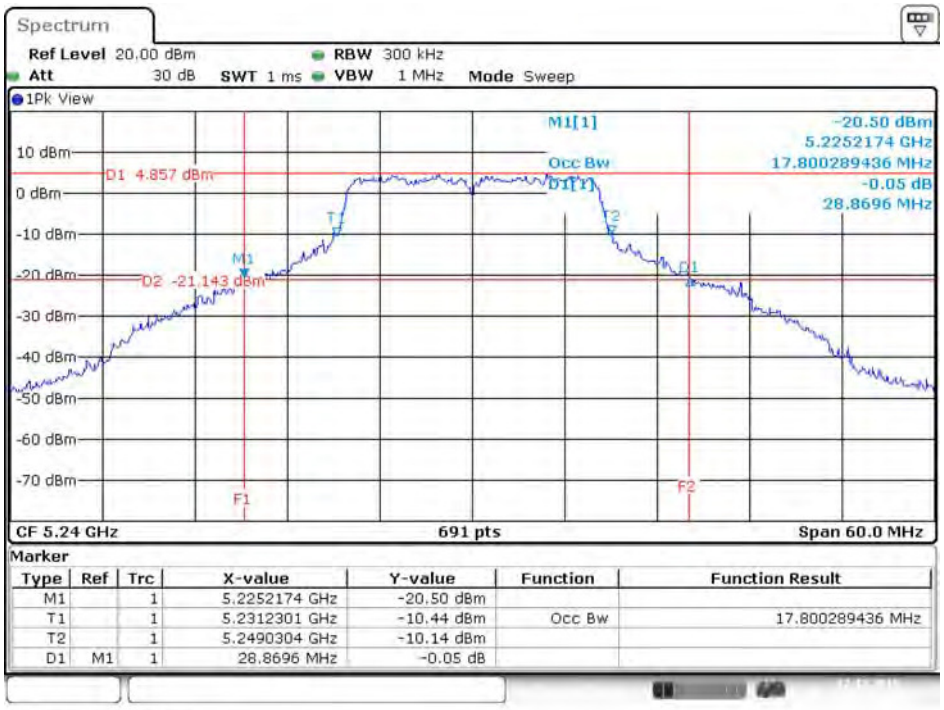
Date: 22.DEC.2015 15:58:42

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 9 / 5200 MHz



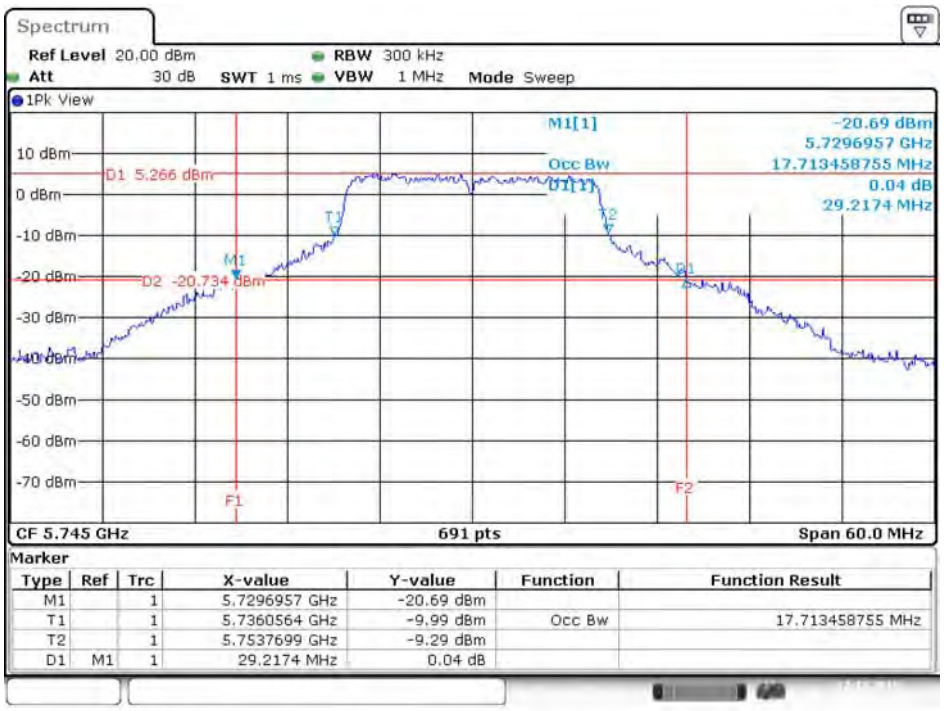
Date: 22.DEC.2015 15:59:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 9 / 5240 MHz



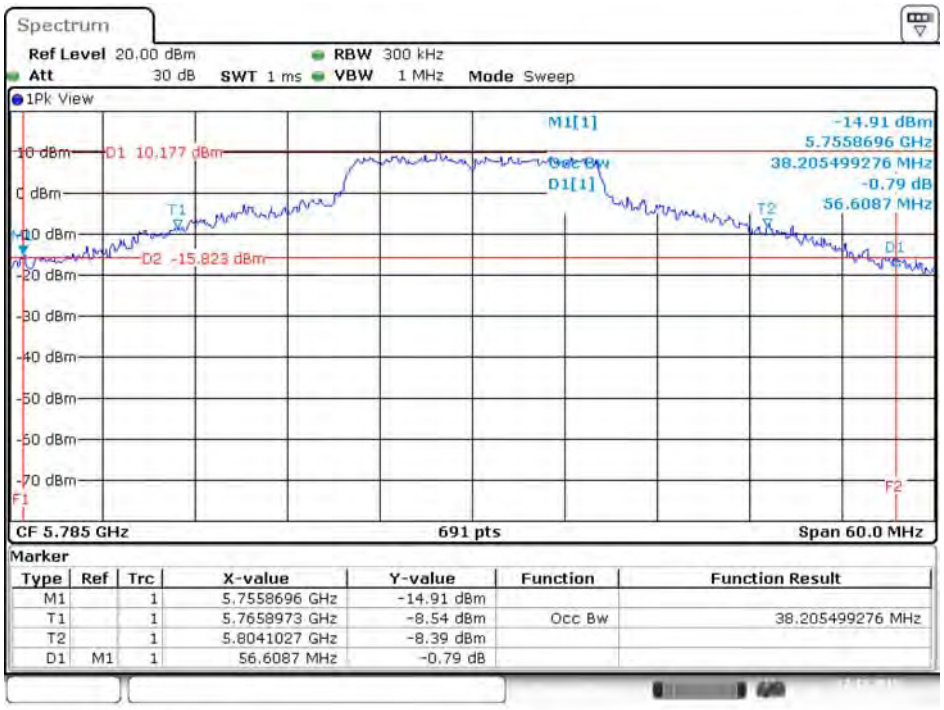
Date: 22.DEC.2015 16:01:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 9 / 5745 MHz



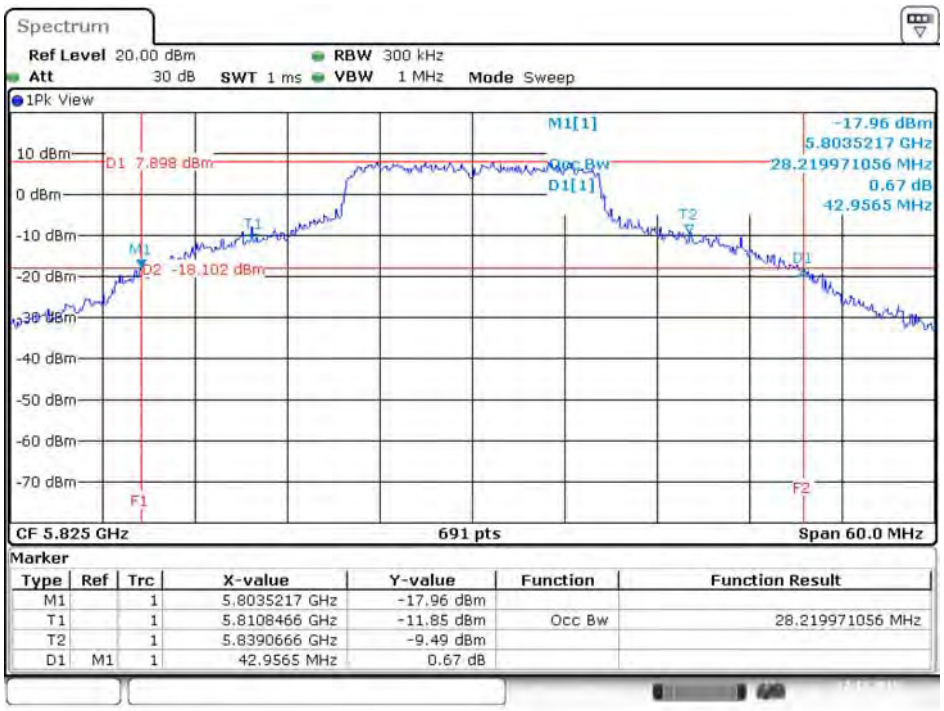
Date: 22.DEC.2015 16:08:00

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 9 / 5785 MHz



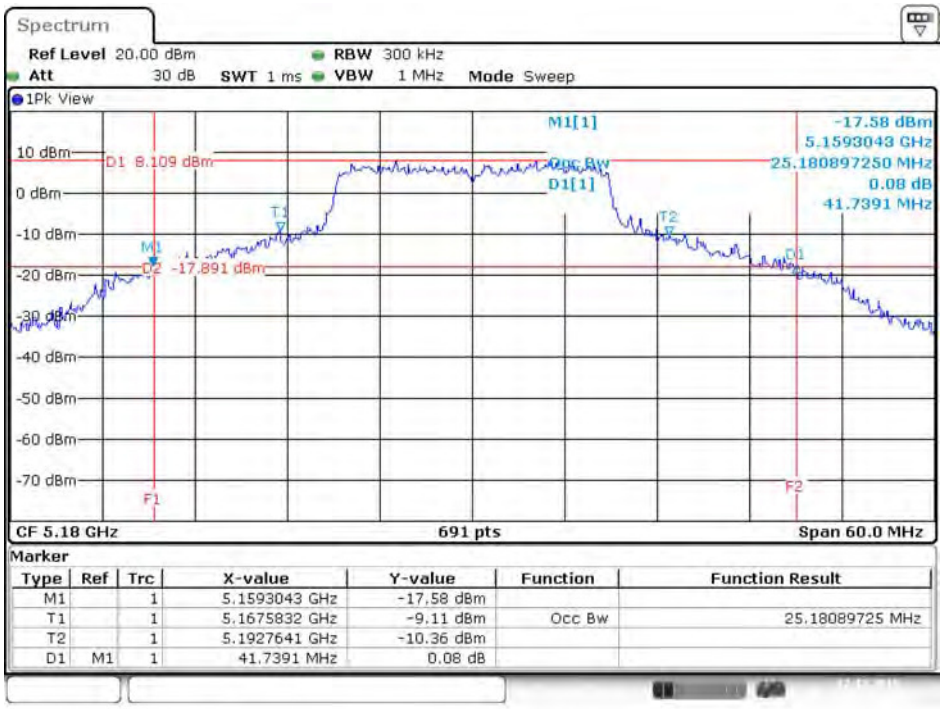
Date: 22.DEC.2015 16:09:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 9 / 5825 MHz



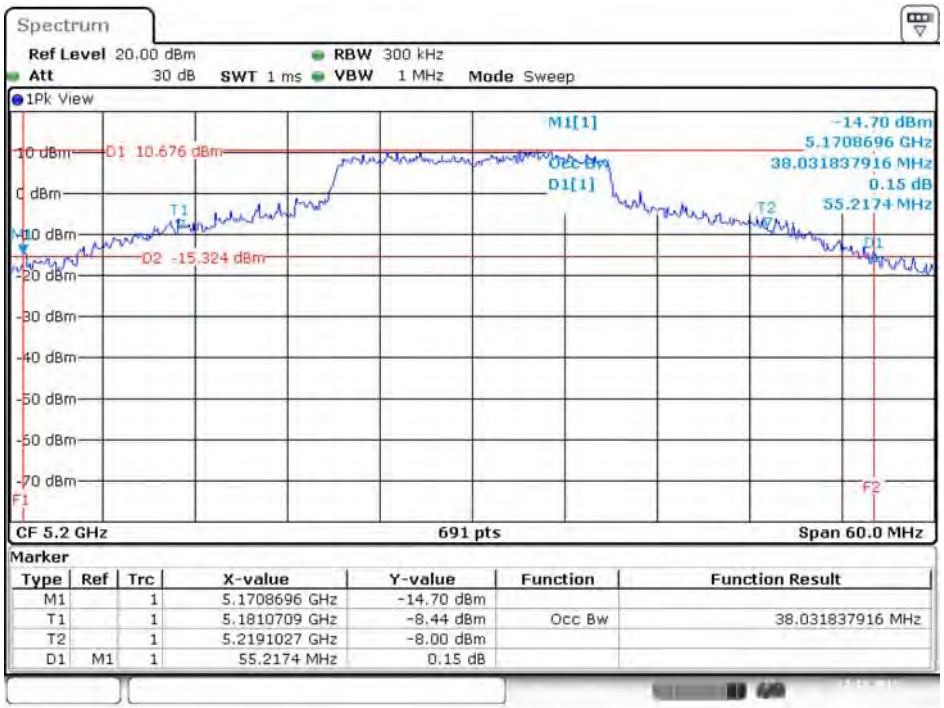
Date: 22.DEC.2015 16:10:49

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5180 MHz



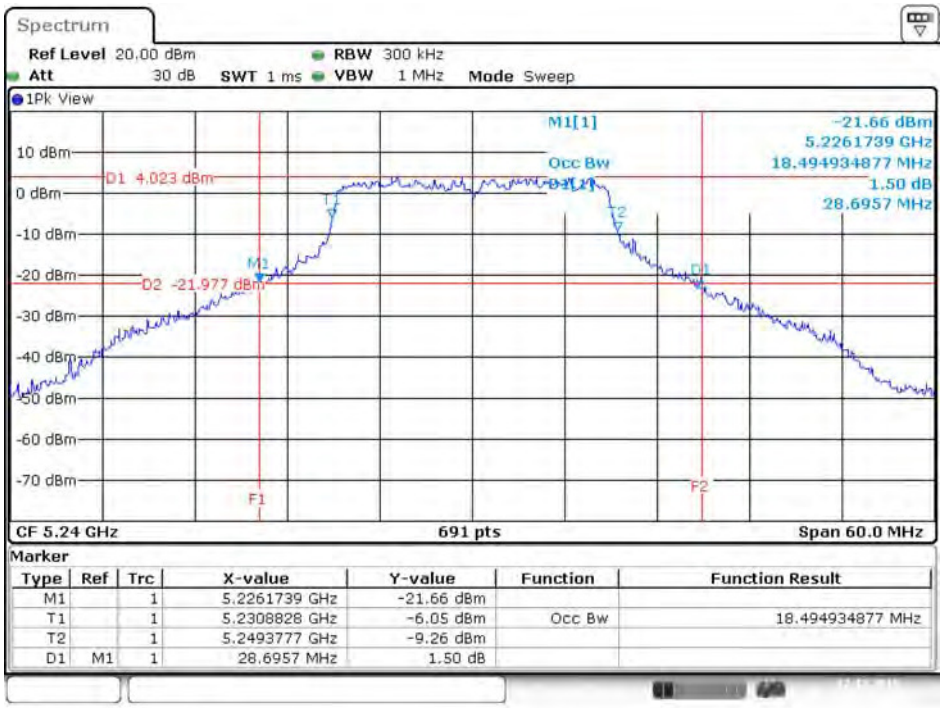
Date: 22.DEC.2015 16:12:06

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5200 MHz



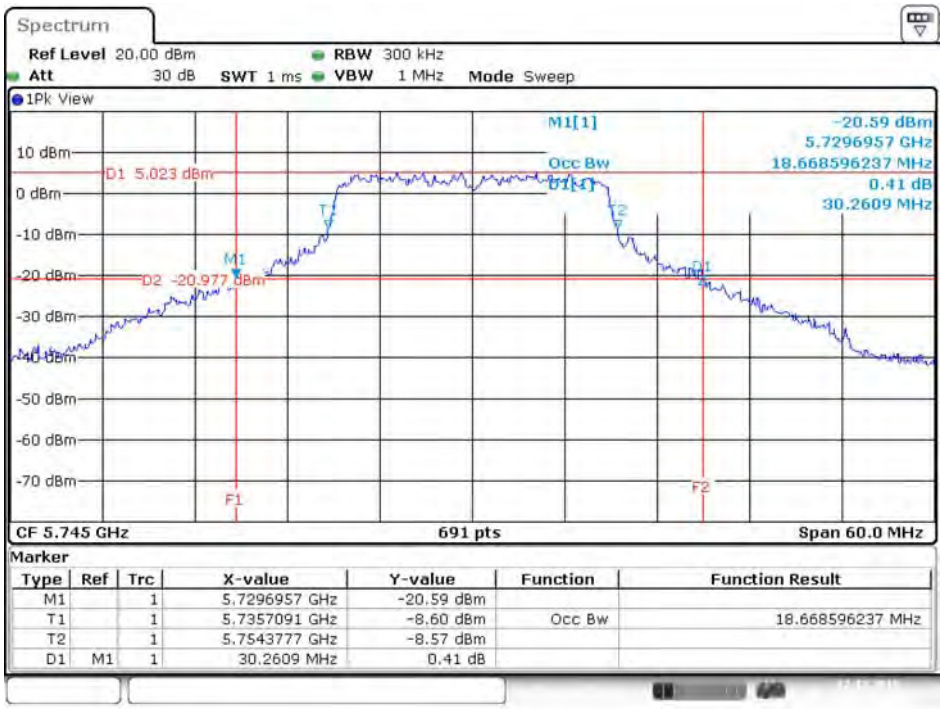
Date: 22.DEC.2015 16:13:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5240 MHz



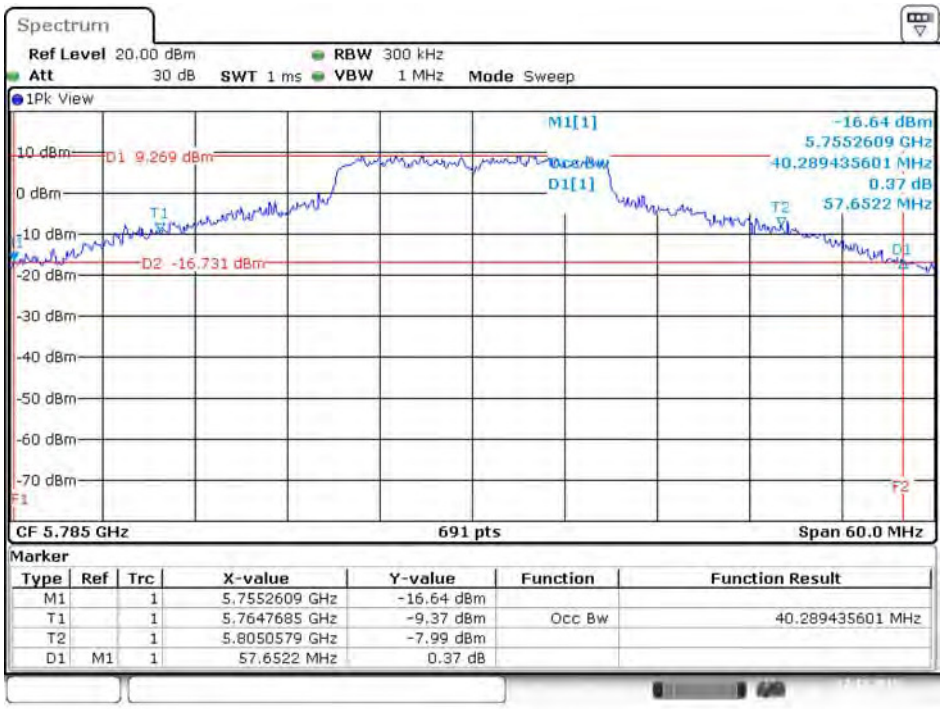
Date: 22.DEC.2015 16:14:28

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5745 MHz



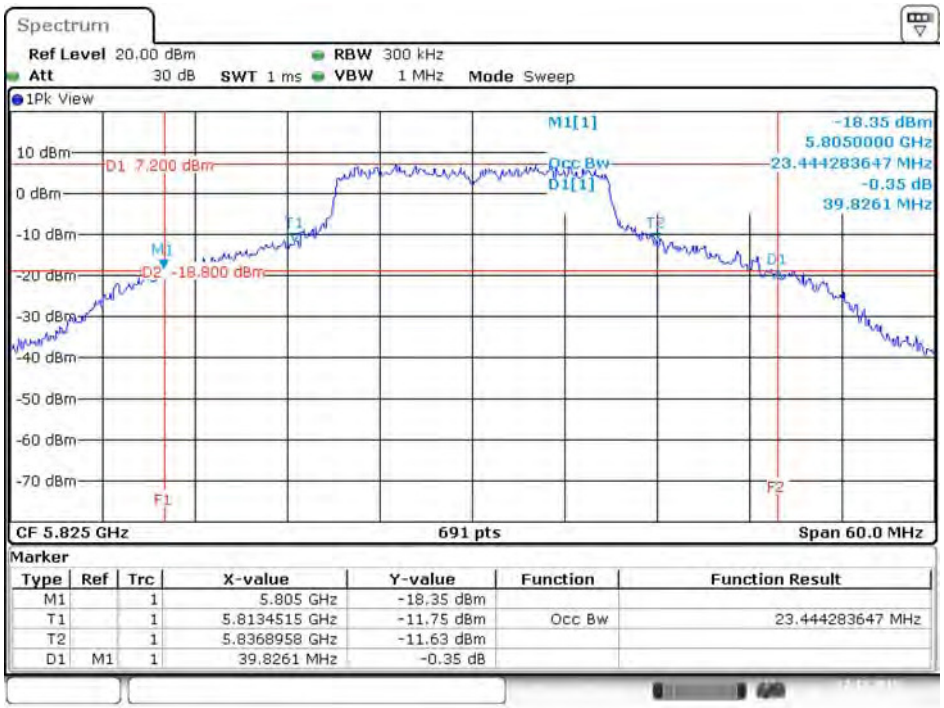
Date: 22.DEC.2015 16:22:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5785 MHz



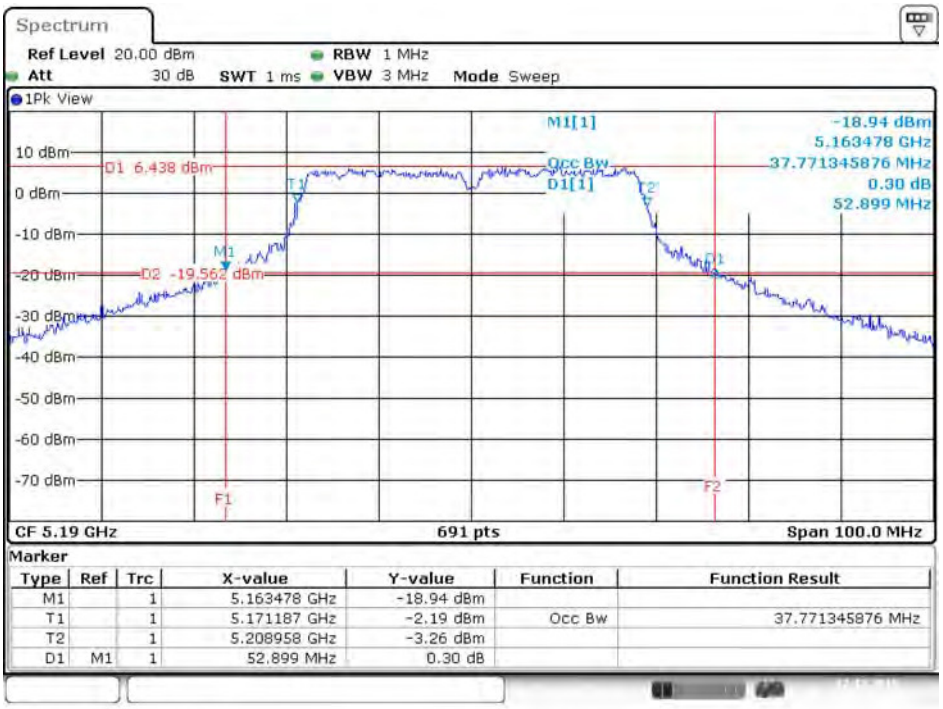
Date: 22.DEC.2015 16:23:04

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5825 MHz



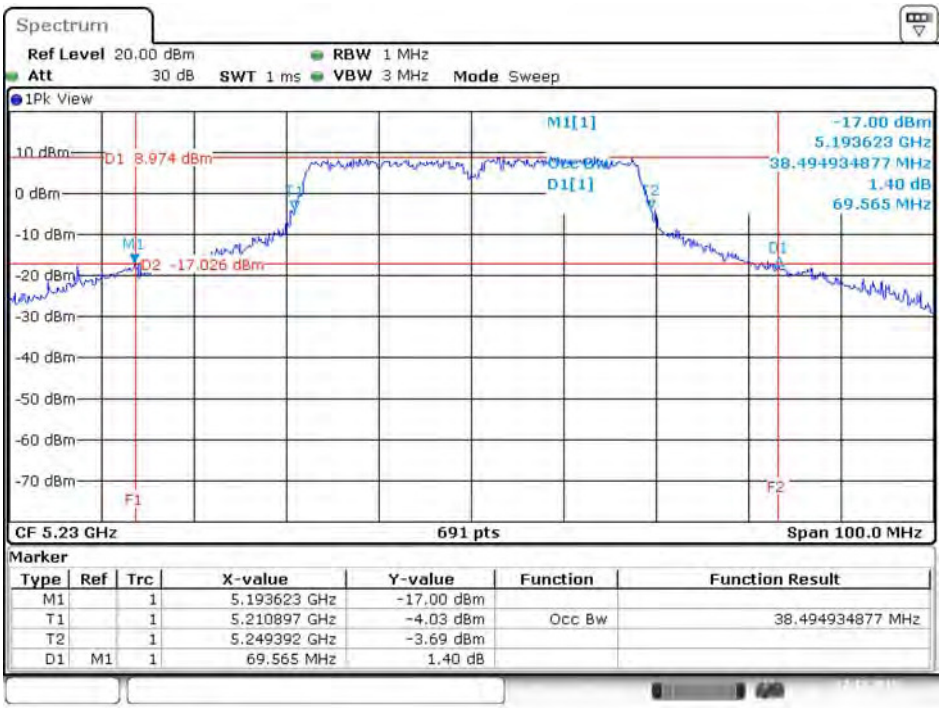
Date: 22.DEC.2015 16:23:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9 / 5190 MHz



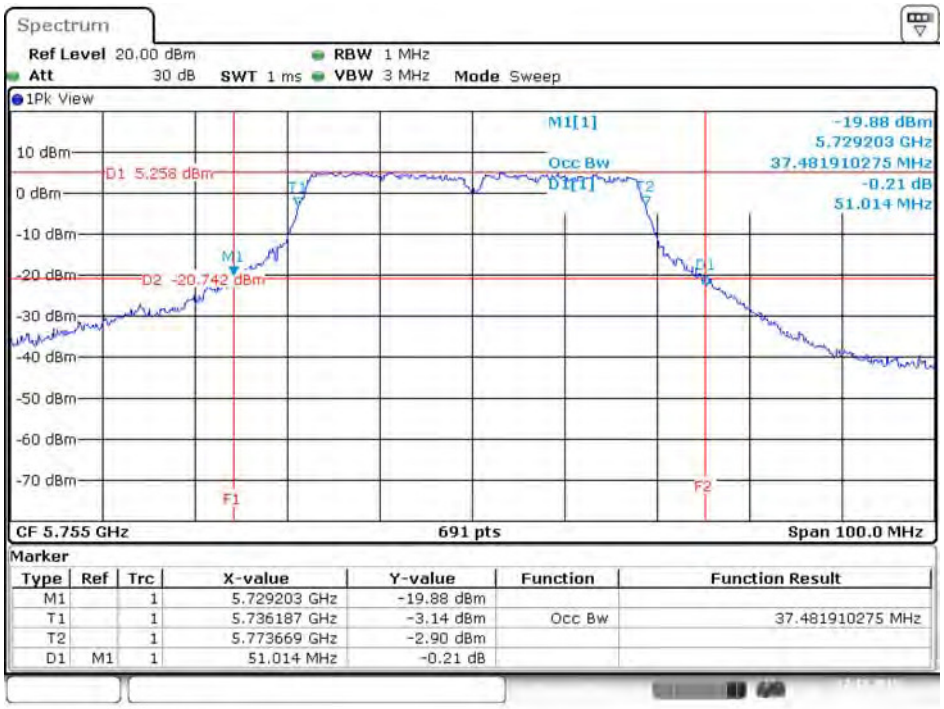
Date: 22.DEC.2015 15:41:49

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9 / 5230 MHz



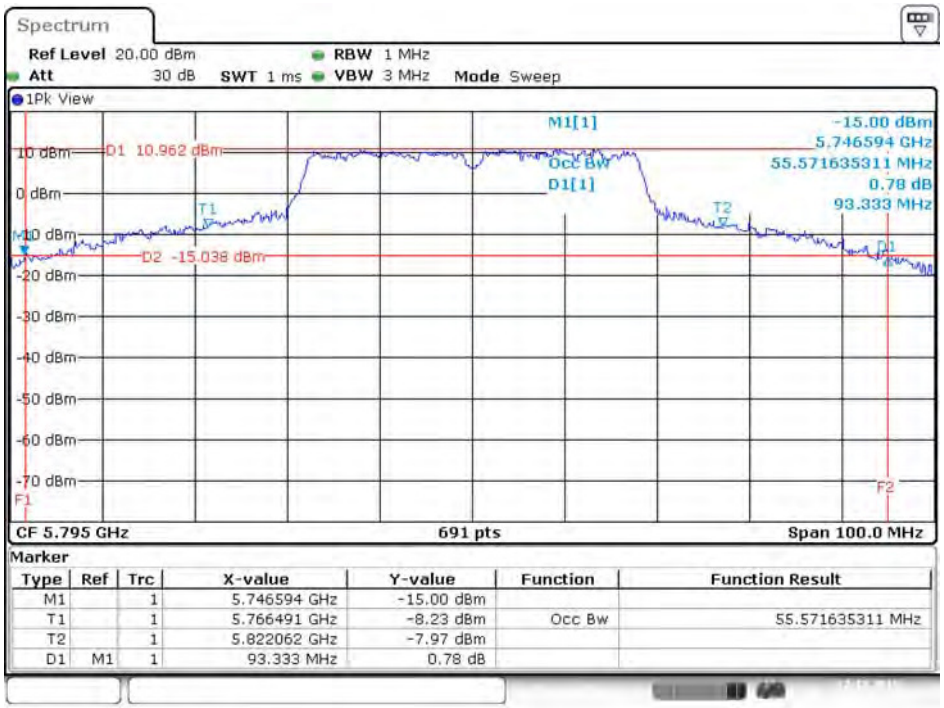
Date: 22.DEC.2015 15:42:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9 / 5755 MHz



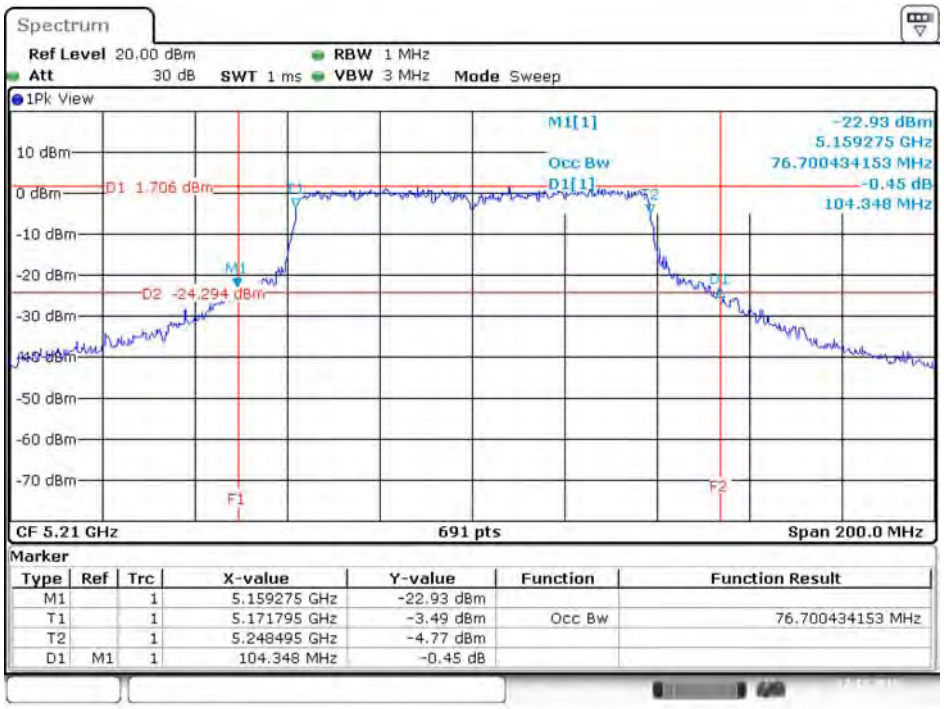
Date: 22.DEC.2015 15:56:04

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9 / 5795 MHz



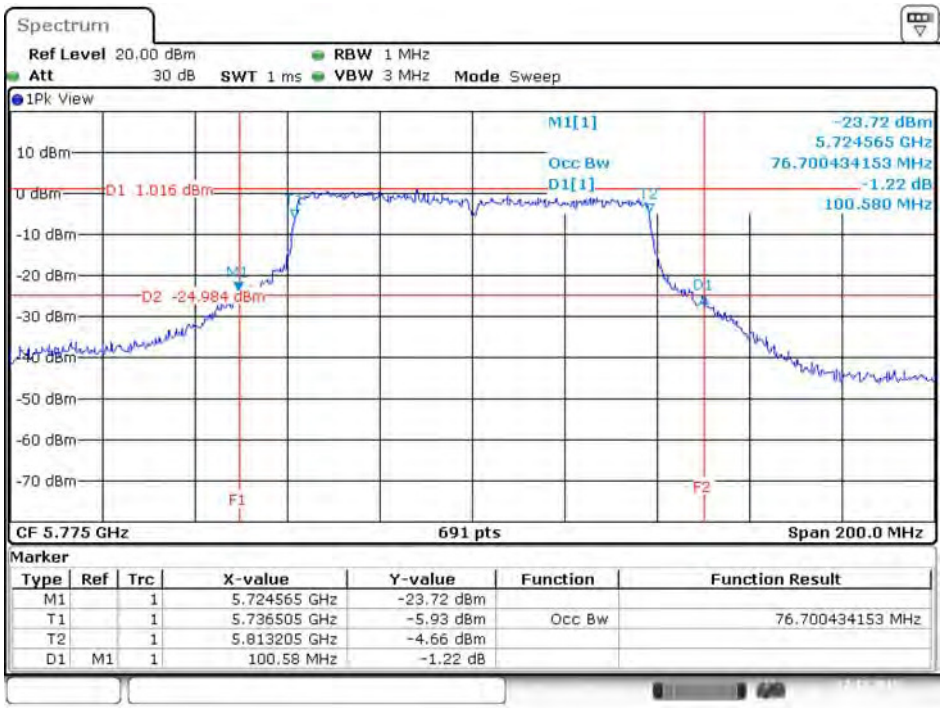
Date: 22.DEC.2015 15:57:10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 9 / 5210 MHz



Date: 22.DEC.2015 15:36:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 9 / 5775 MHz



Date: 22.DEC.2015 15:30:18

4.3. 6dB Spectrum Bandwidth Measurement

4.3.1. Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz.

4.3.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

6dB Spectrum Bandwidth	
Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	100kHz
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.3.3. Test Procedures

1. The transmitter was conducted to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB789033 D02 v01r02 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (C) Emission Bandwidth.
3. Multiple antenna system was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measurement perform conducted of each port.
5. Measured the spectrum width with power higher than 6dB below carrier.

4.3.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.5.4.

4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of 6dB Spectrum Bandwidth

Temperature	25℃	Humidity	45%
Test Engineer	Mars Lin		

<For Radio 2 Non-beamforming Mode>

Mode	Frequency	6dB Bandwidth (MHz)				Min. Limit (kHz)	Test Result
		Chain 5	Chain 6	Chain 7	Chain 8		
802.11a	5745 MHz	16.12	16.35	16.35	16.35	500	Complies
	5785 MHz	16.35	16.35	16.23	16.52	500	Complies
	5825 MHz	16.35	16.35	16.06	16.35	500	Complies
802.11ac MCS0/Nss1 VHT20	5745 MHz	17.62	16.58	17.62	17.28	500	Complies
	5785 MHz	17.62	17.57	17.74	17.68	500	Complies
	5825 MHz	17.57	17.57	17.68	17.57	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	35.94	36.29	35.36	35.71	500	Complies
	5795 MHz	35.71	35.13	35.13	36.41	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	75.94	75.65	75.94	75.94	500	Complies
802.11ac MCS0/Nss4 VHT20	5745 MHz	17.62	17.74	17.74	17.68	500	Complies
	5785 MHz	17.74	17.68	17.74	17.74	500	Complies
	5825 MHz	17.68	17.74	17.62	17.74	500	Complies
802.11ac MCS0/Nss4 VHT40	5755 MHz	36.41	36.41	36.29	36.41	500	Complies
	5795 MHz	36.41	36.29	36.41	36.41	500	Complies
802.11ac MCS0/Nss4 VHT80	5775 MHz	76.52	76.52	76.52	76.52	500	Complies

Mode	Frequency	6dB Bandwidth (MHz)		Min. Limit (kHz)	Test Result
		Chain 7	Chain 8		
802.11ac MCS0/Nss2 VHT80+80	5210 MHz	-	-	500	Complies
	5775 MHz	74.78	75.94		

<For Radio 2 Beamforming Mode>

Mode	Frequency	6dB Bandwidth (MHz)				Min. Limit (kHz)	Test Result
		Chain 5	Chain 6	Chain 7	Chain 8		
802.11ac MCS0/Nss1 VHT20	5745 MHz	17.62	17.57	17.51	17.62	500	Complies
	5785 MHz	17.62	17.68	17.16	17.62	500	Complies
	5825 MHz	17.62	17.62	17.62	17.57	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	35.71	35.71	35.36	35.36	500	Complies
	5795 MHz	35.83	35.36	36.41	34.78	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	75.94	76.52	76.52	75.94	500	Complies
802.11ac MCS0/Nss2 VHT20	5745 MHz	17.62	17.62	17.62	17.68	500	Complies
	5785 MHz	17.62	17.33	17.62	17.62	500	Complies
	5825 MHz	17.62	17.62	17.62	17.62	500	Complies
802.11ac MCS0/Nss2 VHT40	5755 MHz	35.94	35.94	35.94	35.94	500	Complies
	5795 MHz	35.94	35.94	35.94	35.94	500	Complies
802.11ac MCS0/Nss2 VHT80	5775 MHz	75.94	75.94	75.94	75.94	500	Complies
802.11ac MCS0/Nss3 VHT20	5745 MHz	17.68	17.74	17.74	17.80	500	Complies
	5785 MHz	17.68	17.74	17.68	17.57	500	Complies
	5825 MHz	17.62	17.68	17.57	17.68	500	Complies
802.11ac MCS0/Nss3 VHT40	5755 MHz	36.41	36.41	36.06	35.36	500	Complies
	5795 MHz	36.41	36.41	36.06	35.71	500	Complies
802.11ac MCS0/Nss3 VHT80	5775 MHz	76.52	76.52	75.65	75.65	500	Complies

Mode	Frequency	6dB Bandwidth (MHz)		Min. Limit (kHz)	Test Result
		Chain 7	Chain 8		
802.11ac MCS0/Nss2 VHT80+80	5210 MHz	-	-	500	Complies
	5775 MHz	75.36	75.94		

<For Radio 3 Mode>

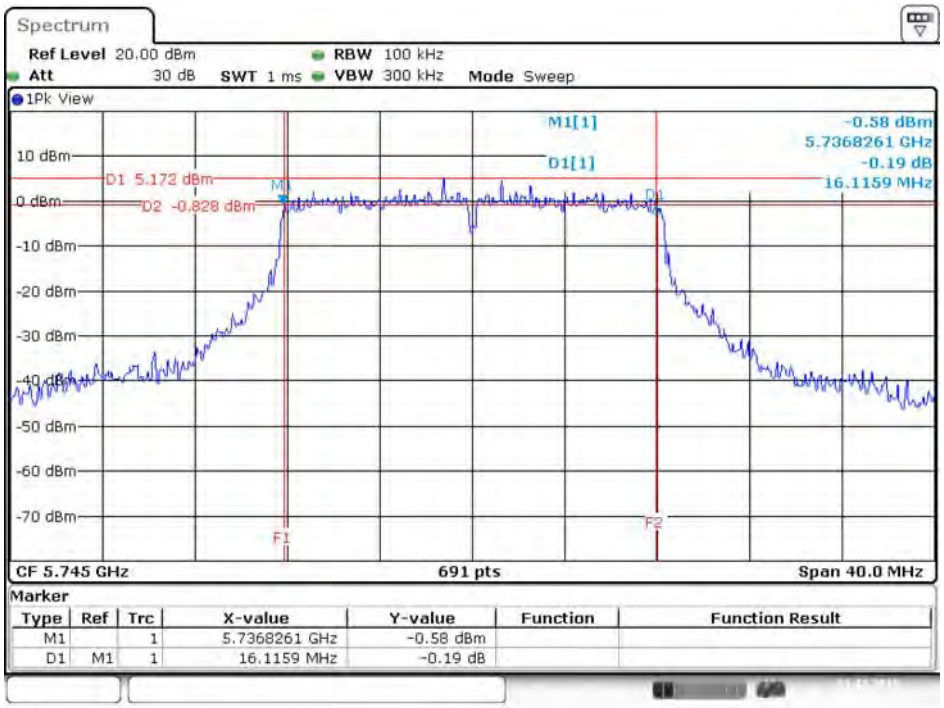
Mode	Frequency	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
802.11a	5745 MHz	16.00	500	Complies
	5785 MHz	16.35	500	Complies
	5825 MHz	15.88	500	Complies
802.11ac MCS0/Nss1 VHT20	5745 MHz	16.46	500	Complies
	5785 MHz	17.62	500	Complies
	5825 MHz	17.51	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	35.71	500	Complies
	5795 MHz	35.36	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	75.94	500	Complies

Note: All the test values were listed in the report.

For plots, only the channel with worse result was shown.

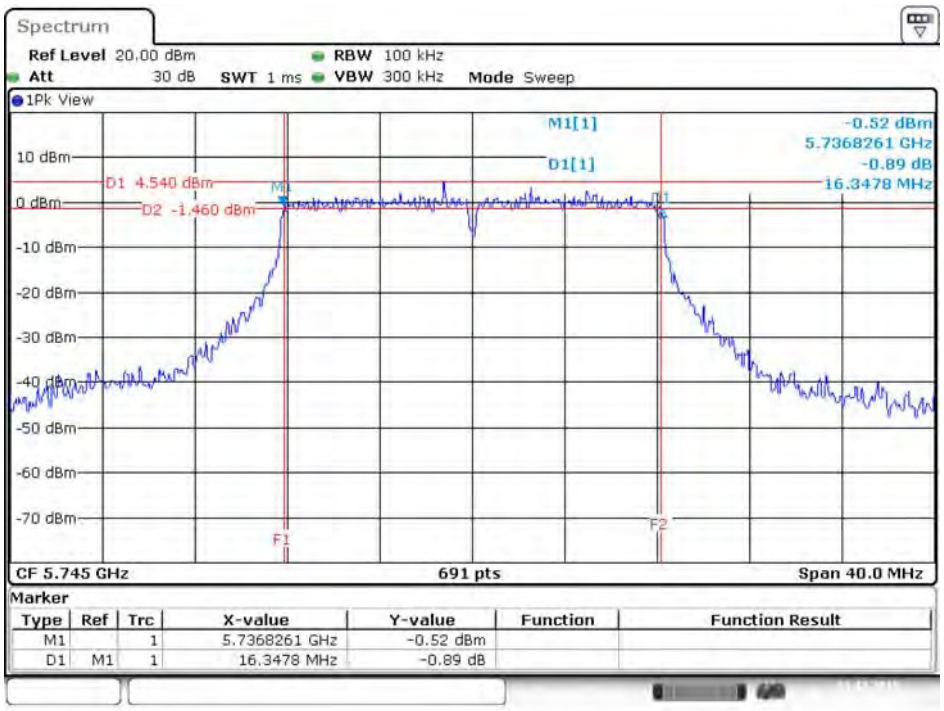
<For Radio 2 Non-beamforming Mode>

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 5 / 5745 MHz



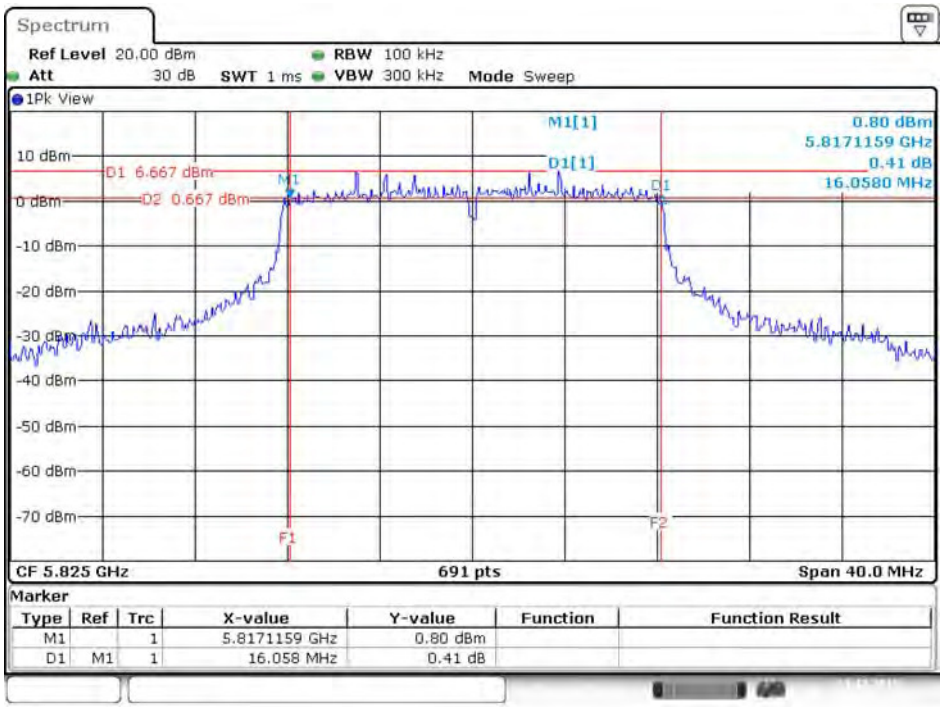
Date: 21.DEC.2015 18:21:12

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 6 / 5745 MHz



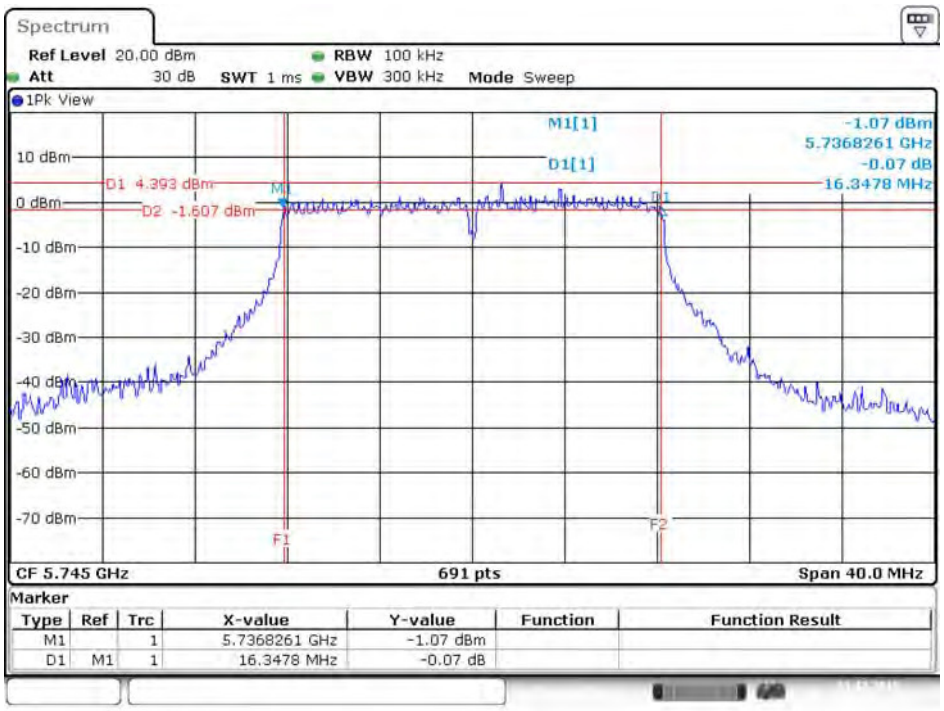
Date: 21.DEC.2015 18:20:57

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 7 / 5825 MHz



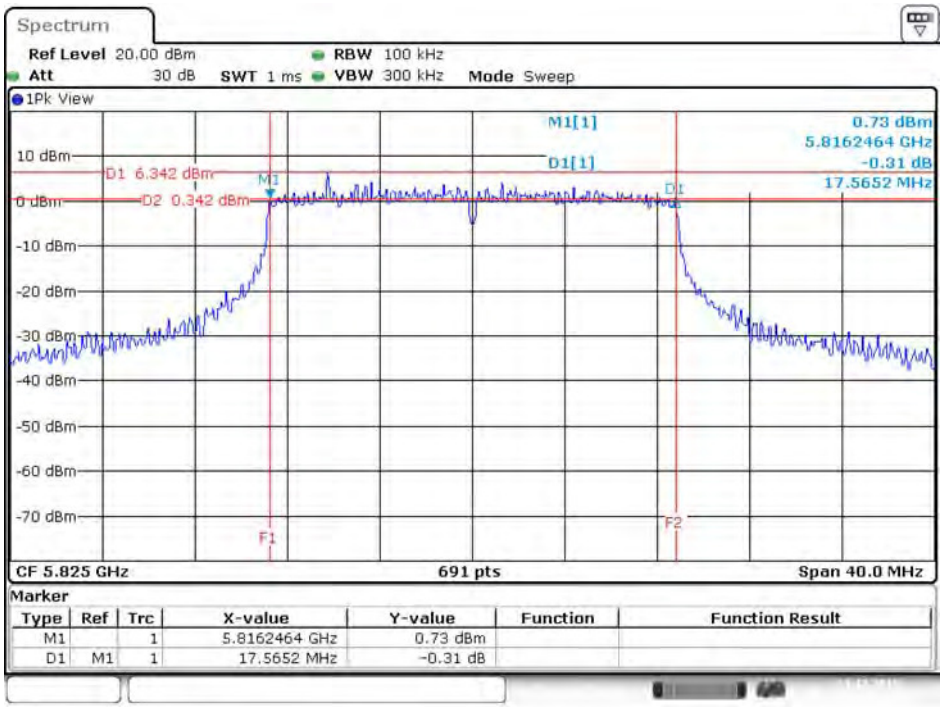
Date: 21.DEC.2015 18:08:35

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 8 / 5745 MHz



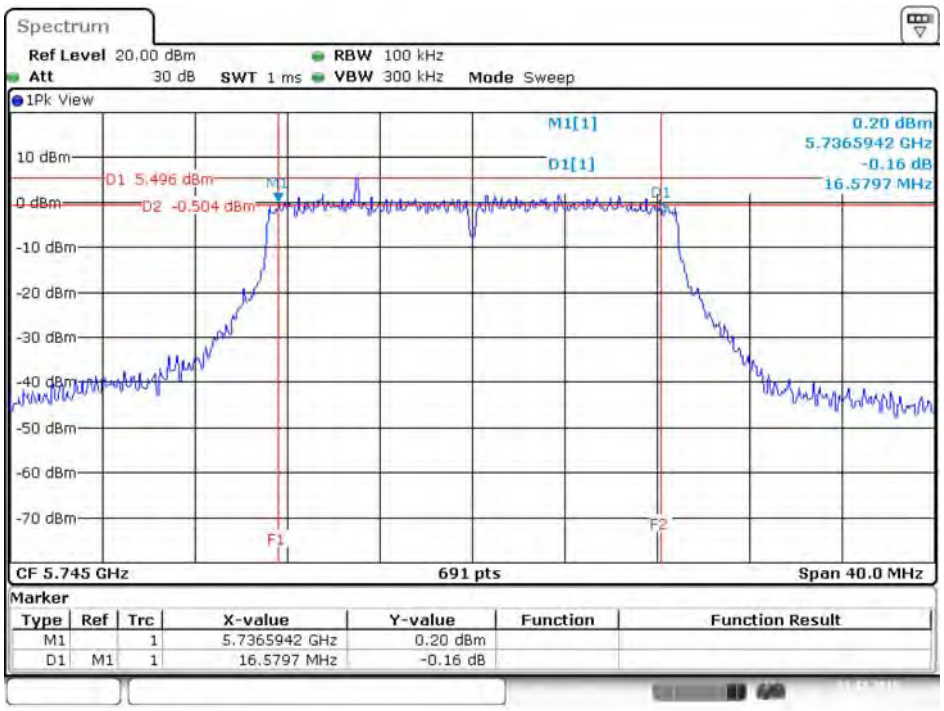
Date: 21.DEC.2015 18:20:19

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 / 5825 MHz



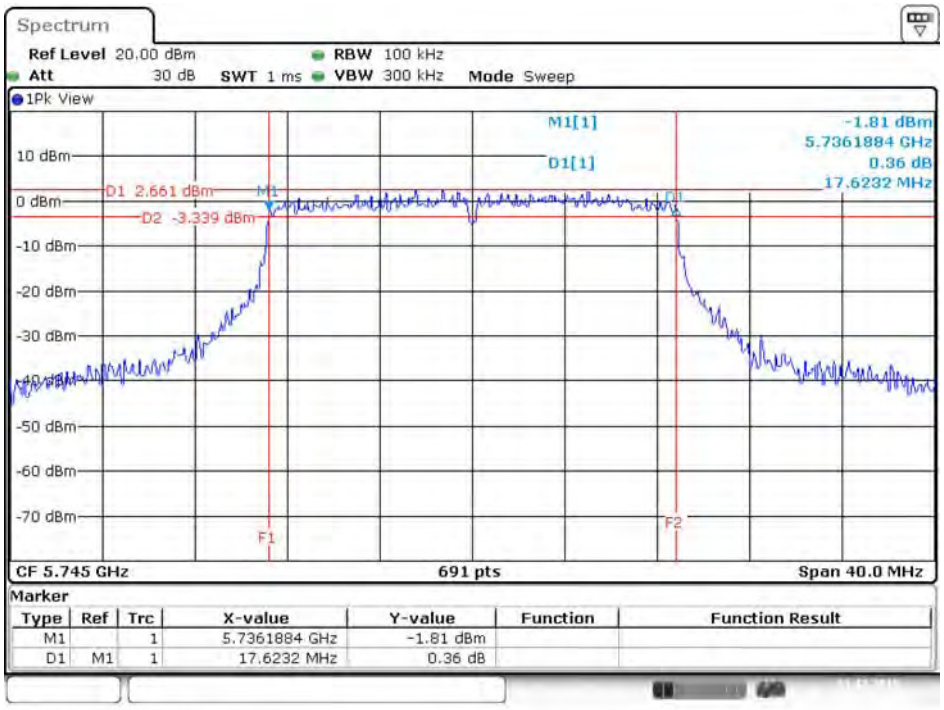
Date: 21.DEC.2015 17:45:11

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 6 / 5745 MHz



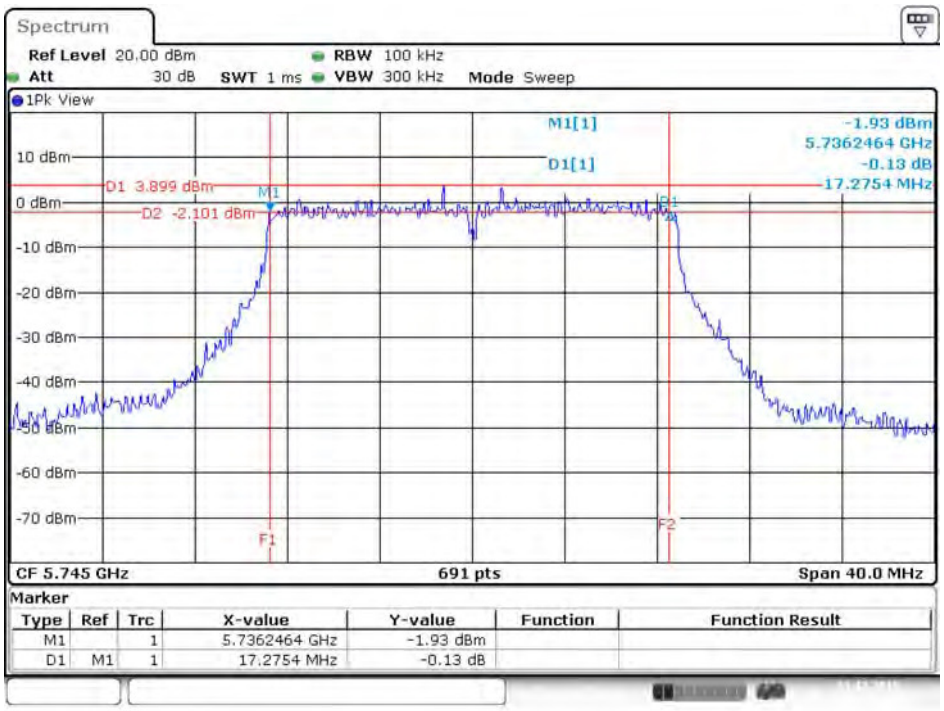
Date: 21.DEC.2015 17:41:00

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 7 / 5745 MHz



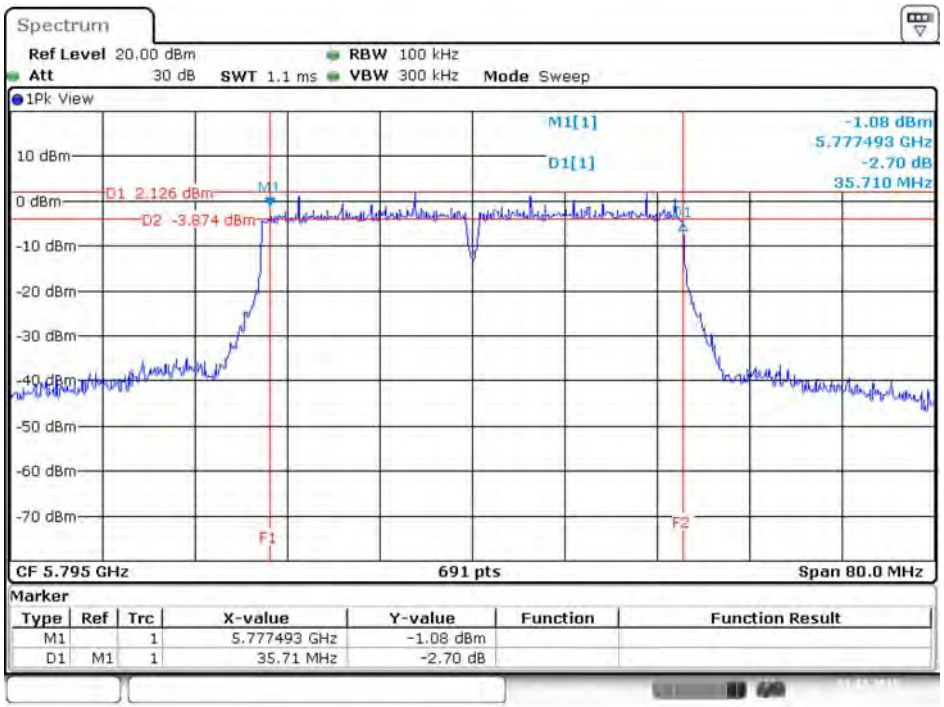
Date: 21.DEC.2015 17:41:28

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 8 / 5745 MHz



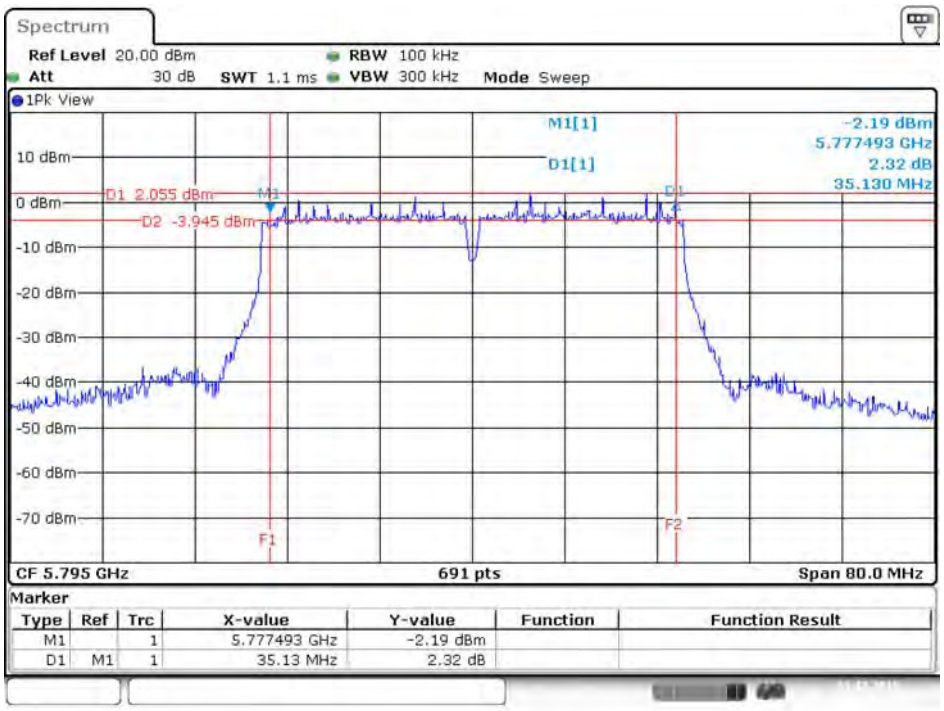
Date: 21.DEC.2015 17:41:46

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 / 5795MHz



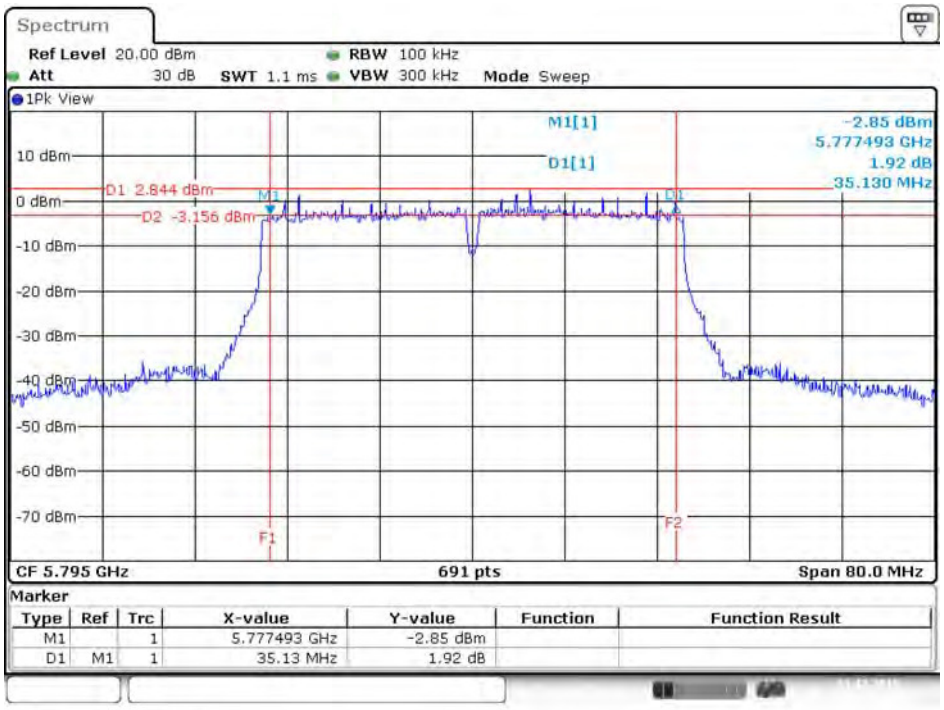
Date: 21.DEC.2015 17:37:36

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 6 / 5795MHz



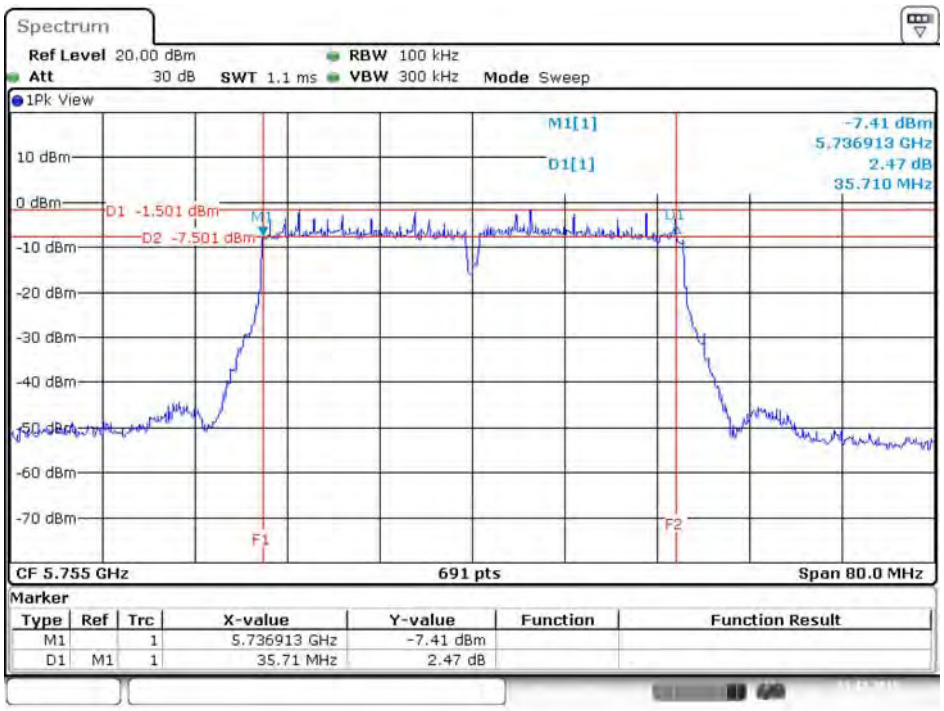
Date: 21.DEC.2015 17:37:06

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 7 / 5795MHz



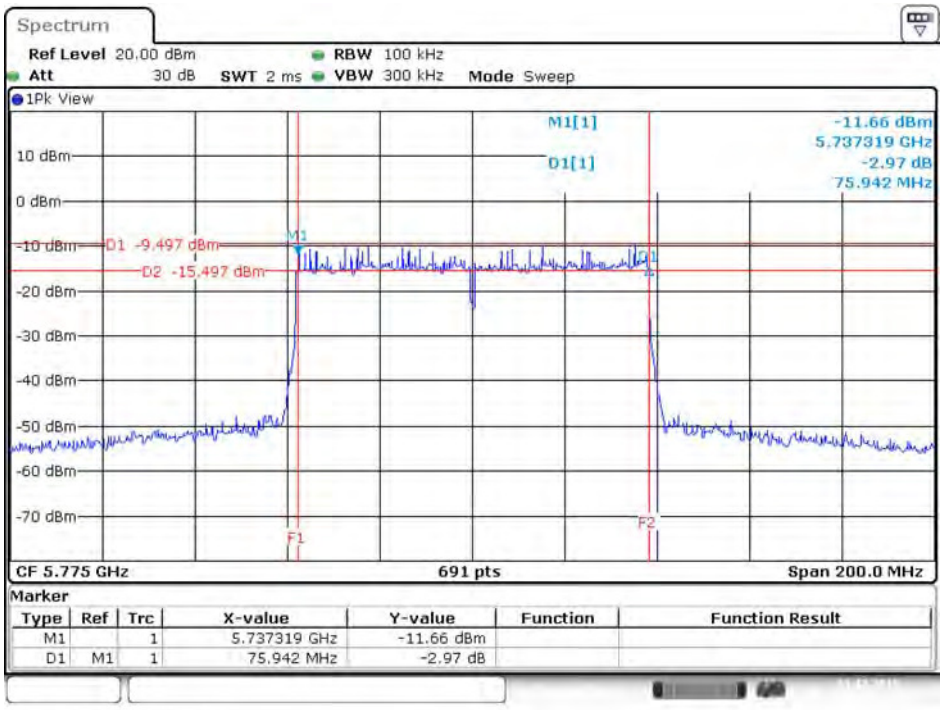
Date: 21.DEC.2015 17:36:41

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 8 / 5755MHz



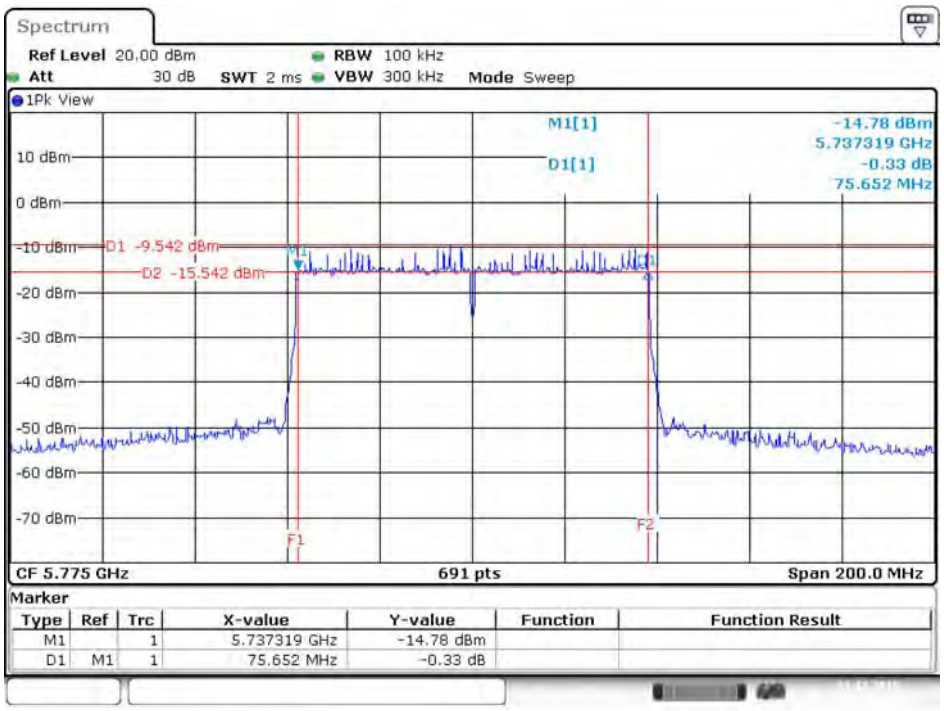
Date: 21.DEC.2015 17:34:46

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 / 5775 MHz



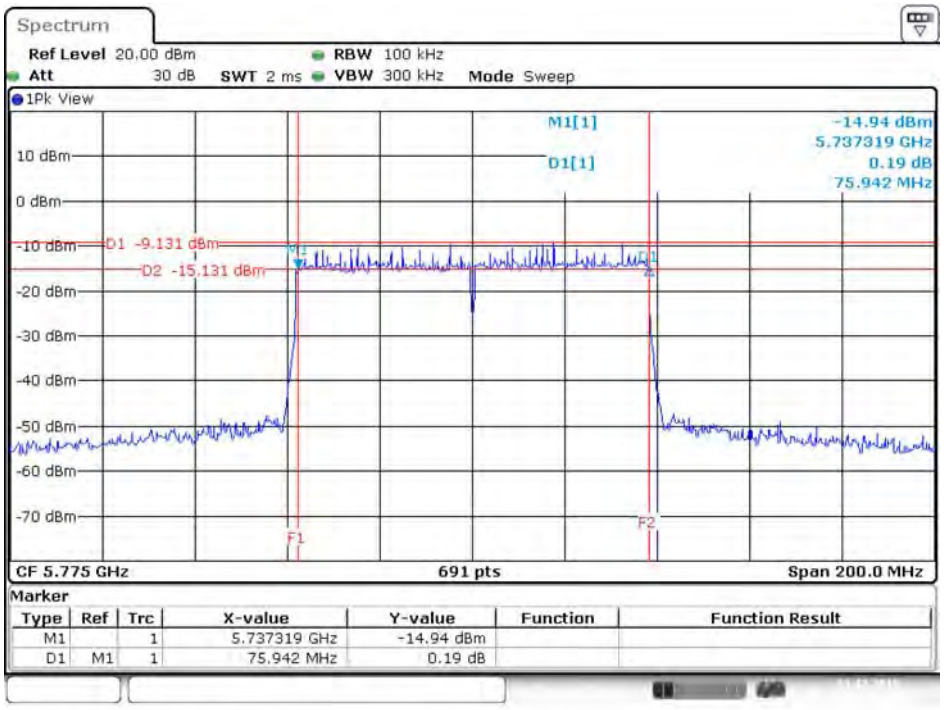
Date: 21.DEC.2015 17:30:13

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 6 / 5775 MHz



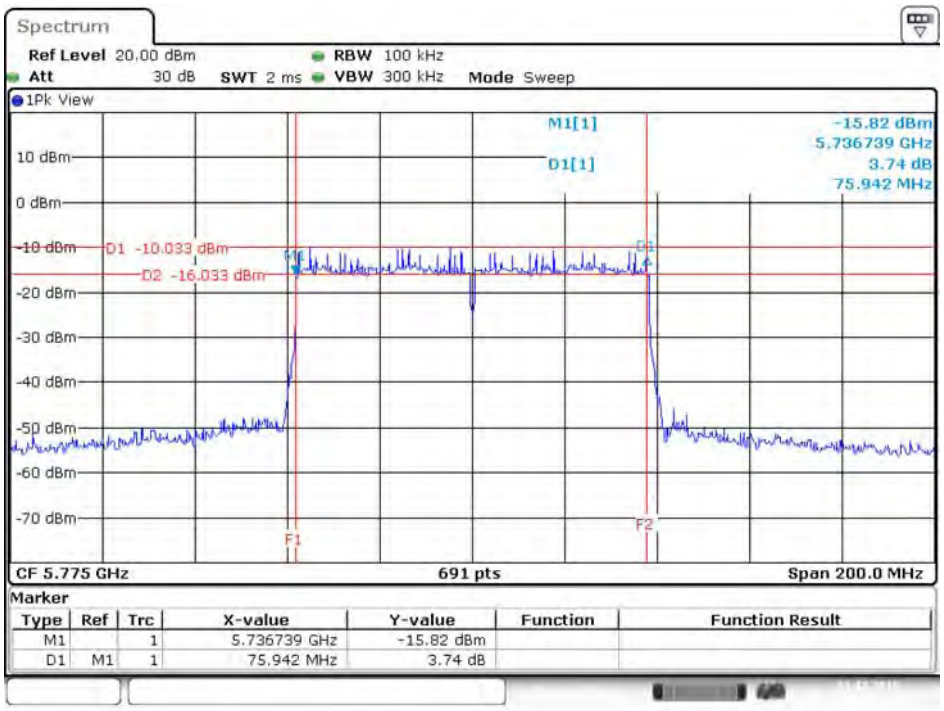
Date: 21.DEC.2015 17:29:55

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 7 / 5775 MHz



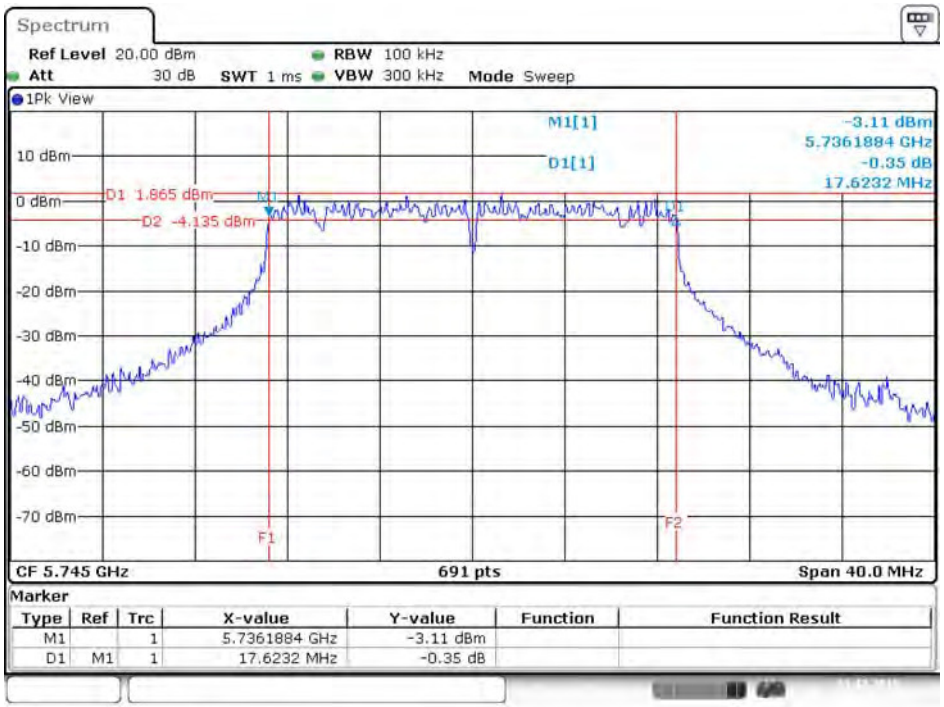
Date: 21.DEC.2015 17:29:40

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 8 / 5775 MHz



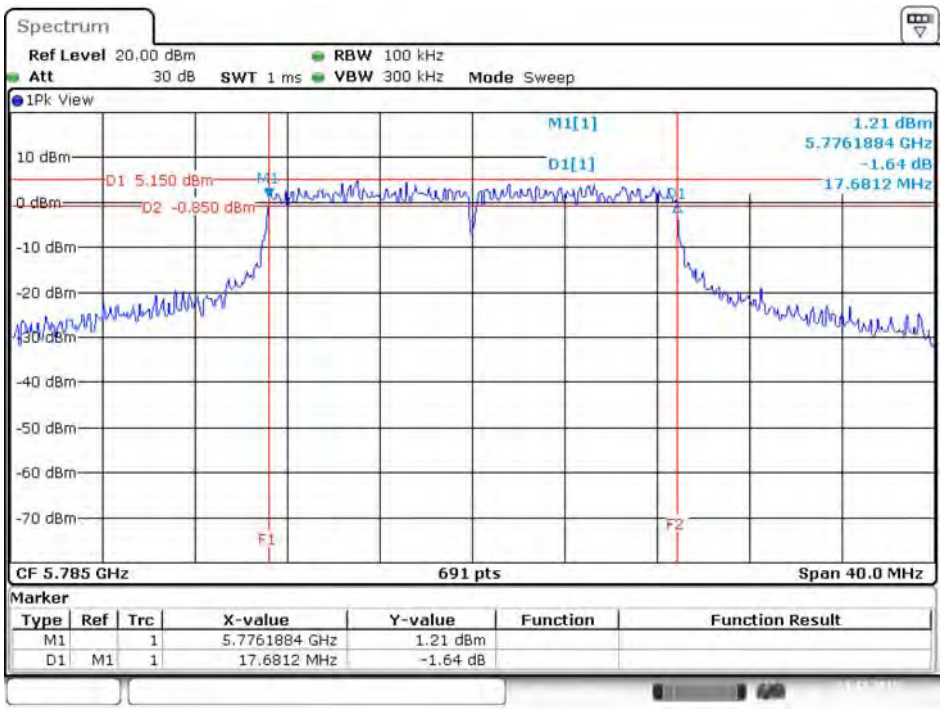
Date: 21.DEC.2015 17:29:24

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT20 / Chain 5 / 5745 MHz



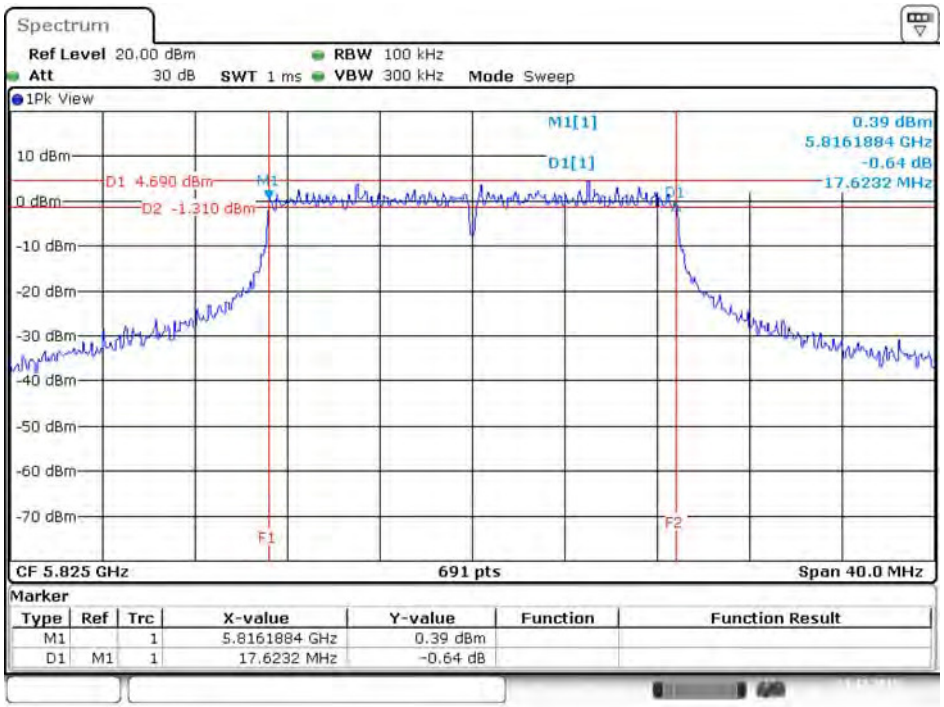
Date: 21.DEC.2015 17:17:10

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT20 / Chain 6 / 5785 MHz



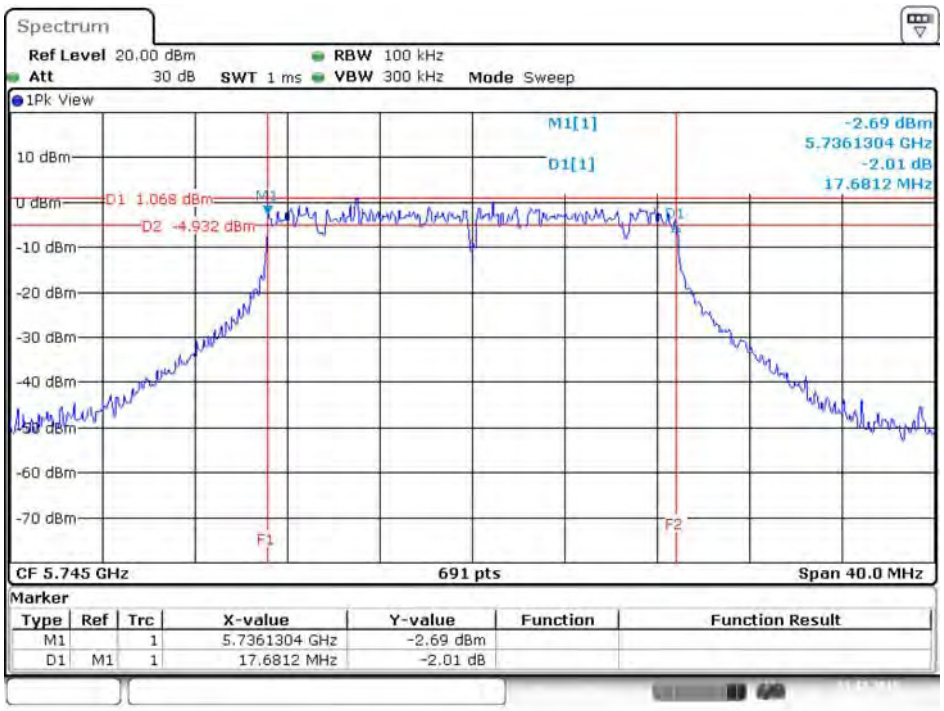
Date: 21.DEC.2015 17:20:16

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT20 / Chain 7 / 5825 MHz



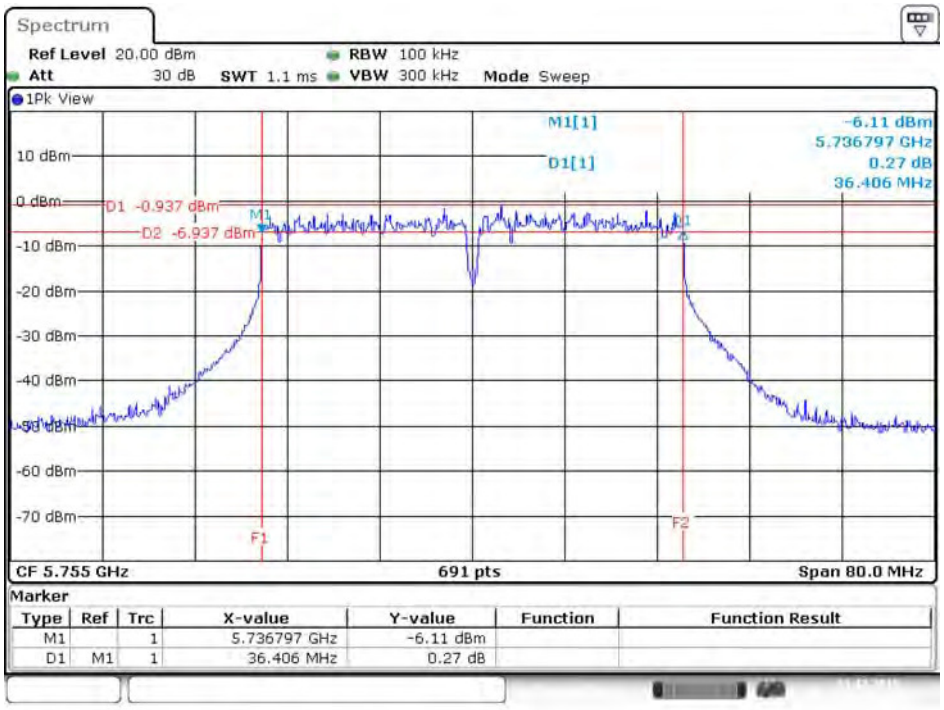
Date: 21.DEC.2015 17:24:21

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT20 / Chain 8 / 5745 MHz



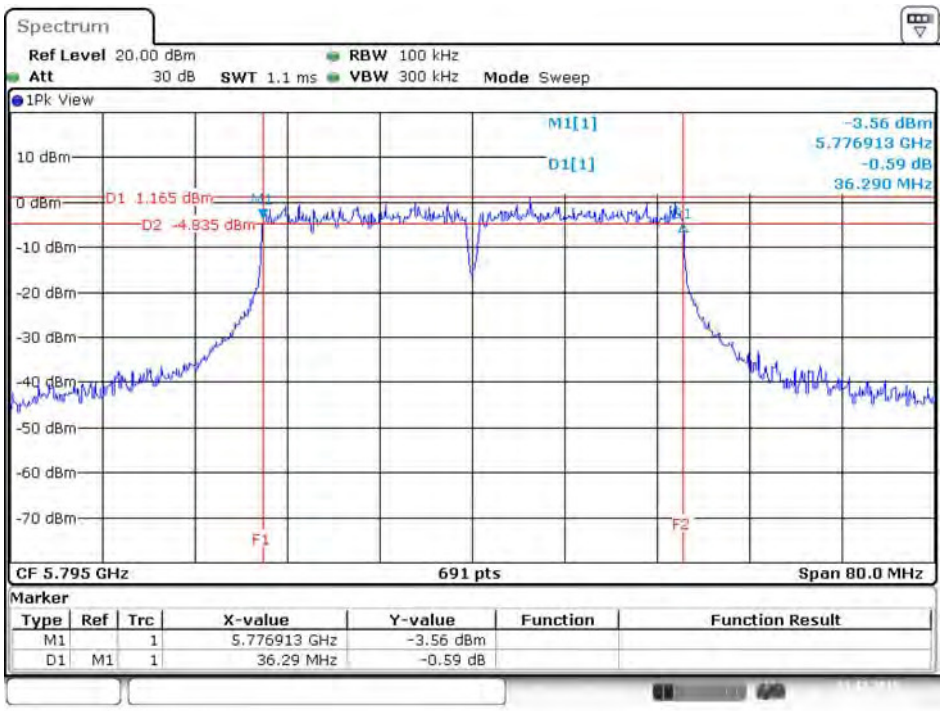
Date: 21.DEC.2015 17:18:35

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT40 / Chain 5 / 5755MHz



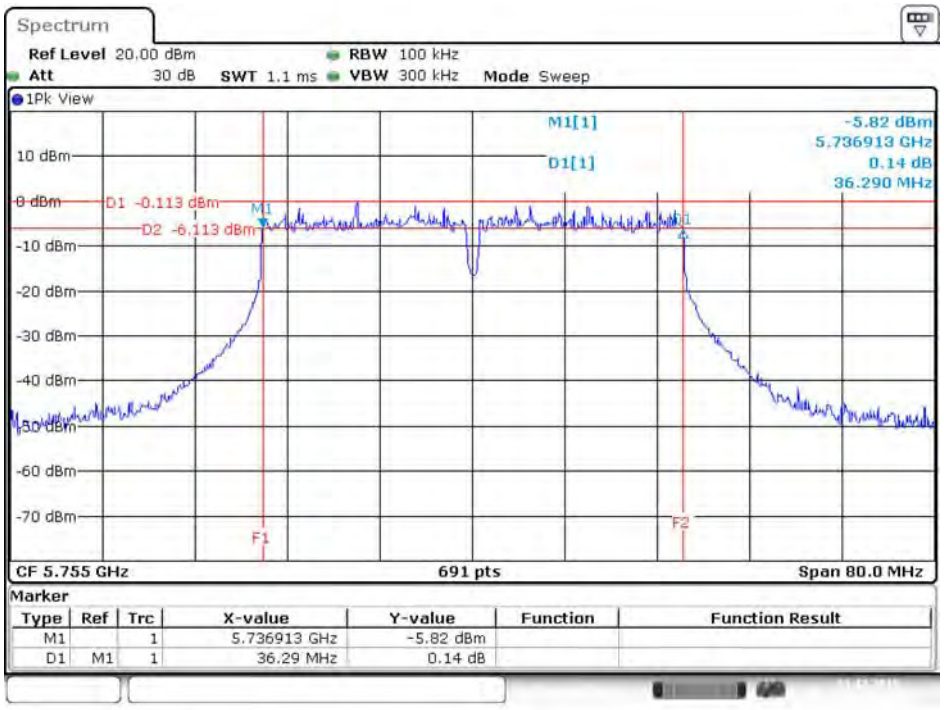
Date: 21.DEC.2015 17:12:08

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT40 / Chain 6 / 5795MHz



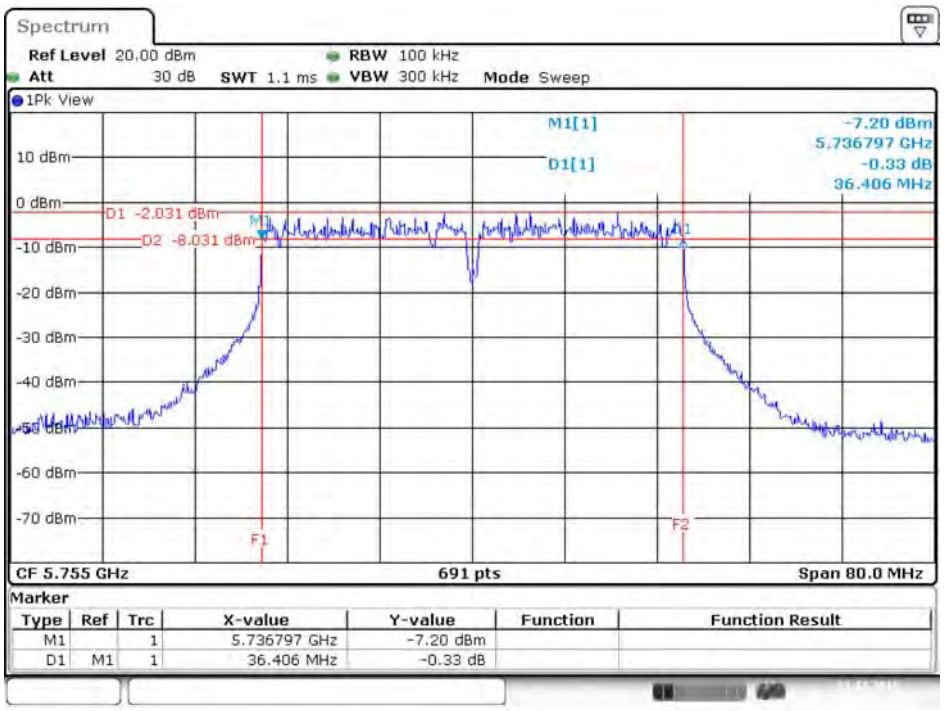
Date: 21.DEC.2015 17:15:13

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT40 / Chain 7 / 5755MHz



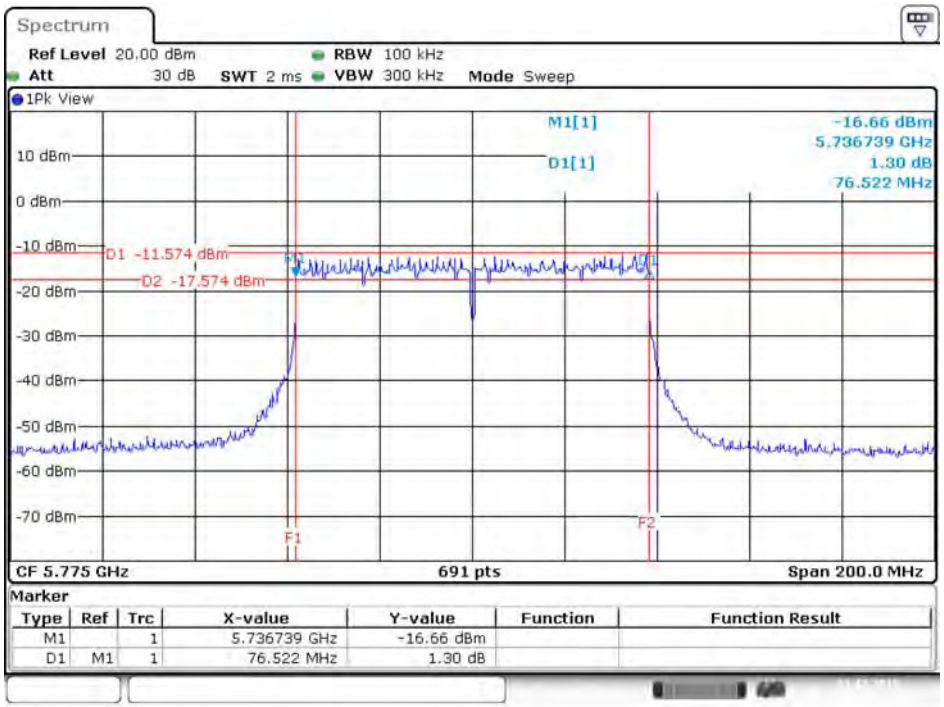
Date: 21.DEC.2015 17:13:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT40 / Chain 8 / 5755MHz



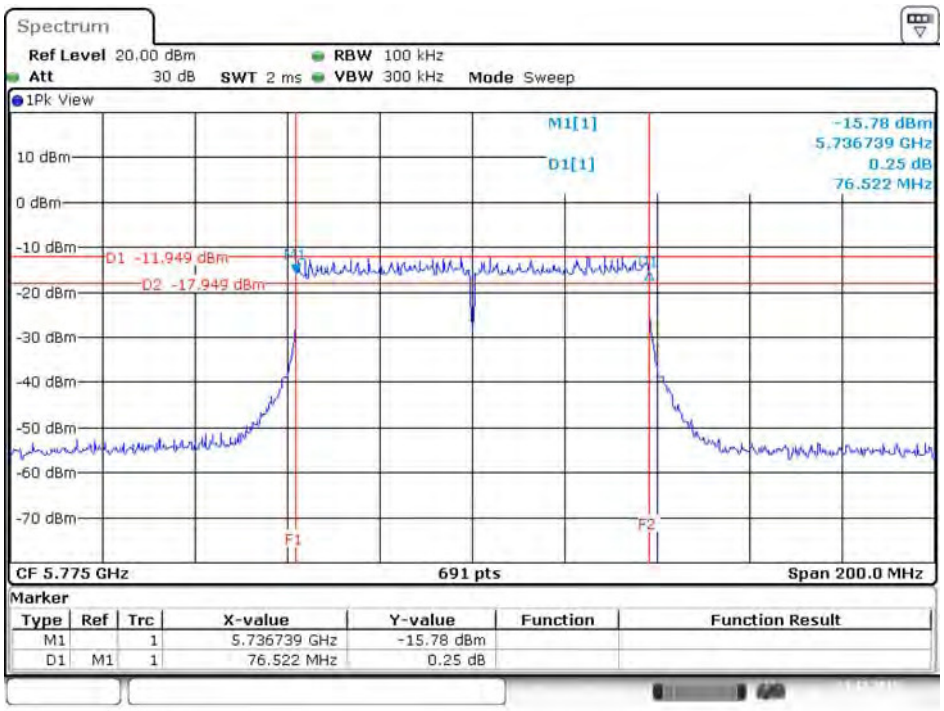
Date: 21.DEC.2015 17:13:45

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT80 / Chain 5 / 5775 MHz



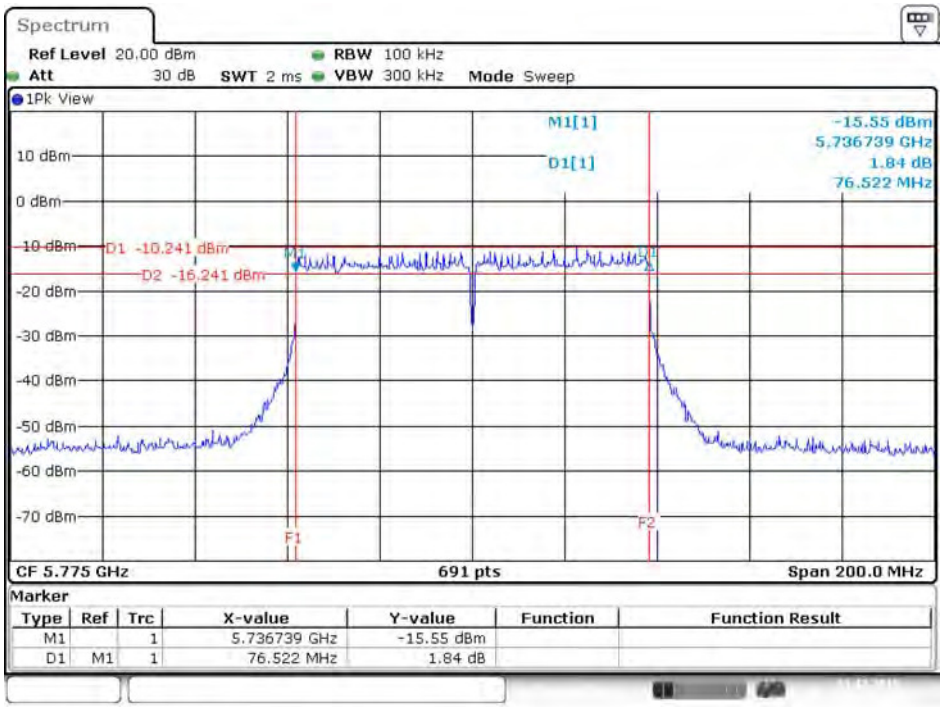
Date: 21.DEC.2015 17:10:14

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT80 / Chain 6 / 5775 MHz



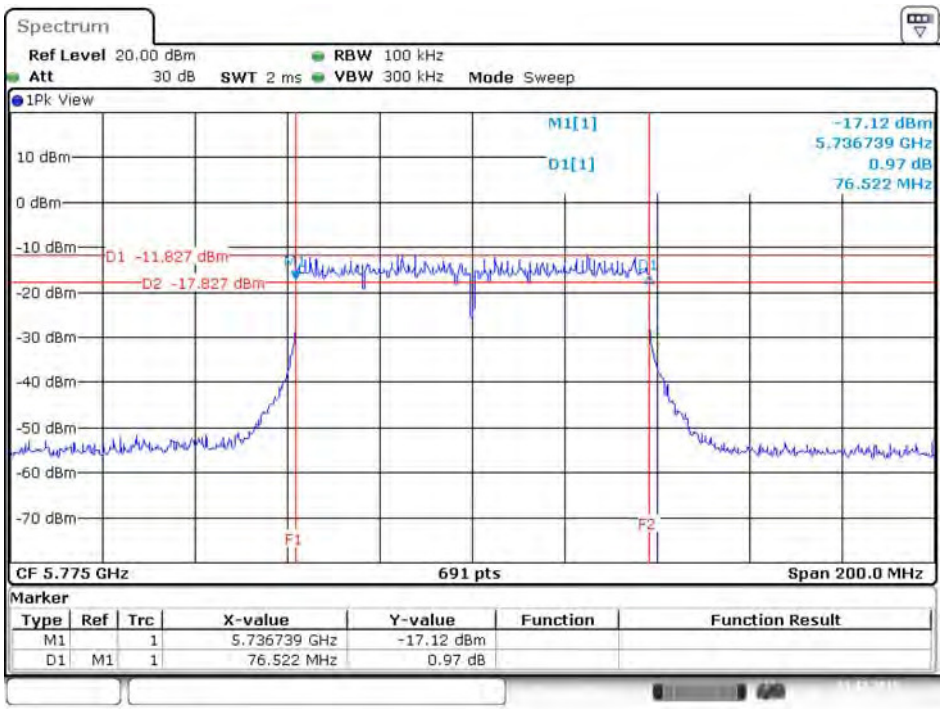
Date: 21.DEC.2015 17:09:51

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT80 / Chain 7 / 5775 MHz



Date: 21.DEC.2015 17:09:08

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT80 / Chain 8 / 5775 MHz

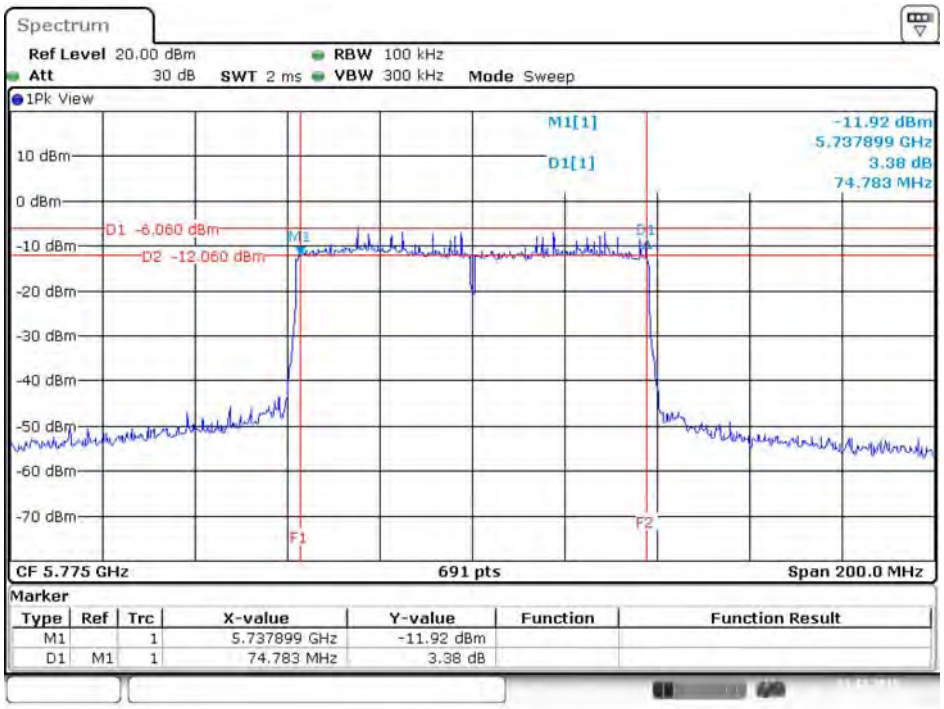


Date: 21.DEC.2015 17:07:47

For 802.11ac MCS0/Nss2 VHT80+80 Mode

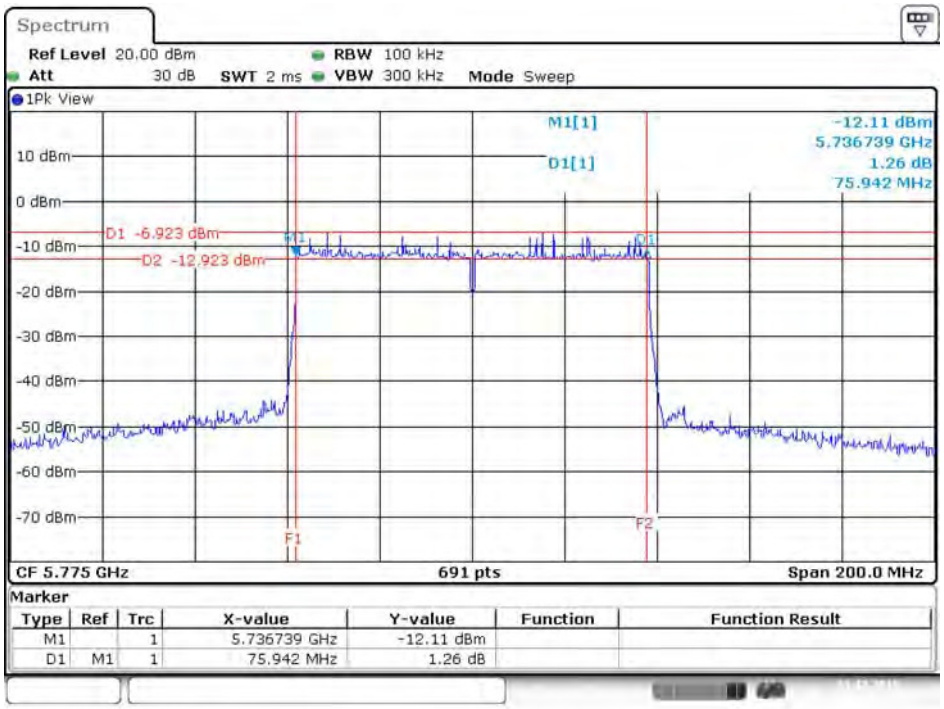
Type 1

6 dB Bandwidth Plot on Chain 7 / 5775 MHz



Date: 21.DEC.2015 23:37:14

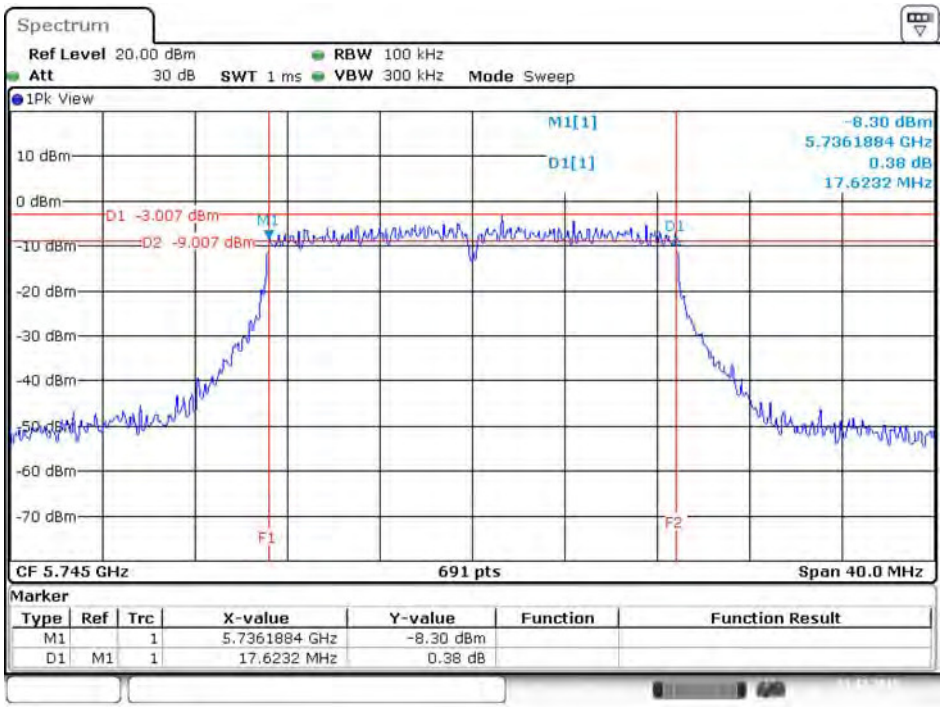
6 dB Bandwidth Plot on Chain 8 / 5775 MHz



Date: 21.DEC.2015 23:36:55

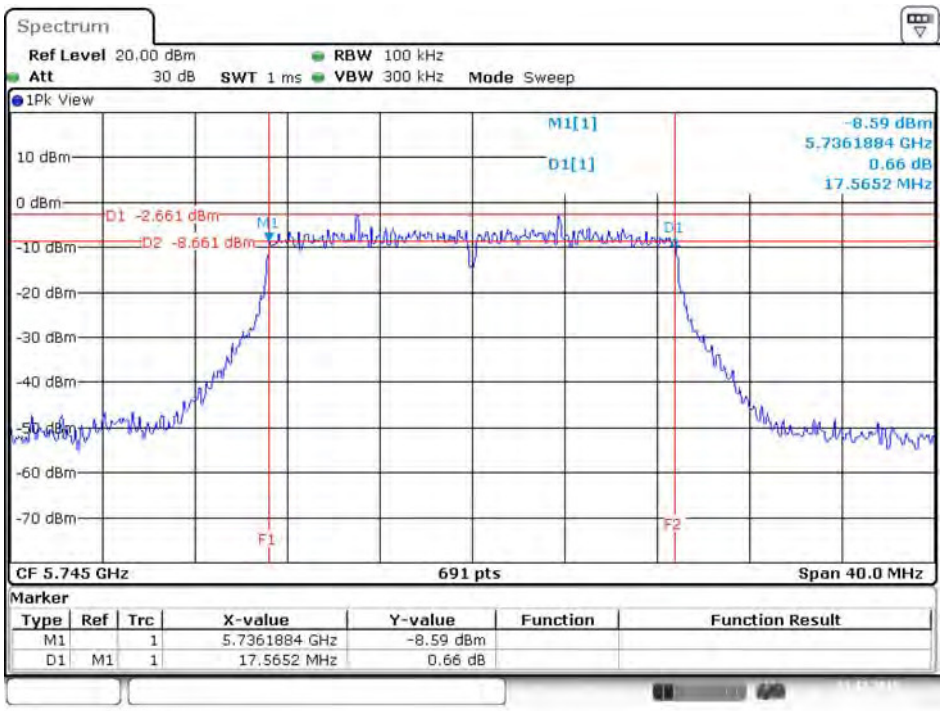
<For Radio 2 Beamforming Mode>

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 / 5745 MHz



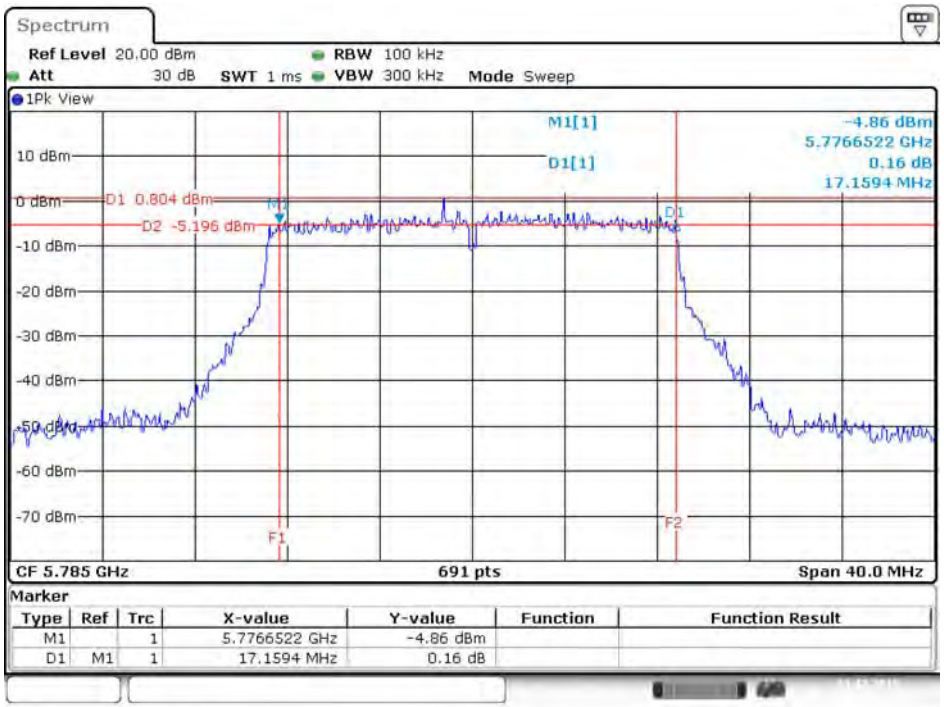
Date: 21.DEC.2015 16:52:42

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 6 / 5745 MHz



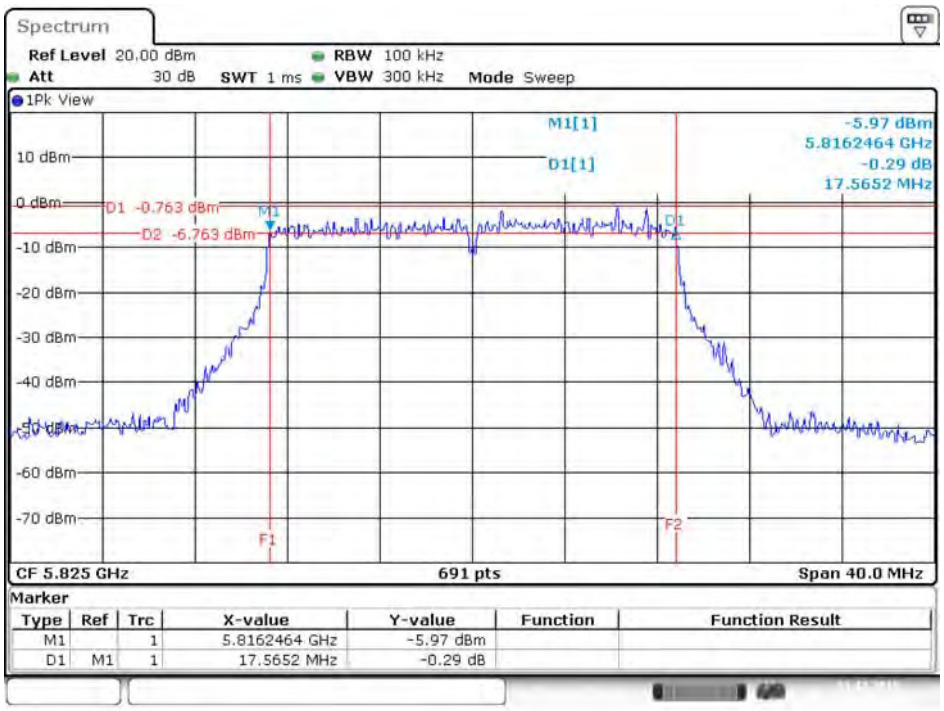
Date: 21.DEC.2015 16:52:19

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 7 / 5785 MHz



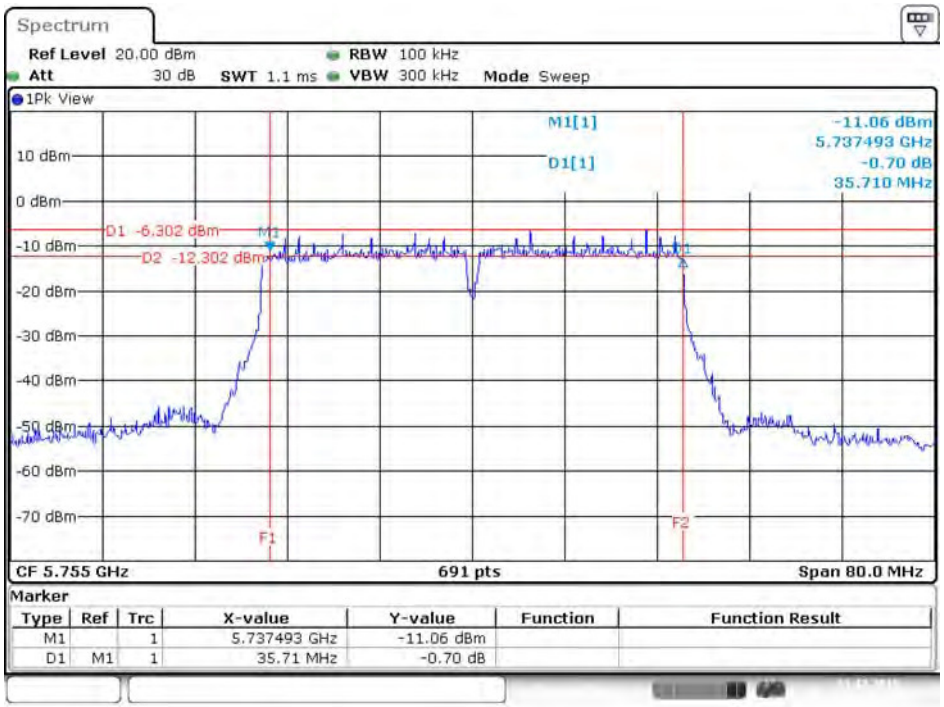
Date: 21.DEC.2015 16:49:13

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 8 / 5825 MHz



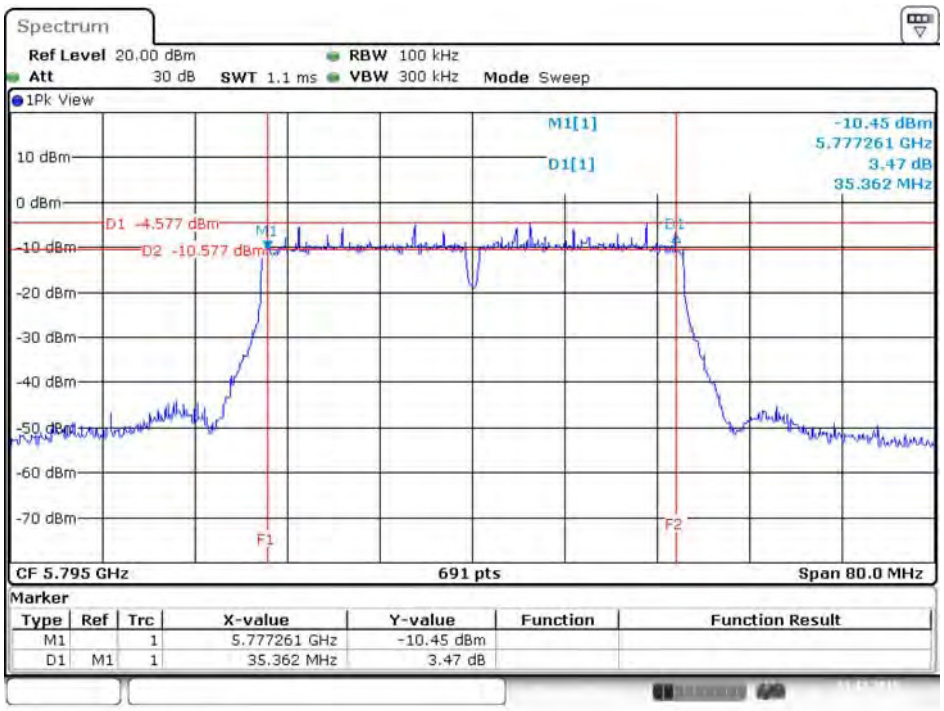
Date: 21.DEC.2015 16:43:32

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 / 5755MHz



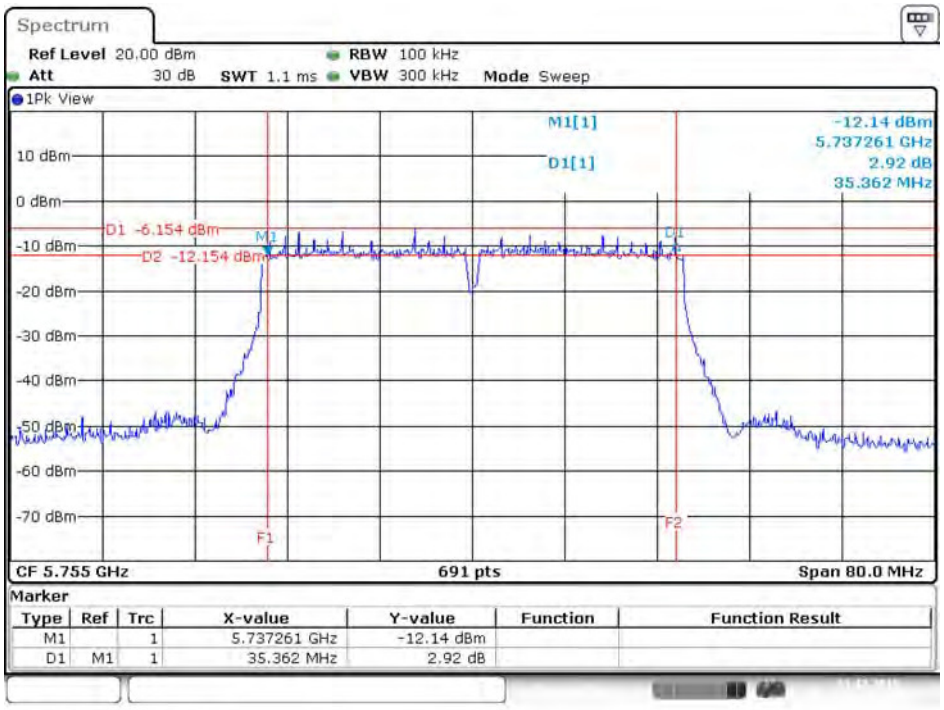
Date: 21.DEC.2015 16:53:31

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 6 / 5795MHz



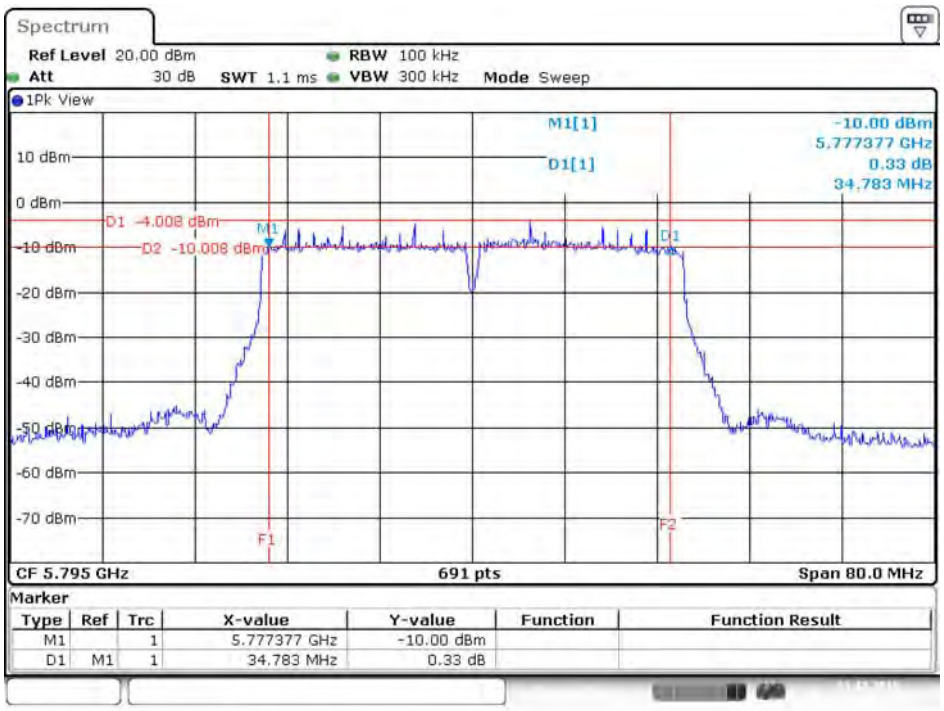
Date: 21.DEC.2015 17:01:37

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 7 / 5755MHz



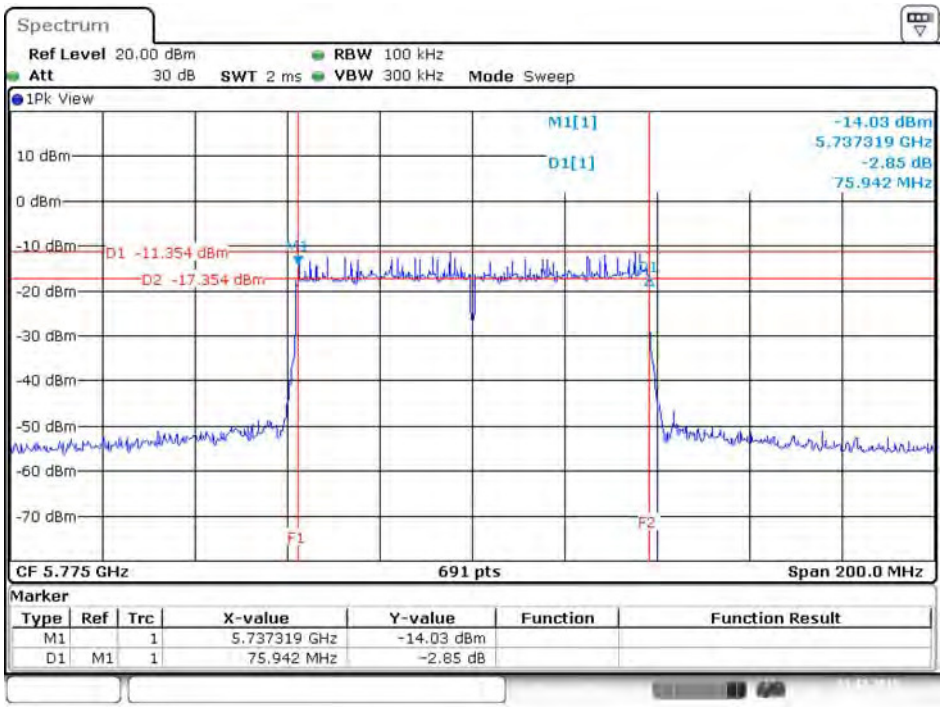
Date: 21.DEC.2015 16:58:38

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 8 / 5795MHz



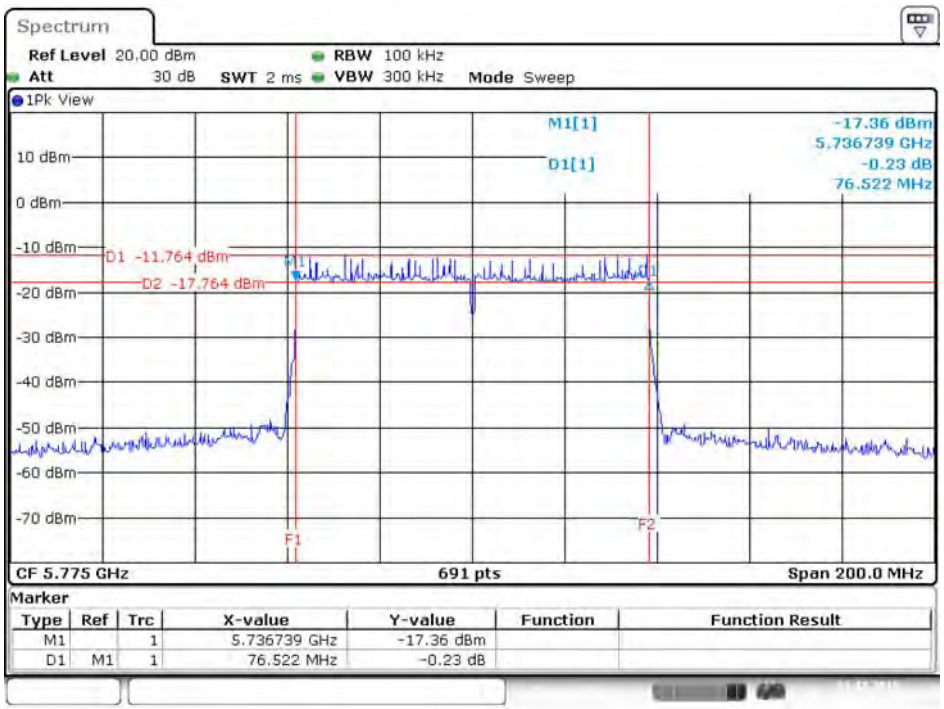
Date: 21.DEC.2015 17:00:21

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 / 5775 MHz



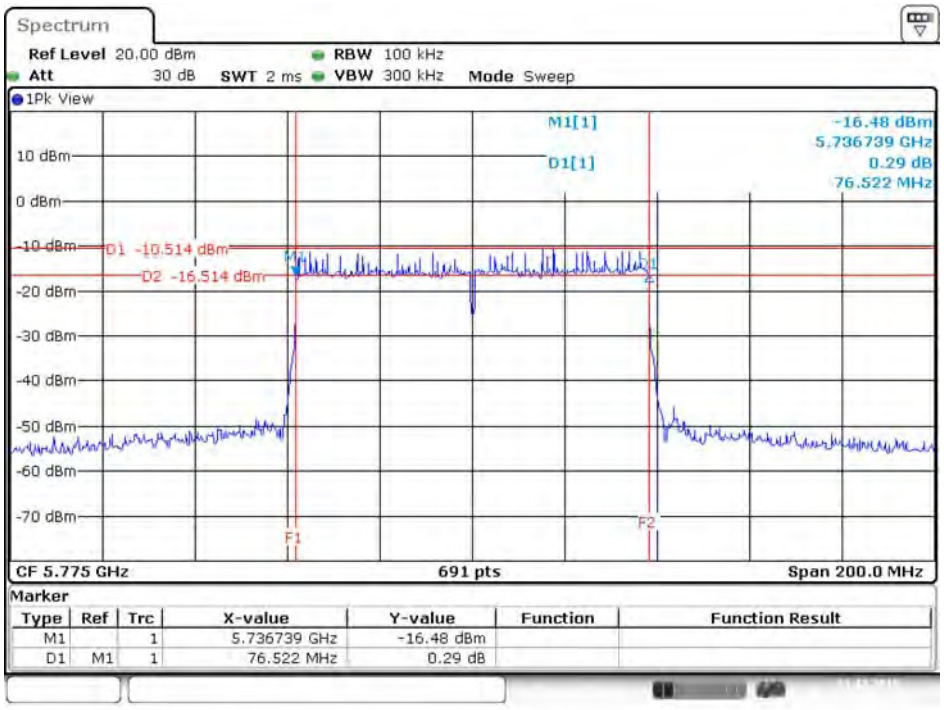
Date: 21.DEC.2015 17:04:48

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 6 / 5775 MHz



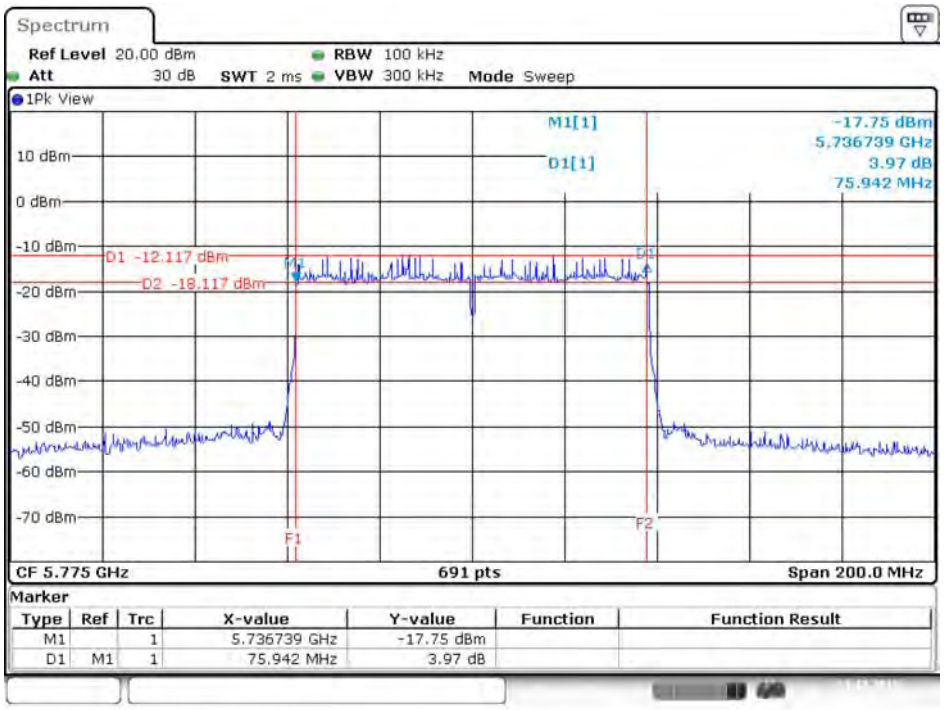
Date: 21.DEC.2015 17:05:16

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 7 / 5775 MHz



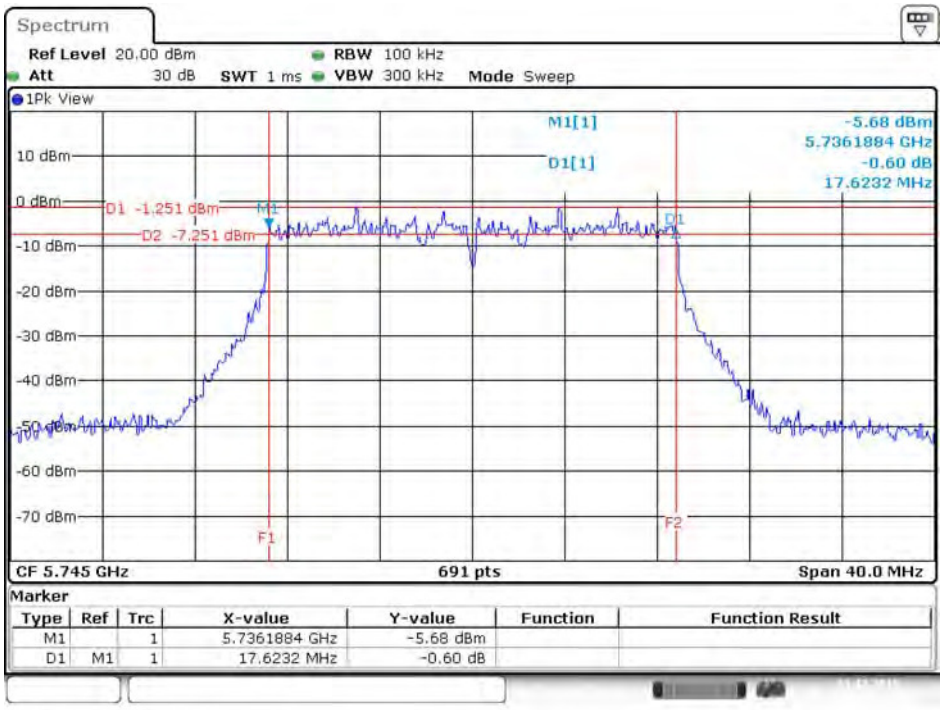
Date: 21.DEC.2015 17:05:31

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 8 / 5775 MHz



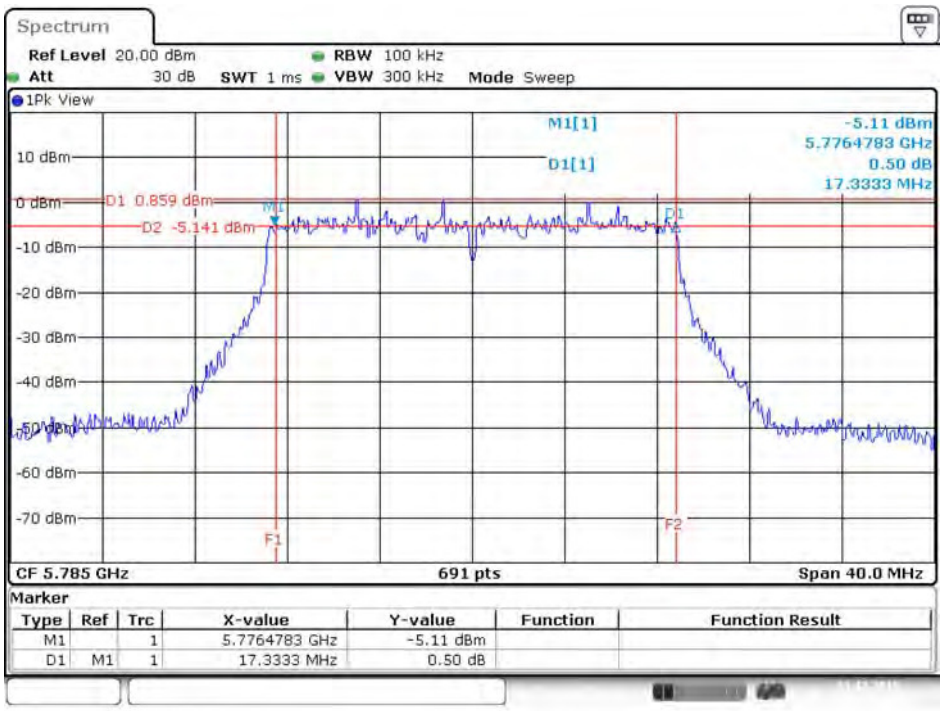
Date: 21.DEC.2015 17:05:56

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 5 / 5745 MHz



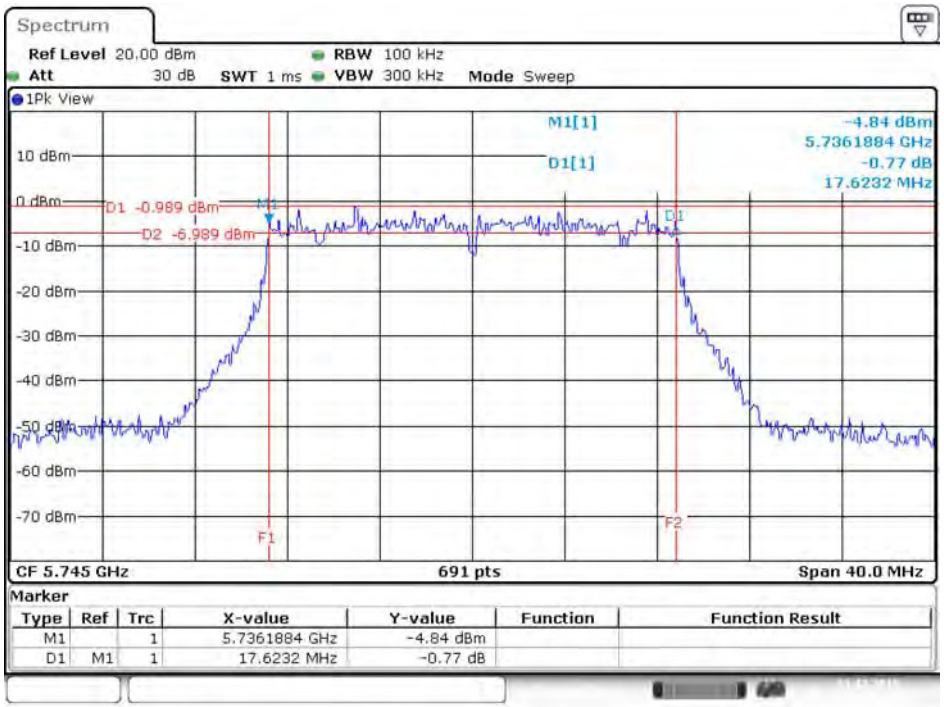
Date: 21.DEC.2015 16:31:53

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 6 / 5785 MHz



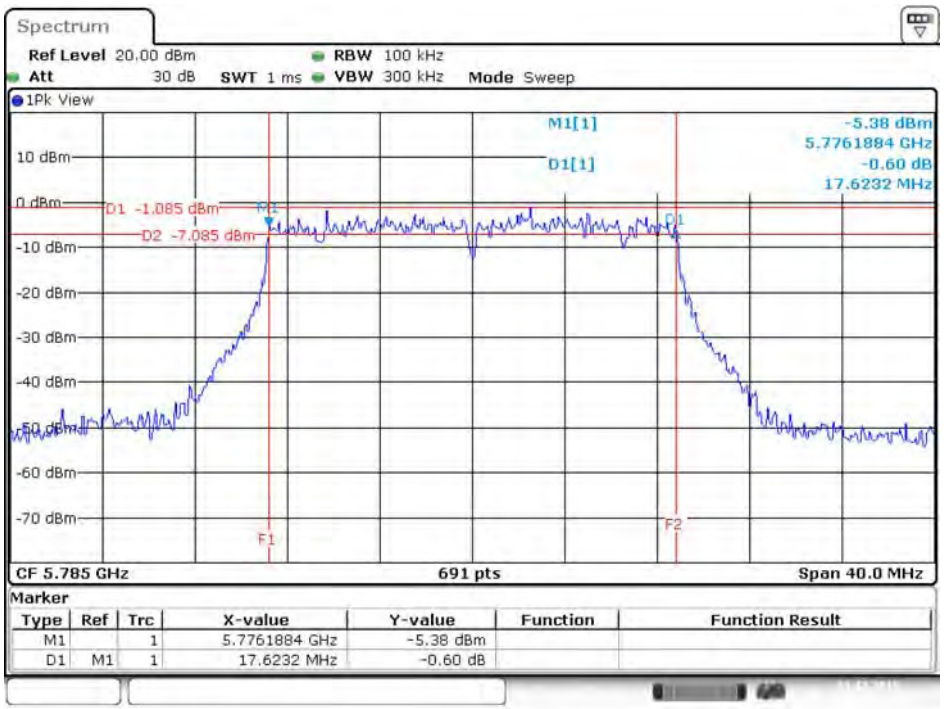
Date: 21.DEC.2015 16:35:49

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 7 / 5745 MHz



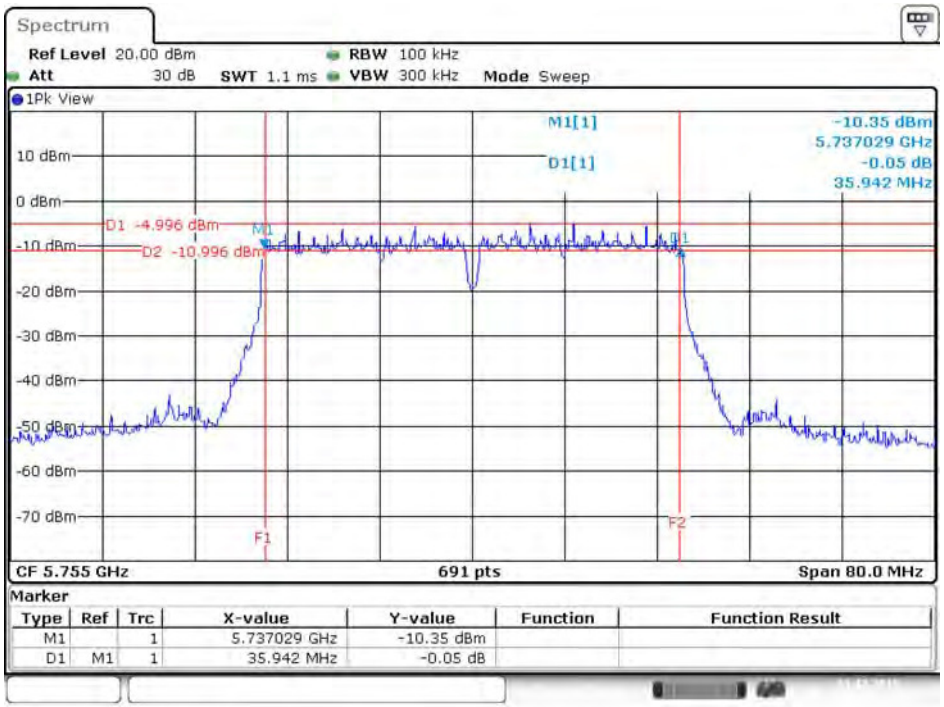
Date: 21.DEC.2015 16:32:52

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 8 / 5785 MHz



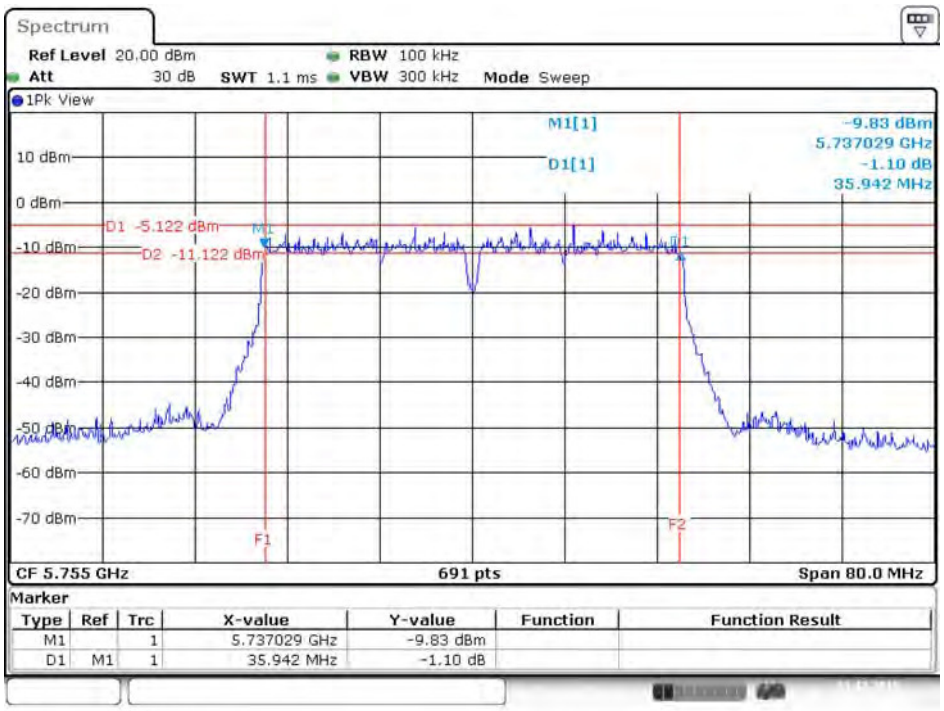
Date: 21.DEC.2015 16:35:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 5 / 5755MHz



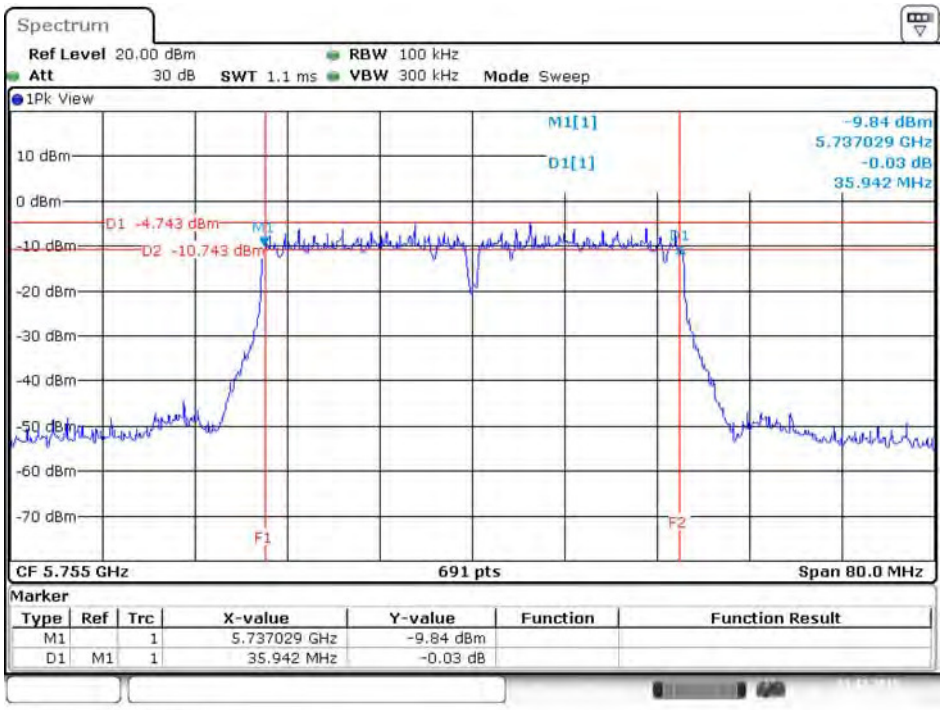
Date: 21.DEC.2015 16:25:35

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 6 / 5755MHz



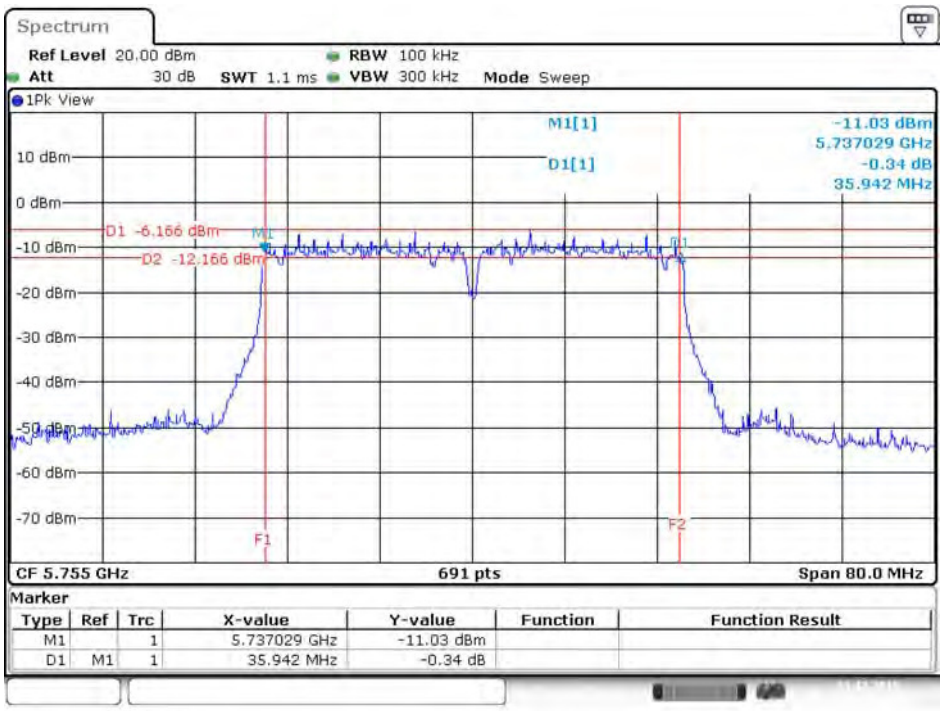
Date: 21.DEC.2015 16:25:55

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 7 / 5755MHz



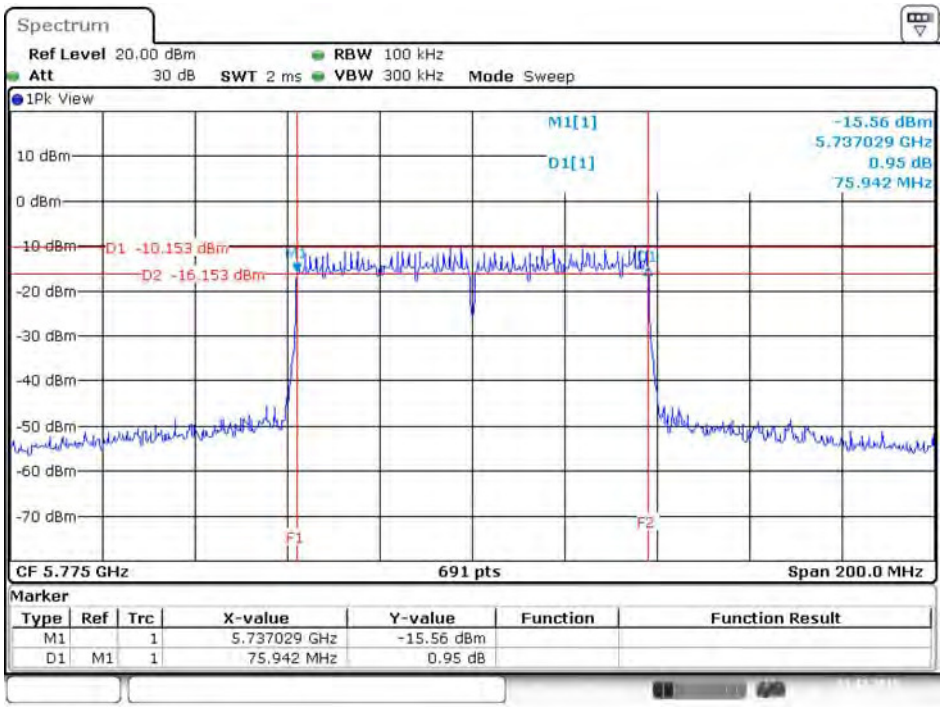
Date: 21.DEC.2015 16:27:20

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 8 / 5755MHz



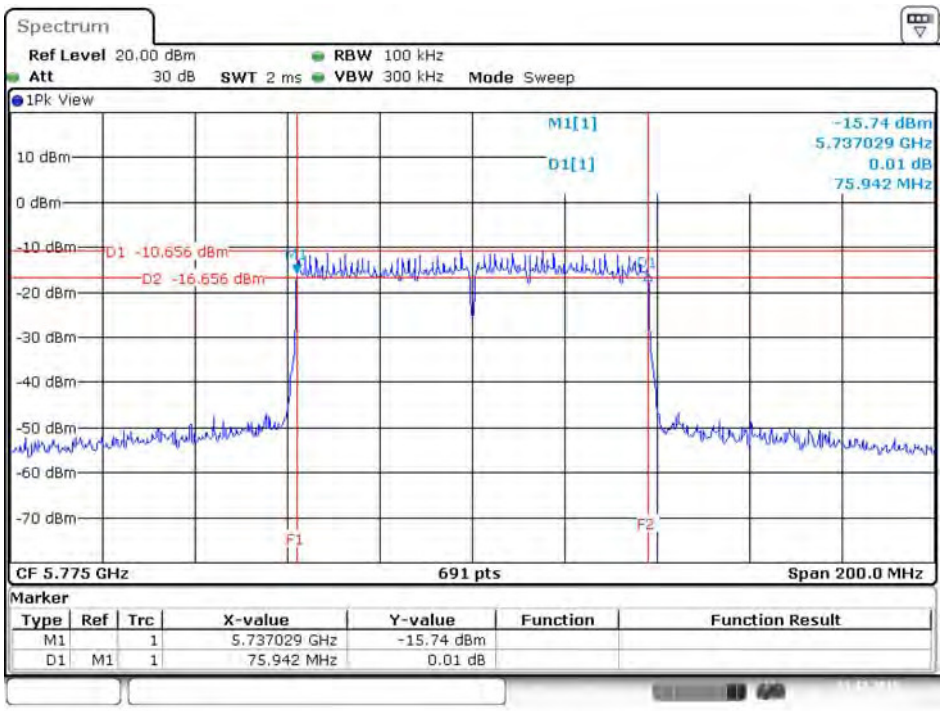
Date: 21.DEC.2015 16:27:39

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 5 / 5775 MHz



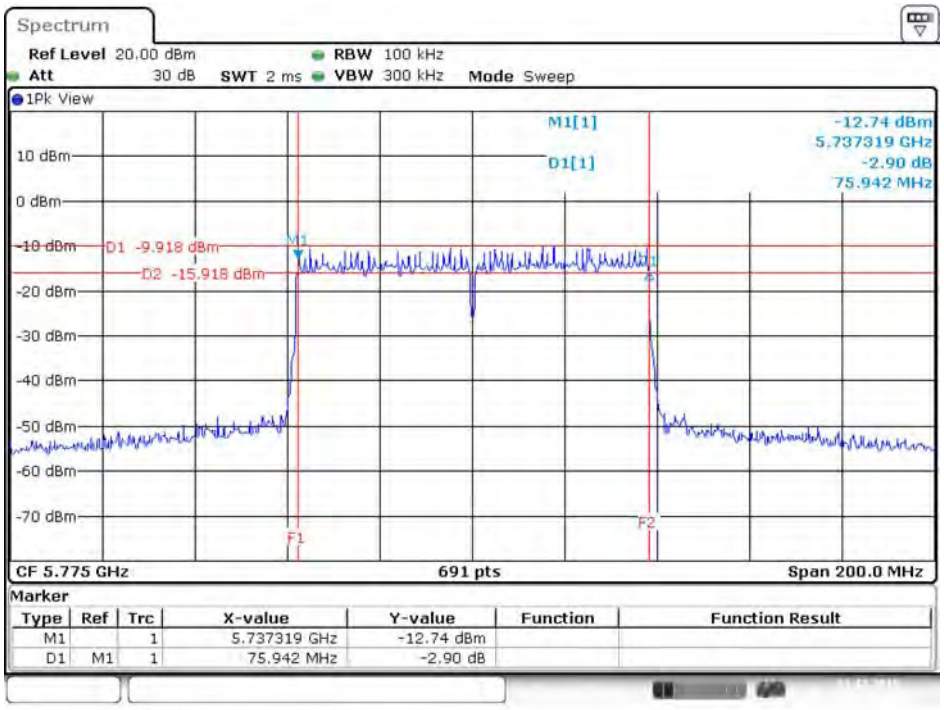
Date: 21.DEC.2015 16:20:38

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 6 / 5775 MHz



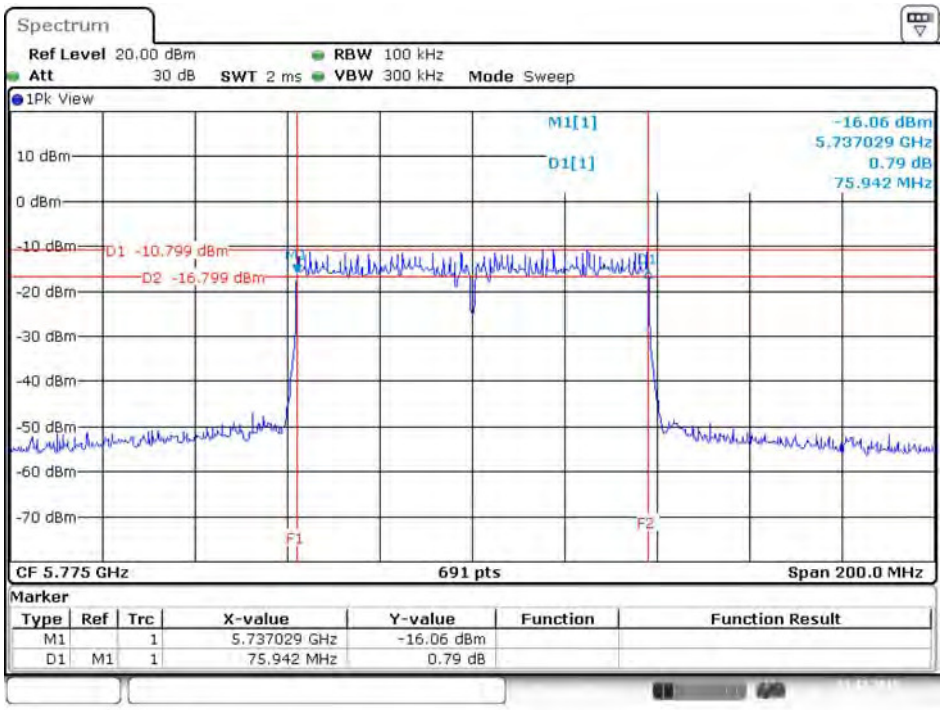
Date: 21.DEC.2015 16:20:21

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 7 / 5775 MHz



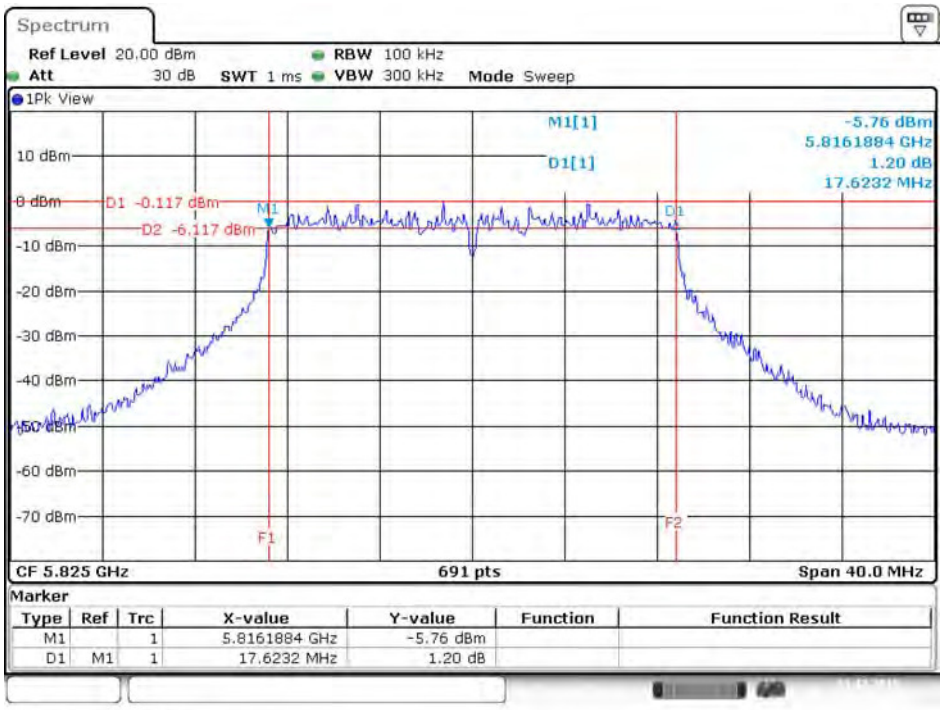
Date: 21.DEC.2015 16:20:06

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 8 / 5775 MHz



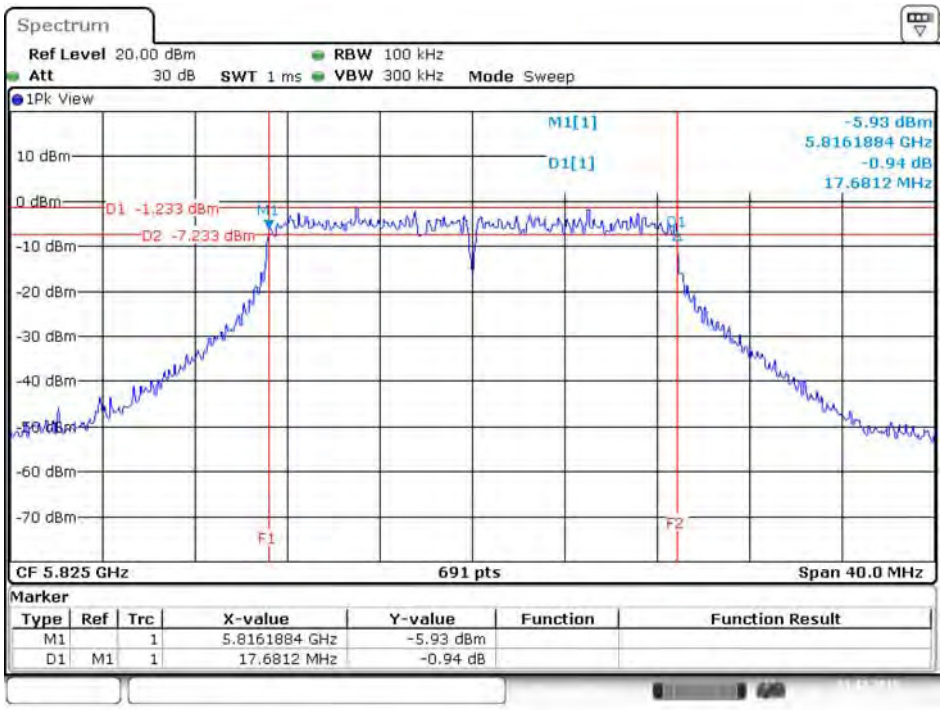
Date: 21.DEC.2015 16:19:42

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 / 5825 MHz



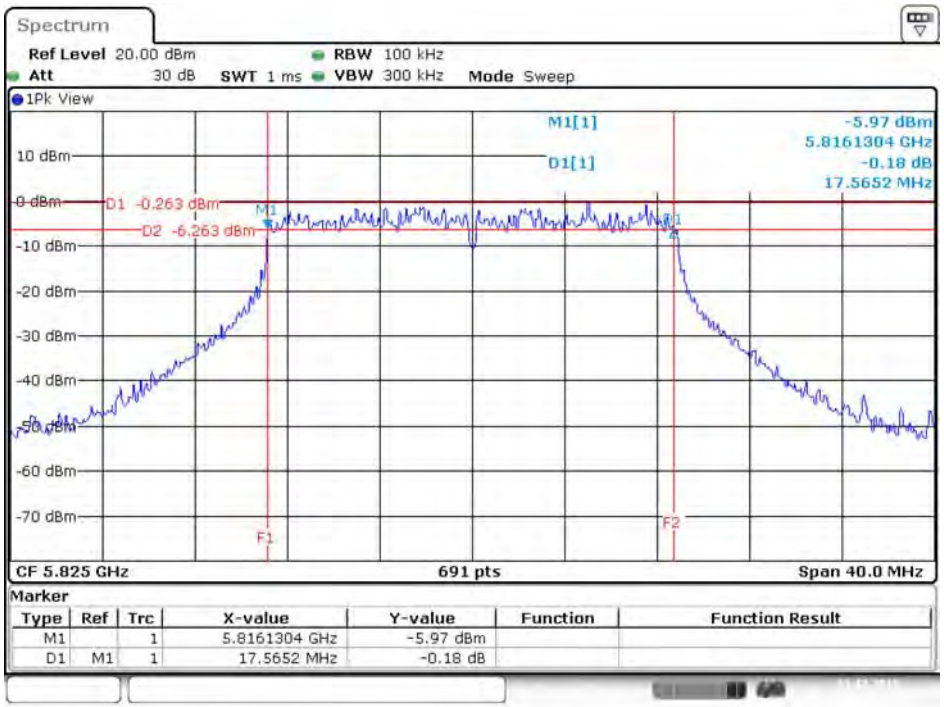
Date: 21.DEC.2015 16:01:57

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 6 / 5825 MHz



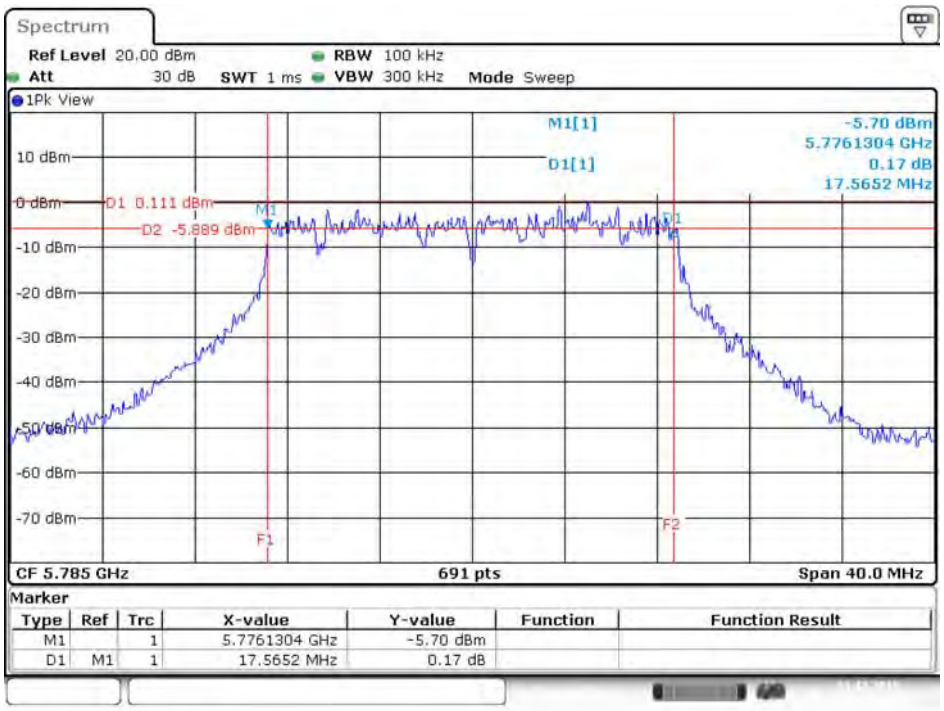
Date: 21.DEC.2015 16:01:39

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 7 / 5825 MHz



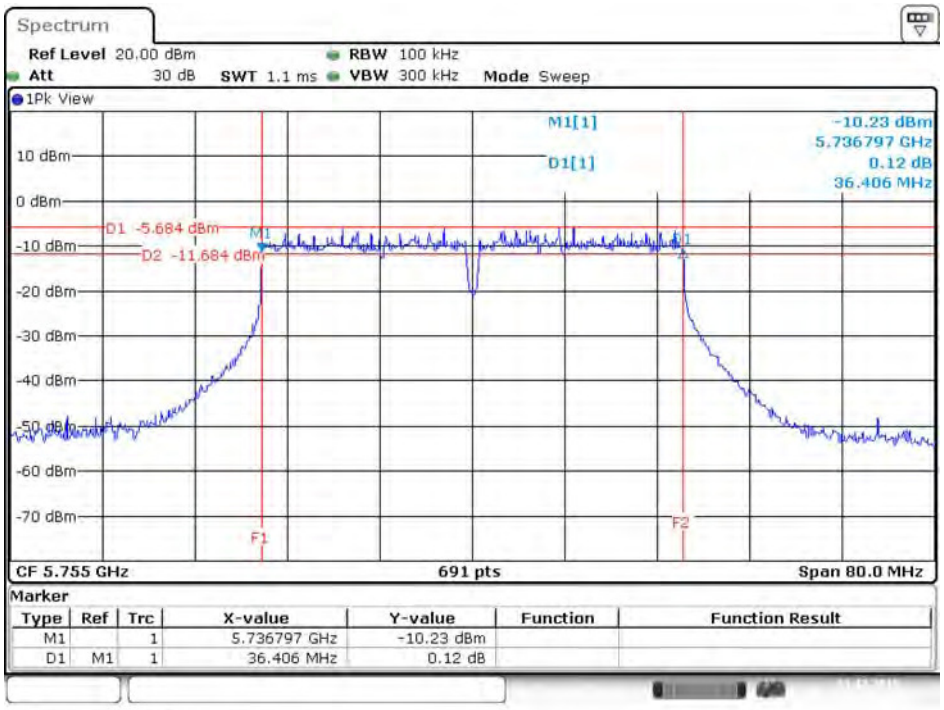
Date: 21.DEC.2015 16:01:21

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 8 / 5785 MHz



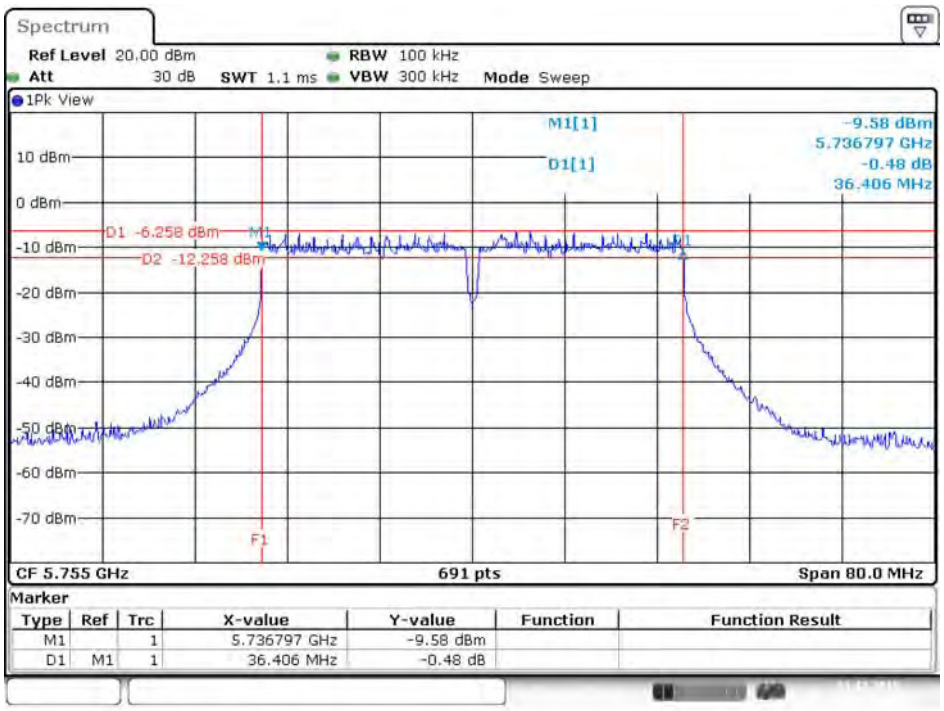
Date: 21.DEC.2015 16:03:37

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 / 5755MHz



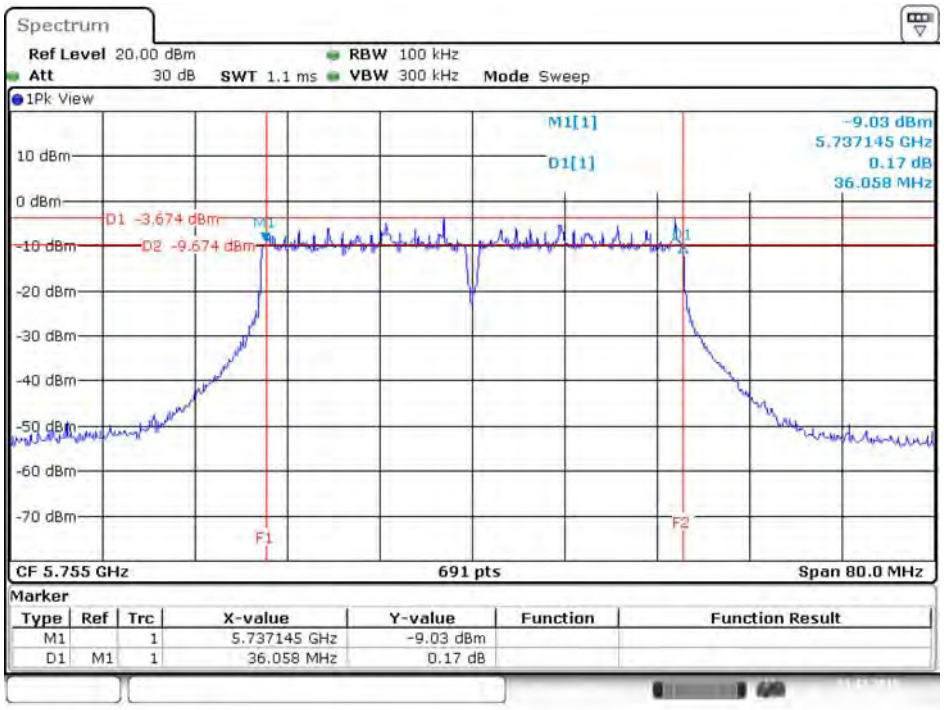
Date: 21.DEC.2015 16:09:49

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 6 / 5755MHz



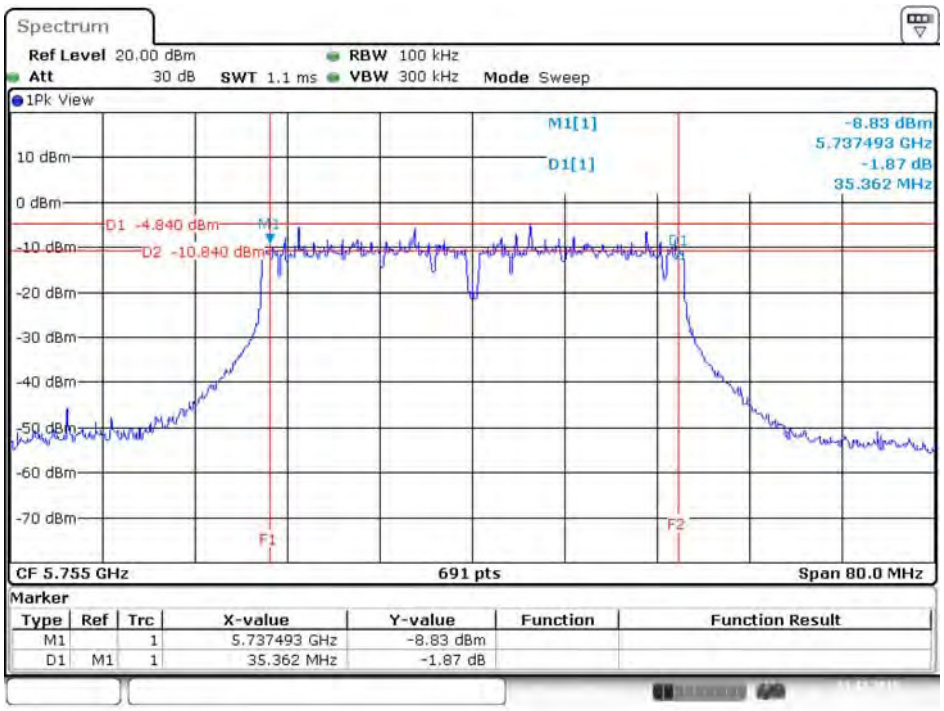
Date: 21.DEC.2015 16:10:49

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 7 / 5755MHz



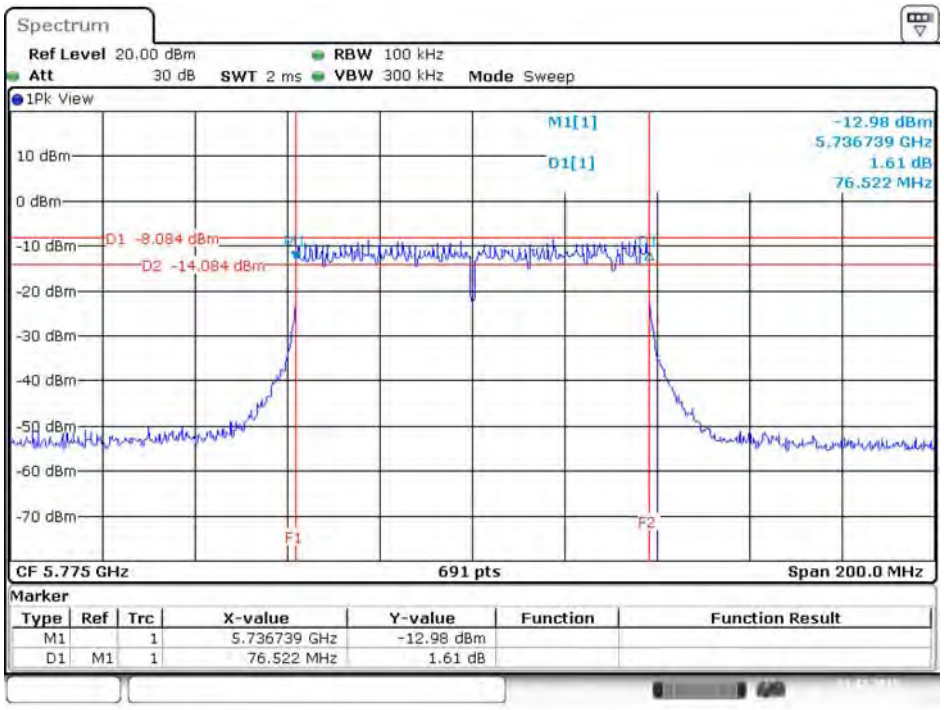
Date: 21.DEC.2015 16:11:06

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 8 / 5755MHz



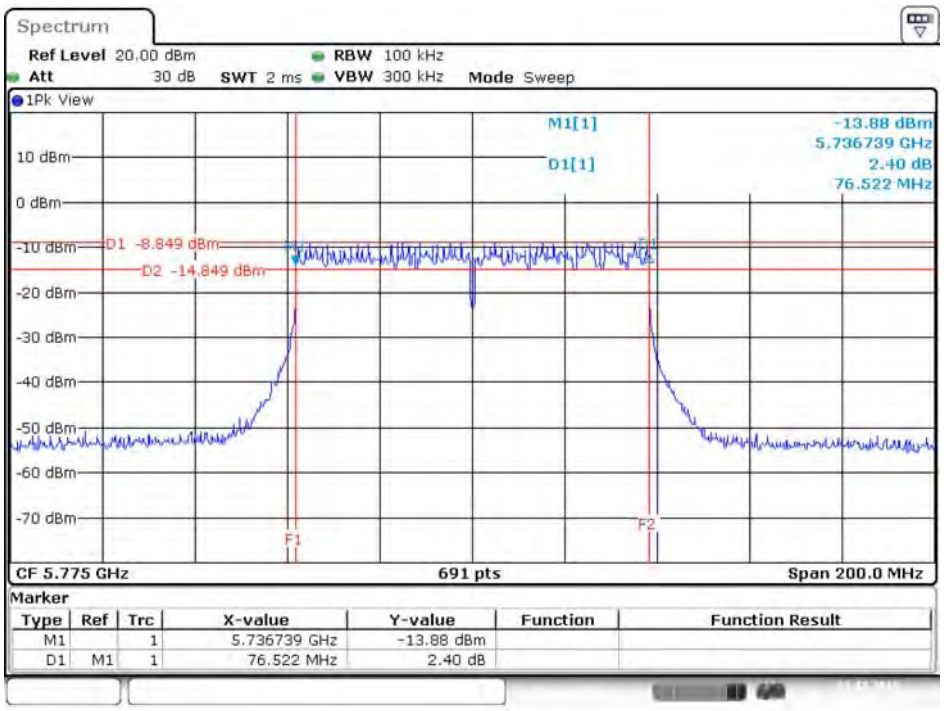
Date: 21.DEC.2015 16:11:20

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 5 / 5775 MHz



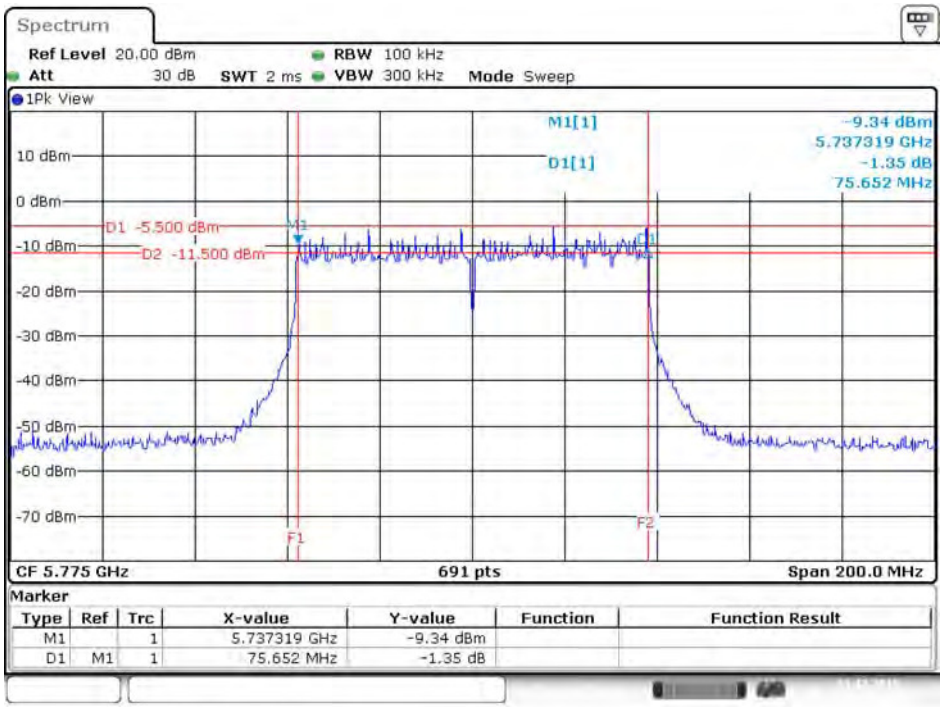
Date: 21.DEC.2015 16:15:40

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 6 / 5775 MHz



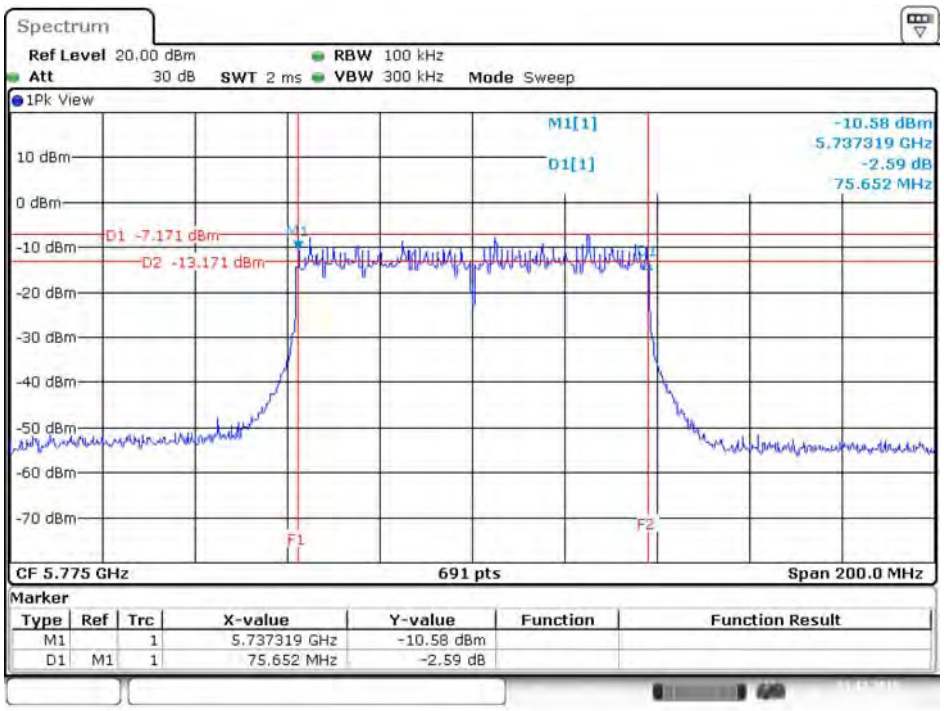
Date: 21.DEC.2015 16:16:44

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 7 / 5775 MHz



Date: 21.DEC.2015 16:17:03

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 8 / 5775 MHz

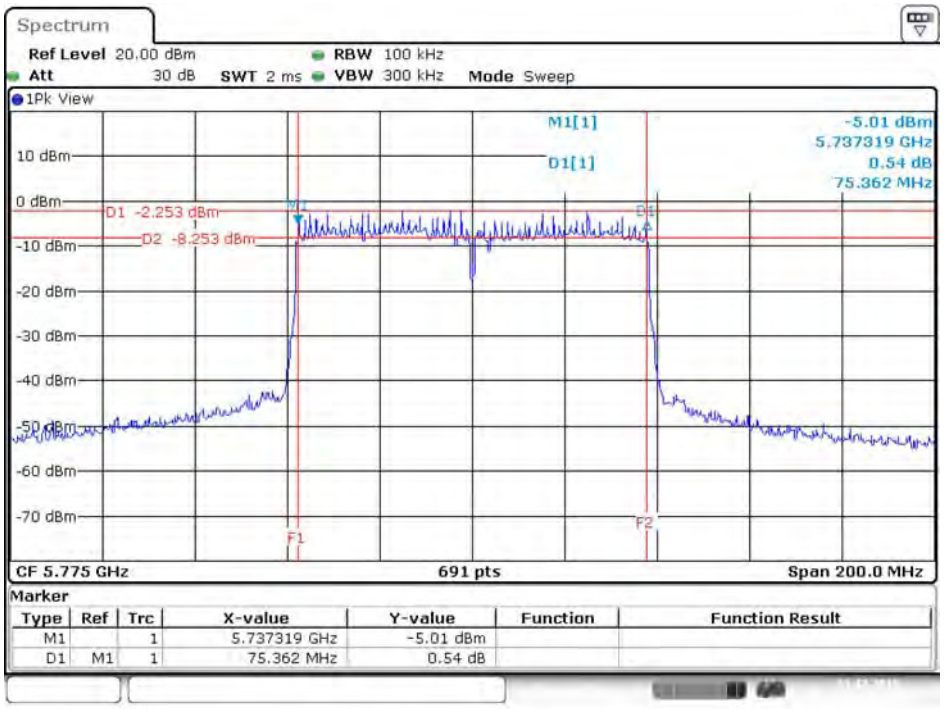


Date: 21.DEC.2015 16:17:56

For 802.11ac MCS0/Nss2 VHT80+80 Mode

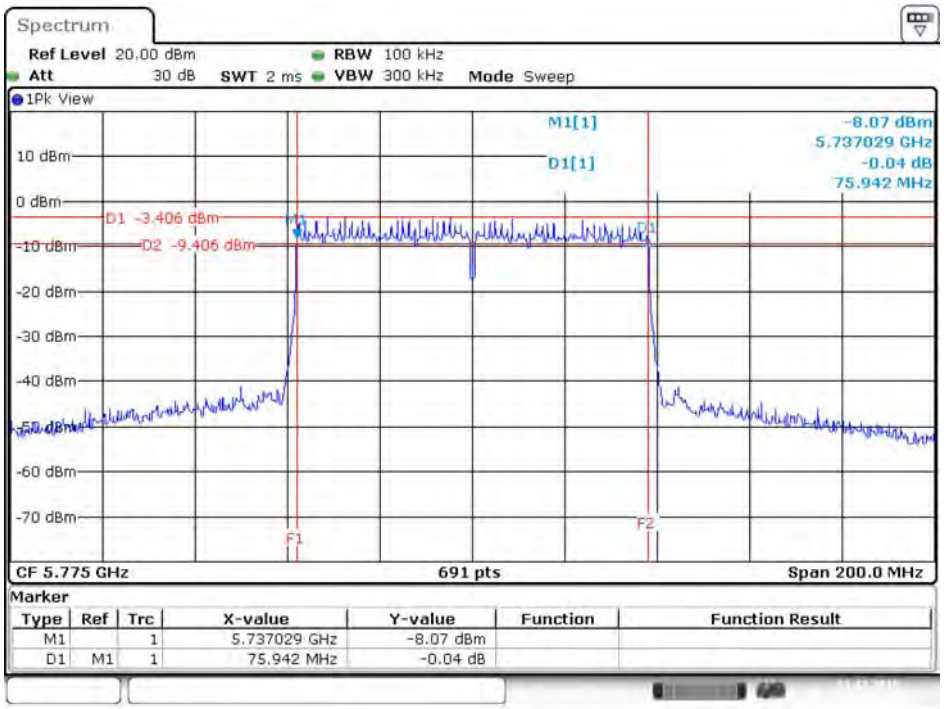
Type 1

6 dB Bandwidth Plot on Chain 7 / 5775 MHz



Date: 21.DEC.2015 23:32:31

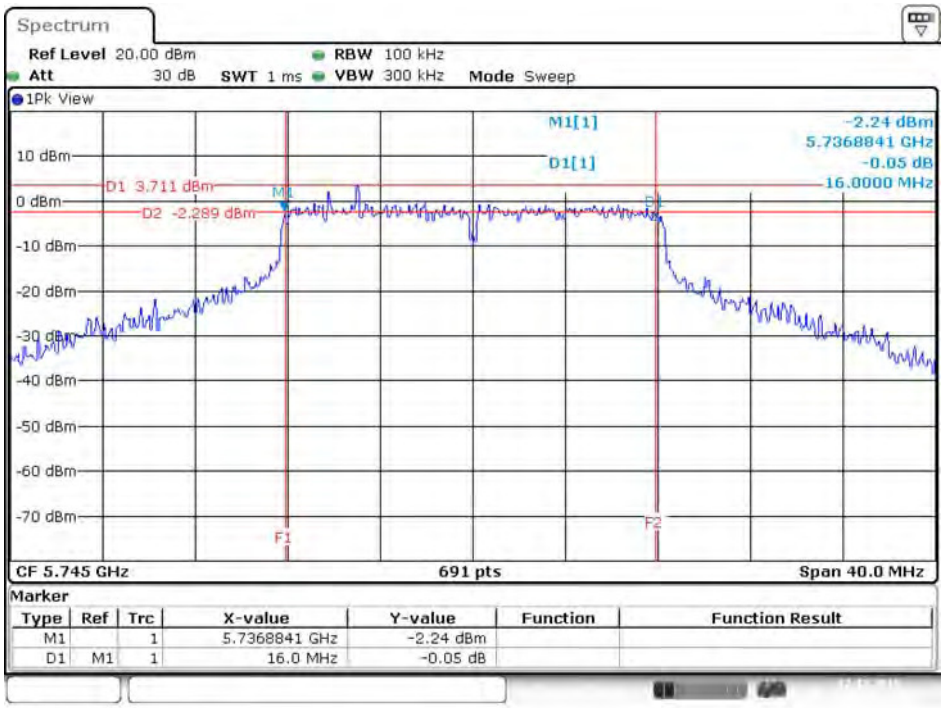
6 dB Bandwidth Plot on Chain 8 / 5775 MHz



Date: 21.DEC.2015 23:33:03

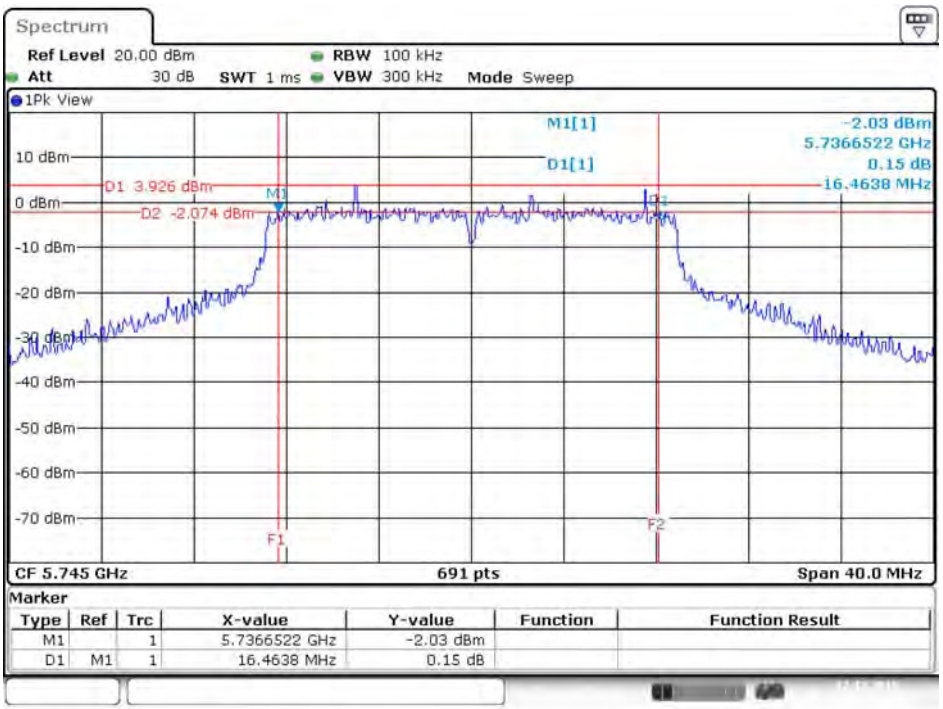
<For Radio 3 Mode>

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 9 / 5745 MHz



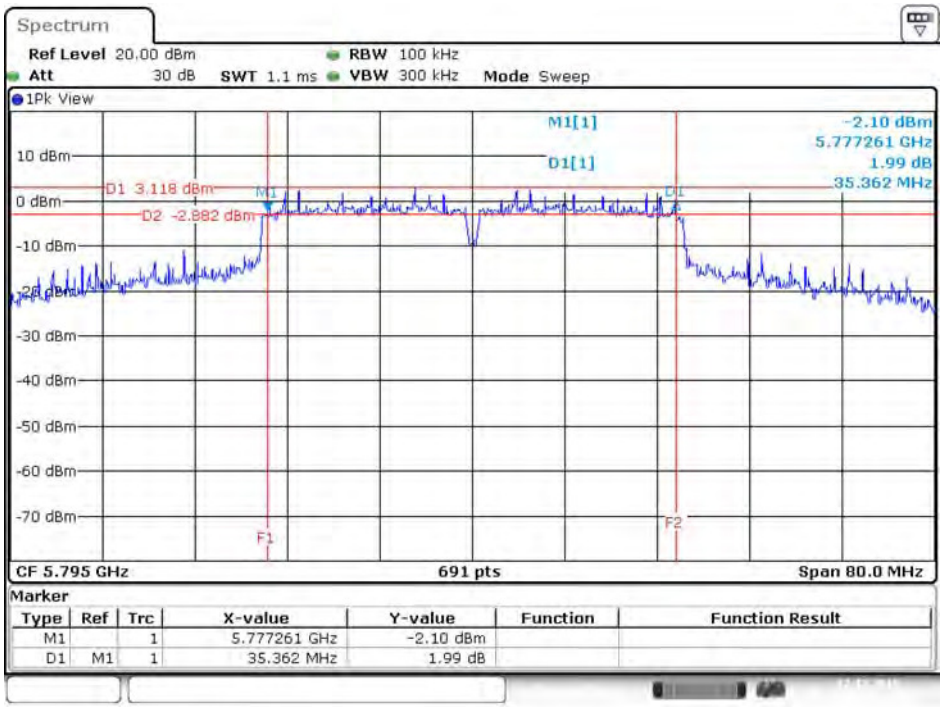
Date: 22.DEC.2015 15:15:35

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5745 MHz



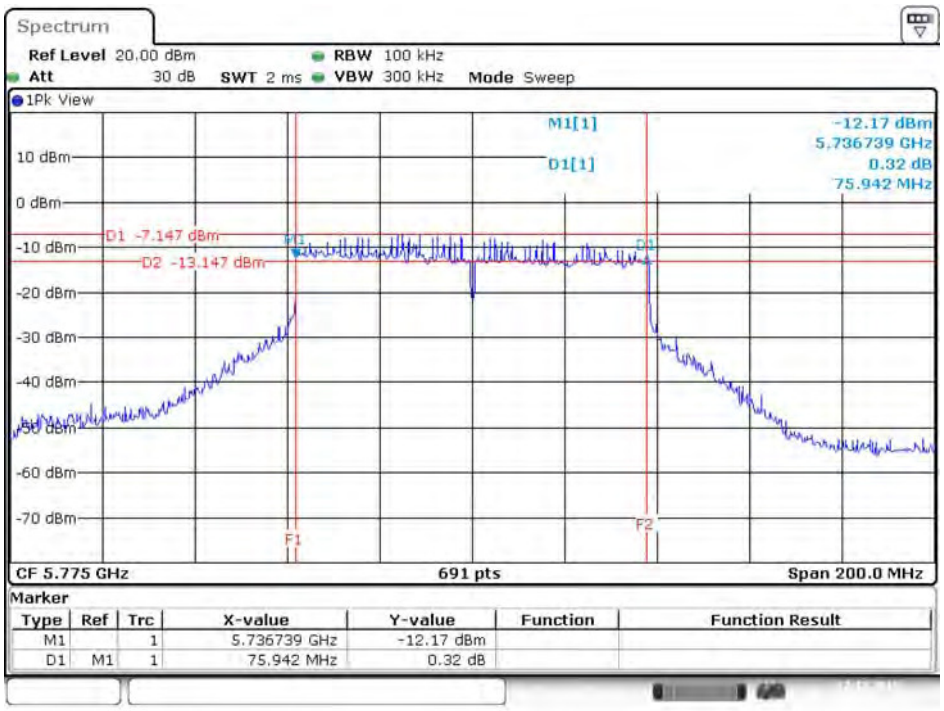
Date: 22.DEC.2015 15:14:58

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9 / 5795MHz



Date: 22.DEC.2015 15:21:14

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 9 / 5775 MHz



Date: 22.DEC.2015 15:28:43

4.4. Maximum Conducted Output Power Measurement

4.4.1. Limit

Frequency Band			Limit
☒	5.15~5.25 GHz		
	Operating Mode		
	☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
	☒	Indoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.
	☐	Fixed point-to-point access points	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
	☐	Mobile and portable client devices	The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.

☒	5.725~5.85 GHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). 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.

4.4.2. Measuring Instruments and Setting

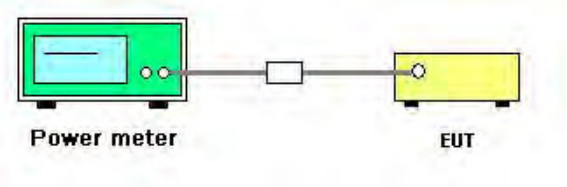
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	AVERAGE

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01r02 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of Maximum Conducted Output Power

Temperature	25°C	Humidity	45%
Test Engineer	Mars Lin	Test Date	Sep. 04, 2015 ~ Dec. 22, 2015

<For Radio 2 Non-beamforming Mode>

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11a	5180 MHz	20.17	20.76	20.58	20.34	26.49	30.00	Complies
	5200 MHz	22.44	23.56	22.96	22.82	28.98	30.00	Complies
	5240 MHz	22.80	23.62	23.25	23.03	29.21	30.00	Complies
	5745 MHz	20.38	20.47	20.72	19.92	26.40	30.00	Complies
	5785 MHz	23.82	24.18	23.92	23.35	29.85	30.00	Complies
	5825 MHz	20.78	21.18	20.87	20.49	26.86	30.00	Complies
802.11ac MCS0/Nss1 VHT20	5180 MHz	20.01	20.54	20.47	20.29	26.35	30.00	Complies
	5200 MHz	22.02	22.79	22.54	22.28	28.44	30.00	Complies
	5240 MHz	22.73	23.49	23.32	23.01	29.17	30.00	Complies
	5745 MHz	20.33	20.32	20.62	19.88	26.32	30.00	Complies
	5785 MHz	23.72	24.14	23.85	23.42	29.81	30.00	Complies
	5825 MHz	20.54	21.04	20.71	20.28	26.67	30.00	Complies
802.11ac MCS0/Nss1 VHT40	5190 MHz	18.91	19.53	19.48	19.11	25.29	30.00	Complies
	5230 MHz	21.01	21.95	21.86	21.36	27.58	30.00	Complies
	5755 MHz	18.28	18.21	18.35	17.81	24.19	30.00	Complies
	5795 MHz	20.24	20.55	19.96	19.97	26.21	30.00	Complies
802.11ac MCS0/Nss1 VHT80	5210 MHz	15.59	15.97	16.25	16.14	22.02	30.00	Complies
	5775 MHz	12.37	12.23	12.19	11.84	18.18	30.00	Complies

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss4 VHT20	5180 MHz	19.82	19.52	19.47	19.27	25.55	30.00	Complies
	5200 MHz	20.59	20.33	20.37	20.24	26.41	30.00	Complies
	5240 MHz	22.82	22.57	22.05	21.97	28.39	30.00	Complies
	5745 MHz	18.13	18.27	18.32	17.68	24.13	30.00	Complies
	5785 MHz	22.40	22.07	22.37	21.64	28.15	30.00	Complies
	5825 MHz	19.61	18.89	18.79	18.78	25.05	30.00	Complies
802.11ac MCS0/Nss4 VHT40	5190 MHz	18.19	17.96	17.53	17.62	23.85	30.00	Complies
	5230 MHz	20.61	20.21	19.68	19.78	26.11	30.00	Complies
	5755 MHz	18.02	17.75	18.18	17.39	23.87	30.00	Complies
	5795 MHz	19.53	19.07	19.37	19.23	25.32	30.00	Complies
802.11ac MCS0/Nss4 VHT80	5210 MHz	15.61	15.60	15.41	15.57	21.57	30.00	Complies
	5775 MHz	15.47	15.15	15.62	14.91	21.32	30.00	Complies

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss2 VHT80+80	5210 MHz	14.85	14.50	-	-	17.69	30.00	Complies
	5775 MHz	-	-	13.62	14.36	17.02	30.00	Complies

<For Radio 2 Beamforming Mode>

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss1 VHT20	5180 MHz	17.24	18.97	17.21	17.29	23.77	29.03	Complies
	5200 MHz	16.05	19.51	17.22	16.25	23.51	29.03	Complies
	5240 MHz	16.97	19.07	17.09	16.57	23.56	29.03	Complies
	5745 MHz	18.22	17.97	18.03	17.03	23.86	25.95	Complies
	5785 MHz	16.92	17.38	17.07	17.93	23.36	25.95	Complies
	5825 MHz	16.57	17.52	17.34	17.85	23.37	25.95	Complies
802.11ac MCS0/Nss1 VHT40	5190 MHz	14.55	15.21	14.93	15.11	20.98	29.03	Complies
	5230 MHz	18.99	19.12	18.94	18.42	24.90	29.03	Complies
	5755 MHz	15.57	16.24	16.54	15.11	21.92	25.95	Complies
	5795 MHz	18.24	18.17	17.12	18.66	24.10	25.95	Complies
802.11ac MCS0/Nss1 VHT80	5210 MHz	14.45	14.97	14.69	14.68	20.72	29.03	Complies
	5775 MHz	12.74	11.27	11.49	11.72	17.86	25.95	Complies

Note:

Band 1: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =6.97 dBi, so limit =30-(6.97-6)=29.03 dBm.

Band 4: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =10.05dBi, so limit =30-(10.05-6)=25.95 dBm.

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss2 VHT20	5180 MHz	15.90	16.37	16.66	17.20	22.58	30.00	Complies
	5200 MHz	15.94	16.82	16.91	17.23	22.77	30.00	Complies
	5240 MHz	15.96	16.85	17.43	17.17	22.91	30.00	Complies
	5745 MHz	19.35	19.05	20.34	19.51	25.61	28.84	Complies
	5785 MHz	20.07	20.13	20.33	20.42	26.26	28.84	Complies
	5825 MHz	20.32	19.30	20.56	20.73	26.28	28.84	Complies
802.11ac MCS0/Nss2 VHT40	5190 MHz	15.06	15.54	16.00	16.43	21.81	30.00	Complies
	5230 MHz	17.23	17.78	17.95	18.44	23.89	30.00	Complies
	5755 MHz	16.66	15.44	16.14	16.08	22.12	28.84	Complies
	5795 MHz	19.00	19.02	19.52	19.91	25.40	28.84	Complies
802.11ac MCS0/Nss2 VHT80	5210 MHz	14.08	14.41	14.75	14.88	20.56	30.00	Complies
	5775 MHz	12.64	12.23	12.85	12.72	18.64	28.84	Complies

Note:

Band 1: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ =4.94 dBi, <6dBi, so the limit doesn't reduce.

Band 4: $DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ =7.16 dBi, so limit =30-(7.16-6)=28.84 dBm.

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss3 VHT20	5180 MHz	16.92	17.20	17.49	17.85	23.40	30.00	Complies
	5200 MHz	16.91	17.61	17.78	18.02	23.62	30.00	Complies
	5240 MHz	16.84	17.60	18.05	18.02	23.67	30.00	Complies
	5745 MHz	13.26	12.91	13.53	13.21	19.25	30.00	Complies
	5785 MHz	20.43	20.61	20.51	21.06	26.68	30.00	Complies
	5825 MHz	15.89	15.61	16.12	16.32	22.01	30.00	Complies
802.11ac MCS0/Nss3 VHT40	5190 MHz	13.48	13.34	14.05	14.27	19.82	30.00	Complies
	5230 MHz	17.04	17.78	18.25	18.13	23.85	30.00	Complies
	5755 MHz	15.41	15.07	15.33	15.37	21.32	30.00	Complies
	5795 MHz	17.06	17.28	17.23	17.63	23.33	30.00	Complies
802.11ac MCS0/Nss3 VHT80	5210 MHz	14.24	14.74	15.01	15.28	20.85	30.00	Complies
	5775 MHz	14.25	14.05	14.37	14.27	20.26	30.00	Complies

Band 1: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =3.18 dBi, <6dBi, so the limit doesn't reduce.

Band 4: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =5.40 dBi, <6dBi, so the limit doesn't reduce.

Mode	Frequency	Conducted Power (dBm)					Max. Limit (dBm)	Result
		Chain 5	Chain 6	Chain 7	Chain 8	Total		
802.11ac MCS0/Nss2 VHT80+80	5210 MHz	17.12	17.68	-	-	20.42	30.00	Complies
	5775 MHz	-	-	18.21	18.98	21.62	28.84	Complies

Band 1: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =4.94 dBi, <6dBi, so the limit doesn't reduce.

Band 4: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =7.16 dBi, so limit =30-(7.16-6)=28.84 dBm.

<For Radio 3 Mode>

Mode	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
802.11a	5180 MHz	19.63	30.00	Complies
	5200 MHz	21.37	30.00	Complies
	5240 MHz	15.57	30.00	Complies
	5745 MHz	16.01	30.00	Complies
	5785 MHz	20.88	30.00	Complies
	5825 MHz	20.14	30.00	Complies
802.11ac MCS0/Nss1 VHT20	5180 MHz	19.02	30.00	Complies
	5200 MHz	21.78	30.00	Complies
	5240 MHz	14.95	30.00	Complies
	5745 MHz	16.15	30.00	Complies
	5785 MHz	20.59	30.00	Complies
	5825 MHz	18.45	30.00	Complies
802.11ac MCS0/Nss1 VHT40	5190 MHz	13.93	30.00	Complies
	5230 MHz	16.91	30.00	Complies
	5755 MHz	13.95	30.00	Complies
	5795 MHz	19.41	30.00	Complies
802.11ac MCS0/Nss1 VHT80	5210 MHz	11.61	30.00	Complies
	5775 MHz	12.22	30.00	Complies

4.5. Power Spectral Density Measurement

4.5.1. Limit

The following table is power spectral density limits and decrease power density limit rule refer to section 4.4.1.

Frequency Band			Limit
☒	5.15~5.25 GHz		
	Operating Mode		
	☐	Outdoor access point	17 dBm/MHz
	☒	Indoor access point	17 dBm/MHz
	☐	Fixed point-to-point access points	17 dBm/MHz
	☐	Mobile and portable client devices	11 dBm/MHz
☒	5.725~5.85 GHz		30 dBm/500kHz

4.5.2. Measuring Instruments and Setting

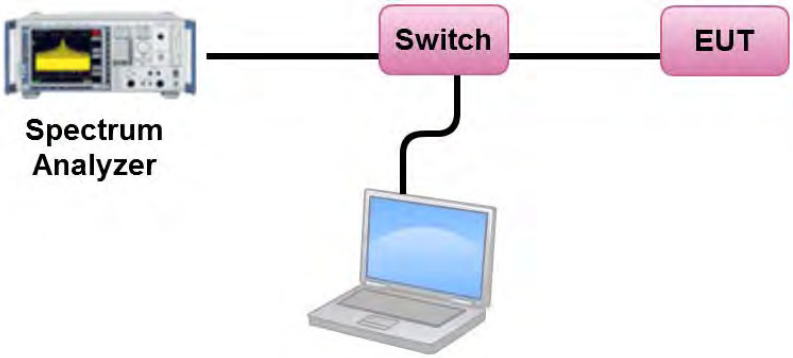
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1000 kHz
VBW	3000 kHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times
Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.	

4.5.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01r02 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs.
4. When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.
5. For 5.725~5.85 GHz, the measured result of PSD level must add 10log(500kHz/RBW) and the final result should ≤ 30 dBm.

4.5.4. Test Setup Layout



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Test Result of Power Spectral Density

Temperature	25°C	Humidity	45%
Test Engineer	Mars Lin		

<For Radio 2 Non-beamforming Mode>

Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.41	16.03	Complies
40	5200 MHz	15.98	16.03	Complies
48	5240 MHz	15.98	16.03	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =6.97 dBi, so limit =17-(6.97-6)=16.03 dBm/MHz.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	13.36	-3.01	10.35	25.95	Complies
157	5785 MHz	16.06	-3.01	13.05	25.95	Complies
165	5825 MHz	13.75	-3.01	10.74	25.95	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =10.05 dBi, so limit =30-(10.05-6)=25.95 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.28	16.03	Complies
40	5200 MHz	15.17	16.03	Complies
48	5240 MHz	15.94	16.03	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =6.97 dBi, so limit =17-(6.97-6)=16.03 dBm/MHz.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	13.19	-3.01	10.18	25.95	Complies
157	5785 MHz	16.06	-3.01	13.05	25.95	Complies
165	5825 MHz	13.62	-3.01	10.61	25.95	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =10.05 dBi, so limit =30-(10.05-6)=25.95 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	9.17	16.03	Complies
46	5230 MHz	11.52	16.03	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =6.97 dBi, so limit =17-(6.97-6)=16.03 dBm/MHz.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	8.05	-3.01	5.04	25.95	Complies
159	5795 MHz	9.98	-3.01	6.97	25.95	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =10.05 dBi, so limit =30-(10.05-6)=25.95 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	2.79	16.03	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =6.97 dBi, so limit =17-(6.97-6)=16.03 dBm/MHz.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	-0.89	-3.01	-3.90	25.95	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =10.05 dBi, so limit =30-(10.05-6)=25.95 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss4 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	12.29	17.00	Complies
40	5200 MHz	13.18	17.00	Complies
48	5240 MHz	15.23	17.00	Complies

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	11.02	-3.01	8.01	30.00	Complies
157	5785 MHz	14.93	-3.01	11.92	30.00	Complies
165	5825 MHz	11.88	-3.01	8.87	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss4 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	7.55	17.00	Complies
46	5230 MHz	9.78	17.00	Complies

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	7.79	-3.01	4.78	30.00	Complies
159	5795 MHz	9.16	-3.01	6.15	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss4 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	2.44	17.00	Complies

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	2.06	-3.01	-0.95	30.00	Complies

802.11ac MCS0/Nss2 VHT80+80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-1.52	17.00	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =4.94 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	-2.07	-3.01	-5.08	28.84	Complies

Note: $DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =7.16 dBi, so limit =30-(7.16-6)=28.84 dBm/MHz.

<For Radio 2 Beamforming Mode>

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	10.70	16.03	Complies
40	5200 MHz	10.48	16.03	Complies
48	5240 MHz	10.47	16.03	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =6.97 dBi, so limit =17-(6.97-6)=16.03 dBm/MHz.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	10.24	-3.01	7.23	25.95	Complies
157	5785 MHz	10.23	-3.01	7.22	25.95	Complies
165	5825 MHz	10.29	-3.01	7.28	25.95	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =10.05 dBi, so limit =30-(10.05-6)=25.95 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	4.85	16.03	Complies
46	5230 MHz	8.80	16.03	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =6.97 dBi, so limit =17-(6.97-6)=16.03 dBm/MHz.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	5.85	-3.01	2.84	25.95	Complies
159	5795 MHz	7.99	-3.01	4.98	25.95	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =10.05 dBi, so limit =30-(10.05-6)=25.95 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	1.66	16.03	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =6.97 dBi, so limit =17-(6.97-6)=16.03 dBm/MHz.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	-1.26	-3.01	-4.27	25.95	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =10.05 dBi, so limit =30-(10.05-6)=25.95 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	9.39	17.00	Complies
40	5200 MHz	9.56	17.00	Complies
48	5240 MHz	9.69	17.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =4.94 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	12.54	-3.01	9.53	28.84	Complies
157	5785 MHz	12.96	-3.01	9.95	28.84	Complies
165	5825 MHz	13.00	-3.01	9.99	28.84	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =7.16 dBi, so limit =30-(7.16-6)=28.84 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	5.55	17.00	Complies
46	5230 MHz	7.86	17.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =4.94 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	5.96	-3.01	2.95	28.84	Complies
159	5795 MHz	9.19	-3.01	6.18	28.84	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =7.16 dBi, so limit =30-(7.16-6)=28.84 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	1.47	17.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =4.94 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	-0.58	-3.01	-3.59	28.84	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =7.16 dBi, so limit =30-(7.16-6)=28.84 dBm/MHz.

Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	10.26	17.00	Complies
40	5200 MHz	10.51	17.00	Complies
48	5240 MHz	10.46	17.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =3.18 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	5.99	-3.01	2.98	30.00	Complies
157	5785 MHz	13.57	-3.01	10.56	30.00	Complies
165	5825 MHz	8.95	-3.01	5.94	30.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =5.40 dBi, <6dBi, so the limit doesn't reduce.

Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	3.74	17.00	Complies
46	5230 MHz	7.59	17.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =3.18 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	5.11	-3.01	2.10	30.00	Complies
159	5795 MHz	7.19	-3.01	4.18	30.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =5.40 dBi, <6dBi, so the limit doesn't reduce.

Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	1.63	17.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =3.18 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	1.12	-3.01	-1.89	30.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =5.40 dBi, <6dBi, so the limit doesn't reduce.

802.11ac MCS0/Nss2 VHT80+80 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	1.34	17.00	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =4.94 dBi, <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	1.95	-3.01	-1.06	28.84	Complies

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$ =7.16 dBi, so limit =30-(7.16-6)=28.84 dBm/MHz.

Temperature	25°C	Humidity	45%
Test Engineer	Mars Lin		

<For Radio 3 Mode>

Configuration IEEE 802.11a / Chain 9

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.57	17.00	Complies
40	5200 MHz	8.16	17.00	Complies
48	5240 MHz	2.28	17.00	Complies

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	2.80	-3.01	-0.21	30.00	Complies
157	5785 MHz	7.65	-3.01	4.64	30.00	Complies
165	5825 MHz	6.96	-3.01	3.95	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	5.96	17.00	Complies
40	5200 MHz	8.52	17.00	Complies
48	5240 MHz	1.68	17.00	Complies

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	3.14	-3.01	0.13	30.00	Complies
157	5785 MHz	7.59	-3.01	4.58	30.00	Complies
165	5825 MHz	5.38	-3.01	2.37	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	-2.12	17.00	Complies
46	5230 MHz	0.88	17.00	Complies

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	-2.75	-3.01	-5.76	30.00	Complies
159	5795 MHz	2.97	-3.01	-0.04	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 9

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-7.73	17.00	Complies

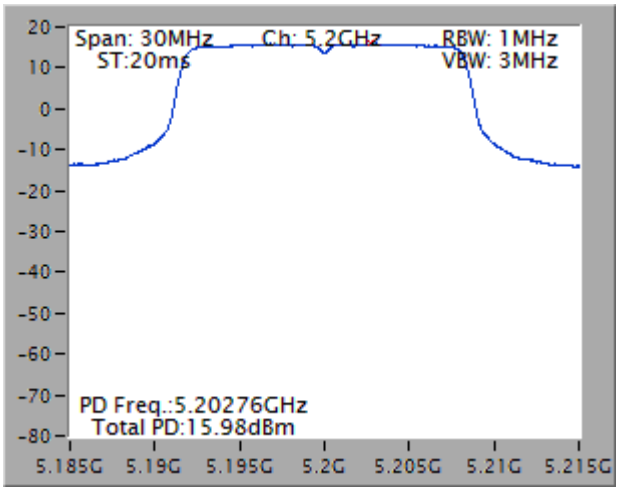
Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	-10.93	-3.01	-13.94	30.00	Complies

Note: All the test values were listed in the report.

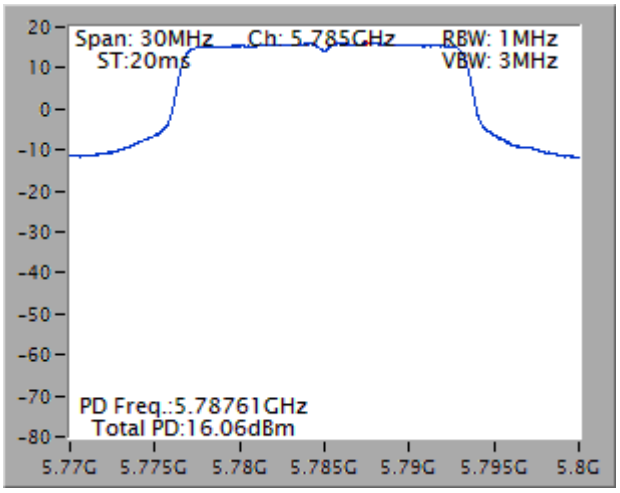
For plots, only the channel with worse result was shown.

<For Radio 2 Non-beamforming Mode>

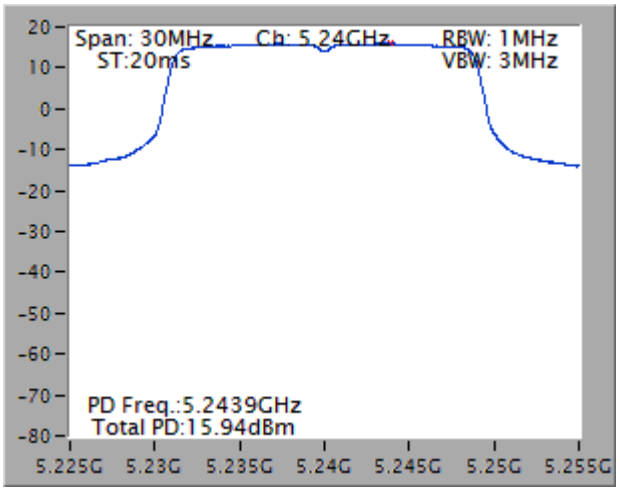
Power Density Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5200 MHz



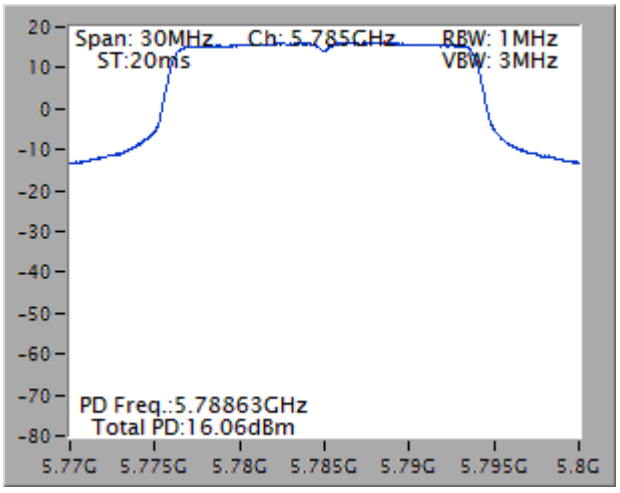
Power Density Plot on Configuration IEEE 802.11a / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5785 MHz



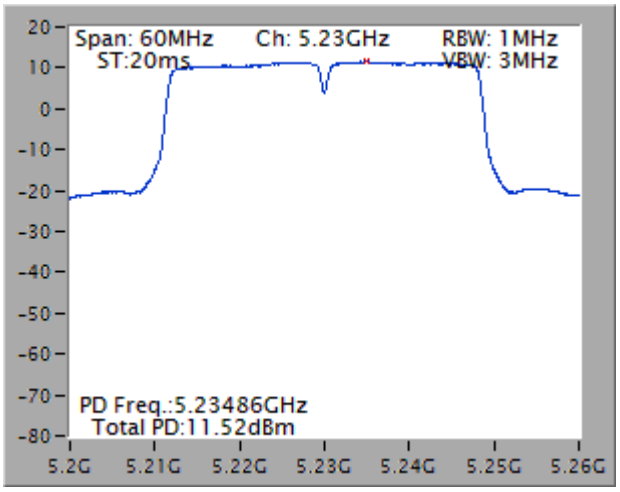
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5240 MHz



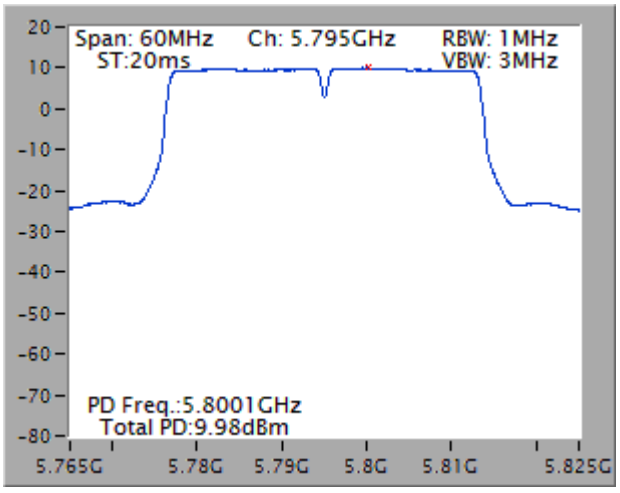
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5785 MHz



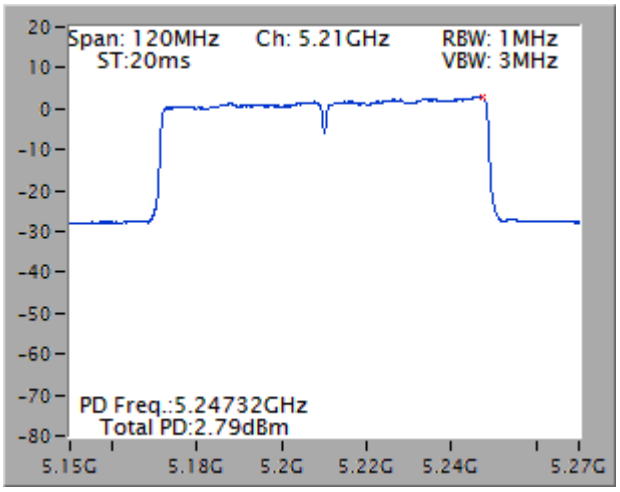
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5230 MHz



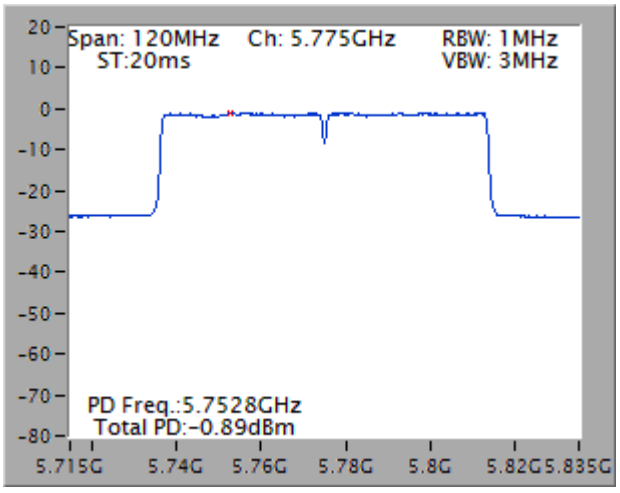
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5795 MHz



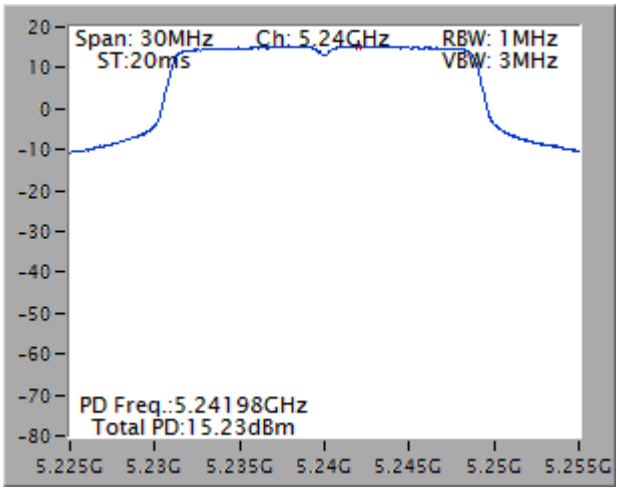
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5210 MHz



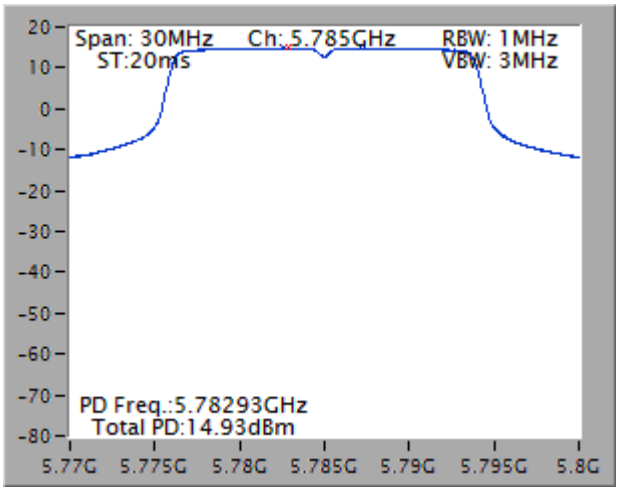
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5775 MHz



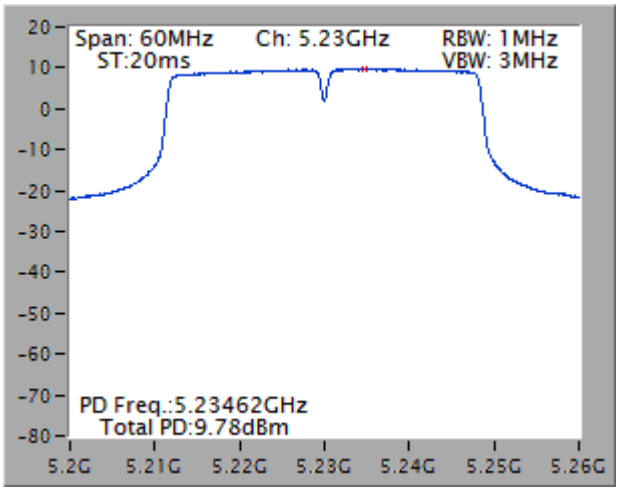
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5240 MHz



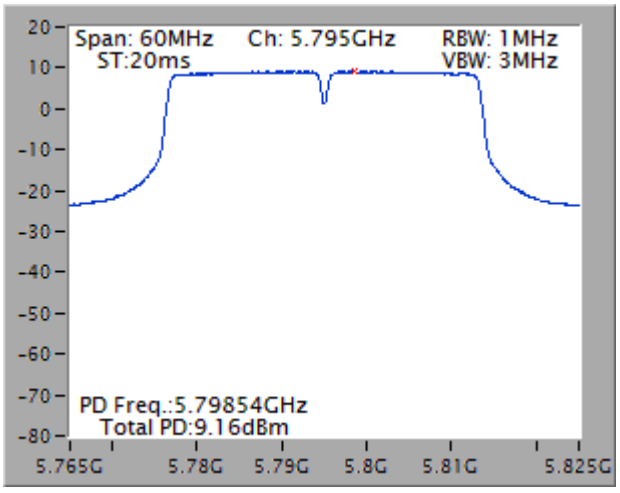
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5785 MHz



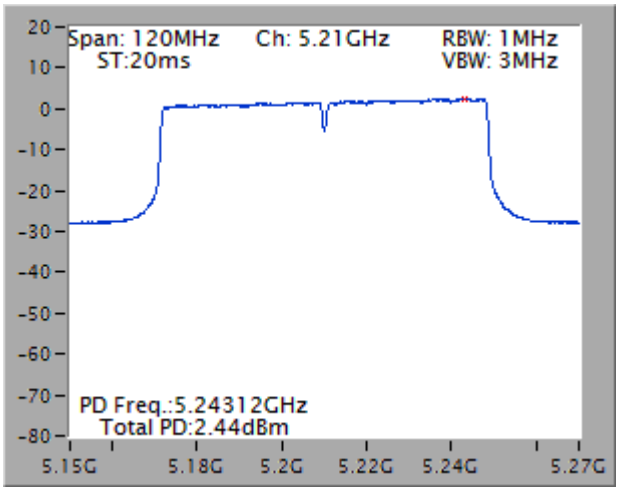
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5230 MHz



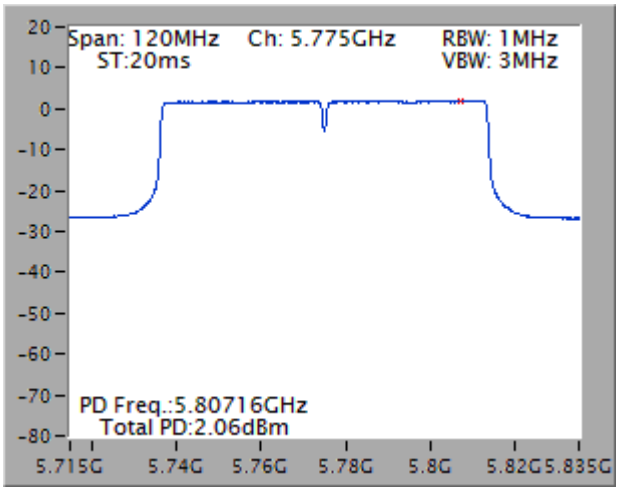
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5795 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5210 MHz



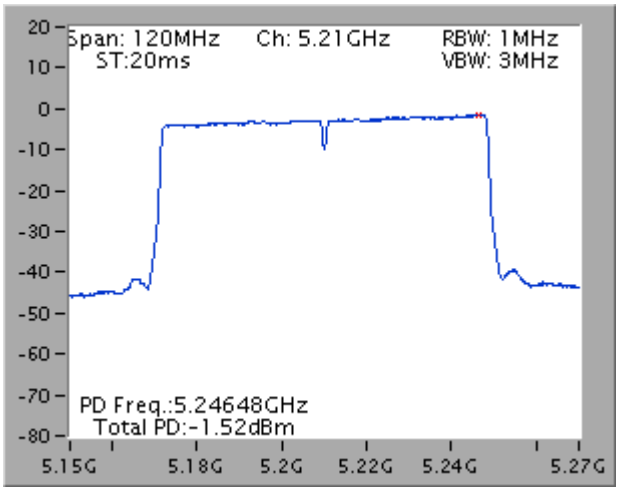
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss4 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5775 MHz



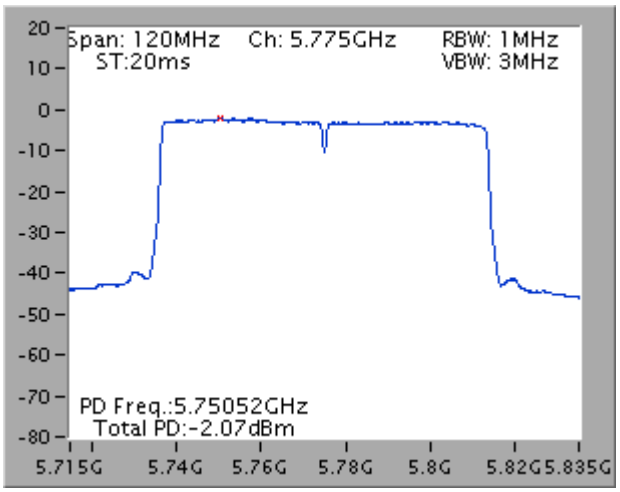
For 802.11ac MCS0/Nss2 VHT80+80 Mode

Type 1

Power Density Plot on Chain 5 + Chain 6 / 5210 MHz

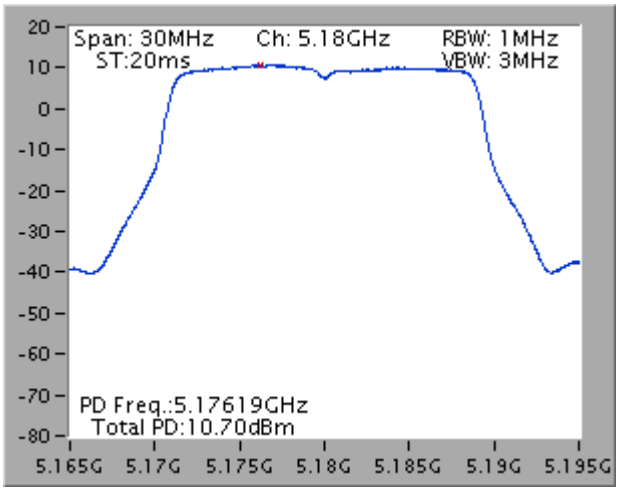


Power Density Plot on Chain 7 + Chain 8 / 5775 MHz

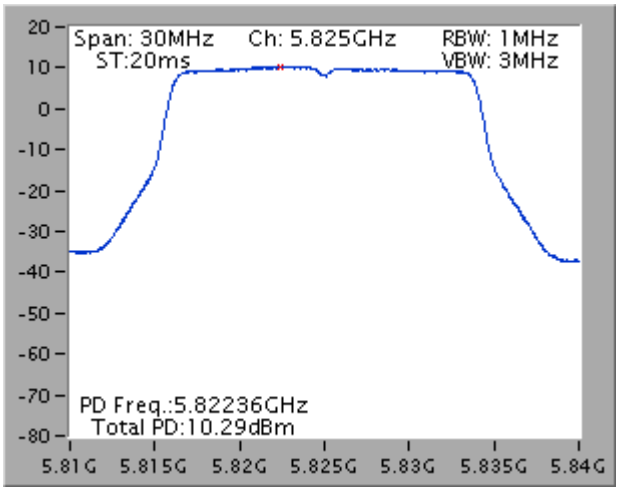


<For Radio 2 Beamforming Mode>

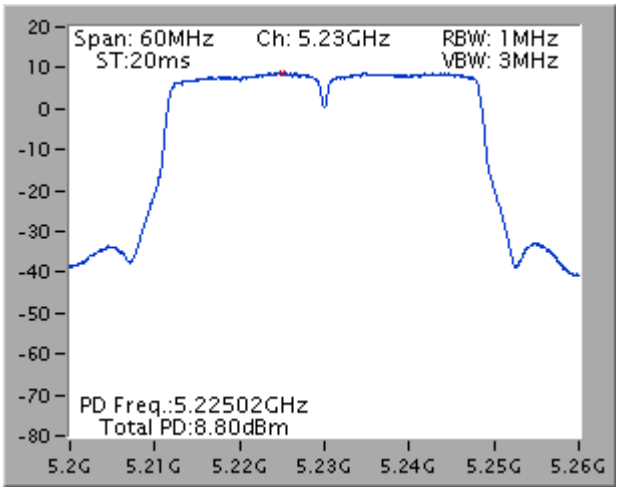
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5180 MHz



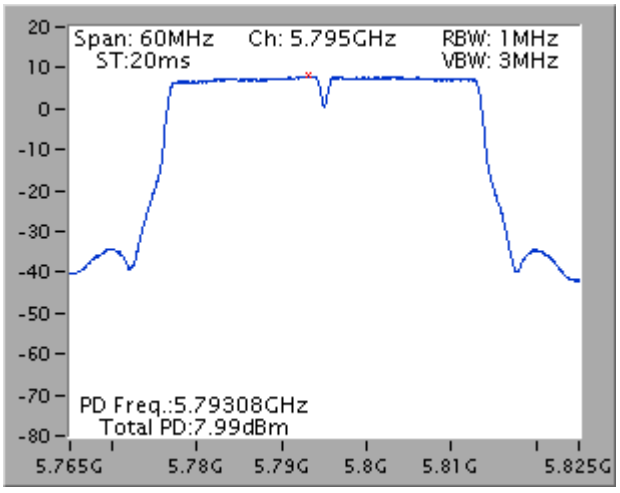
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5825 MHz



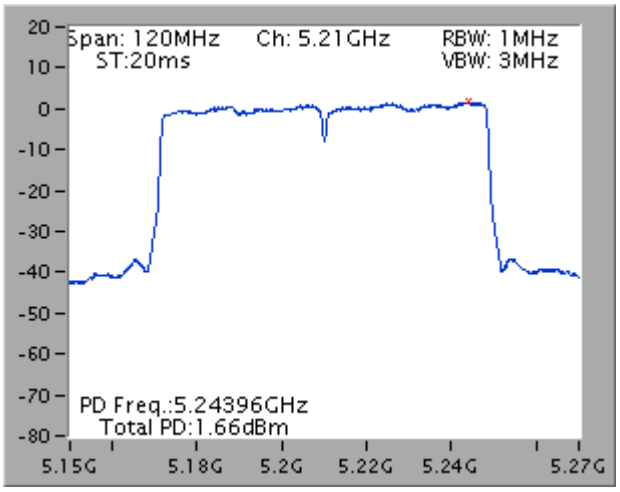
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5230 MHz



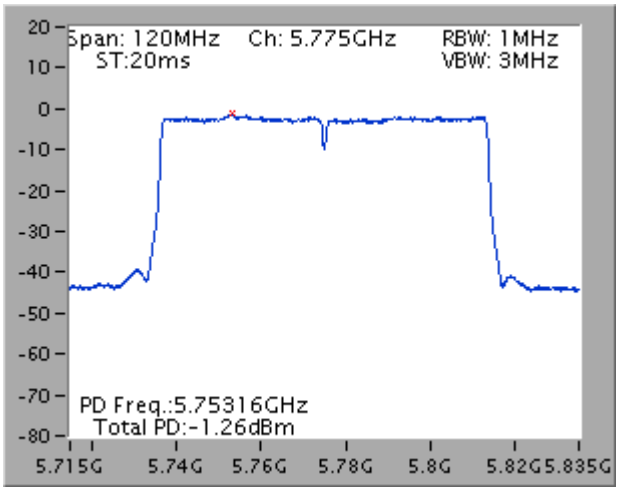
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5795 MHz



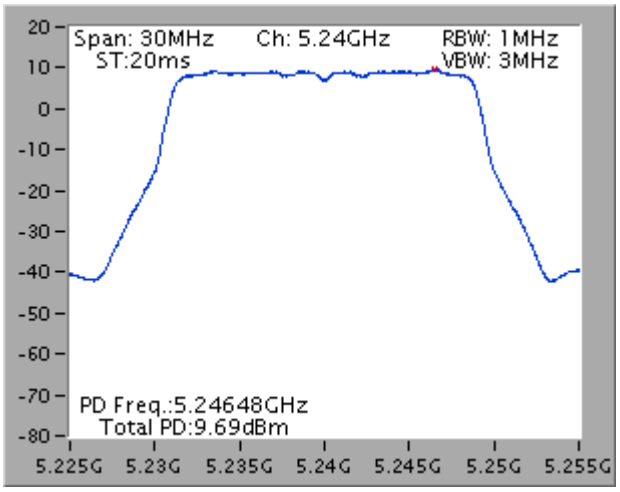
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5210 MHz



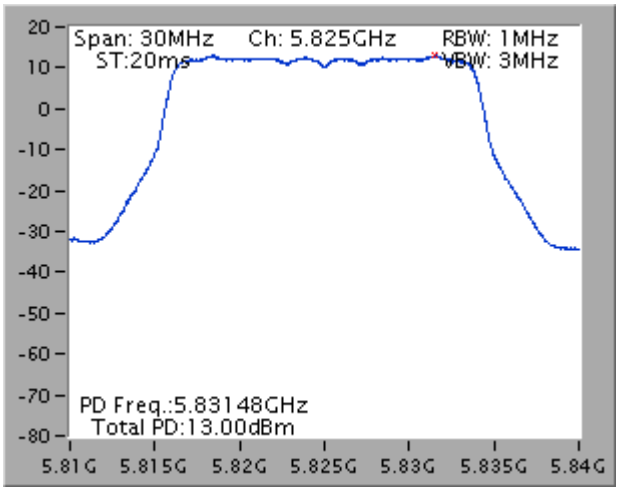
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5775 MHz



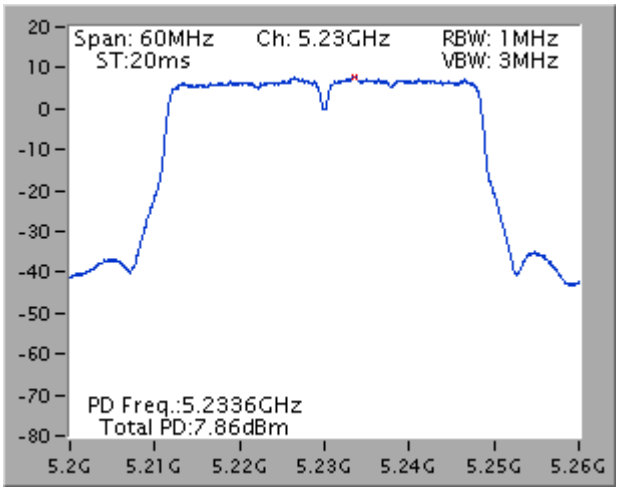
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5240 MHz



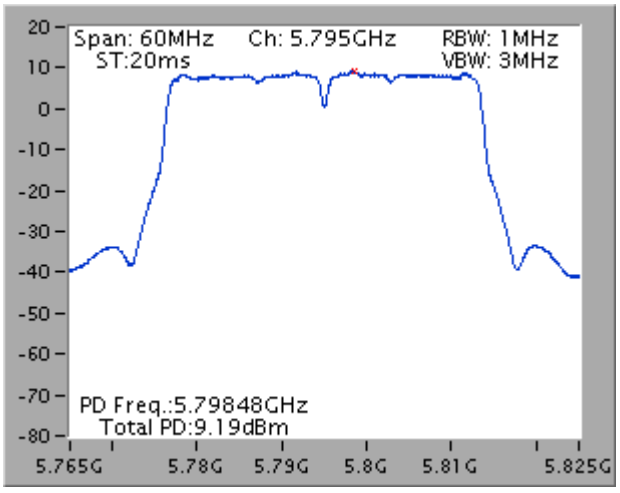
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5825 MHz



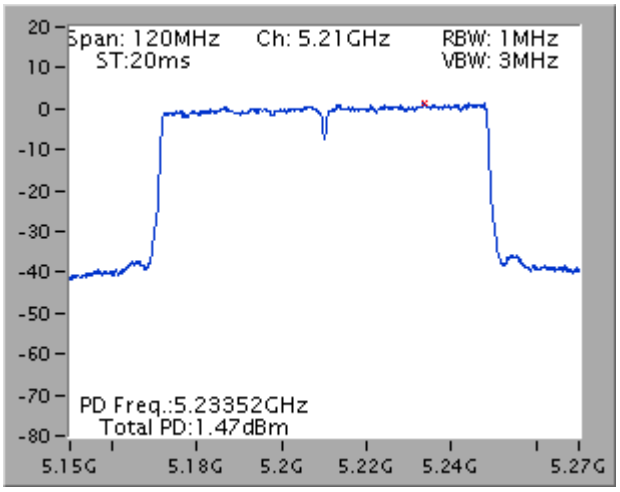
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5230 MHz



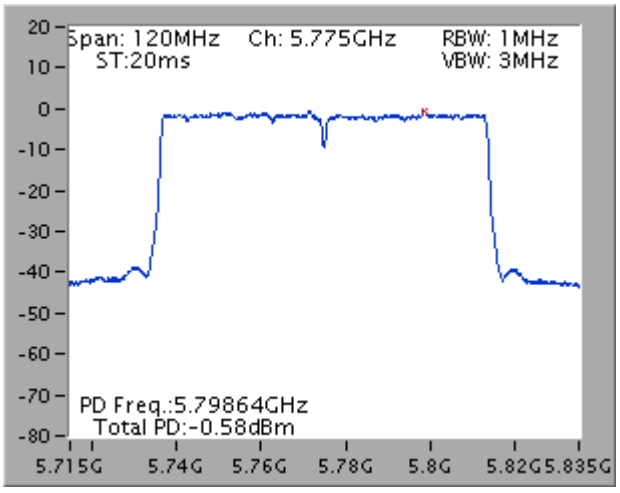
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5795 MHz



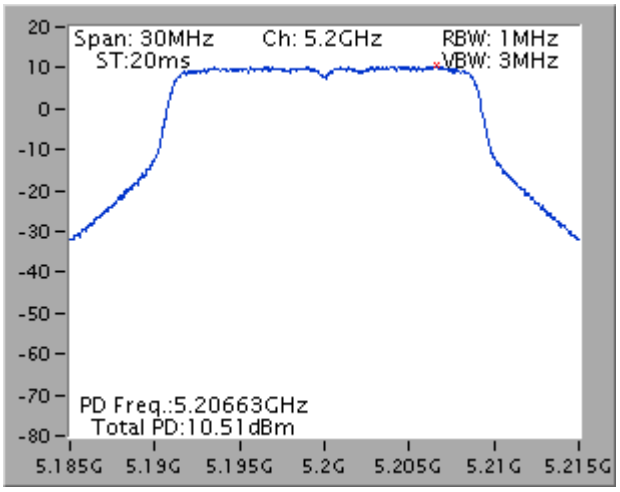
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5210 MHz



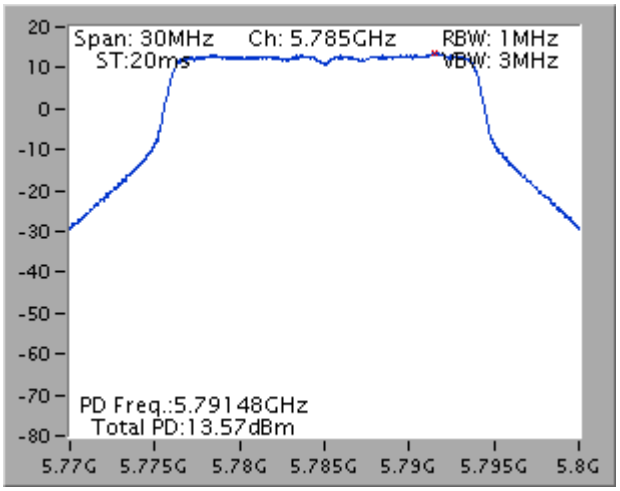
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5775 MHz



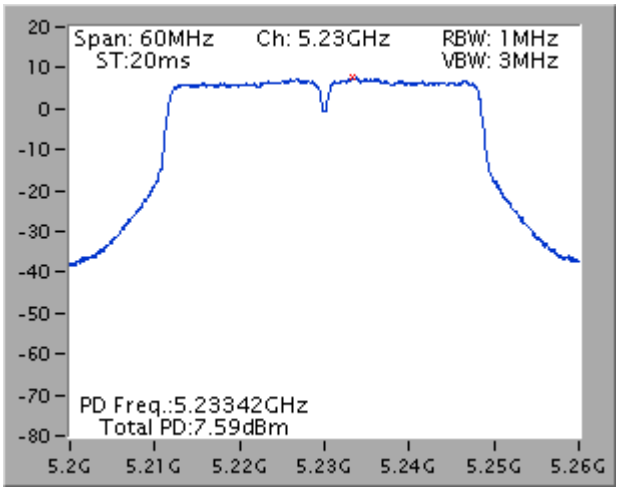
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5200 MHz



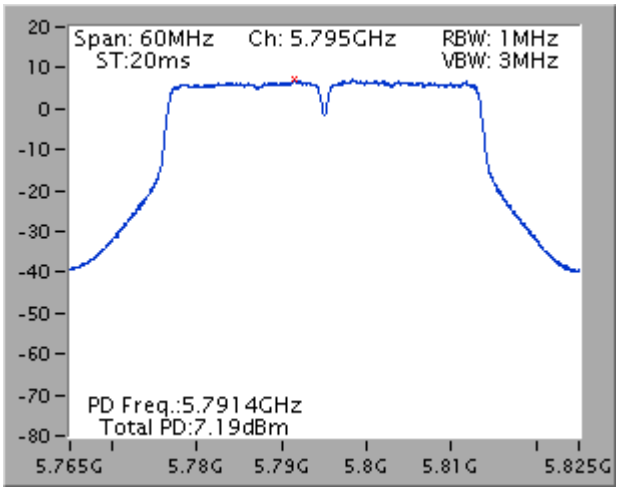
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5785 MHz



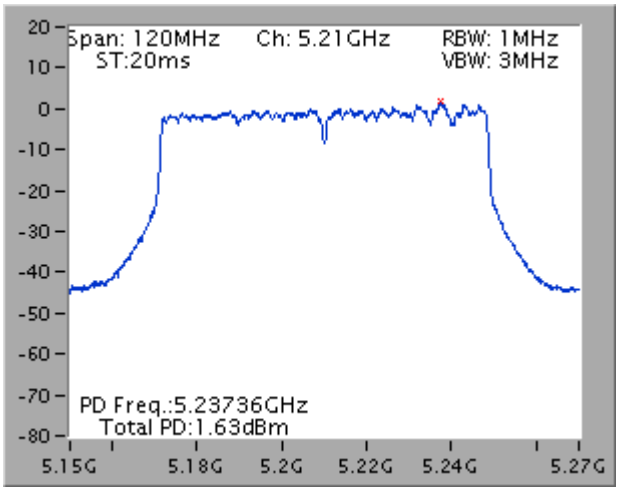
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5230 MHz



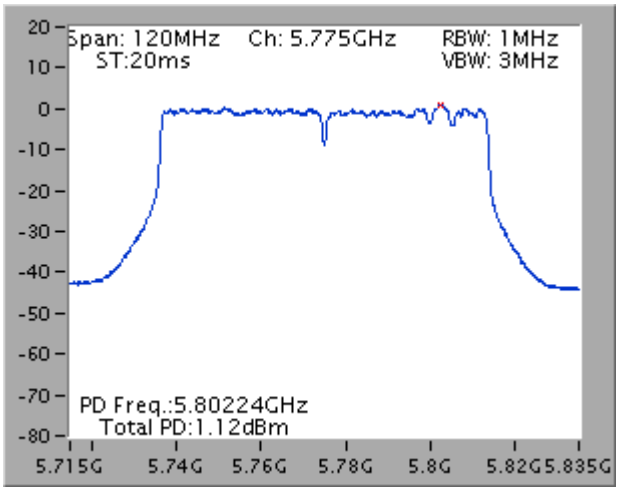
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5795 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5210 MHz



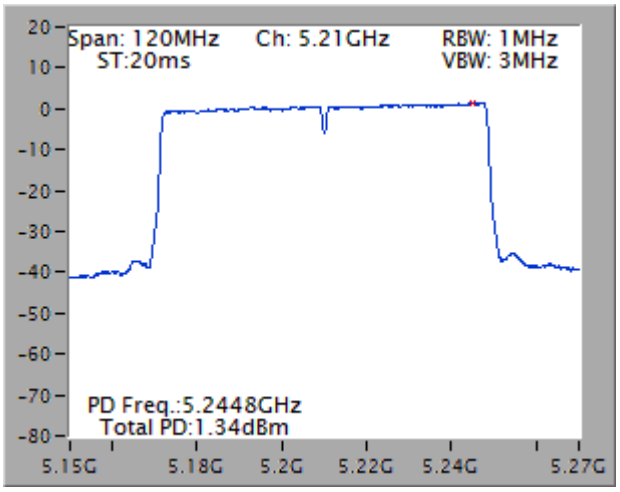
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 5 + Chain 6 + Chain 7 + Chain 8 / 5775 MHz



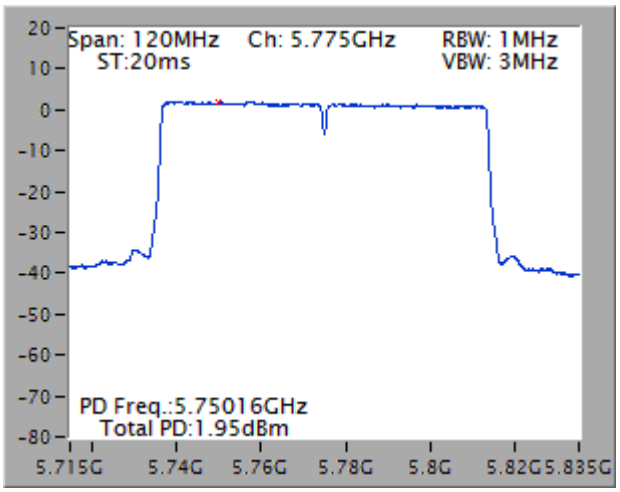
For 802.11ac MCS0/Nss2 VHT80+80 Mode

Type 1

Power Density Plot on Chain 5 + Chain 6 / 5210 MHz

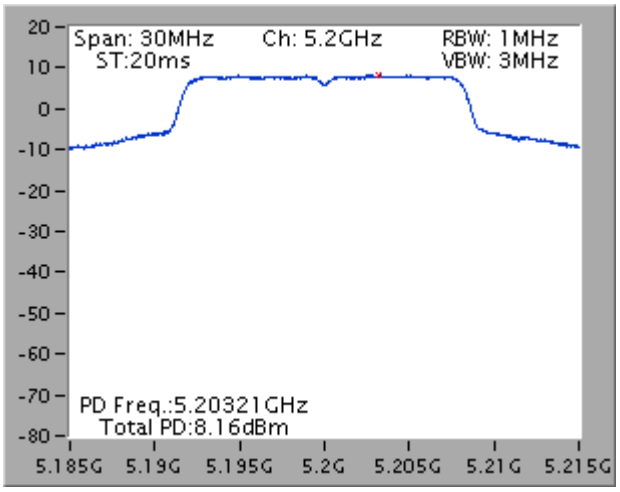


Power Density Plot on Chain 7 + Chain 8 / 5775 MHz

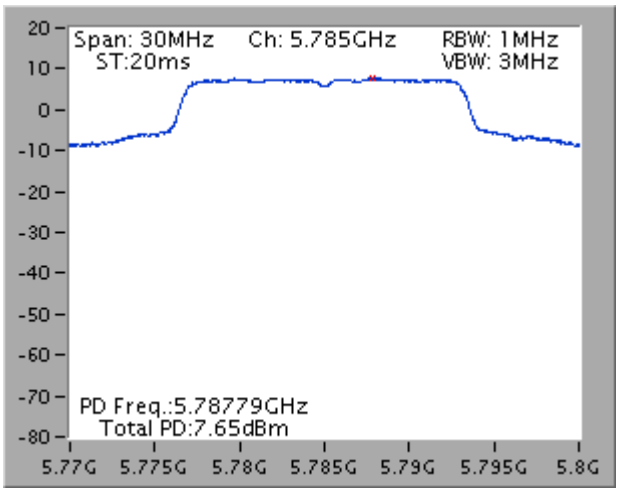


<For Radio 3 Mode>

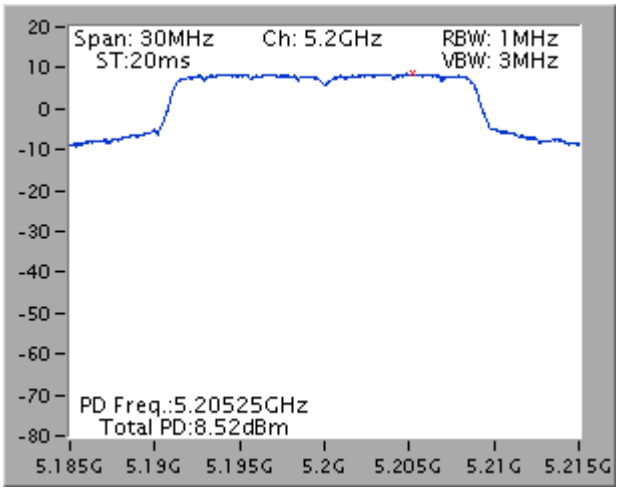
Power Density Plot on Configuration IEEE 802.11a / Chain 9 / 5200 MHz



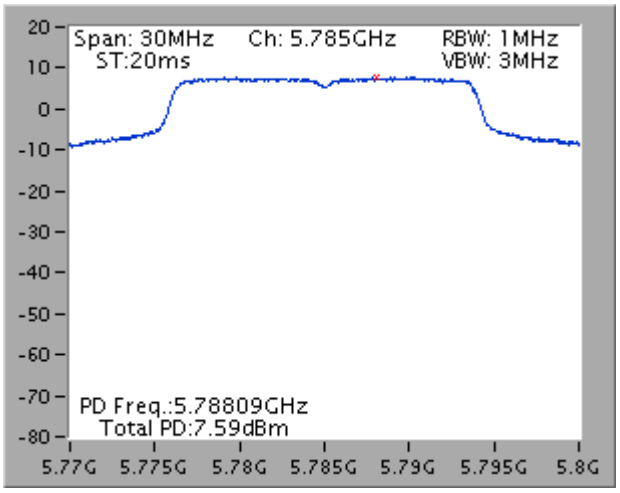
Power Density Plot on Configuration IEEE 802.11a / Chain 9 / 5785 MHz



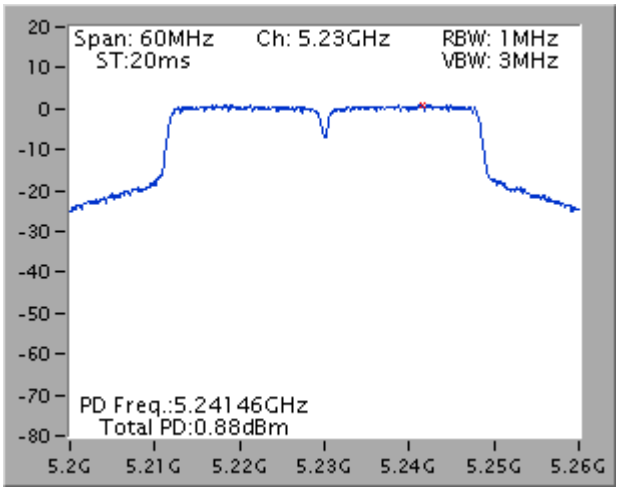
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5200 MHz



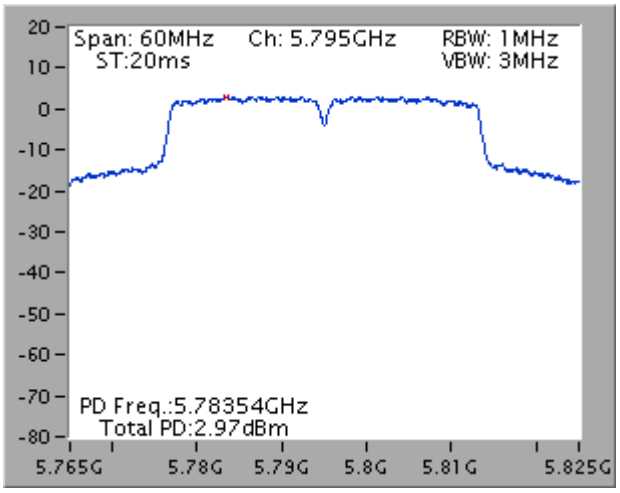
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 9 / 5785 MHz



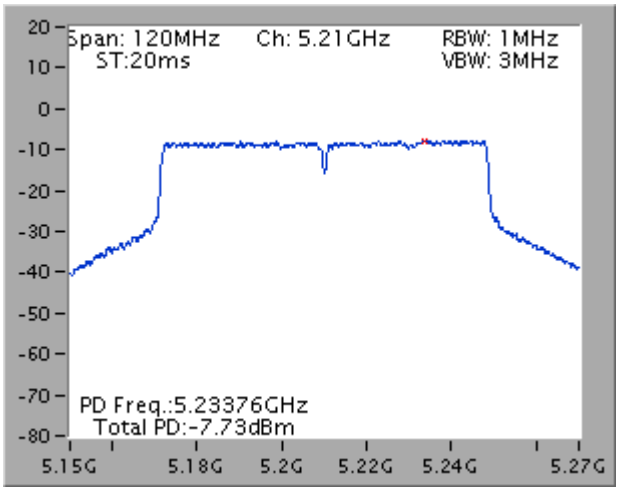
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9 / 5230 MHz



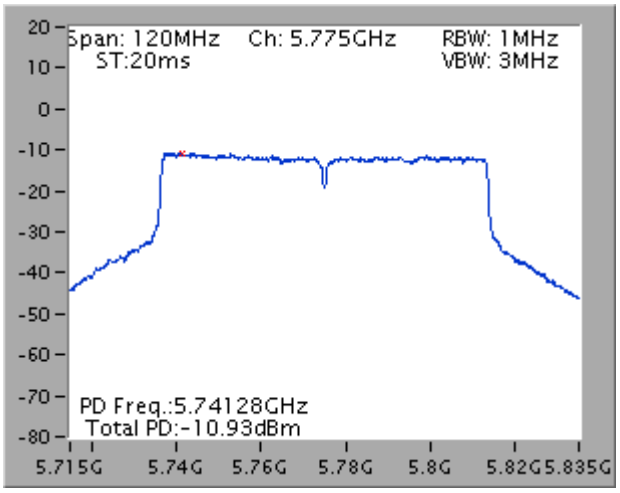
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 9 / 5795 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 9 / 5210 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 9 / 5775 MHz



4.6. Radiated Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for peak

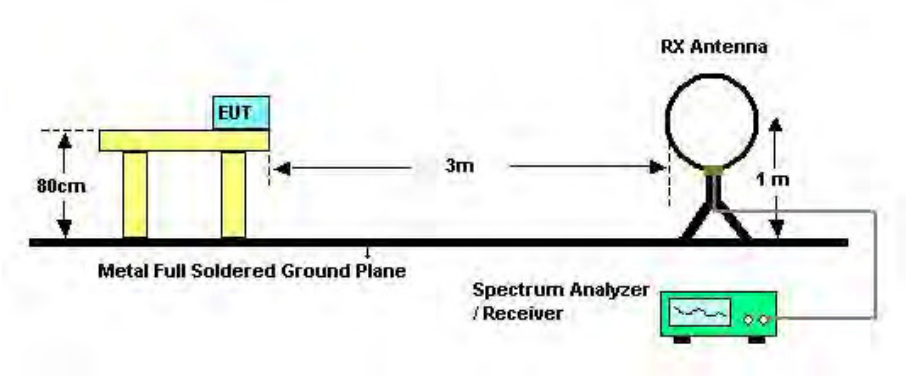
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

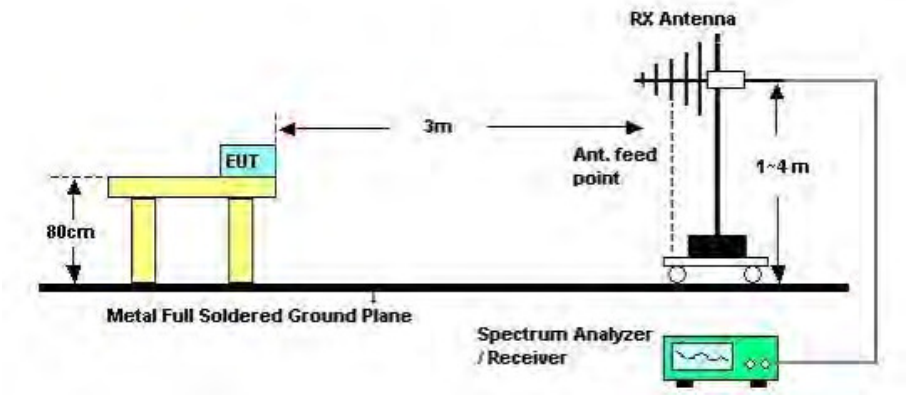
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.6.4. Test Setup Layout

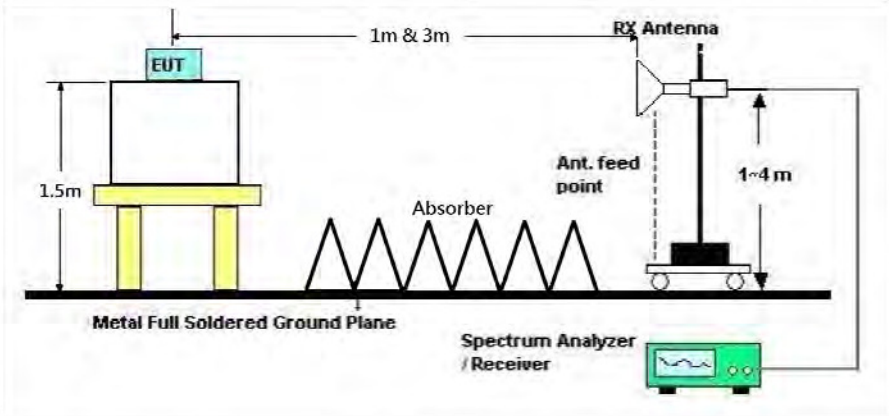
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

<For Non-beamforming mode>

The EUT was programmed to be in continuously transmitting mode.

<For Beamforming mode>

The EUT was programmed to be in beamforming transmitting mode.

4.6.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	25°C	Humidity	56%
Test Engineer	Stim Sung	Configurations	Normal Link / Mode 4
Test Date	Dec. 27, 2015		

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

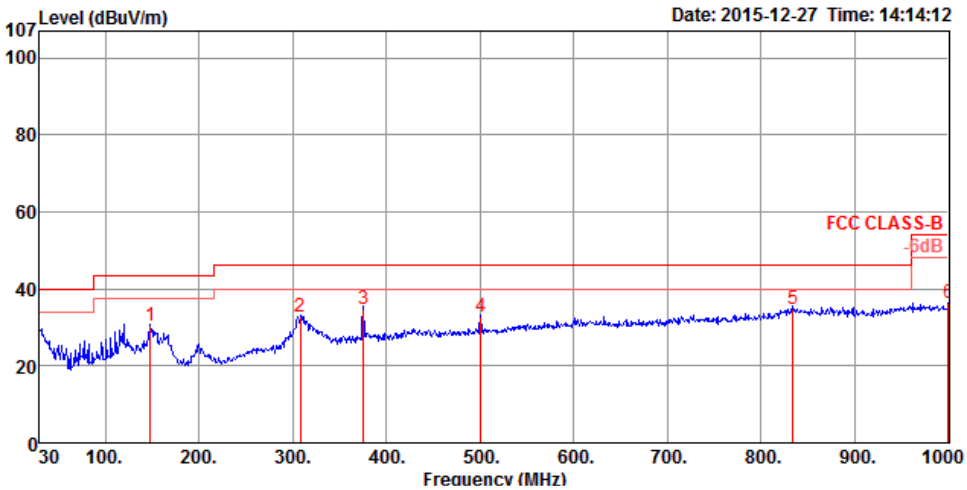
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.6.8. Results of Radiated Emissions (30MHz~1GHz)

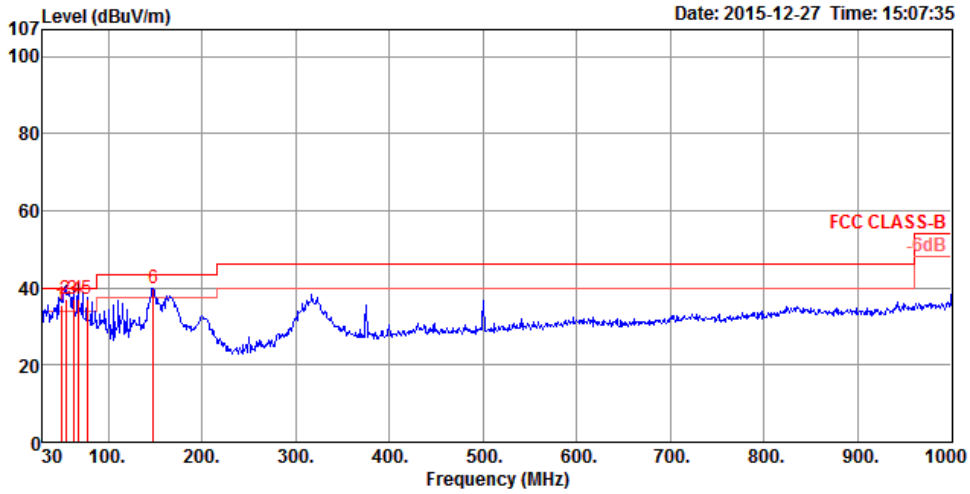
Temperature	25°C	Humidity	56%
Test Engineer	Stim Sung	Configurations	Normal Link / Mode 4

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	148.34	30.21	43.50	-13.29	49.87	1.48	32.56	11.42	HORIZONTAL	72	175	QP
2	308.39	32.73	46.00	-13.27	49.03	2.07	32.52	14.15	HORIZONTAL	211	125	QP
3	375.32	34.87	46.00	-11.13	49.24	2.24	32.54	15.93	HORIZONTAL	3	300	QP
4	500.45	32.80	46.00	-13.20	44.87	2.61	32.61	17.93	HORIZONTAL	28	125	QP
5	834.13	34.91	46.00	-11.09	42.80	3.28	32.20	21.03	HORIZONTAL	1	150	QP
6	1000.00	36.46	54.00	-17.54	41.83	3.41	30.98	22.20	HORIZONTAL	261	200	QP

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	49.40	35.34	40.00	-4.66	57.73	0.95	32.63	9.29	VERTICAL	298	100	QP
2	54.25	36.94	40.00	-3.06	60.58	0.95	32.62	8.03	VERTICAL	119	125	QP
3	62.98	36.98	40.00	-3.02	61.69	1.10	32.61	6.80	VERTICAL	354	100	QP
4	67.83	36.94	40.00	-3.06	61.64	1.10	32.60	6.80	VERTICAL	134	100	QP
5	77.53	36.92	40.00	-3.08	60.89	1.21	32.59	7.41	VERTICAL	198	100	QP
6	148.34	39.90	43.50	-3.60	59.56	1.48	32.56	11.42	VERTICAL	26	100	QP

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

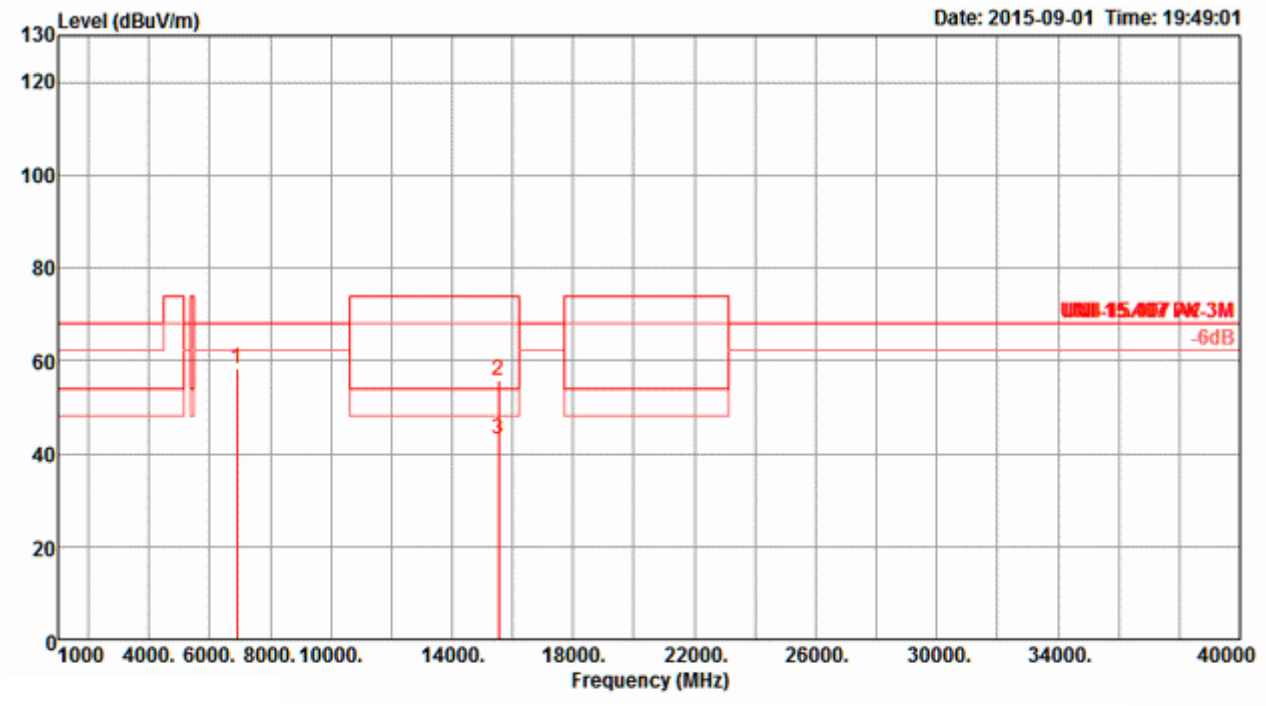
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6.9. Results for Radiated Emissions (1GHz~40GHz)

<For Radio 2 Non-beamforming Mode>

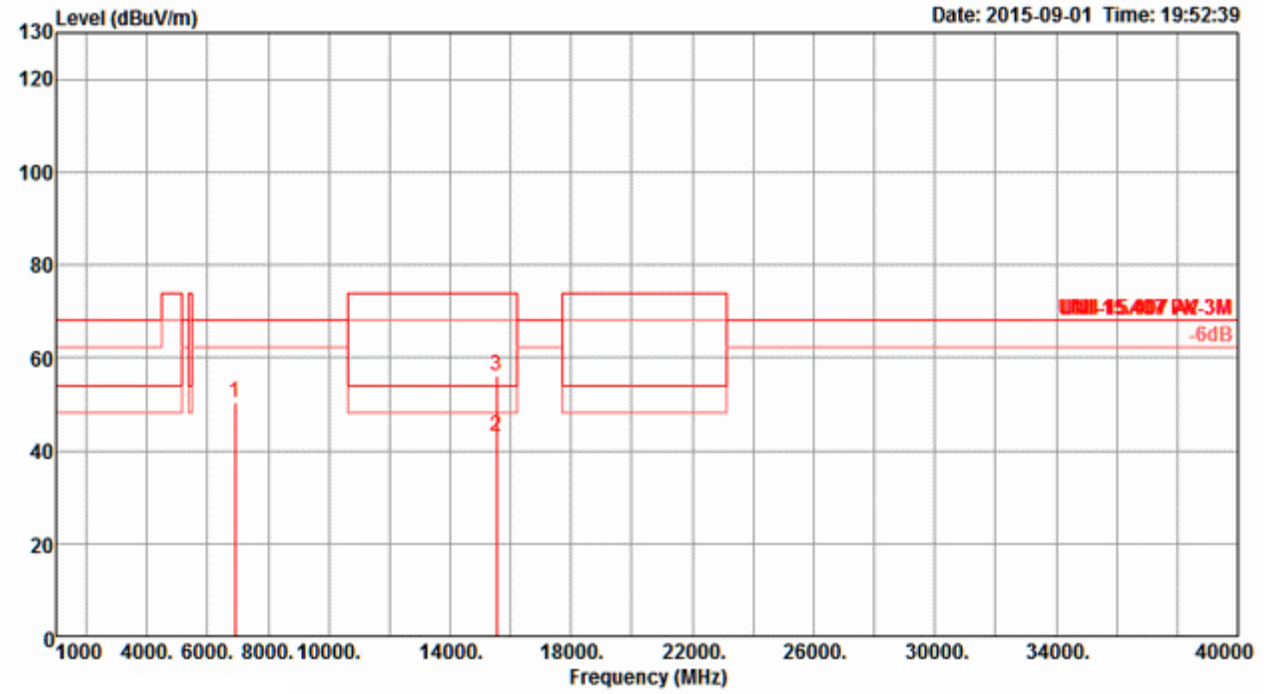
Temperature	26°C	Humidity	57%
Test Engineer	Roki Liu	Configurations	IEEE 802.11a CH 36 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	6906.70	58.26	68.20	-9.94	51.41	4.97	36.57	34.69	302	166	Peak	HORIZONTAL
2	15537.79	55.87	74.00	-18.13	44.77	7.56	38.16	34.62	270	154	Peak	HORIZONTAL
3	15539.33	43.09	54.00	-10.91	31.99	7.56	38.16	34.62	270	154	Average	HORIZONTAL

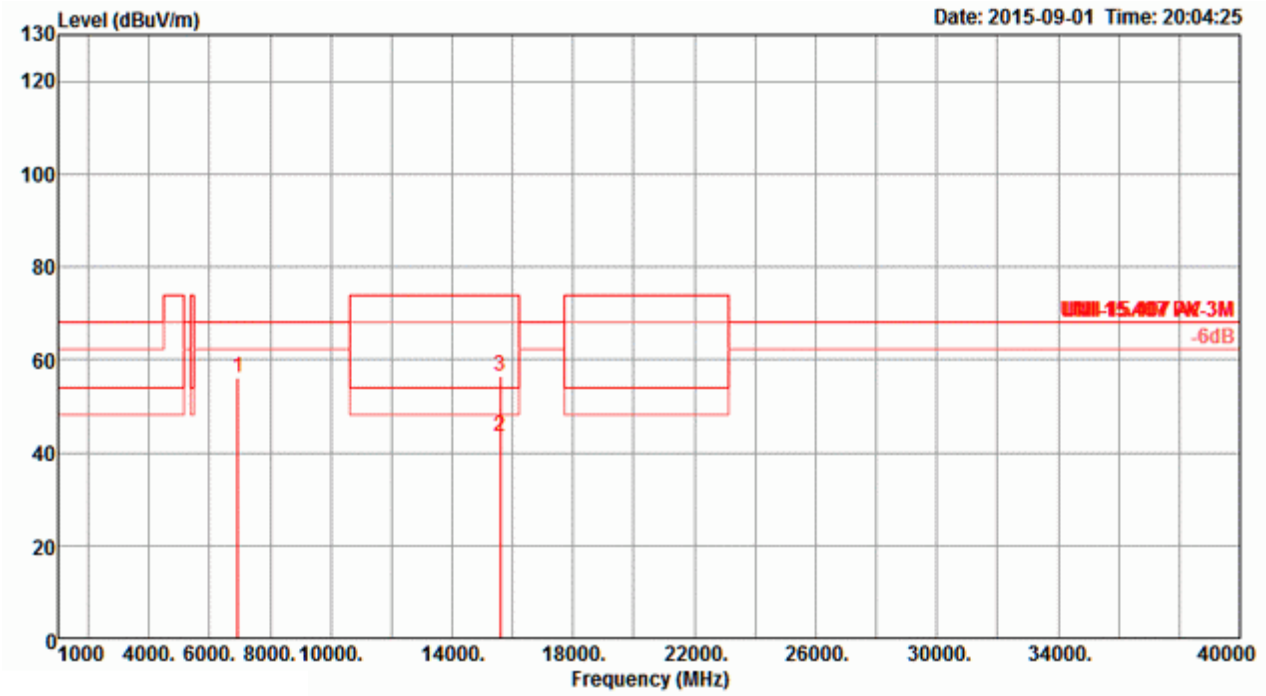
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	6906.71	50.19	68.20	-18.01	43.34	4.97	36.57	34.69	21	156	Peak	VERTICAL
2	15538.78	42.96	54.00	-11.04	31.86	7.56	38.16	34.62	40	162	Average	VERTICAL
3	15540.03	56.16	74.00	-17.84	45.06	7.56	38.16	34.62	40	162	Peak	VERTICAL

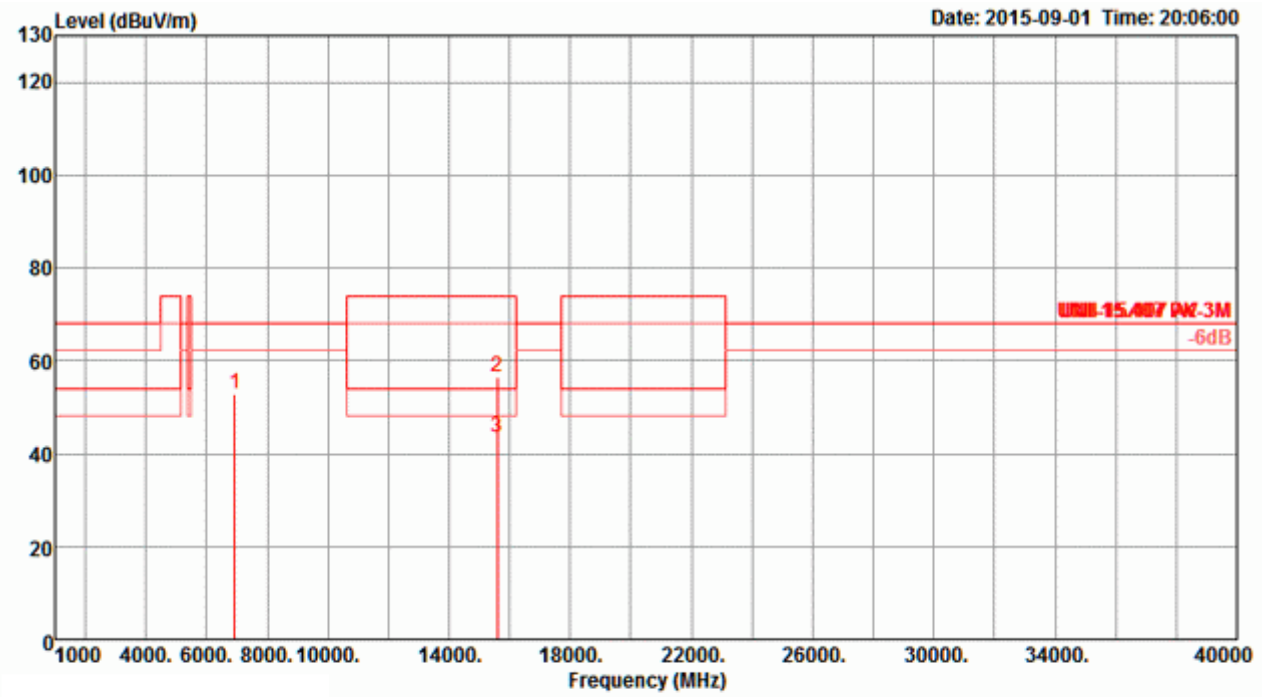
Temperature	26℃	Humidity	57%
Test Engineer	Roki Liu	Configurations	IEEE 802.11a CH 40 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	6933.32	56.01	68.20	-12.19	49.07	4.98	36.65	34.69	301	169	Peak	HORIZONTAL
2	15597.90	43.52	54.00	-10.48	32.32	7.58	38.29	34.67	248	192	Average	HORIZONTAL
3	15602.37	56.47	74.00	-17.53	45.29	7.58	38.29	34.69	248	192	Peak	HORIZONTAL

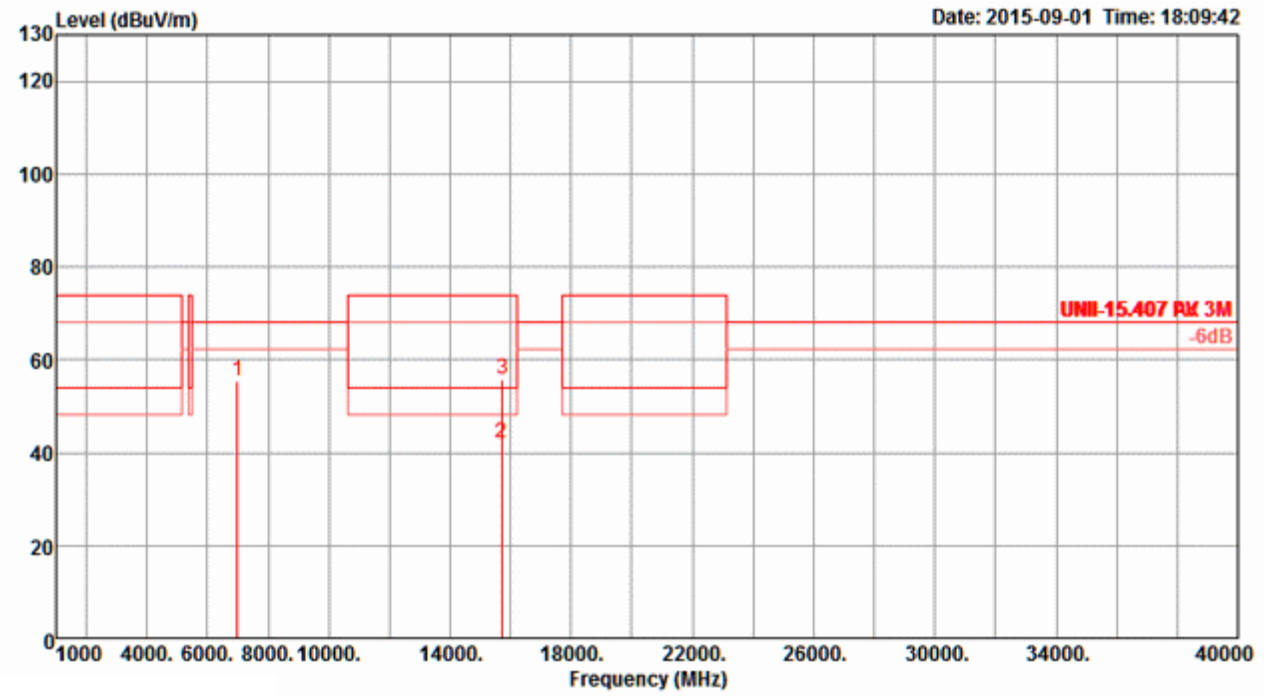
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	6933.18	52.69	68.20	-15.51	45.75	4.98	36.65	34.69	318	165	Peak	VERTICAL
2	15599.11	56.47	74.00	-17.53	45.29	7.58	38.29	34.69	216	187	Peak	VERTICAL
3	15600.13	43.59	54.00	-10.41	32.41	7.58	38.29	34.69	216	187	Average	VERTICAL

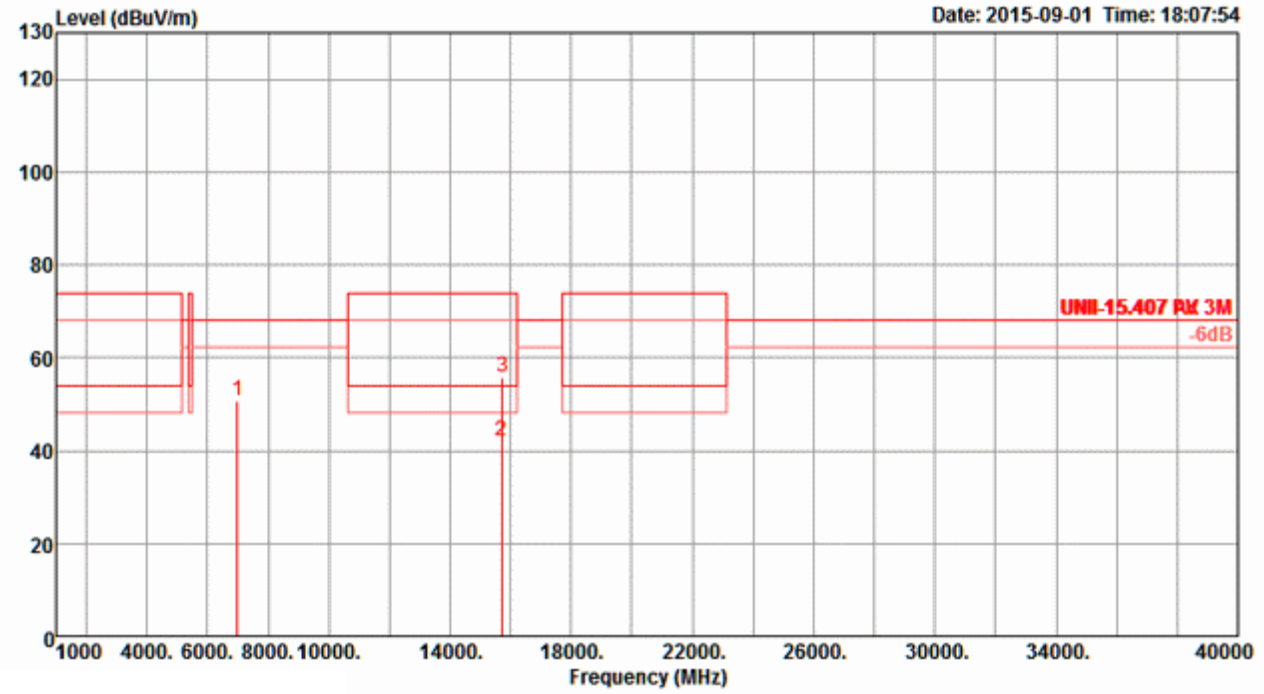
Temperature	26℃	Humidity	57%
Test Engineer	Roki Liu	Configurations	IEEE 802.11a CH 48 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	6986.78	55.24	68.20	-12.96	48.18	5.01	36.76	34.71	304	176	Peak	HORIZONTAL
2	15712.56	41.89	54.00	-12.11	30.58	7.62	38.47	34.78	53	176	Average	HORIZONTAL
3	15716.36	55.86	74.00	-18.14	44.52	7.62	38.50	34.78	53	176	Peak	HORIZONTAL

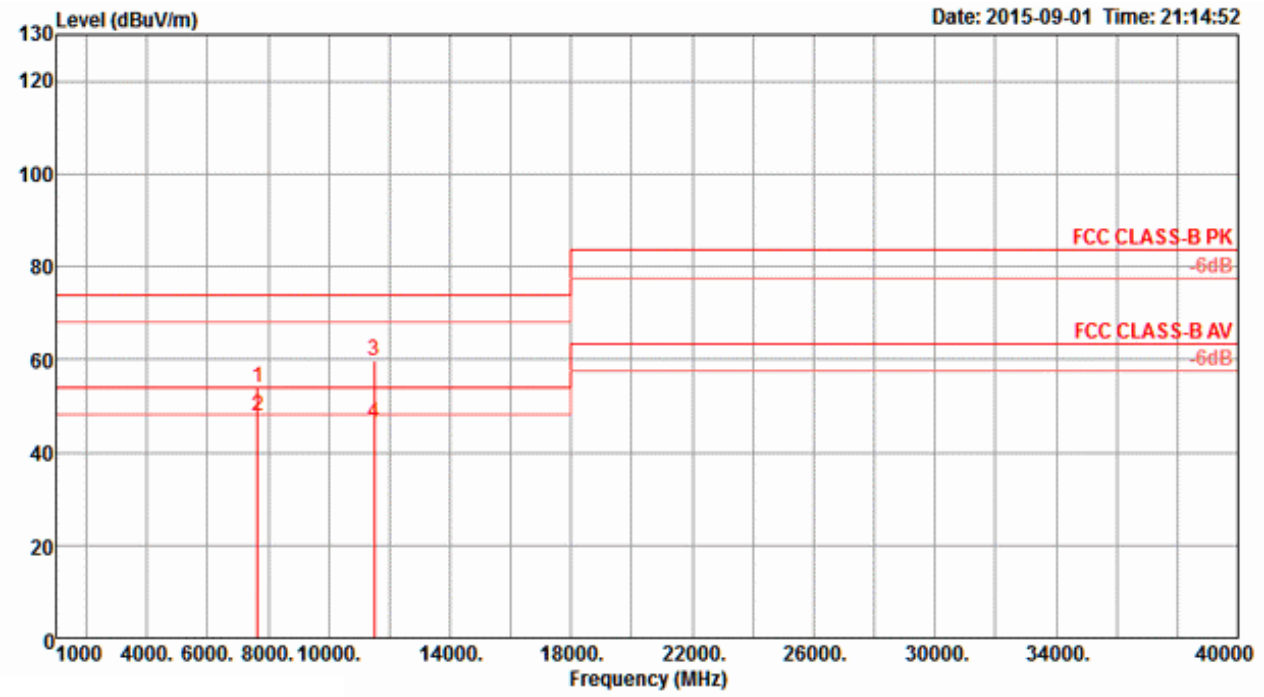
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	6986.73	50.72	68.20	-17.48	43.66	5.01	36.76	34.71	23	166	Peak	VERTICAL
2	15712.60	41.99	54.00	-12.01	30.68	7.62	38.47	34.78	104	174	Average	VERTICAL
3	15715.00	55.85	74.00	-18.15	44.51	7.62	38.50	34.78	104	174	Peak	VERTICAL

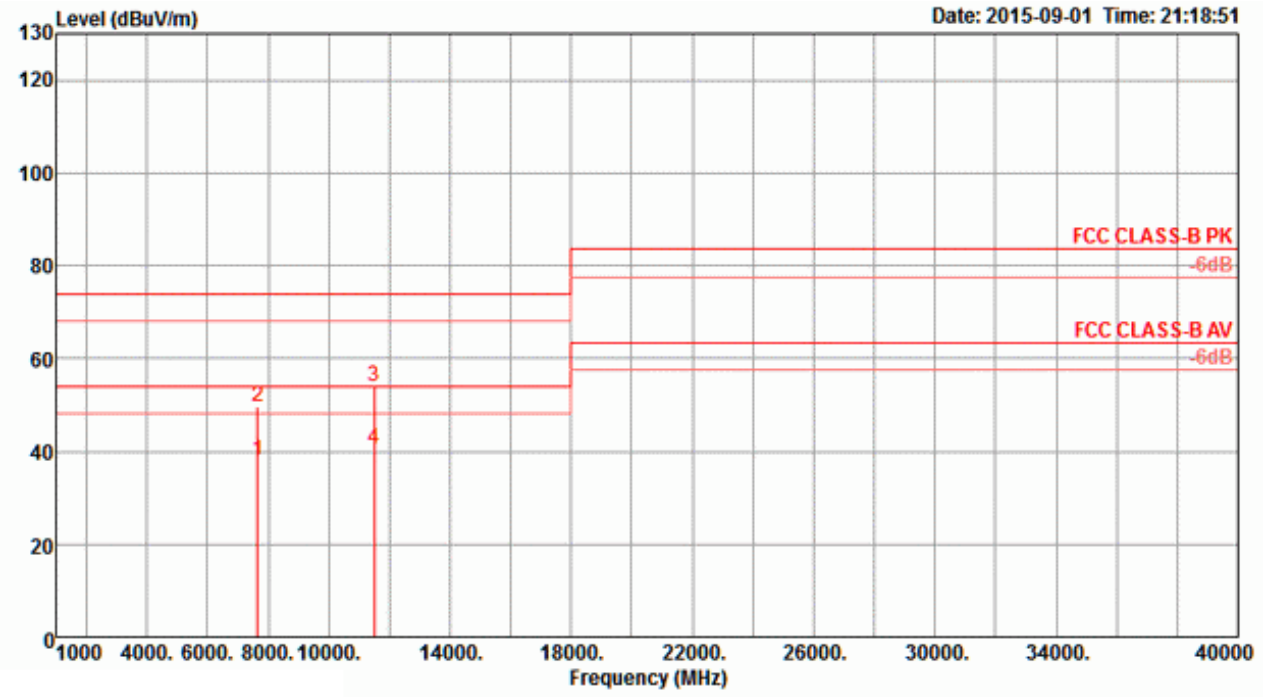
Temperature	26℃	Humidity	57%
Test Engineer	Roki Liu	Configurations	IEEE 802.11a CH 149 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	7659.90	53.86	74.00	-20.14	46.06	5.22	37.43	34.85	286	157	Peak	HORIZONTAL
2	7659.98	47.65	54.00	-6.35	39.85	5.22	37.43	34.85	286	157	Average	HORIZONTAL
3	11491.90	59.79	74.00	-14.21	49.18	6.53	38.70	34.62	331	147	Peak	HORIZONTAL
4	11492.30	46.38	54.00	-7.62	35.77	6.53	38.70	34.62	331	147	Average	HORIZONTAL

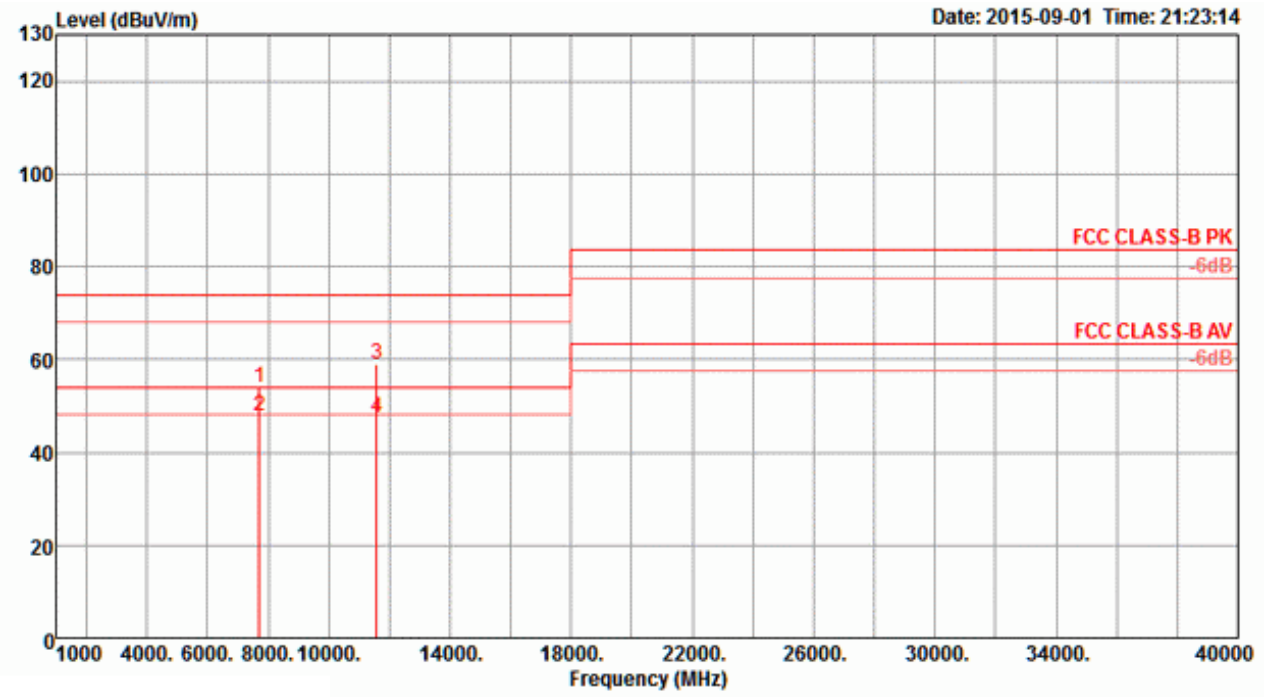
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	7660.00	38.02	54.00	-15.98	30.22	5.22	37.43	34.85	113	160	Average	VERTICAL
2	7662.22	49.66	74.00	-24.34	41.86	5.22	37.43	34.85	113	160	Peak	VERTICAL
3	11486.20	53.79	74.00	-20.21	43.18	6.53	38.70	34.62	85	110	Peak	VERTICAL
4	11494.00	40.57	54.00	-13.43	29.96	6.53	38.70	34.62	85	110	Average	VERTICAL

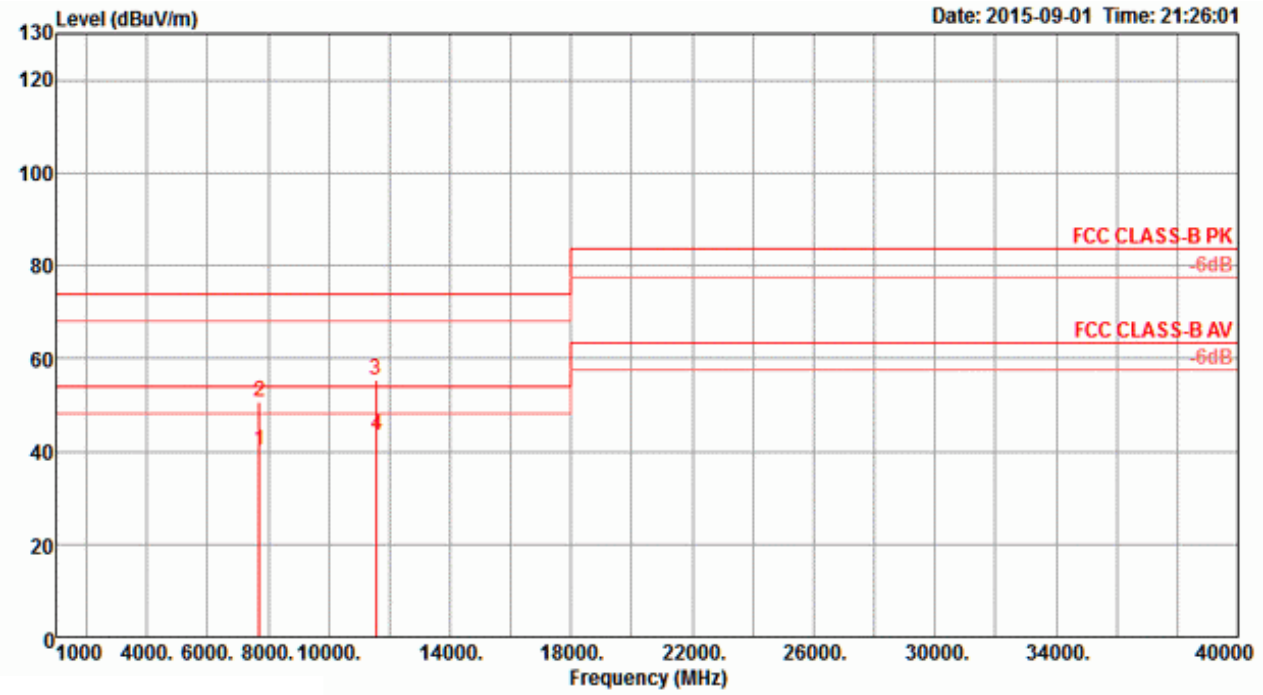
Temperature	26℃	Humidity	57%
Test Engineer	Roki Liu	Configurations	IEEE 802.11a CH 157 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	7713.28	54.00	74.00	-20.00	46.21	5.25	37.41	34.87	278	154	Peak	HORIZONTAL
2	7713.37	47.94	54.00	-6.06	40.15	5.25	37.41	34.87	278	154	Average	HORIZONTAL
3	11572.20	58.94	74.00	-15.06	48.33	6.55	38.71	34.65	98	150	Peak	HORIZONTAL
4	11572.80	47.30	54.00	-6.70	36.69	6.55	38.71	34.65	98	150	Average	HORIZONTAL

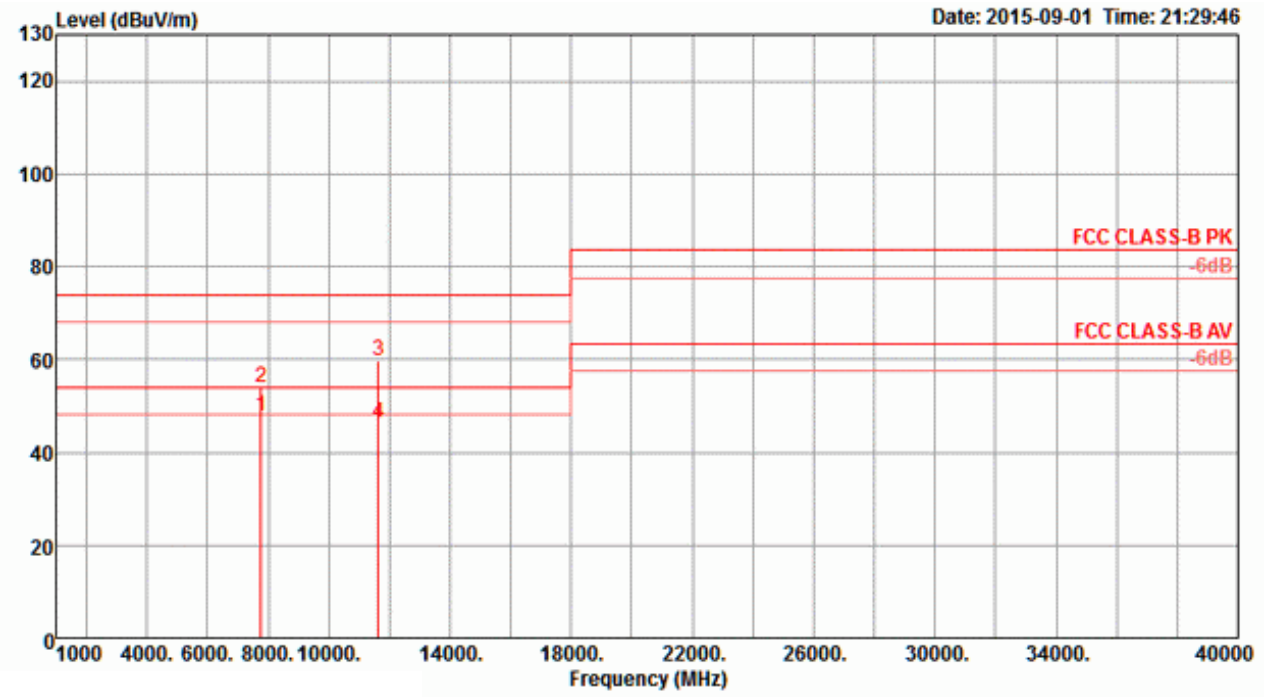
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	7713.34	40.32	54.00	-13.68	32.53	5.25	37.41	34.87	54	162	Average	VERTICAL
2	7713.41	50.69	74.00	-23.31	42.90	5.25	37.41	34.87	54	162	Peak	VERTICAL
3	11560.00	55.43	74.00	-18.57	44.81	6.55	38.71	34.64	100	152	Peak	VERTICAL
4	11568.60	43.62	54.00	-10.38	33.00	6.55	38.71	34.64	100	152	Average	VERTICAL

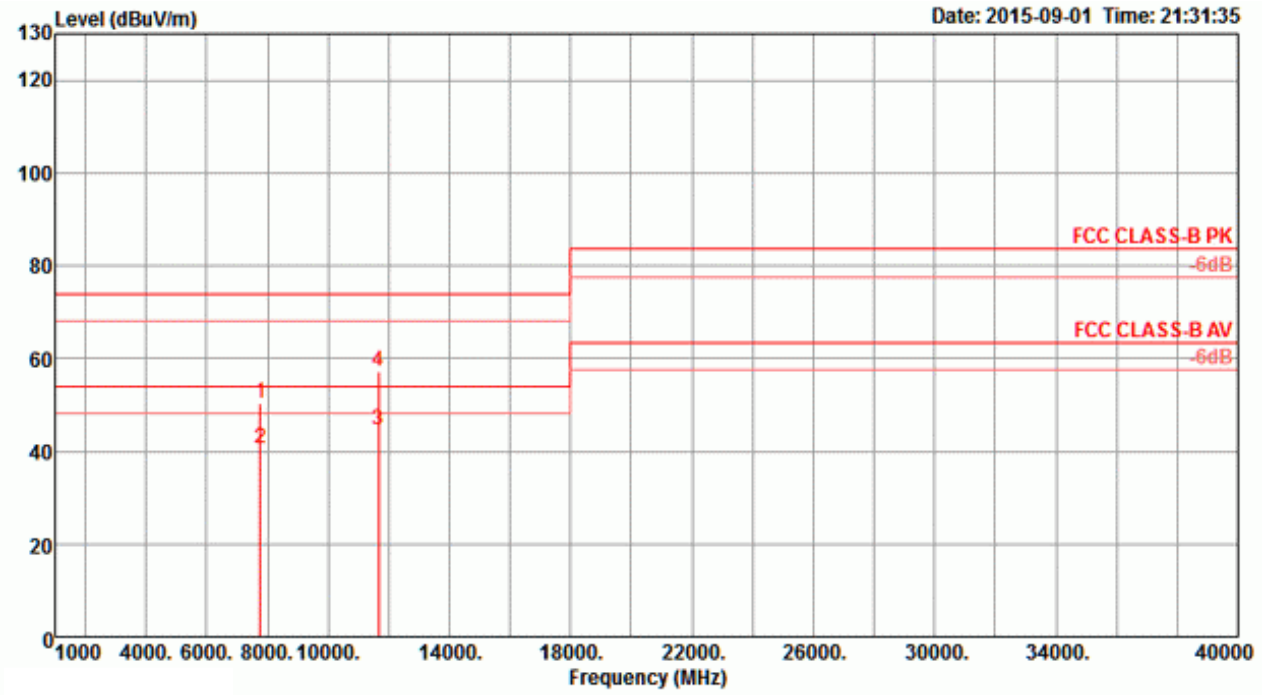
Temperature	26℃	Humidity	57%
Test Engineer	Roki Liu	Configurations	IEEE 802.11a CH 165 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	7766.67	47.80	54.00	-6.20	40.02	5.28	37.39	34.89	281	162	Average	HORIZONTAL
2	7766.69	53.82	74.00	-20.18	46.04	5.28	37.39	34.89	281	162	Peak	HORIZONTAL
3	11644.30	59.67	74.00	-14.33	49.05	6.56	38.73	34.67	355	160	Peak	HORIZONTAL
4	11646.00	46.38	54.00	-7.62	35.76	6.56	38.73	34.67	355	160	Average	HORIZONTAL

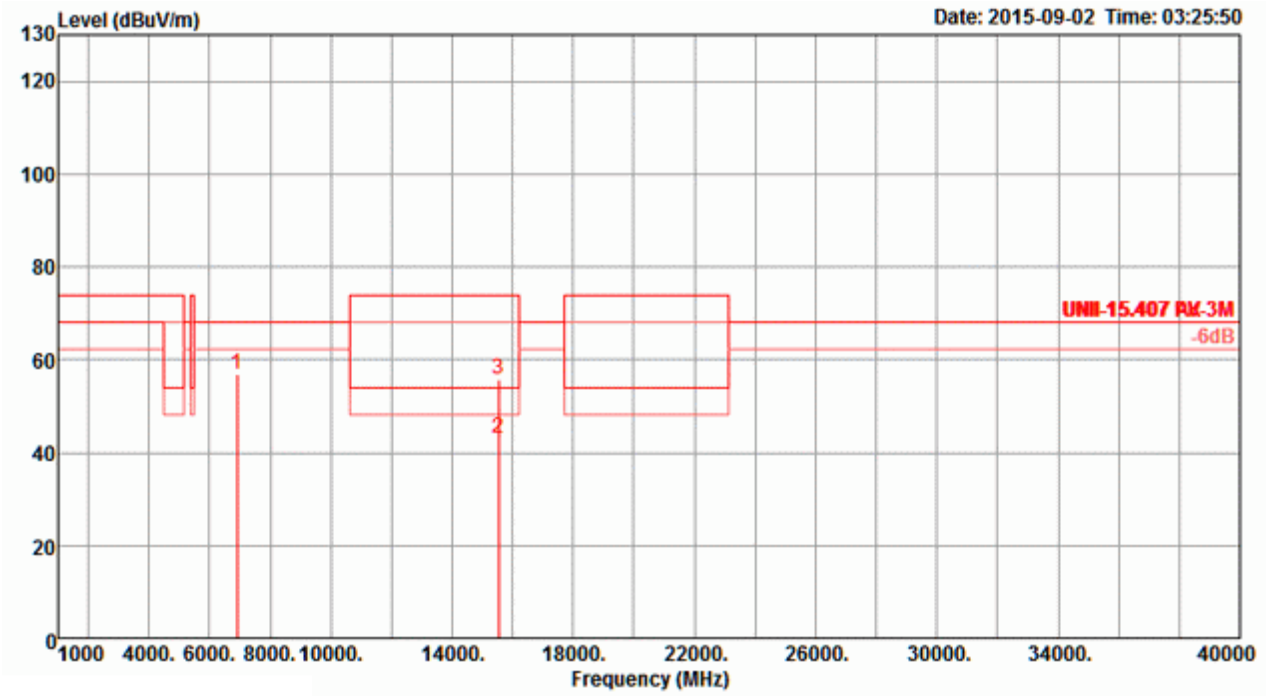
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	7766.43	50.43	74.00	-23.57	42.65	5.28	37.39	34.89	331	149	Peak	VERTICAL
2	7766.60	40.57	54.00	-13.43	32.79	5.28	37.39	34.89	331	149	Average	VERTICAL
3	11657.40	44.50	54.00	-9.50	33.89	6.56	38.73	34.68	356	173	Average	VERTICAL
4	11657.90	57.36	74.00	-16.64	46.75	6.56	38.73	34.68	356	173	Peak	VERTICAL

Temperature	26℃	Humidity	57%
Test Engineer	Roki Liu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 5 + Chain 6 + Chain 7 + Chain 8

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	6906.61	56.78	68.20	-11.42	49.93	4.97	36.57	34.69	299	177	Peak	HORIZONTAL
2	15541.84	43.07	54.00	-10.93	31.97	7.56	38.16	34.62	291	182	Average	HORIZONTAL
3	15544.56	55.81	74.00	-18.19	44.68	7.56	38.19	34.62	291	182	Peak	HORIZONTAL