

Appendix A: Test Common requirements for all bands

INDEX

Section 15.35 Subclause (c) / RSS-Gen 6.10. Transmitter Duty Cycle	15
RSS-Gen 6.6 / RSS-247 6.2. Transmitter 99% Occupied Bandwidth	17
Section 15.407 Subclause 15.403(i) Transmitter 26 dB Emission Bandwidth (EBW)	28

Section 15.35 Subclause (c) / RSS-Gen 6.10. Transmitter Duty Cycle.

SPECIFICATION

When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

RESULTS:

The results below are for data rates with a duty cycle less than 98%. The results for all rest of modes having a value > 98%.

- **WLAN0 - CORE 0 – SISO - Antenna port 2**

Mode	Pulse Duration (us)	Period (us)	Duty Cycle correction (dB)
802.11a / 20 MHz	2056.88	2565.971	0.96
802.11n / 20 MHz	1912.203	2421.591	1.03
802.11n / 40 MHz	946.526	1445.15	1.84
802.11ac / 80 MHz	462.578	961.336	3.18

- **WLAN1 - CORE 0 – SISO - Antenna port 3**

Mode	Pulse Duration (us)	Period (us)	Duty Cycle correction (dB)
802.11a / 20 MHz	2055.92	2565.411	0.96
802.11n / 20 MHz	1912.214	2422.025	1.03
802.11n / 40 MHz	936.522	1445.253	1.88
802.11ac / 80 MHz	461.006	961.313	3.19

- **WLAN1 - CORE 1 – SISO - Antenna port 4**

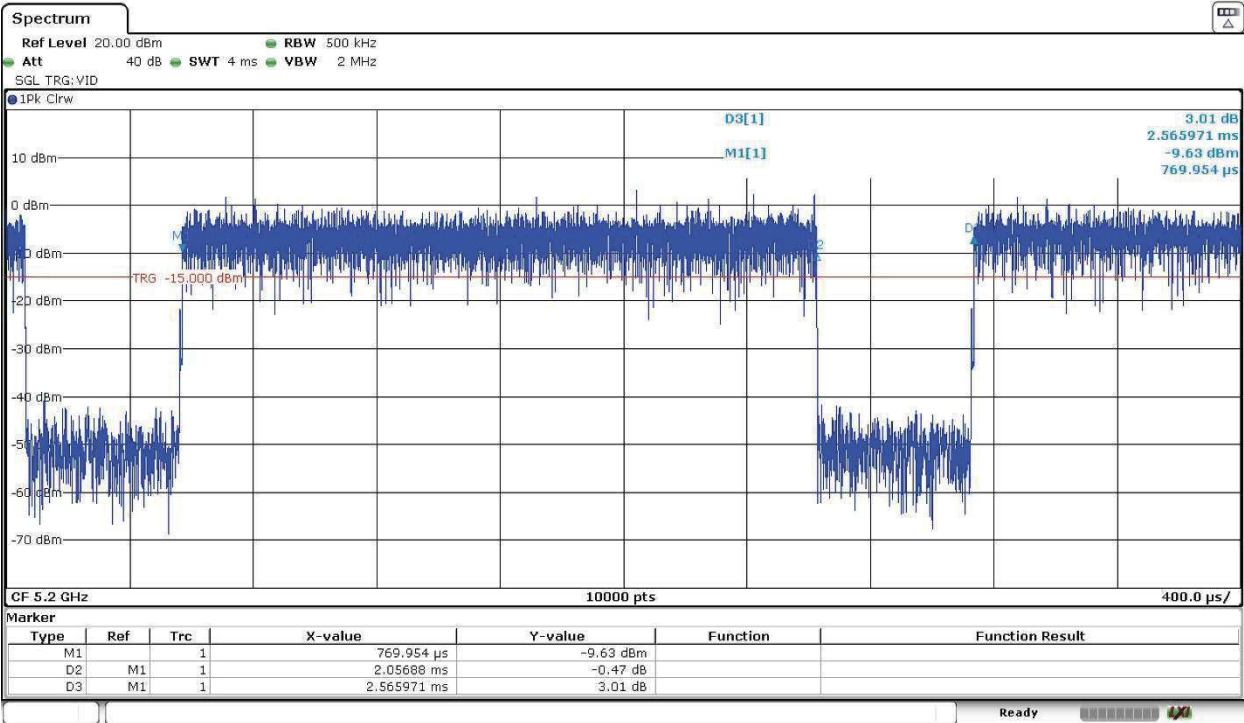
Mode	Pulse Duration (us)	Period (us)	Duty Cycle correction (dB)
802.11a / 20 MHz	2057.097	2565.937	0.96
802.11n / 20 MHz	1912.614	2421.979	1.03
802.11n / 40 MHz	946.458	1445.382	1.84
802.11ac / 80 MHz	462.932	961.245	3.17

- **WLAN 0-CORE 2 (CORE 0+CORE 1) - MIMO – Antennas ports 1 - 4**

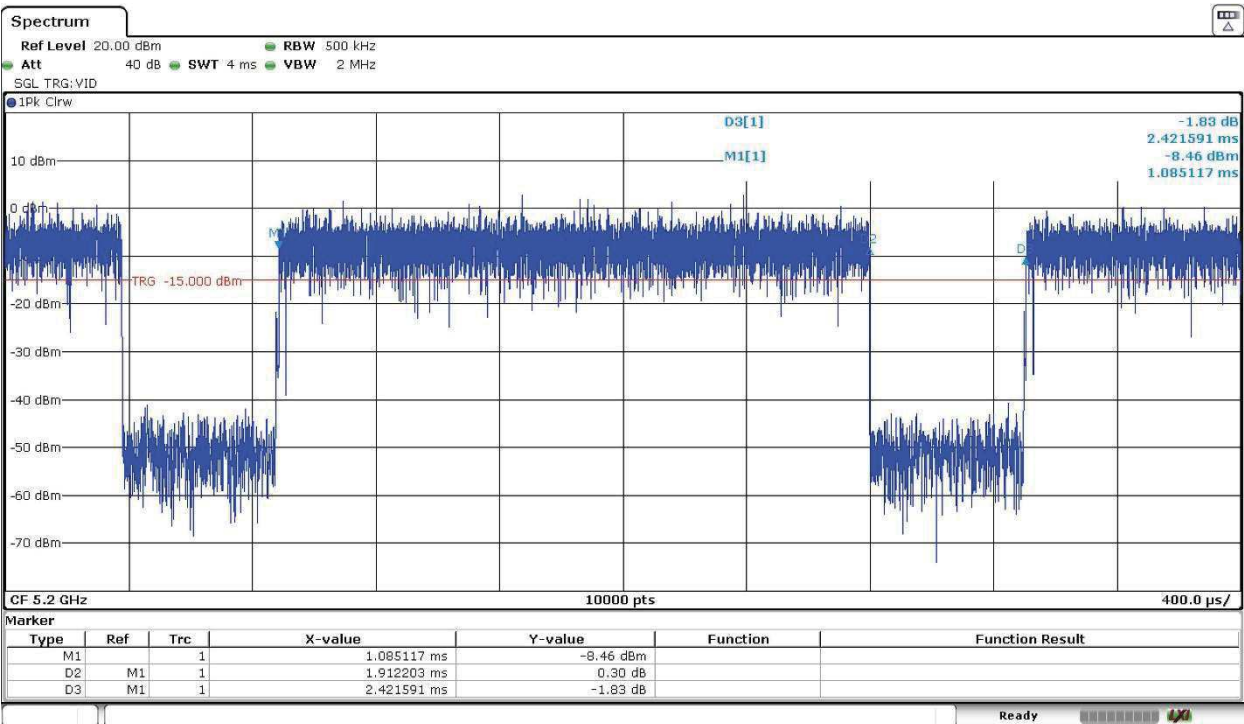
Mode	Pulse Duration (us)	Period (us)	Duty Cycle correction (dB)
802.11n / 20 MHz	1912.58	2421.694	1.03
802.11n / 40 MHz	945.737	1445.339	1.84
802.11ac / 80 MHz	462.263	961.239	3.18

WLAN0 - CORE 0 – SISO - Antenna port 2

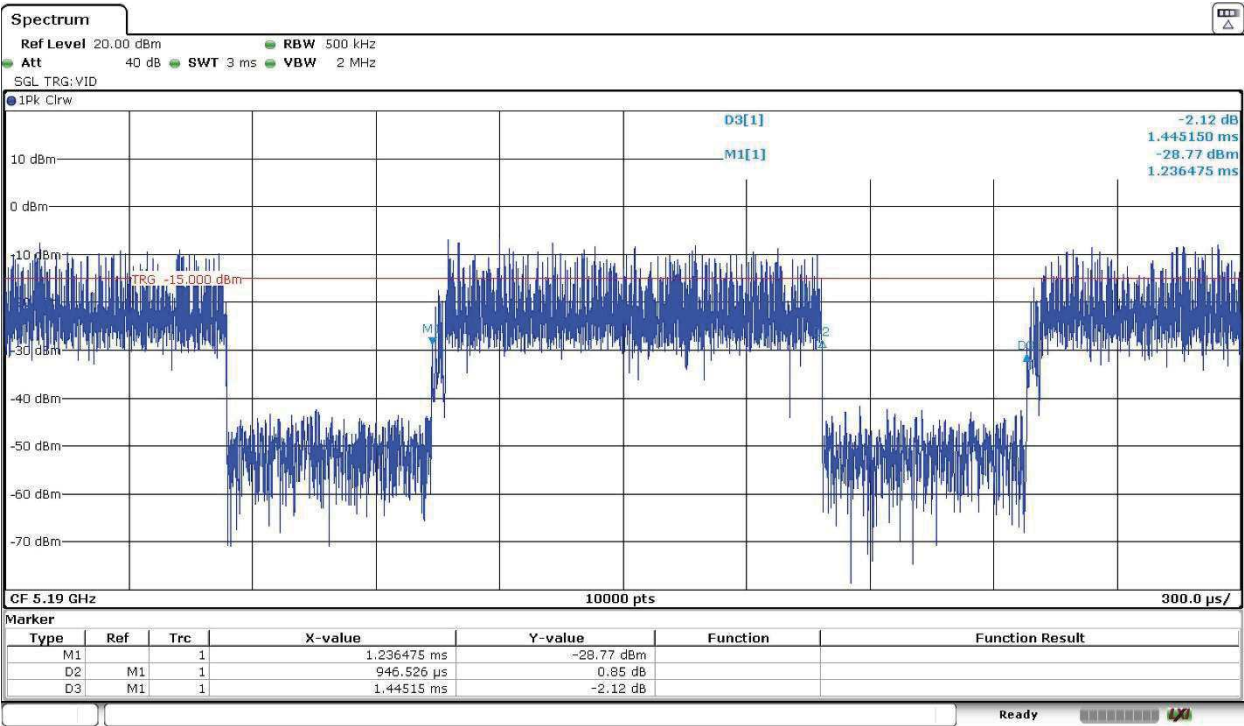
802.11a / 20 MHz



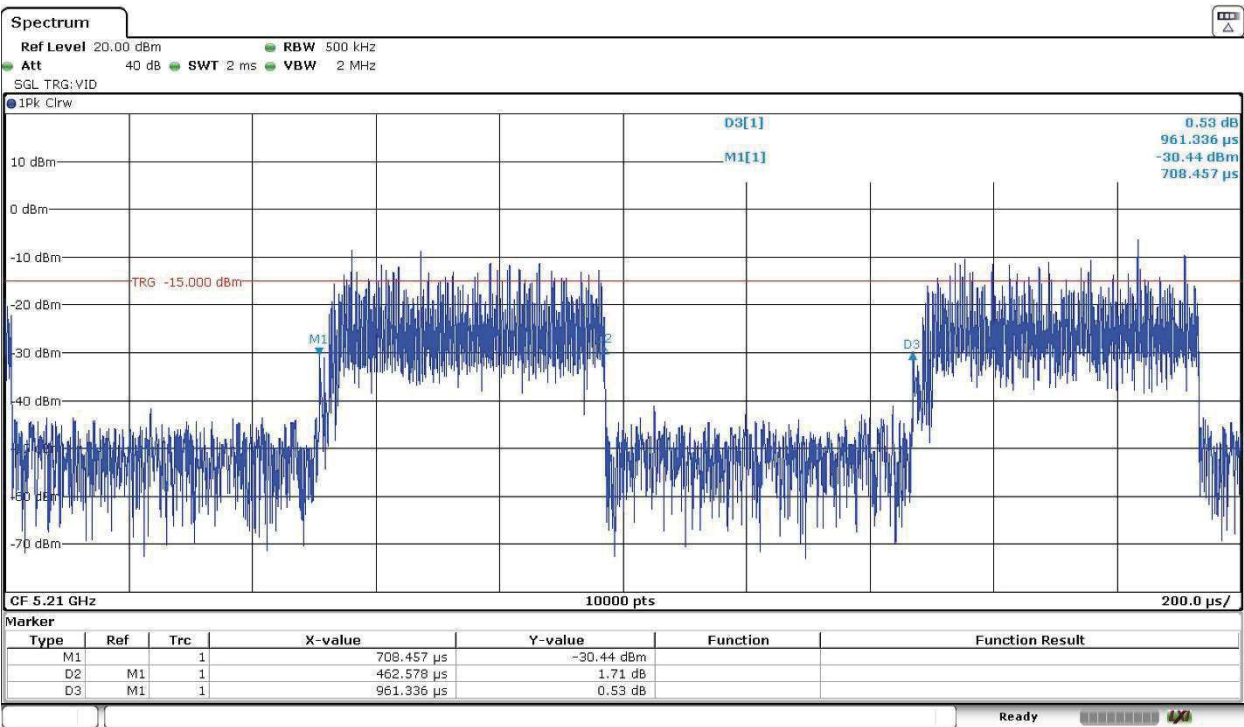
802.11n / 20 MHz



802.11n / 40 MHz

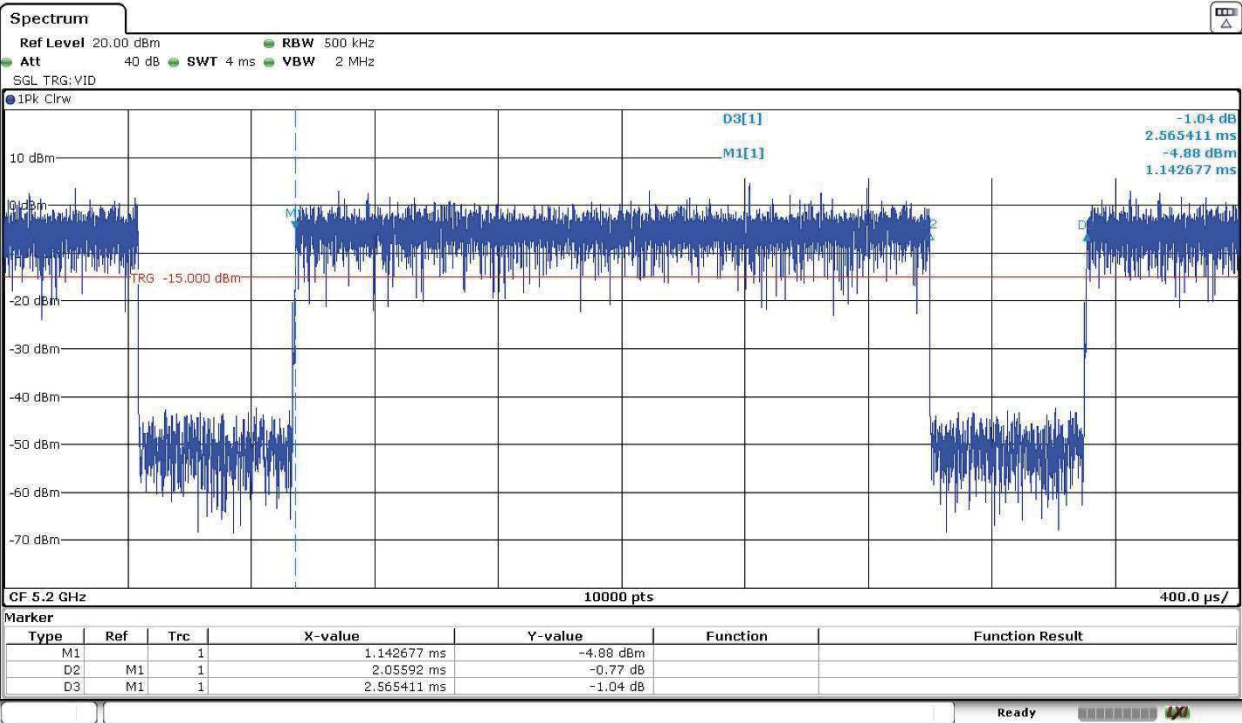


802.11ac / 80 MHz

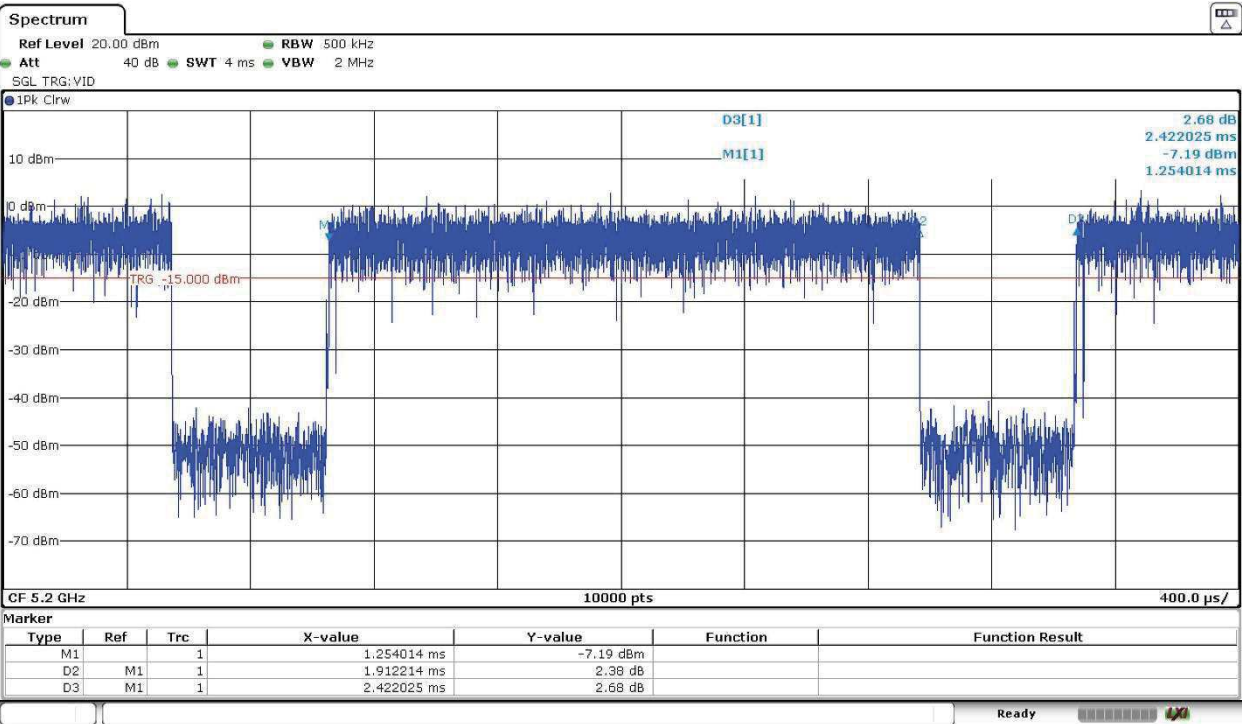


WLAN1 - CORE 0 – SISO - Antenna port 3

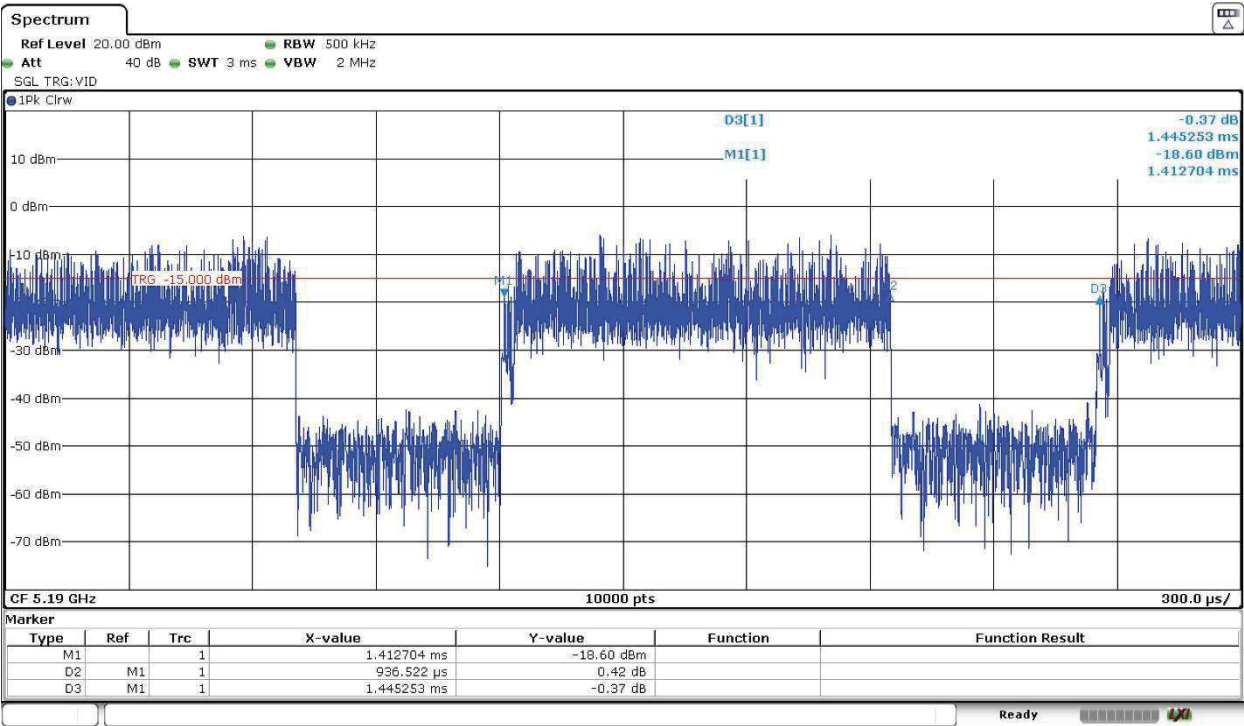
802.11a / 20 MHz



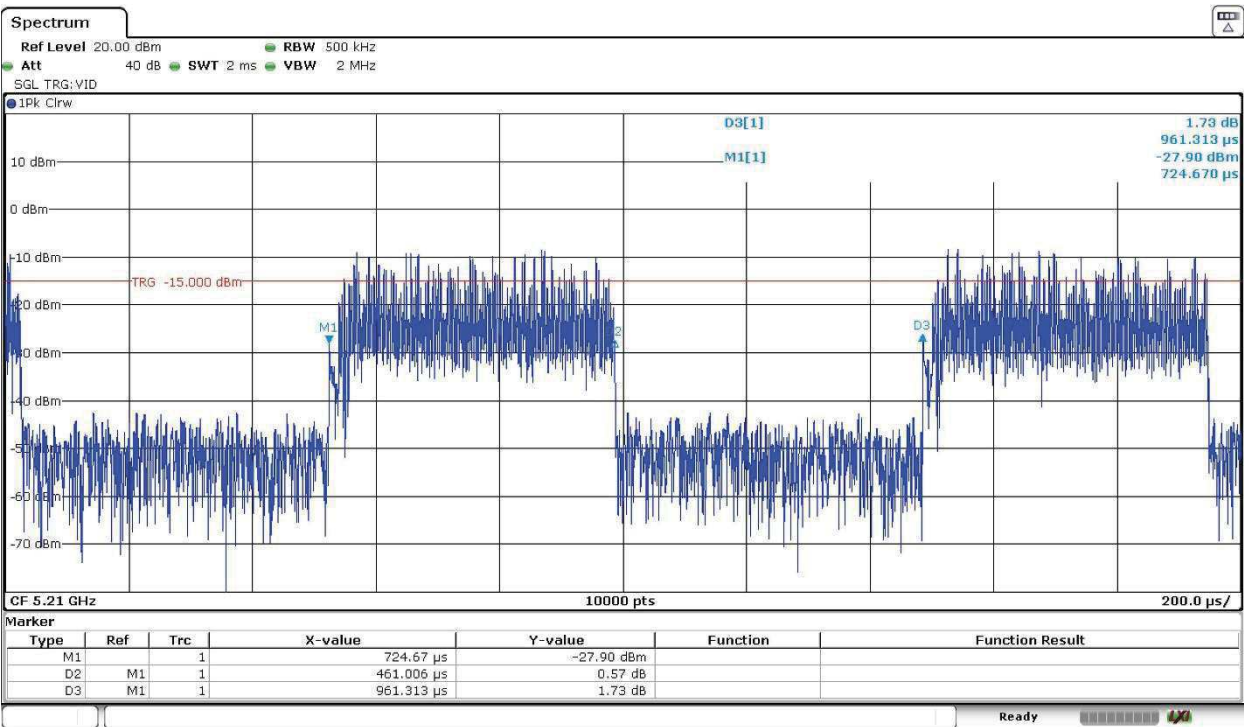
802.11n / 20 MHz



802.11n / 40 MHz

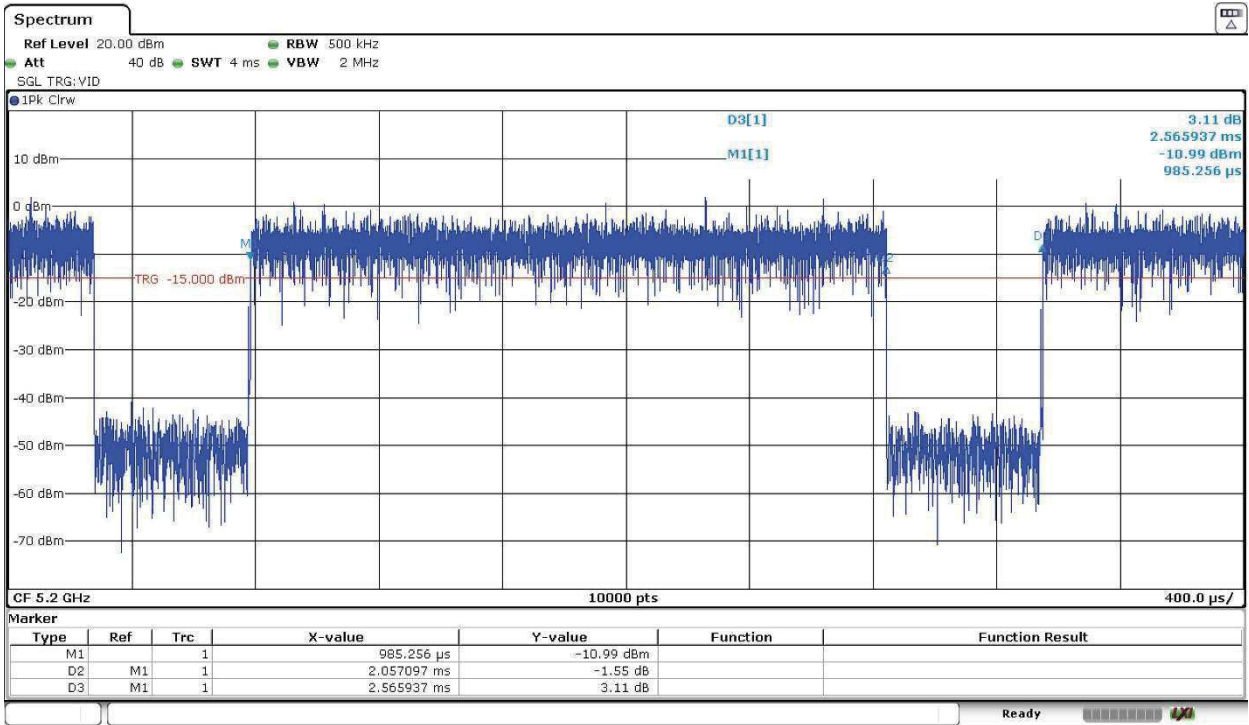


802.11ac / 80 MHz

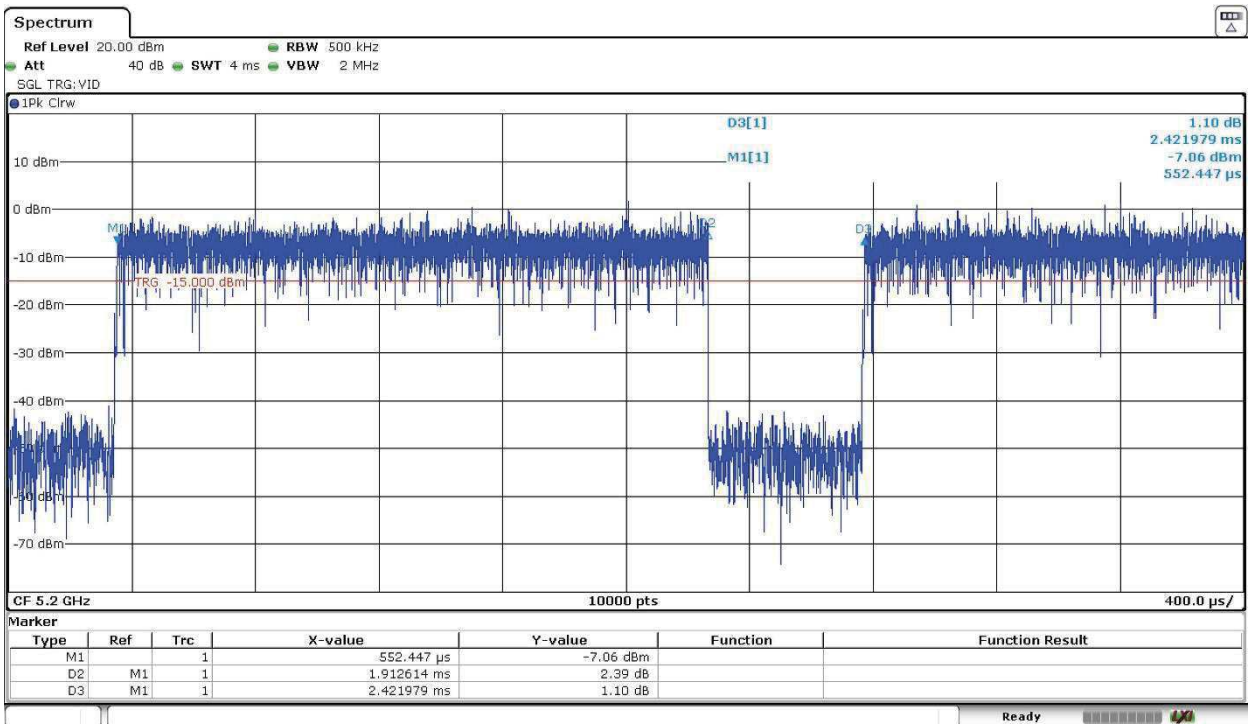


WLAN1 - CORE 1 – SISO - Antenna port 4

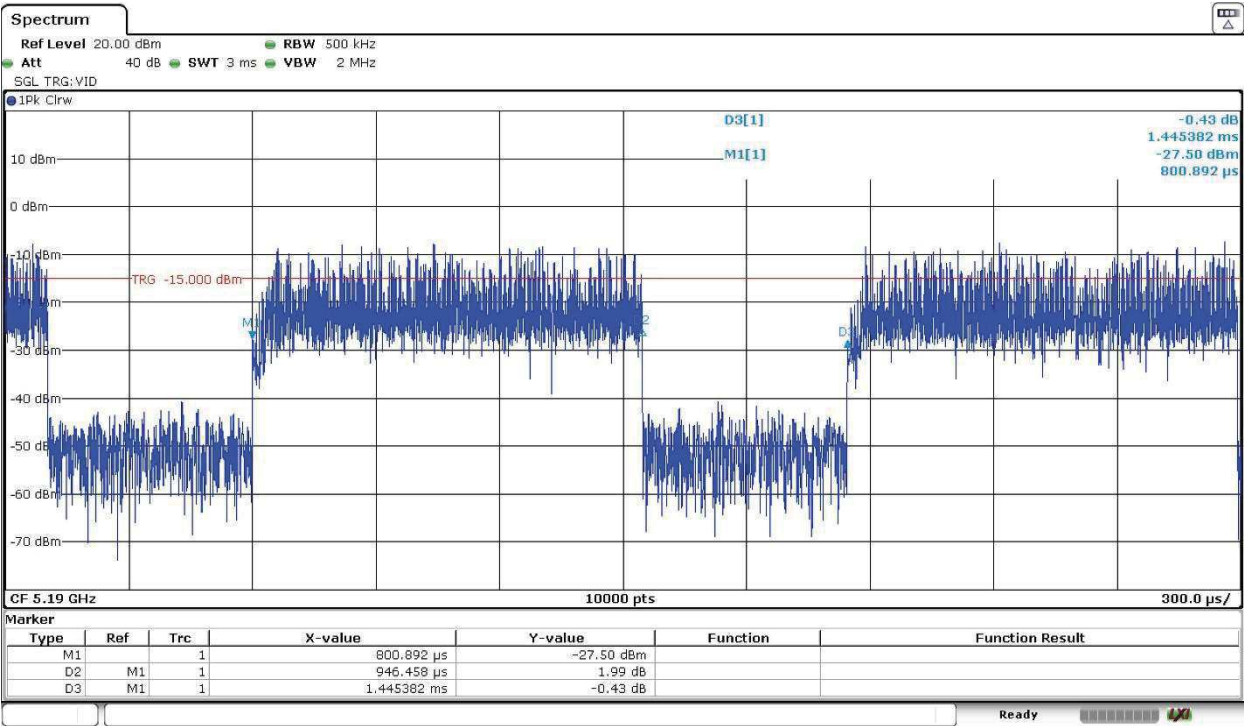
802.11a / 20 MHz



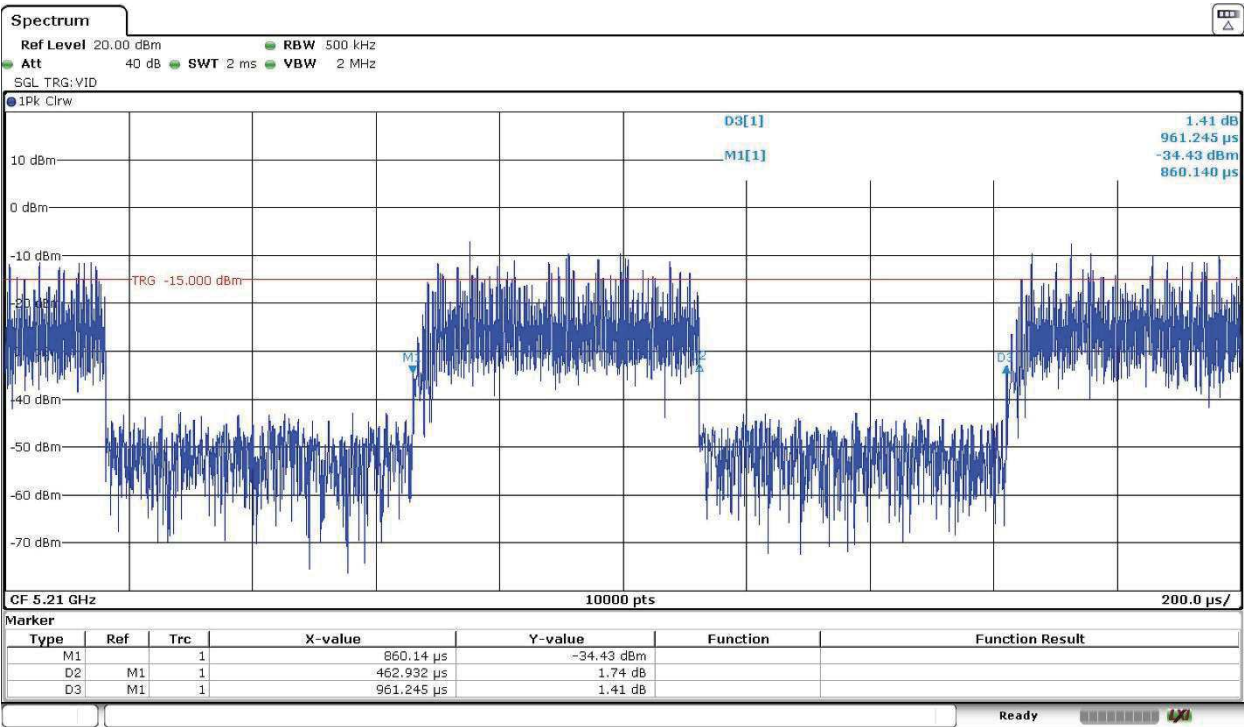
802.11n / 20 MHz



802.11n / 40 MHz

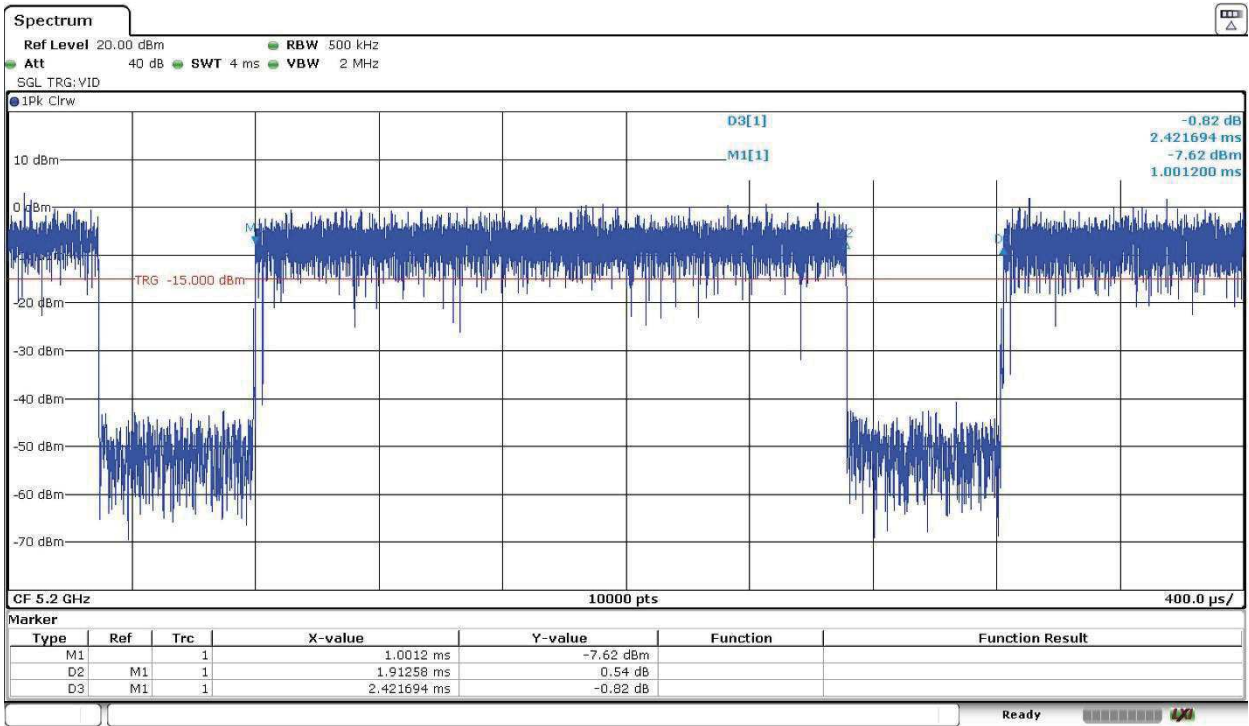


802.11ac / 80 MHz

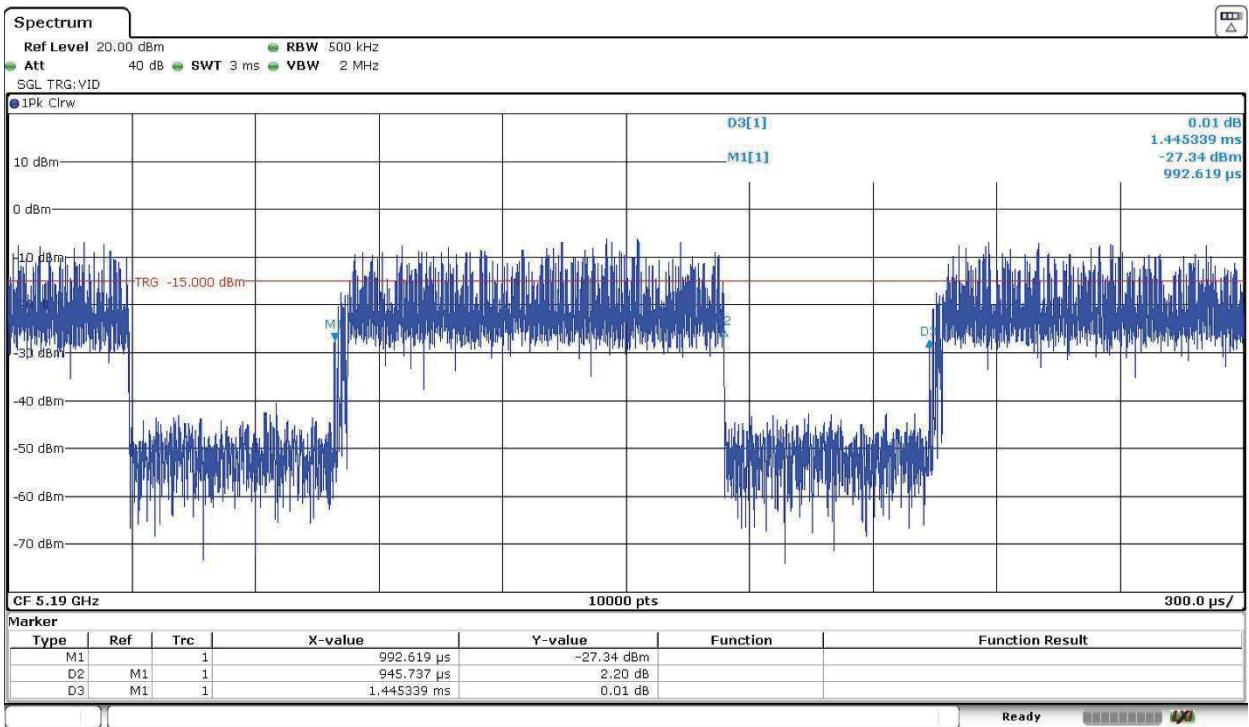


WLAN 0-CORE 2 (CORE 0+CORE 1) - MIMO – Antennas ports 1 - 4

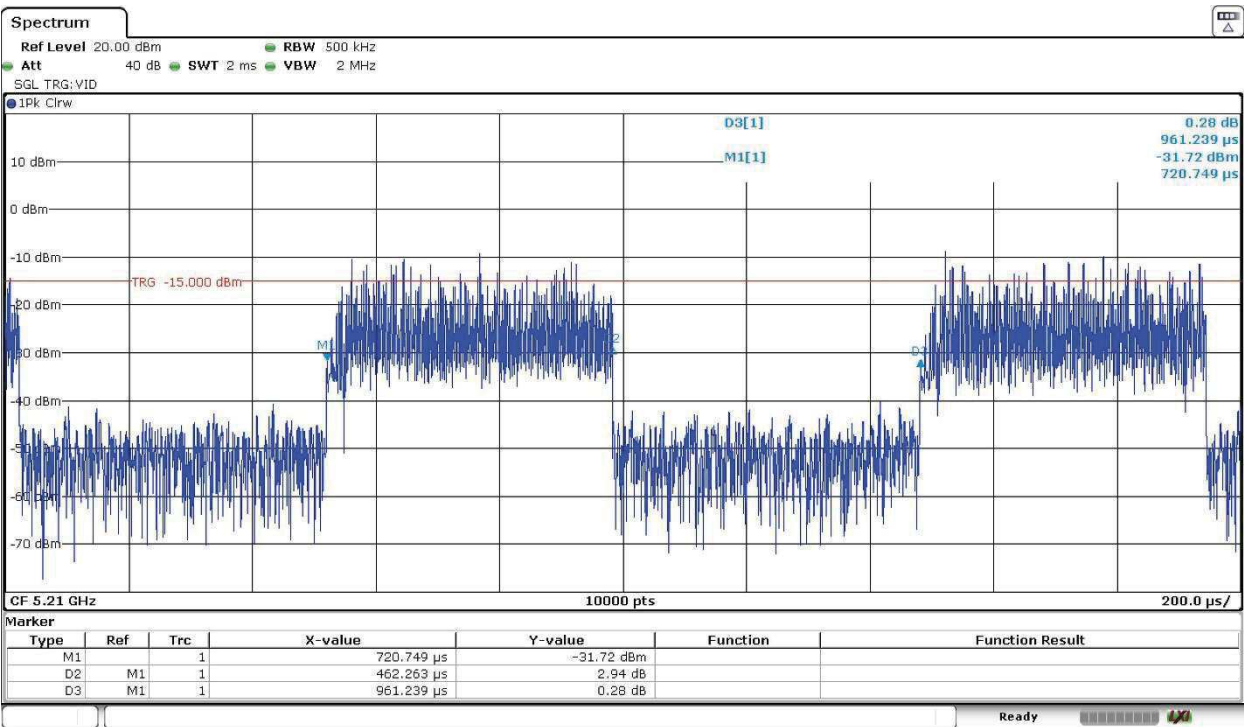
802.11n / 20 MHz



802.11n / 40 MHz



802.11ac / 80 MHz



RSS-Gen 6.6 / RSS-247 6.2. Transmitter 99% Occupied Bandwidth

Measurements were performed on the SISO modes for testing:

- 802.11a: 6 Mbit/s / SISO on WLAN0-Core 0 – Antenna RF Port 2
- 802.11n HT20: MCS0 / SISO on WLAN0-Core 0 – Antenna RF Port 2
- 802.11n HT40: MCS0 / SISO on WLAN0-Core 0 – Antenna RF Port 2
- 802.11ac VHT80: MCS0 / SISO on WLAN0-Core 0 – Antenna RF Port 2

- 802.11a: 6 Mbit/s / SISO on WLAN1-Core 0 – Antenna RF Port 3
- 802.11n HT20: MCS0 / SISO on WLAN1-Core 0 – Antenna RF Port 3
- 802.11n HT40: MCS0 / SISO on WLAN1-Core 0 – Antenna RF Port 3
- 802.11ac VHT80: MCS0 / SISO on WLAN1-Core 0 – Antenna RF Port 3

- 802.11a: 6 Mbit/s / SISO on WLAN1-Core 1 – Antenna RF Port 4
- 802.11n HT20: MCS0 / SISO on WLAN1-Core 1 – Antenna RF Port 4
- 802.11n HT40: MCS0 / SISO on WLAN1-Core 1 – Antenna RF Port 4
- 802.11ac VHT80: MCS0 / SISO on WLAN1-Core 1 – Antenna RF Port 4

WLAN0 - CORE 0 – SISO - Antenna port 2

- **Mode : 802.11a - 20MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 36 (5180 MHz)	17.00	<±23.02
channel 40 (5200 MHz)	17.00	
channel 48 (5240 MHz)	17.04	
channel 149 (5745 MHz)	17.08	
channel 157 (5785 MHz)	17.04	
channel 165 (5825 MHz)	17.08	

- **Mode : 802.11n HT20 - 20MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 36 (5180 MHz)	18.24	<±28.02
channel 40 (5200 MHz)	18.20	
channel 48 (5240 MHz)	18.20	
channel 149 (5745 MHz)	18.24	
channel 157 (5785 MHz)	18.28	
channel 165 (5825 MHz)	18.24	

- **Mode : 802.11n HT40 - 40MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 38 (5190 MHz)	36.64	<±50.05
channel 46 (5230 MHz)	36.64	
channel 151 (5755 MHz)	36.72	
channel 159 (5795 MHz)	36.72	

- **Mode : 802.11ac VHT80 - 80MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 42 (5210 MHz)	75.48	<±103.10
channel 155 (5775 MHz)	75.72	

WLAN1 - CORE 0 – SISO - Antenna port 3

- **Mode : 802.11a - 20MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 36 (5180 MHz)	17.04	<±23.02
channel 40 (5200 MHz)	17.08	
channel 48 (5240 MHz)	17.04	
channel 149 (5745 MHz)	17.07	
channel 157 (5785 MHz)	17.04	
channel 165 (5825 MHz)	17.08	

- **Mode : 802.11n HT20 - 20MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 36 (5180 MHz)	18.15	<±28.02
channel 40 (5200 MHz)	18.15	
channel 48 (5240 MHz)	18.21	
channel 149 (5745 MHz)	18.51	
channel 157 (5785 MHz)	18.31	
channel 165 (5825 MHz)	18.32	

- **Mode : 802.11n HT40 - 40MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 38 (5190 MHz)	36.80	<±53.05
channel 46 (5230 MHz)	36.72	
channel 151 (5755 MHz)	36.80	
channel 159 (5795 MHz)	37.04	

- **Mode : 802.11ac VHT80 - 80MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 42 (5210 MHz)	75.56	<±103.10
channel 155 (5775 MHz)	76	

WLAN1 - CORE 1 – SISO - Antenna port 4

- **Mode : 802.11a - 20MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 36 (5180 MHz)	17.03	<±23.02
channel 40 (5200 MHz)	17.01	
channel 48 (5240 MHz)	17	
channel 149 (5745 MHz)	17.07	
channel 157 (5785 MHz)	17.04	
channel 165 (5825 MHz)	17.05	

- **Mode : 802.11n HT20 - 20MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 36 (5180 MHz)	18.09	<±28.02
channel 40 (5200 MHz)	18.15	
channel 48 (5240 MHz)	18.15	
channel 149 (5745 MHz)	18.17	
channel 157 (5785 MHz)	18.17	
channel 165 (5825 MHz)	18.19	

- **Mode : 802.11n HT40 - 40MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 38 (5190 MHz)	36.72	<±53.05
channel 46 (5230 MHz)	36.56	
channel 151 (5755 MHz)	36.88	
channel 159 (5795 MHz)	36.80	

- **Mode : 802.11ac VHT80 - 80MHz** (see next plots)

	Occ. BW (MHz)	Measurement uncertainty (KHz)
channel 42 (5210 MHz)	75.56	<±103.10
channel 155 (5775 MHz)	75.68	

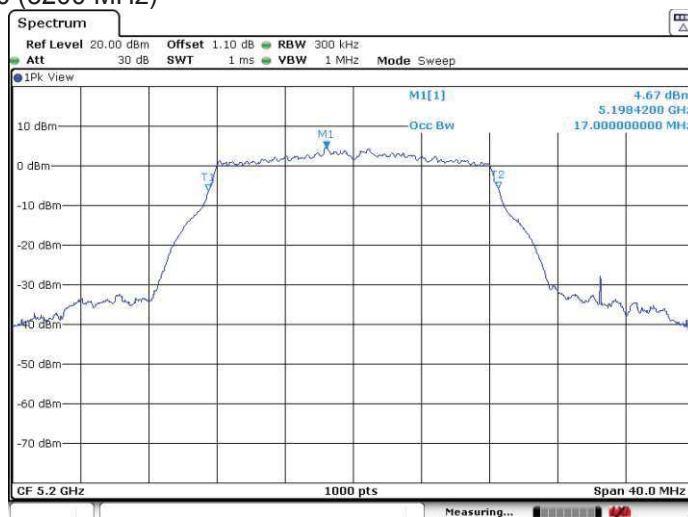
WLAN0 - CORE 0 – SISO - Antenna port 2

802.11a – 20MHz

- Channel 36 (5180 MHz)



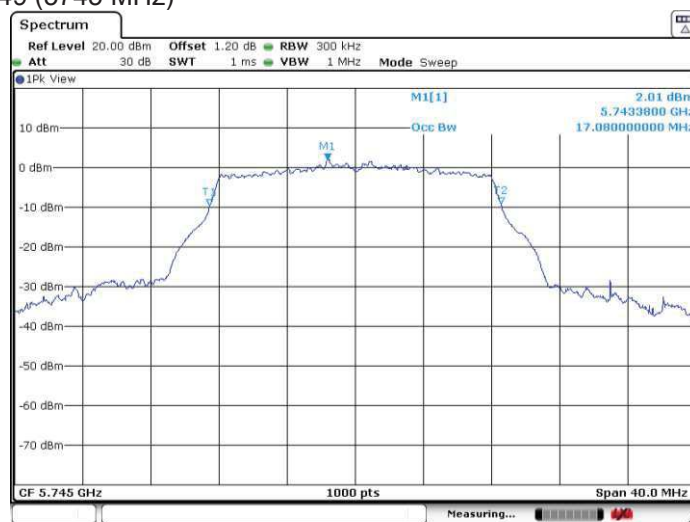
- Channel 40 (5200 MHz)



- Channel 48 (5240 MHz)



- Channel 149 (5745 MHz)



- Channel 157 (5785 MHz)

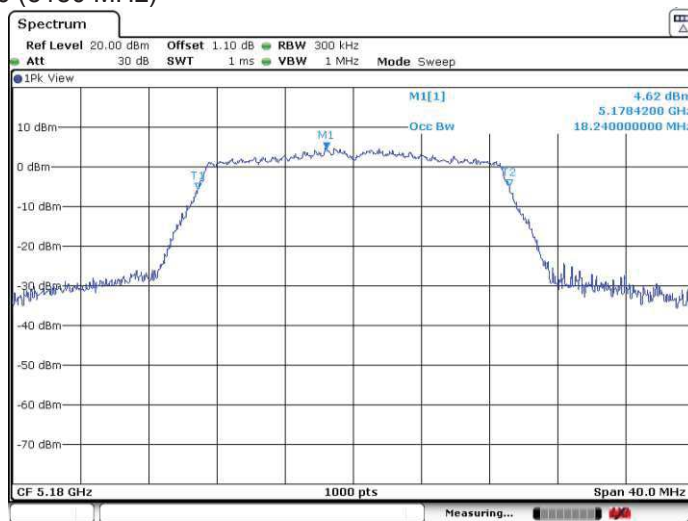


- Channel 165 (5825 MHz)

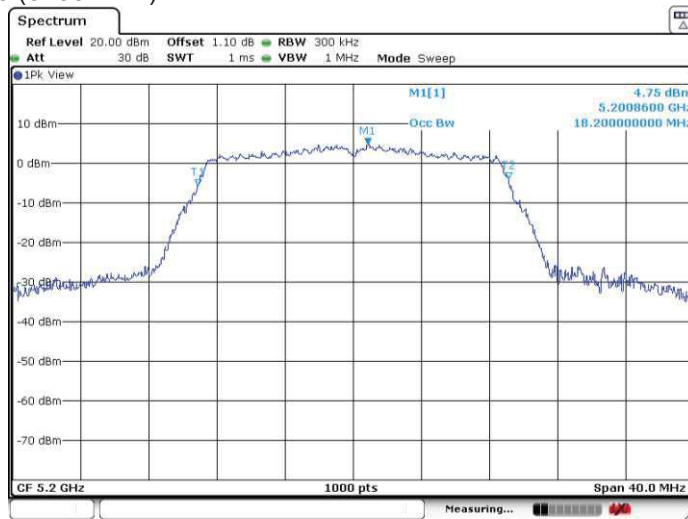


802.11n HT20 – 20MHz

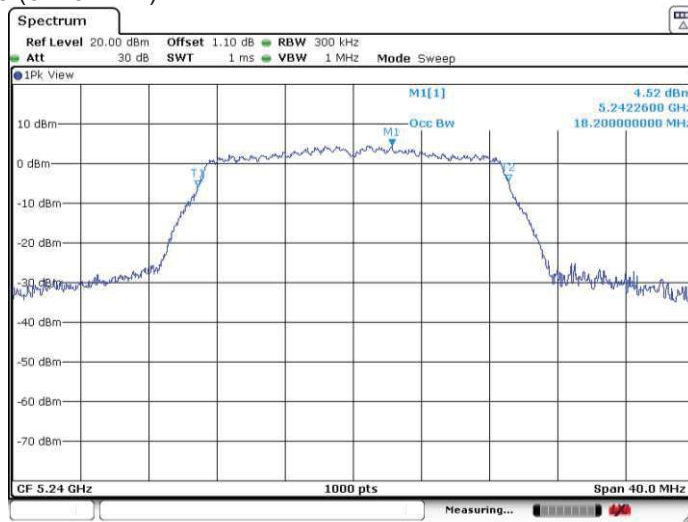
- Channel 36 (5180 MHz)



- Channel 40 (5200 MHz)



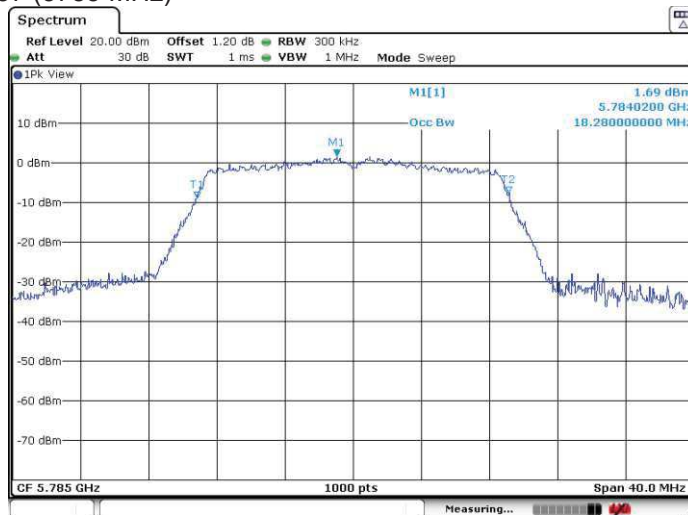
- Channel 48 (5240 MHz)



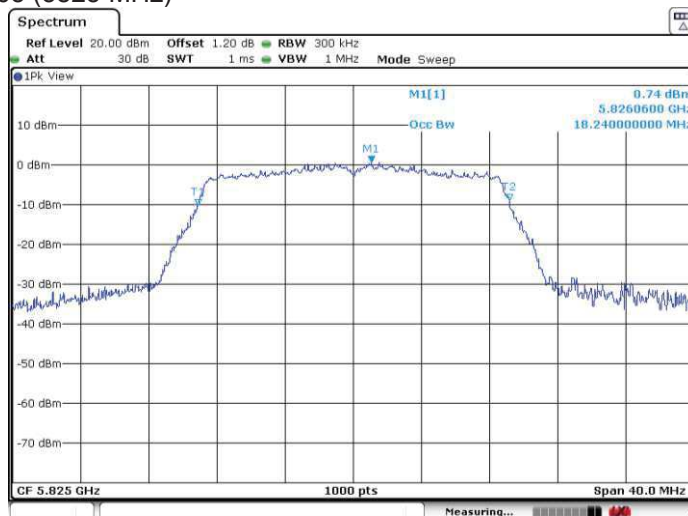
- Channel 149 (5745 MHz)



- Channel 157 (5785 MHz)

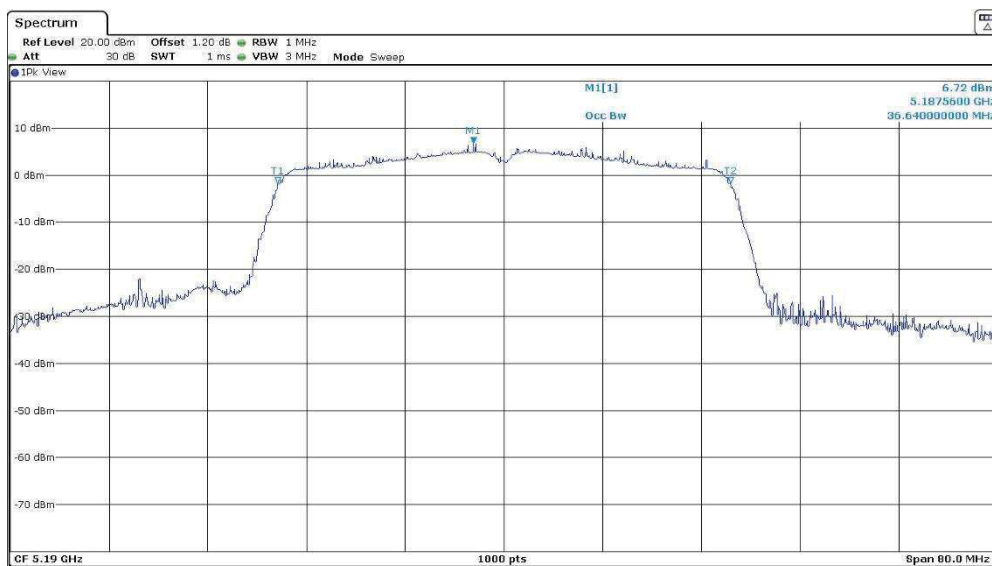


- Channel 165 (5825 MHz)

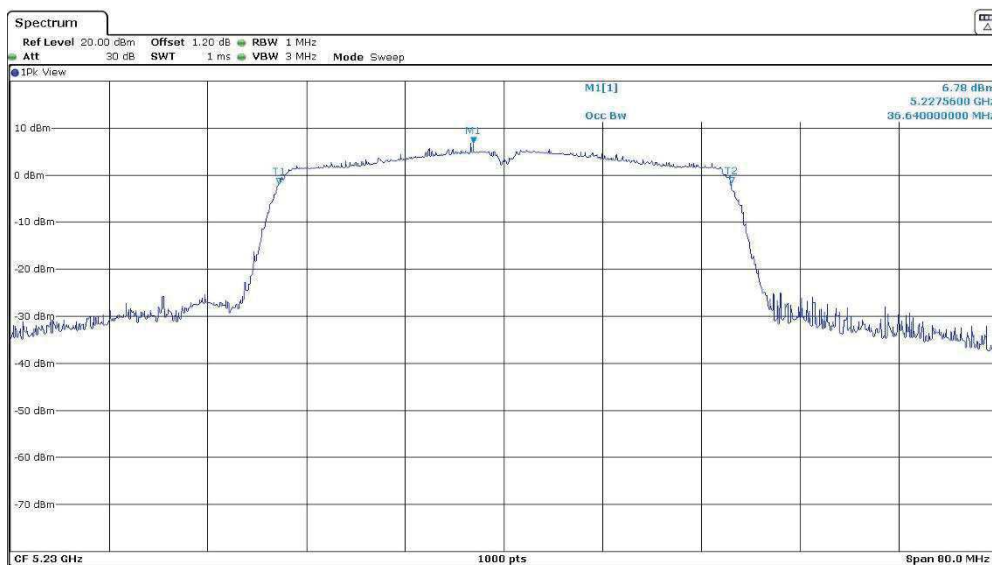


802.11n HT40 – 40MHz

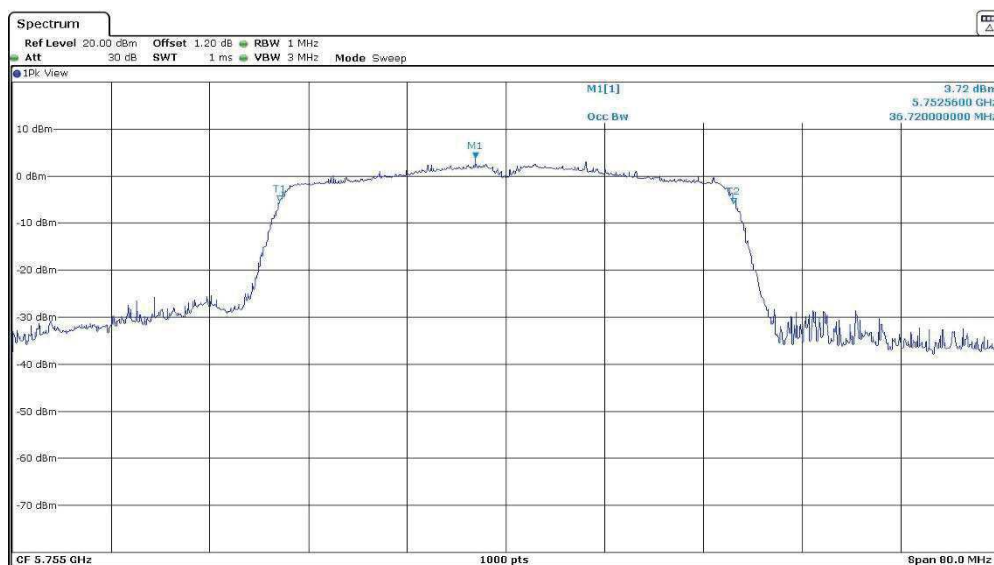
- Channel 38 (5190 MHz)



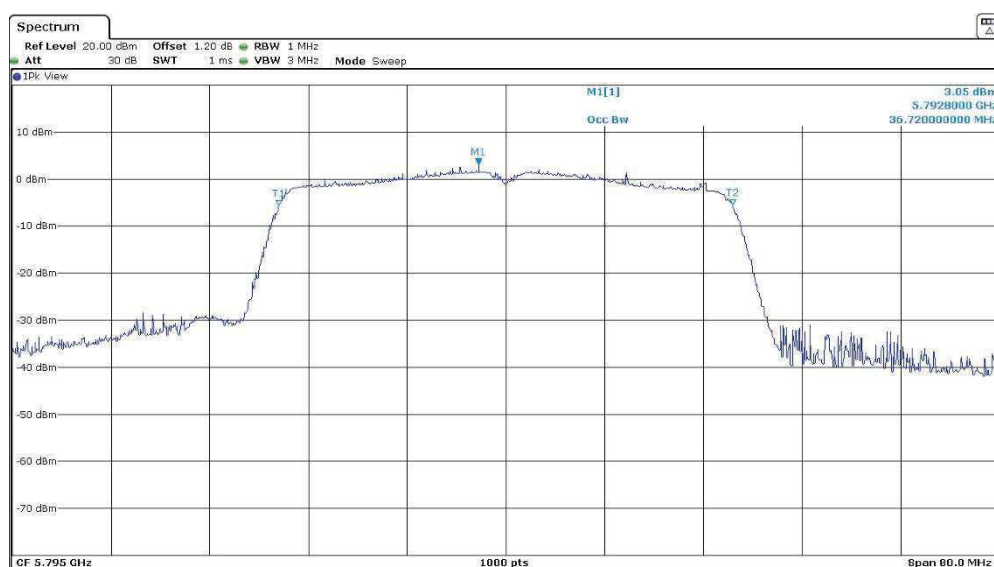
- Channel 46 (5230 MHz)



○ Channel 151 (5755 MHz)

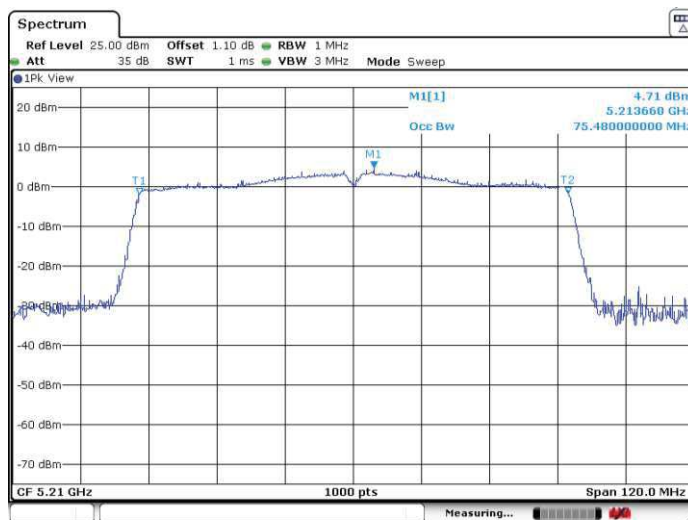


○ Channel 159 (5795 MHz)

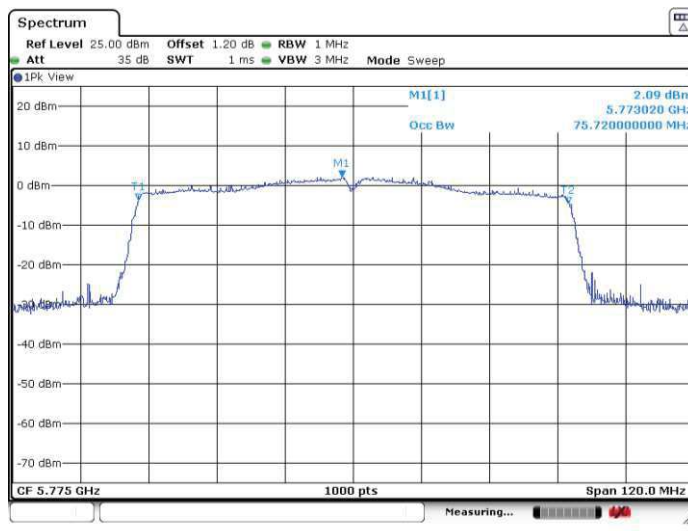


802.11ac VHT80 – 80MHz

- Channel 42 (5210 MHz)



- Channel 155 (5775 MHz)



WLAN1 - CORE 0 – SISO - Antenna port 3

802.11a - 20MHz

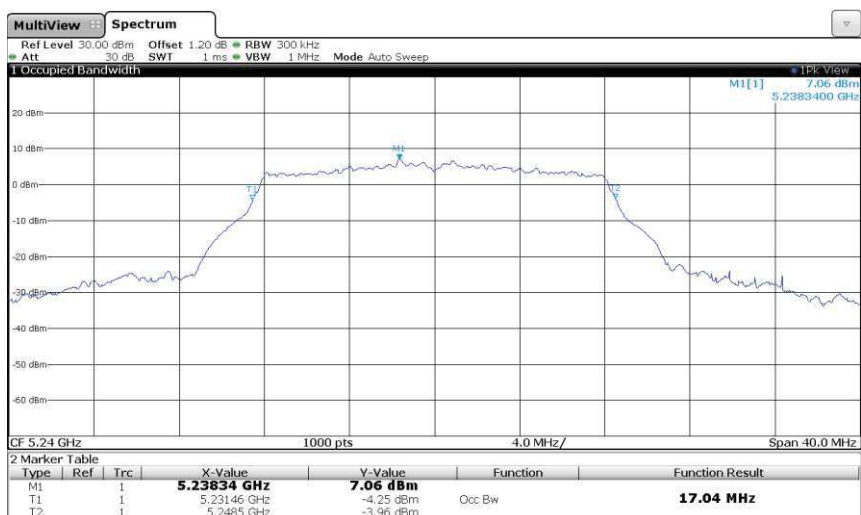
- Channel 36 (5180 MHz)



- Channel 40 (5200 MHz)



- Channel 48 (5240 MHz)



○ Channel 149 (5745 MHz)



○ Channel 157 (5785 MHz)

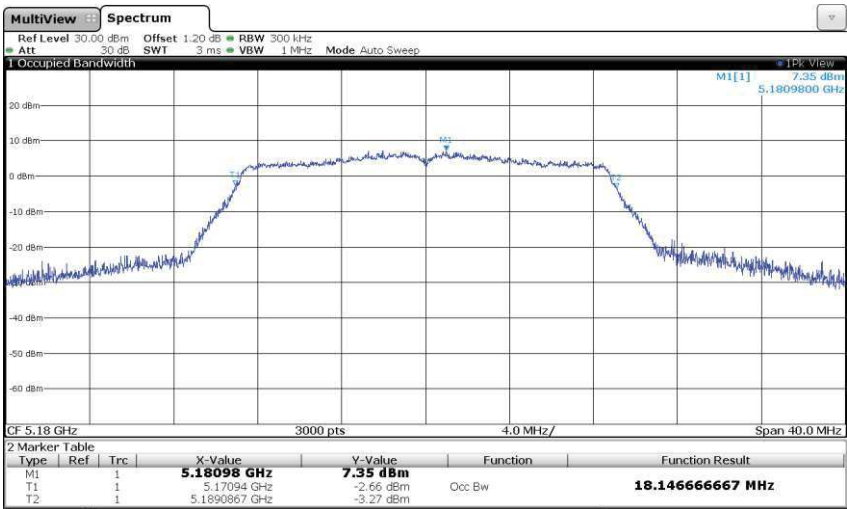


○ Channel 165 (5825 MHz)

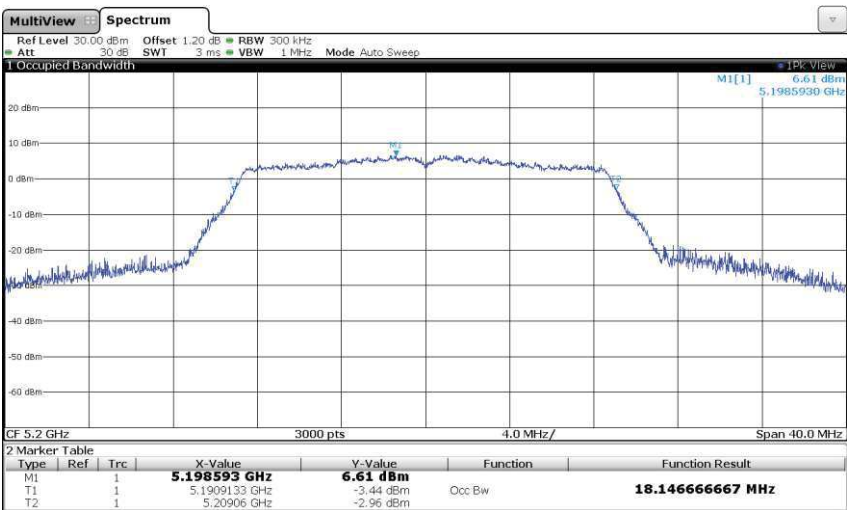


802.11n HT20 – 20MHz

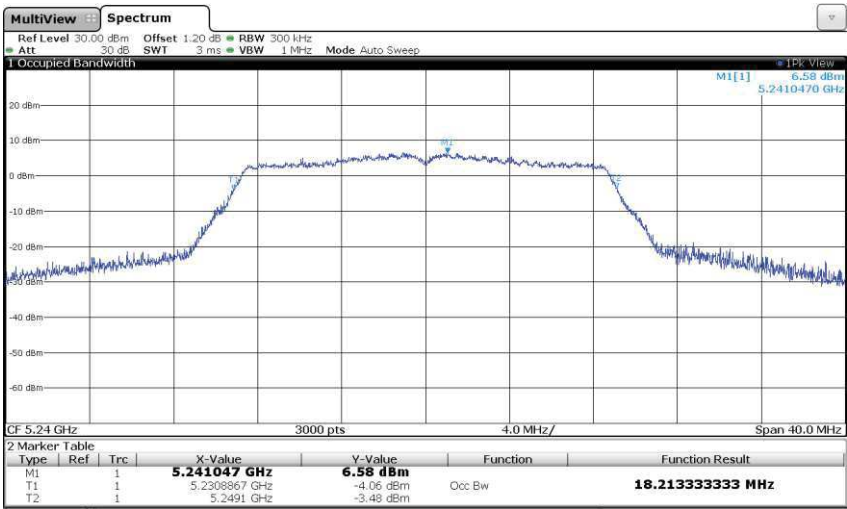
- Channel 36 (5180 MHz)



- Channel 40 (5200 MHz)



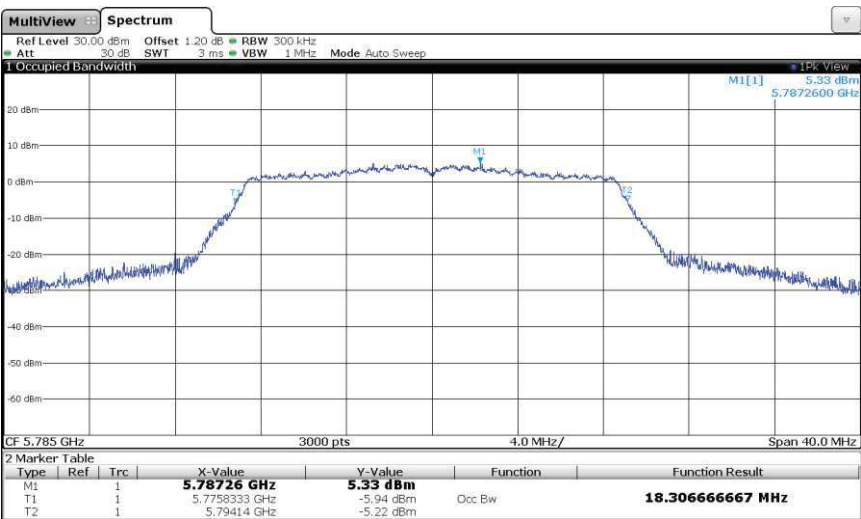
- Channel 48 (5240 MHz)



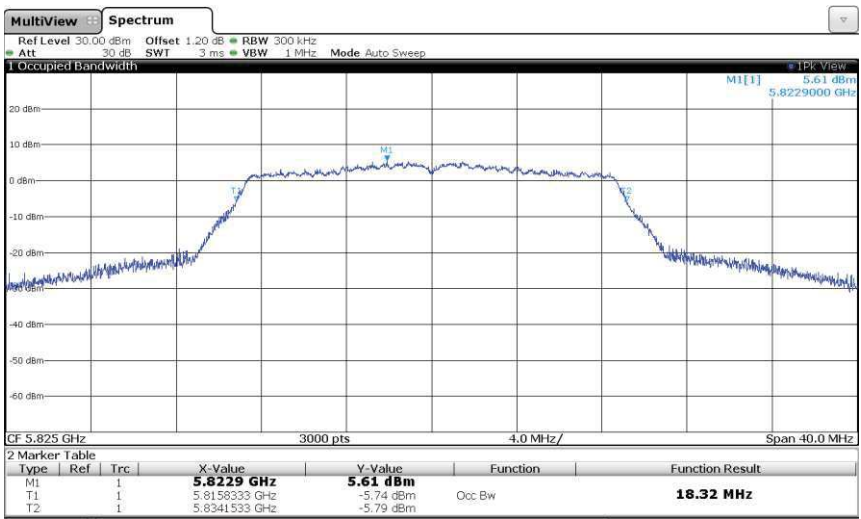
○ Channel 149 (5745 MHz)



○ Channel 157 (5785 MHz)

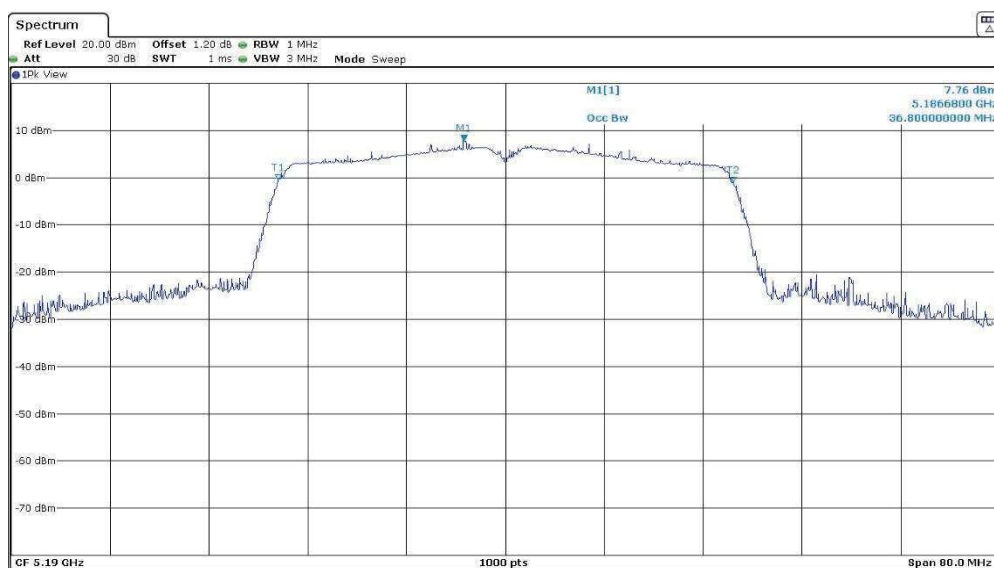


○ Channel 165 (5825 MHz)

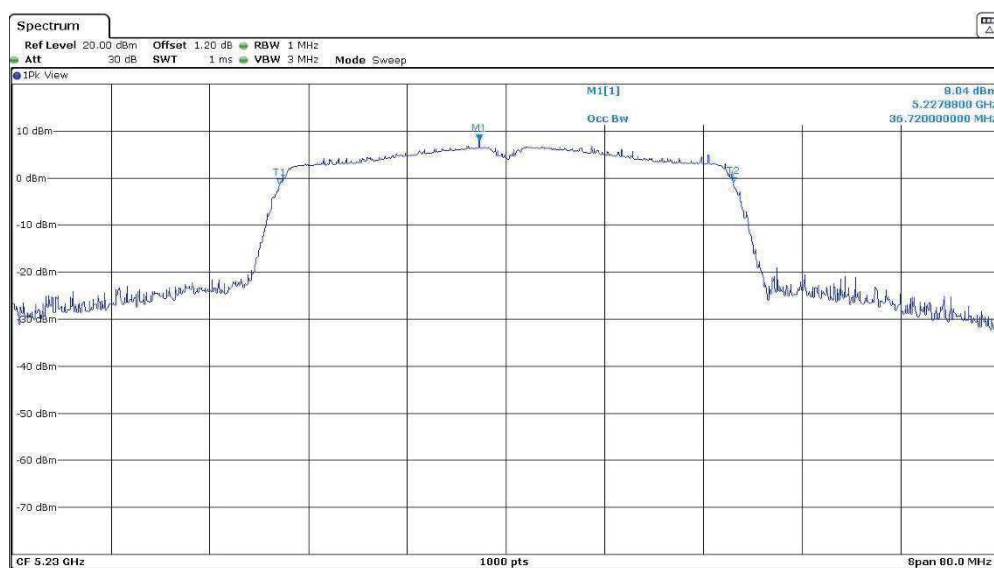


802.11 N40 - 40MHz

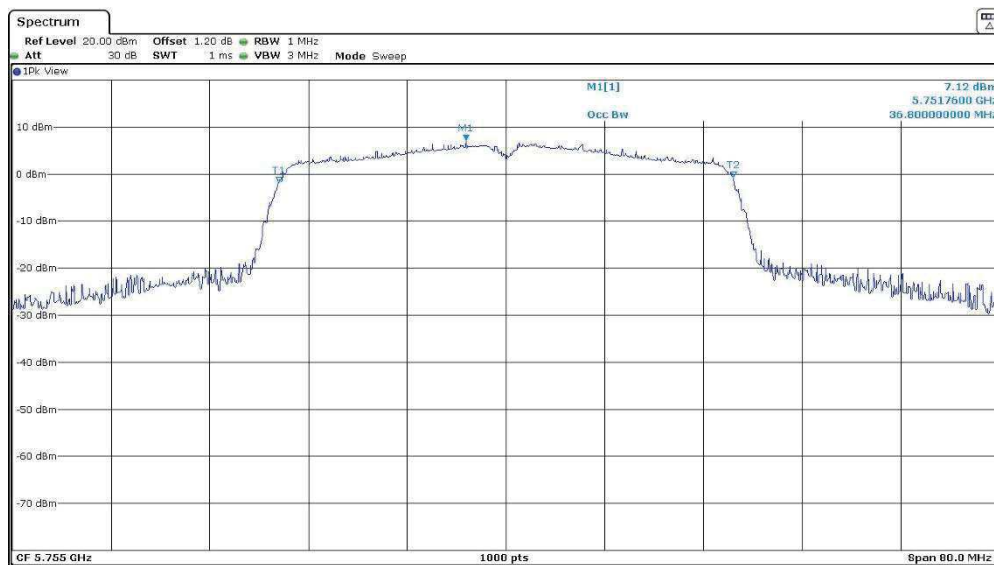
- Channel 38 (5190 MHz)



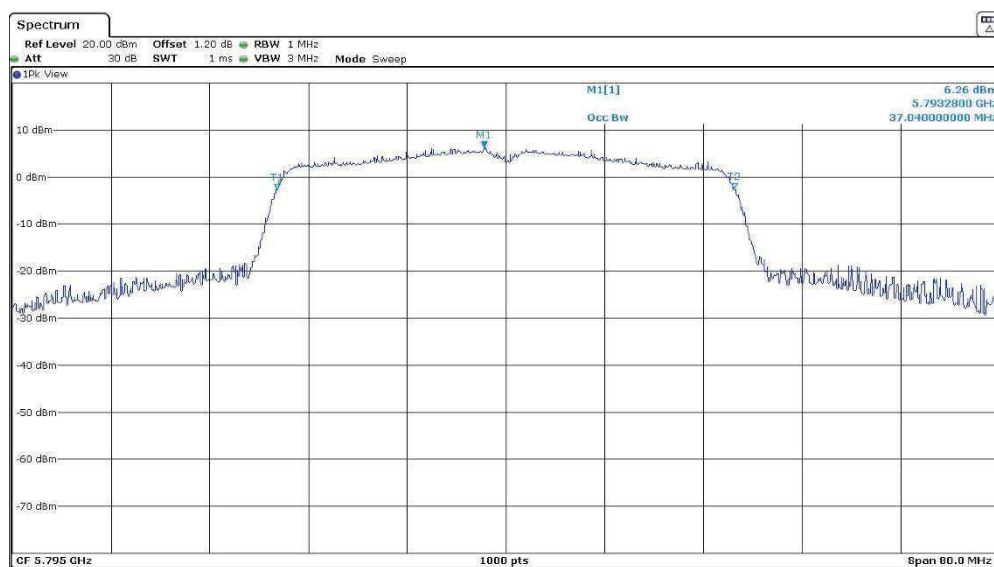
- Channel 46 (5230 MHz)



○ Channel 151 (5755 MHz)

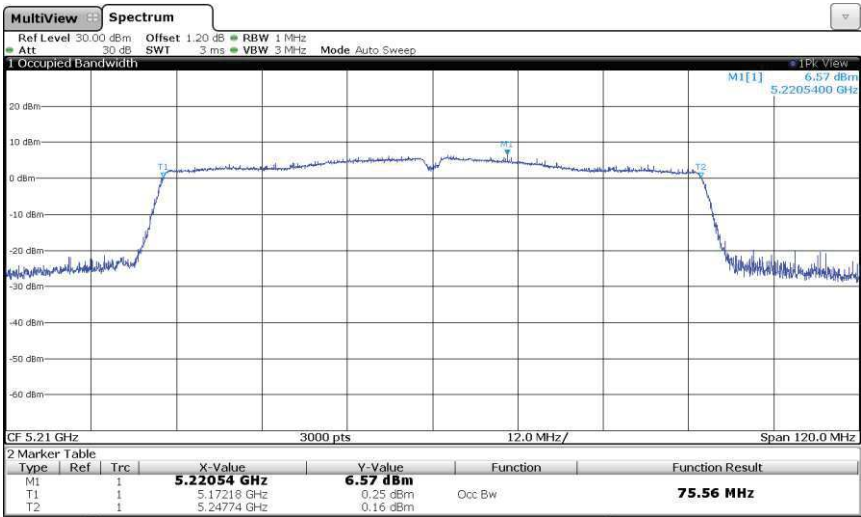


○ Channel 159 (5795 MHz)

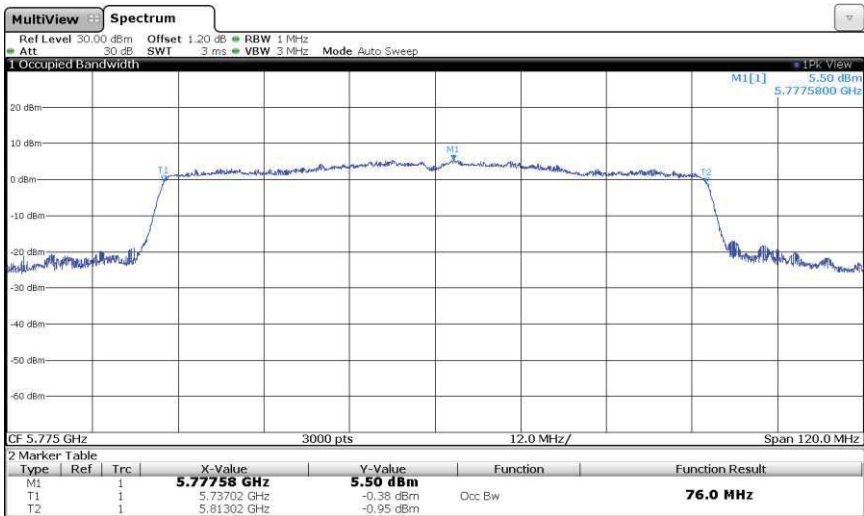


802.11 ac80 - 80MHz

- Channel 42 (5210 MHz)

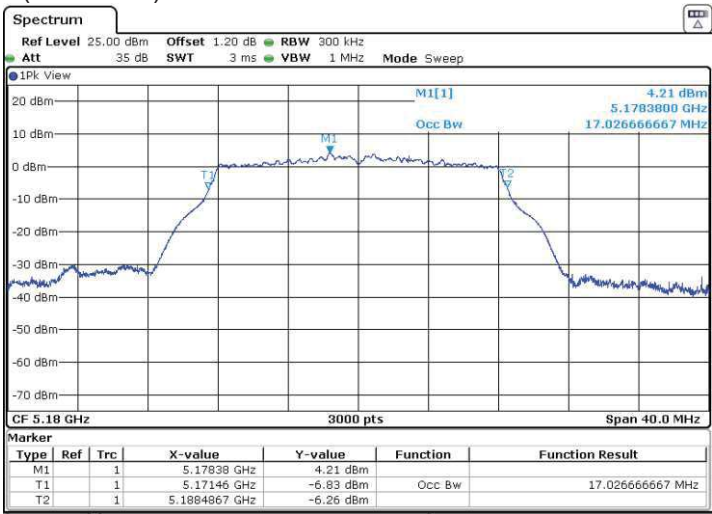


- Channel 155 (5775 MHz)

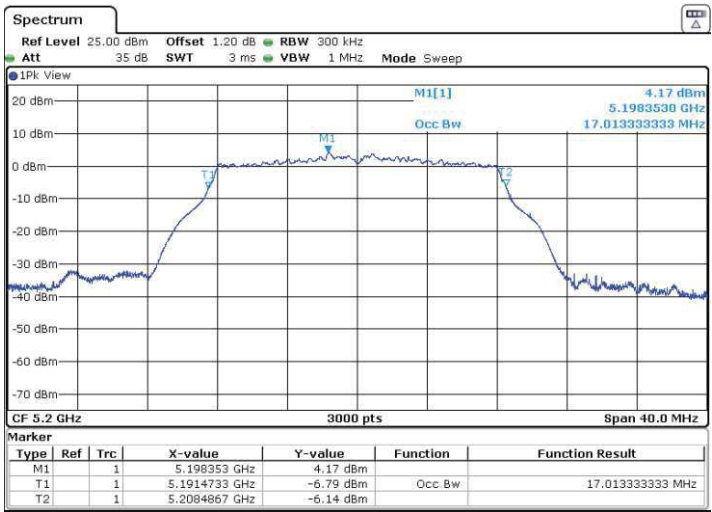


WLAN1 - CORE 1 – SISO - Antenna port 4
802.11a - 20MHz

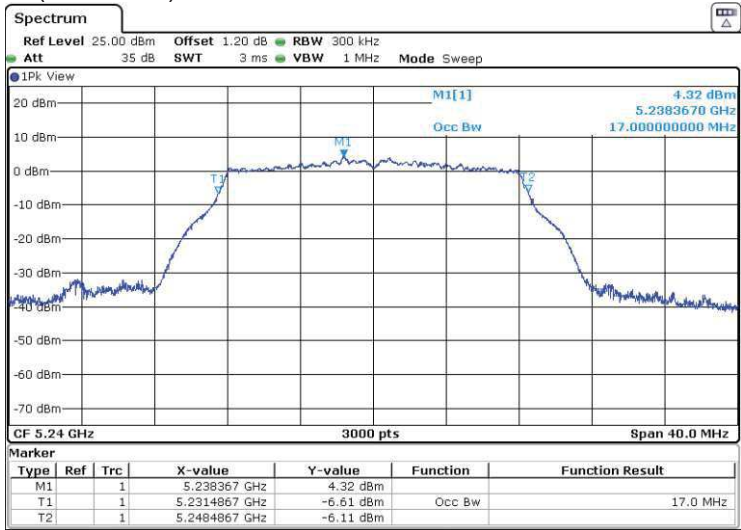
- Channel 36 (5180 MHz)



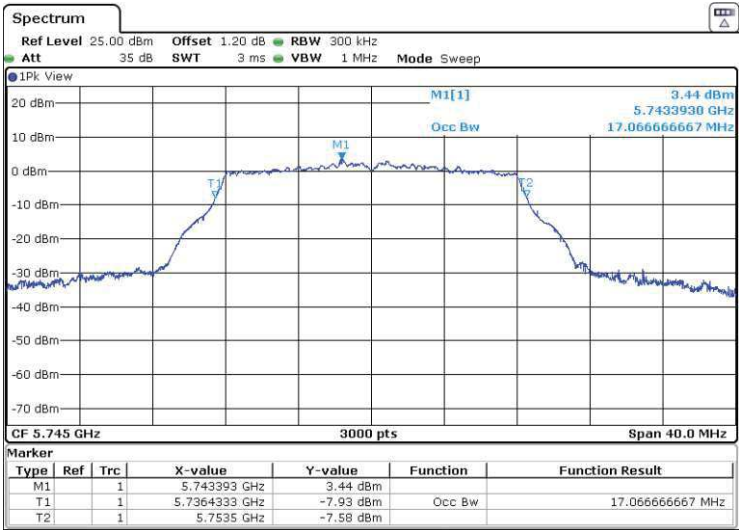
- Channel 40 (5200 MHz)



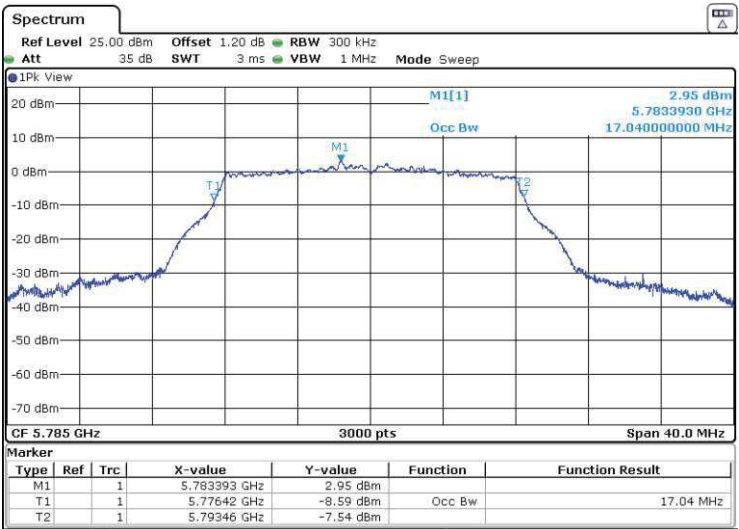
- Channel 48 (5240 MHz)



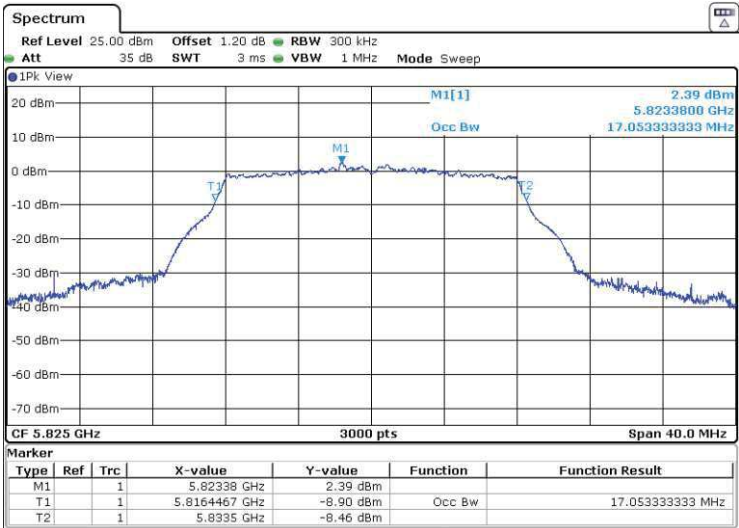
○ Channel 149 (5745 MHz)



○ Channel 157 (5785 MHz)

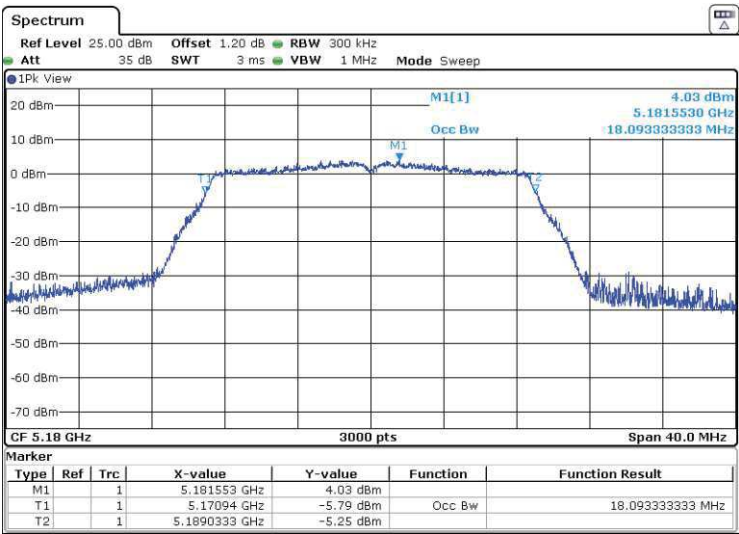


○ Channel 165 (5825 MHz)

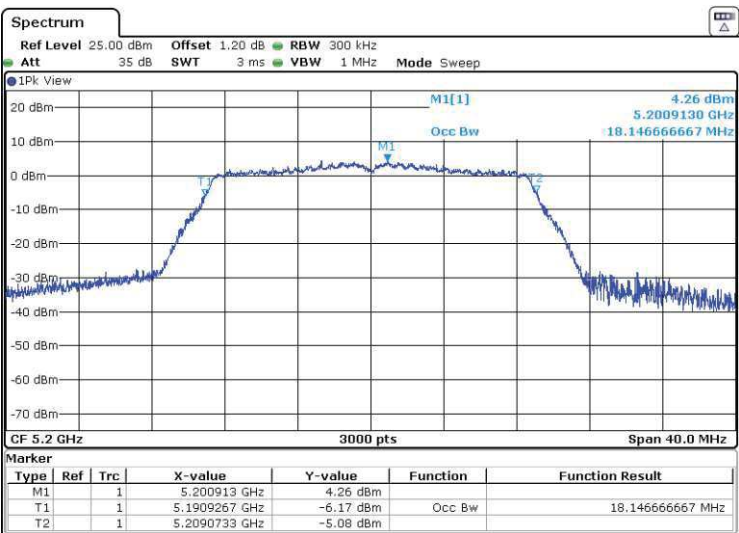


802.11n HT20 - 20MHz

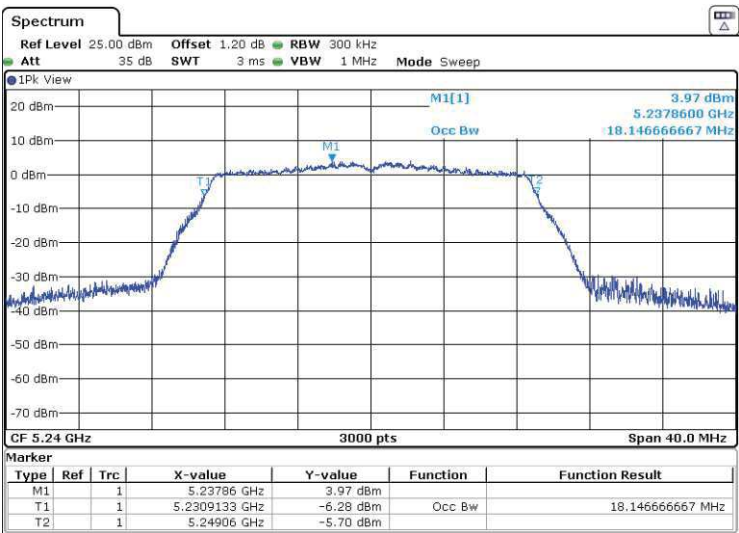
- Channel 36 (5180 MHz)



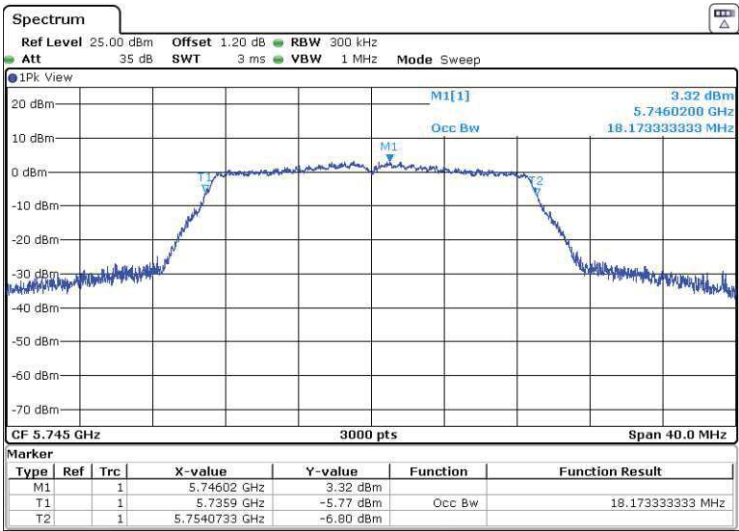
- Channel 40 (5200 MHz)



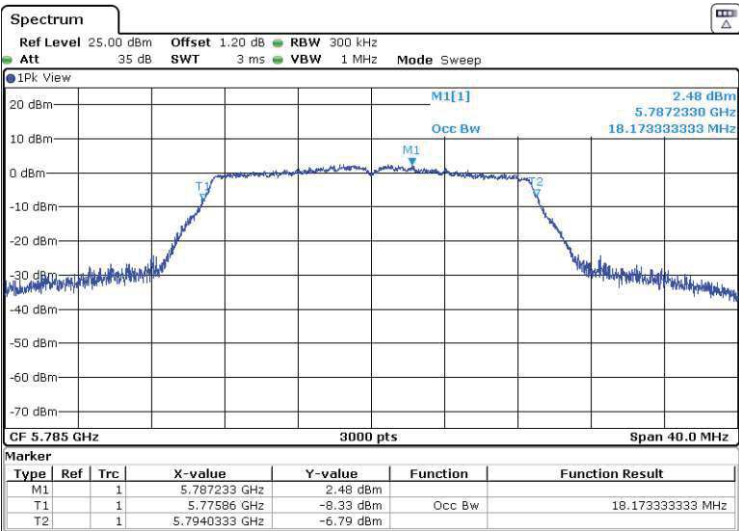
- Channel 48 (5240 MHz)



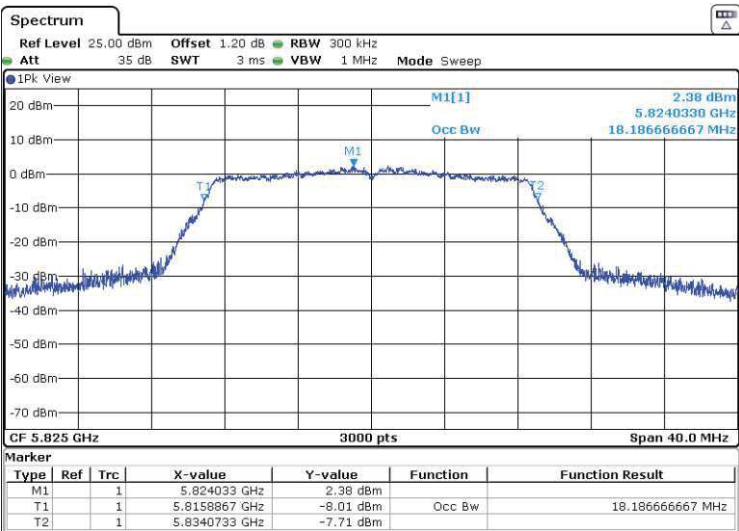
- Channel 149 (5745 MHz)



- Channel 157 (5785 MHz)

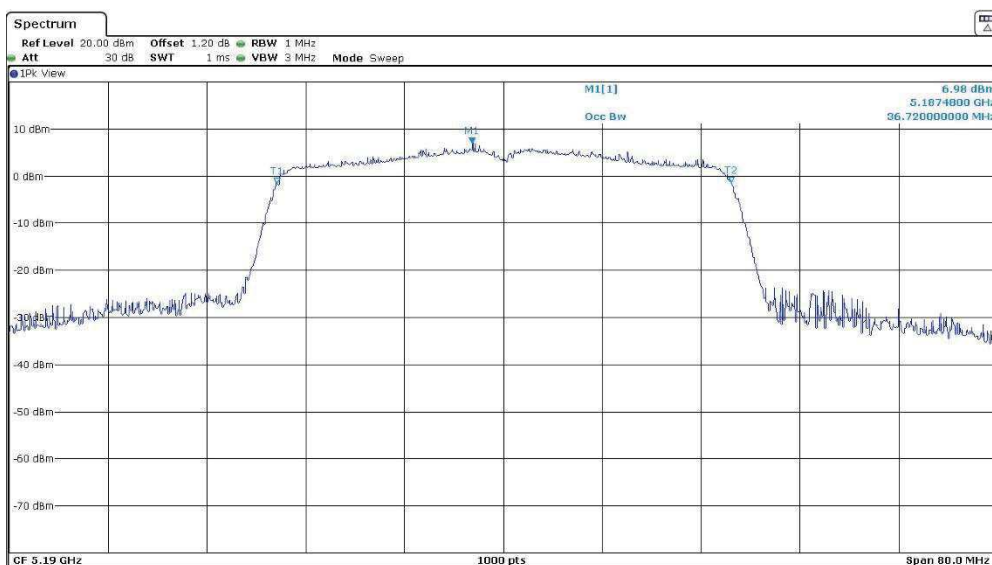


- Channel 165 (5825 MHz)

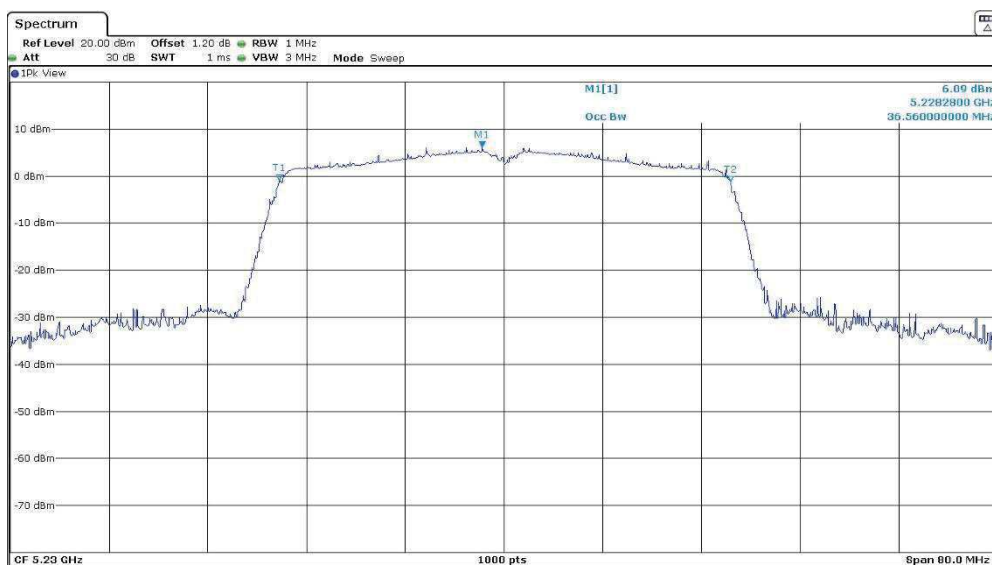


802.11n HT40 - 40MHz

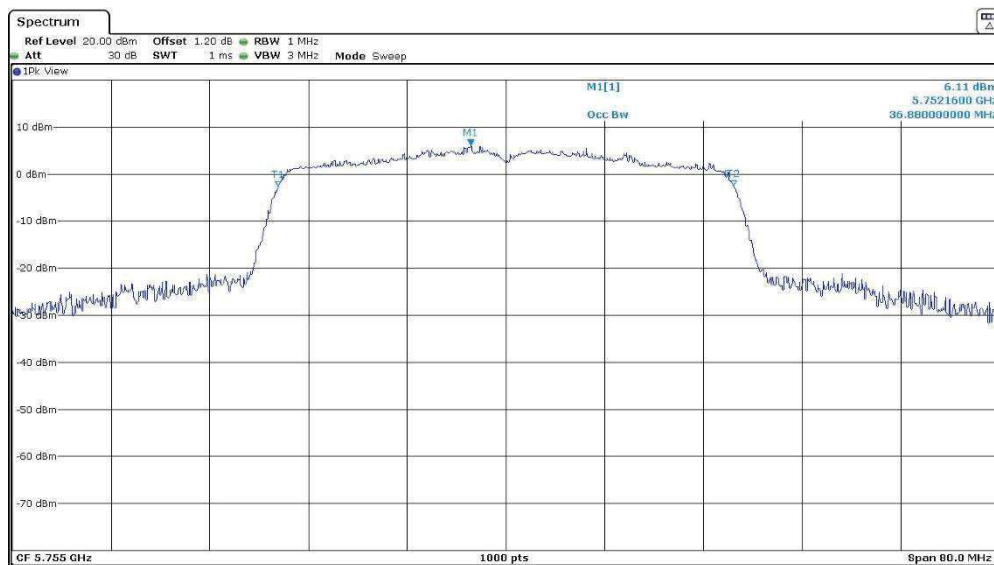
- Channel 38 (5190 MHz)



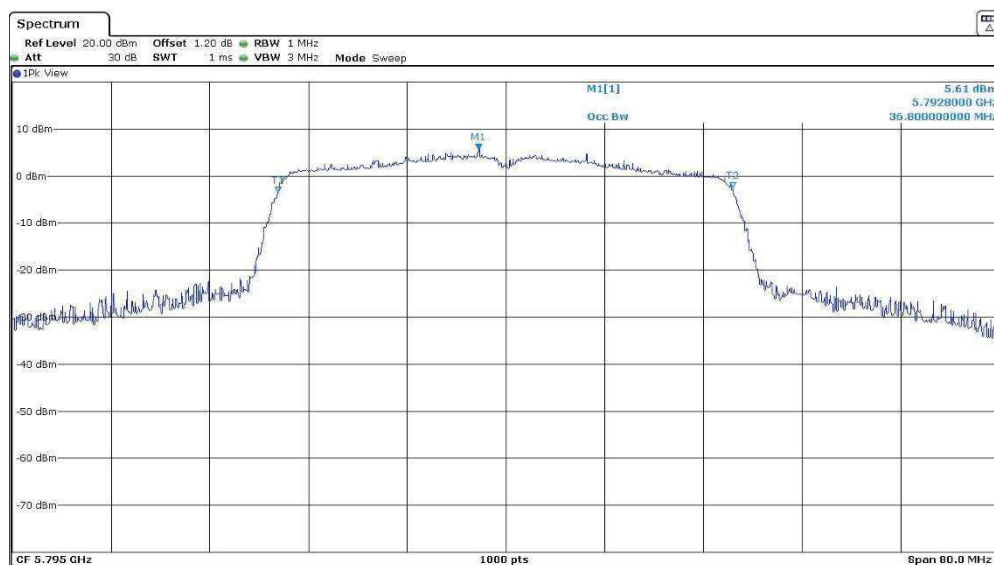
- Channel 46 (5230 MHz)



○ Channel 151 (5755 MHz)

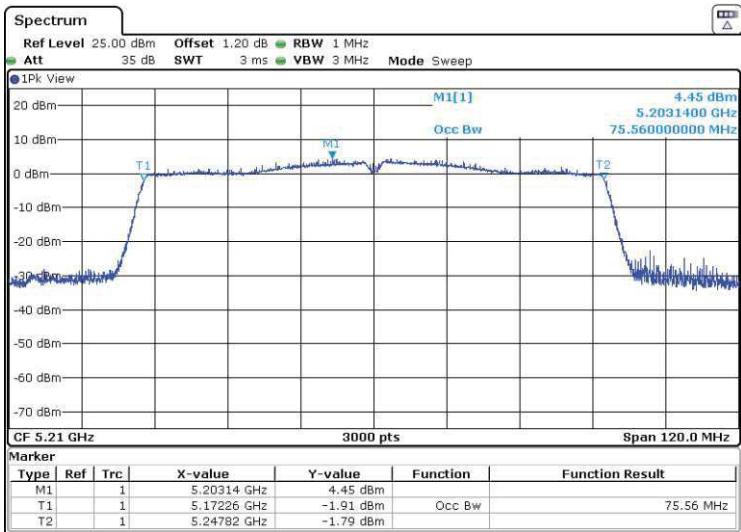


○ Channel 159 (5795 MHz)



802.11ac VHT80 - 80MHz

- Channel 42 (5210 MHz)



- Channel 155 (5775 MHz)

