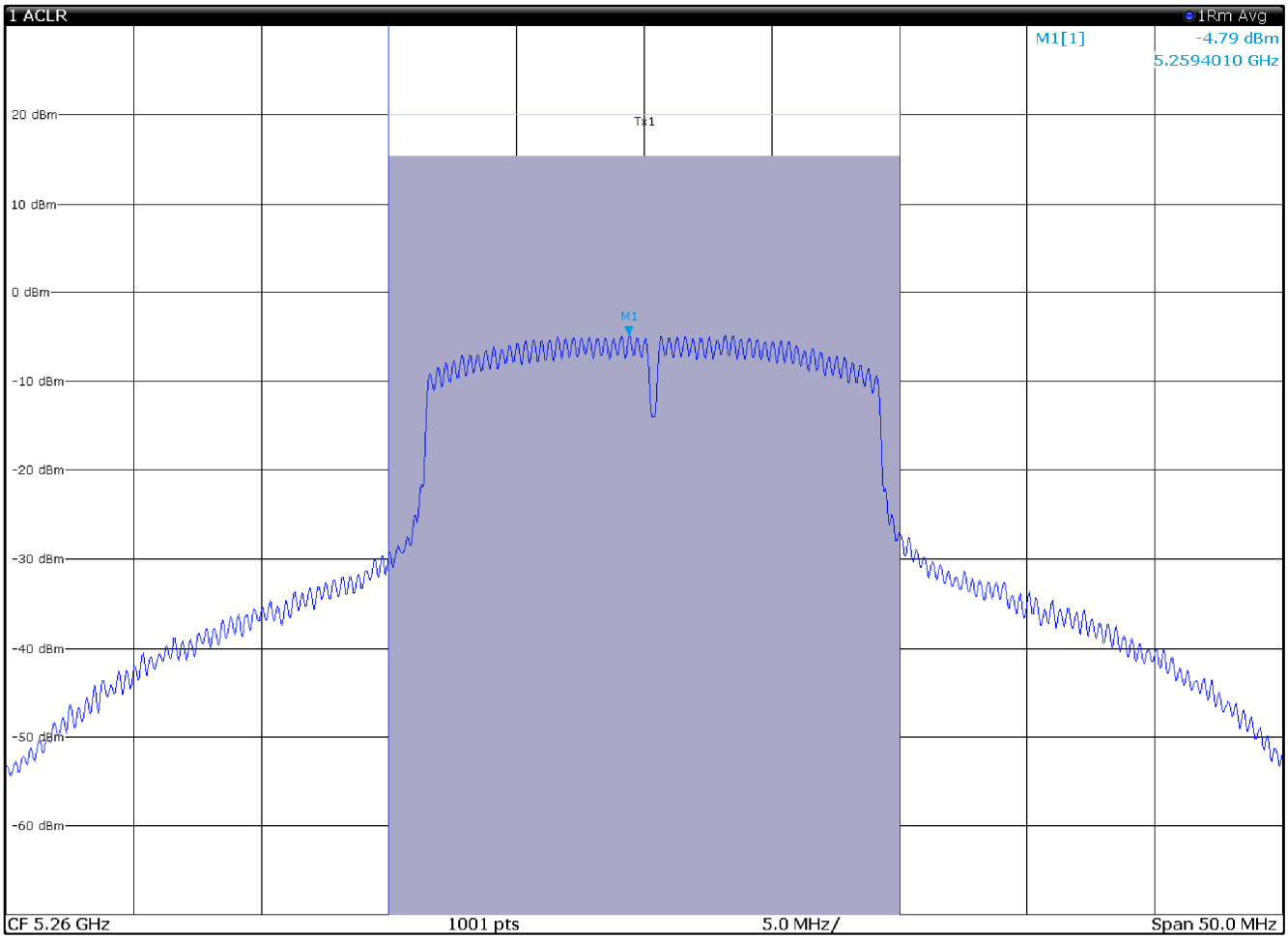

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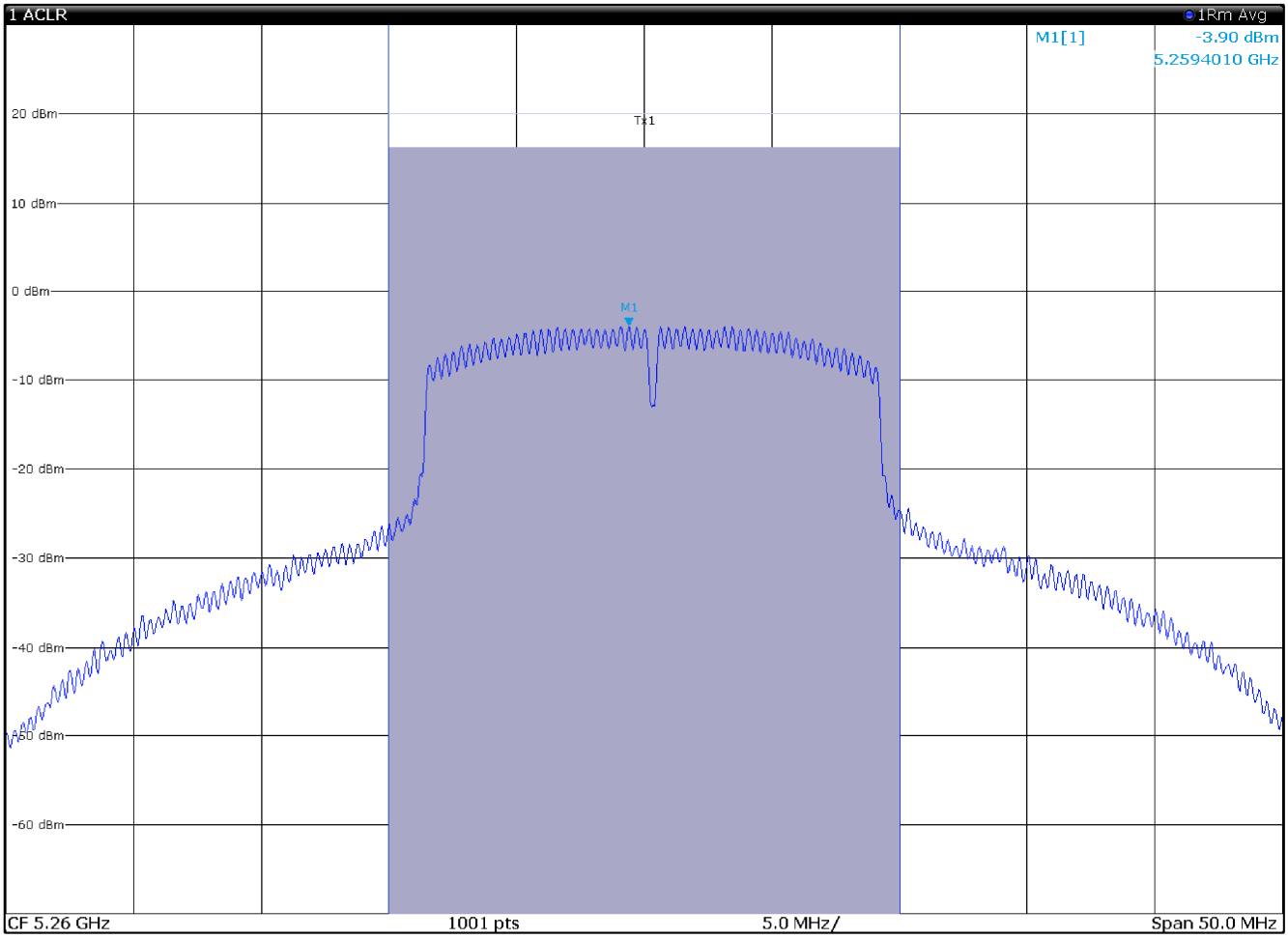
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**15.37 dBm**
Tx Total			**15.37 dBm**

Output power TX 5260 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 0**



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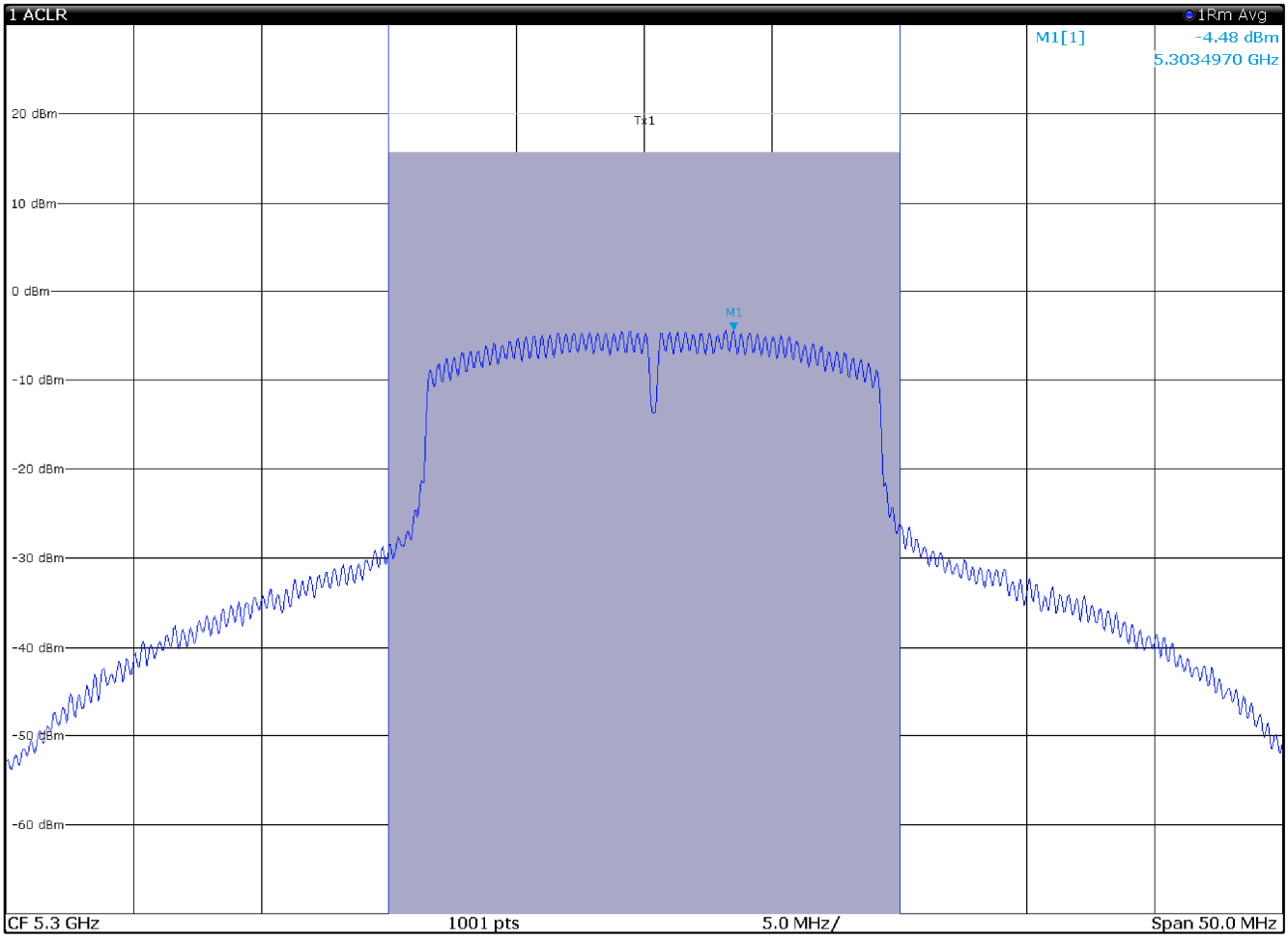
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**16.16 dBm**
Tx Total			**16.16 dBm**

Output power TX 5260 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 1**



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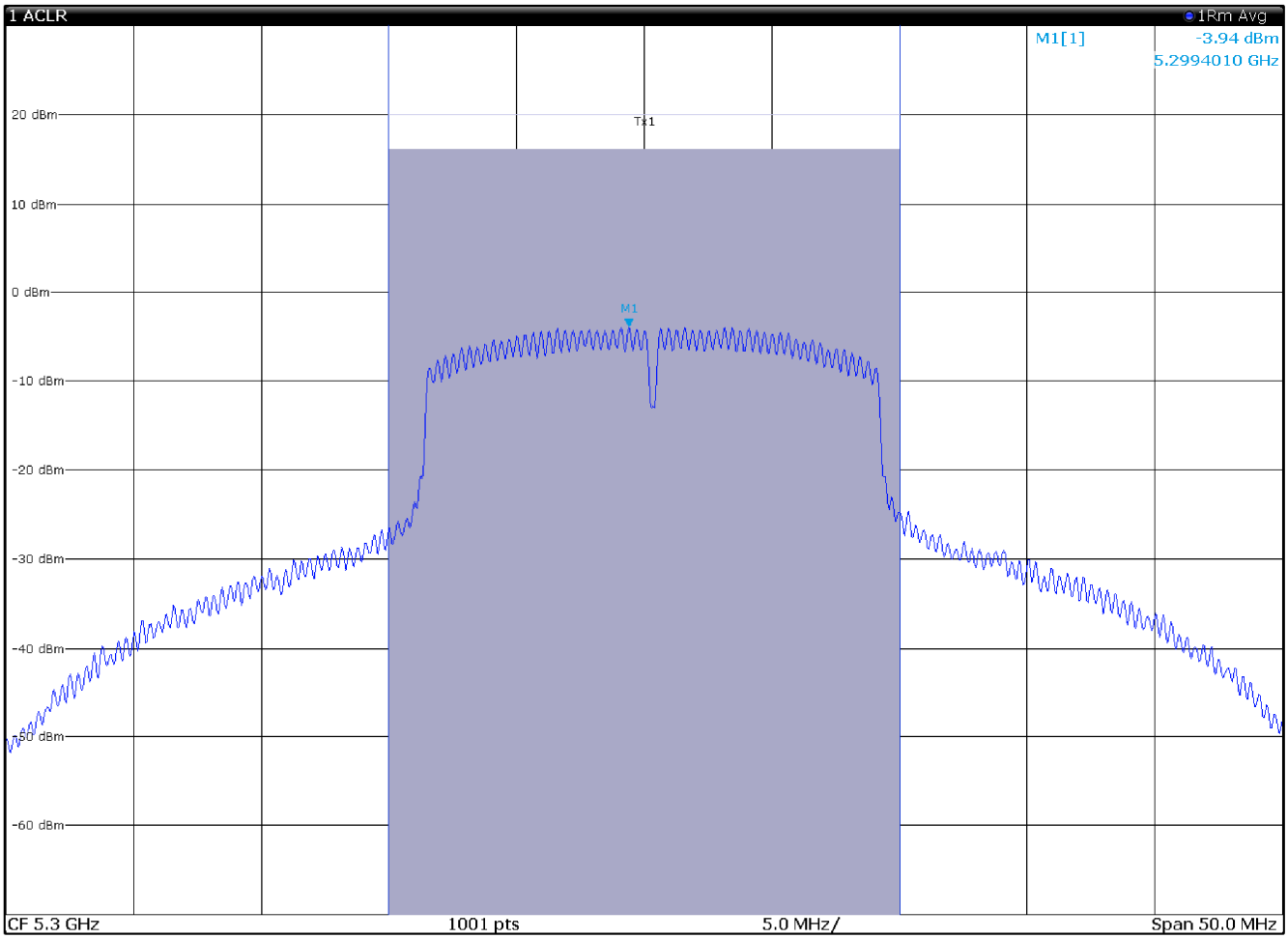
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**15.68 dBm**
Tx Total			**15.68 dBm**

Output power TX 5300 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 0**



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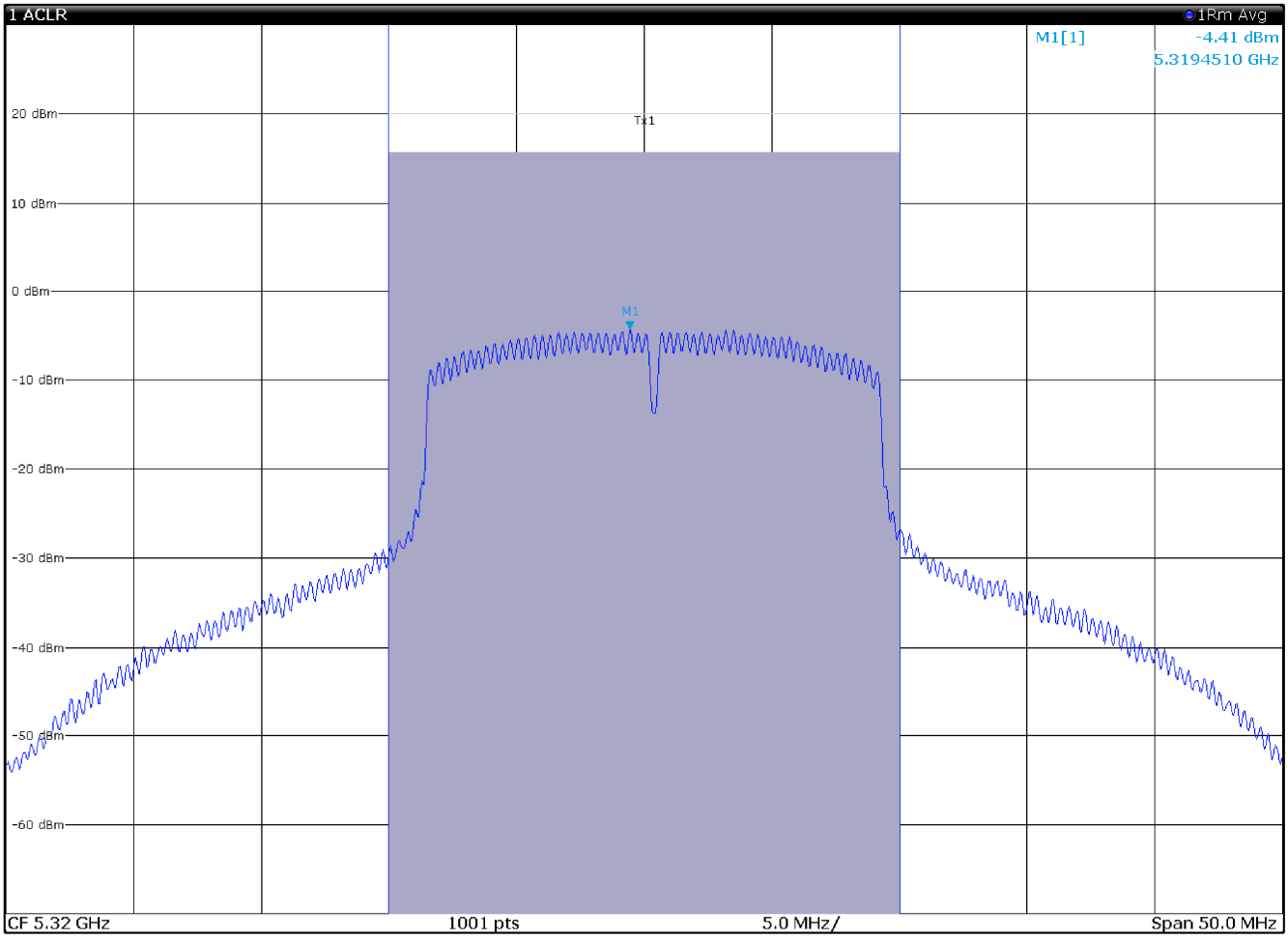
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**16.12 dBm**
Tx Total			**16.12 dBm**

Output power TX 5300 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 1**



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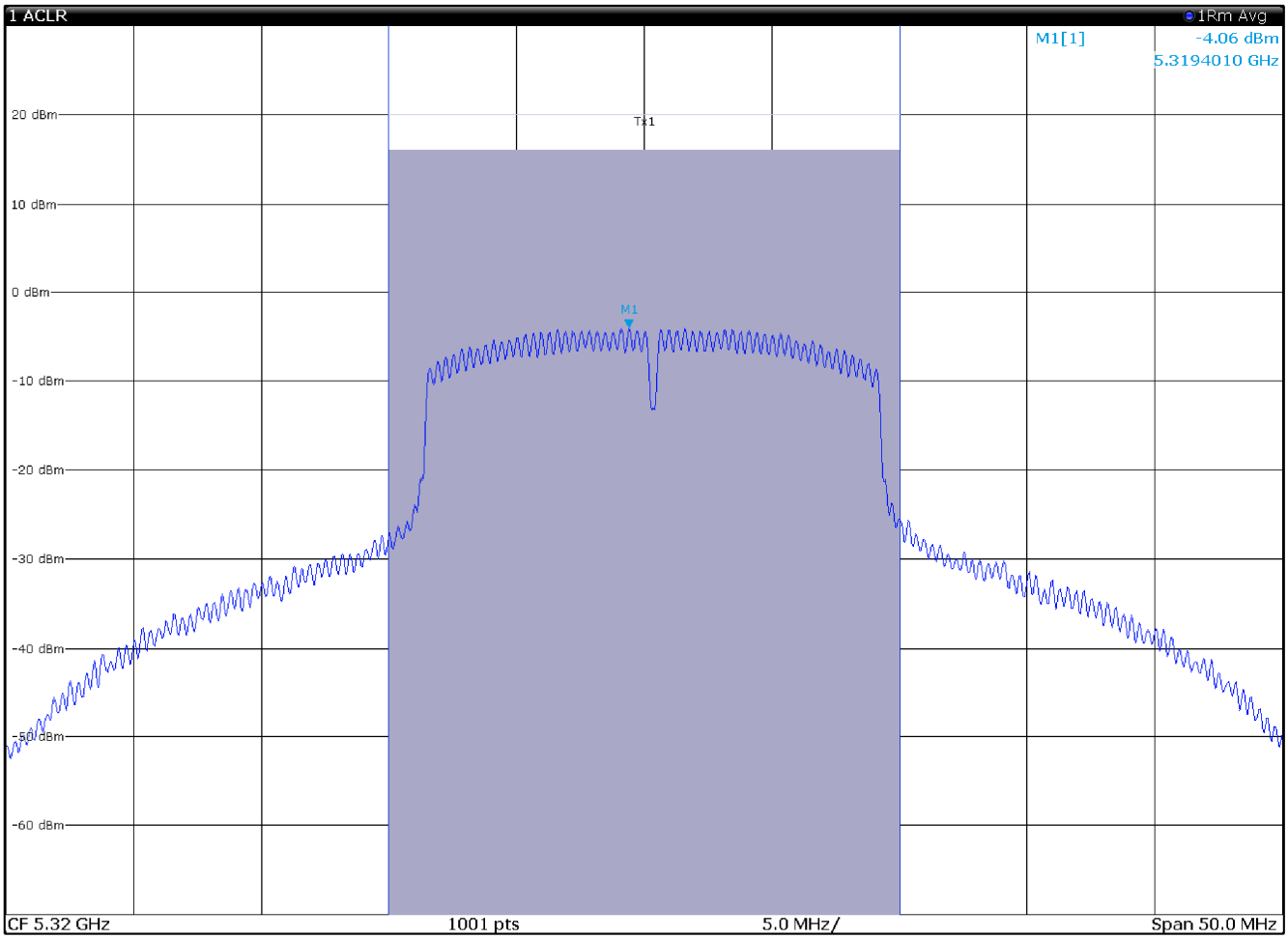
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**15.65 dBm**
Tx Total			**15.65 dBm**

Output power TX 5320 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 0**



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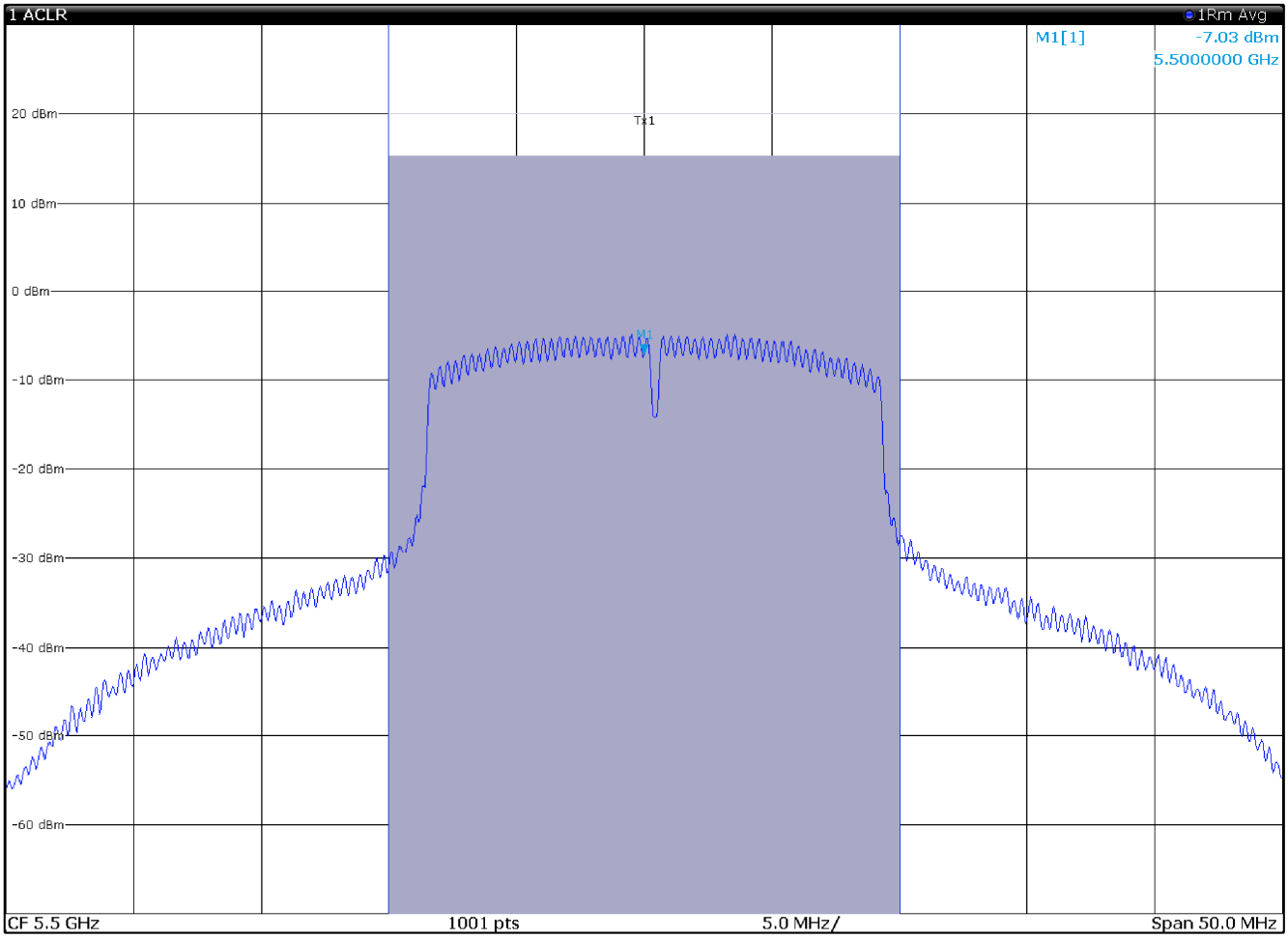
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**16.00 dBm**
Tx Total			**16.00 dBm**

Output power TX 5320 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 1**



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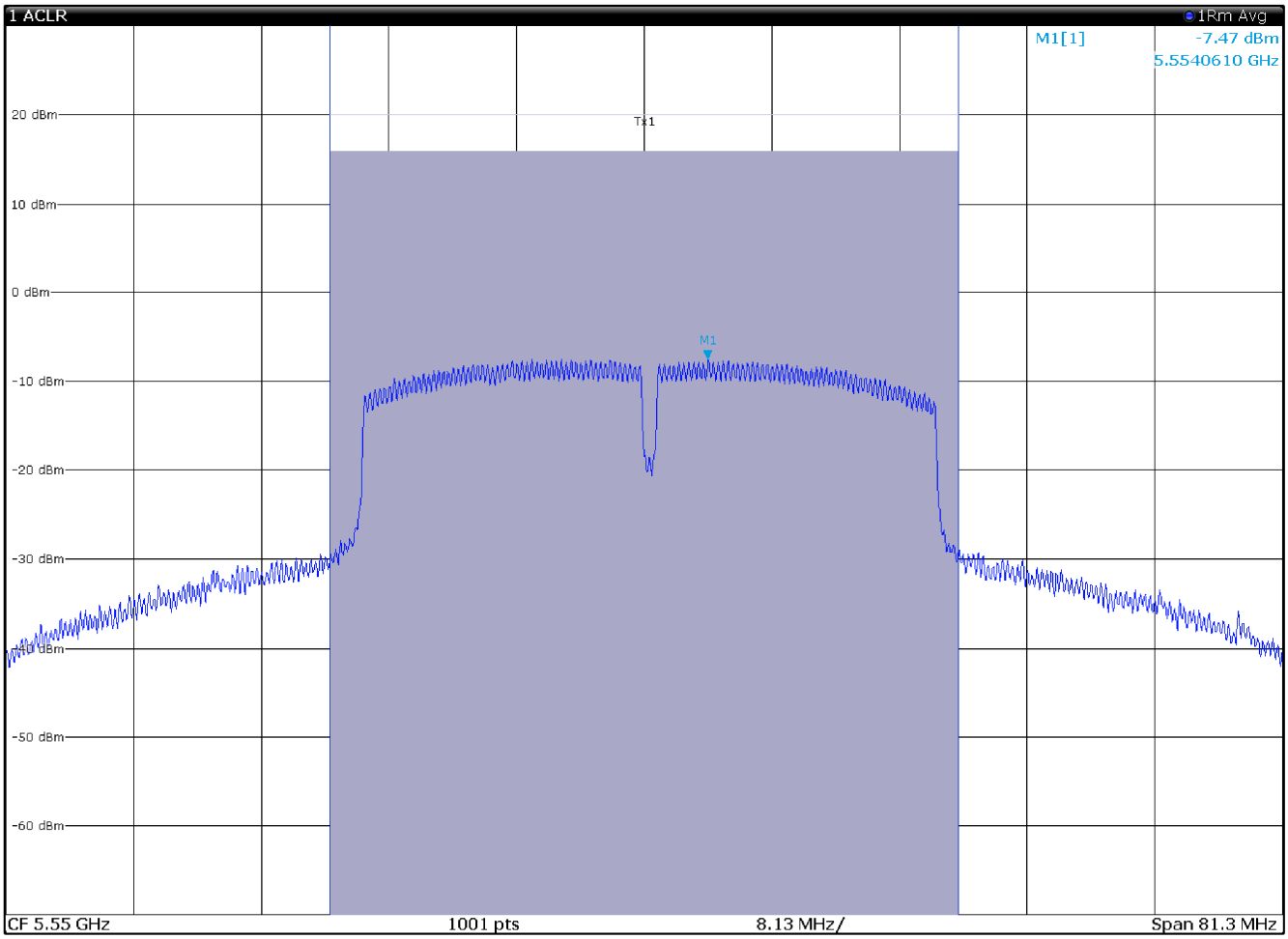
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**15.20 dBm**
Tx Total			**15.20 dBm**

Output power TX 5500 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 0**



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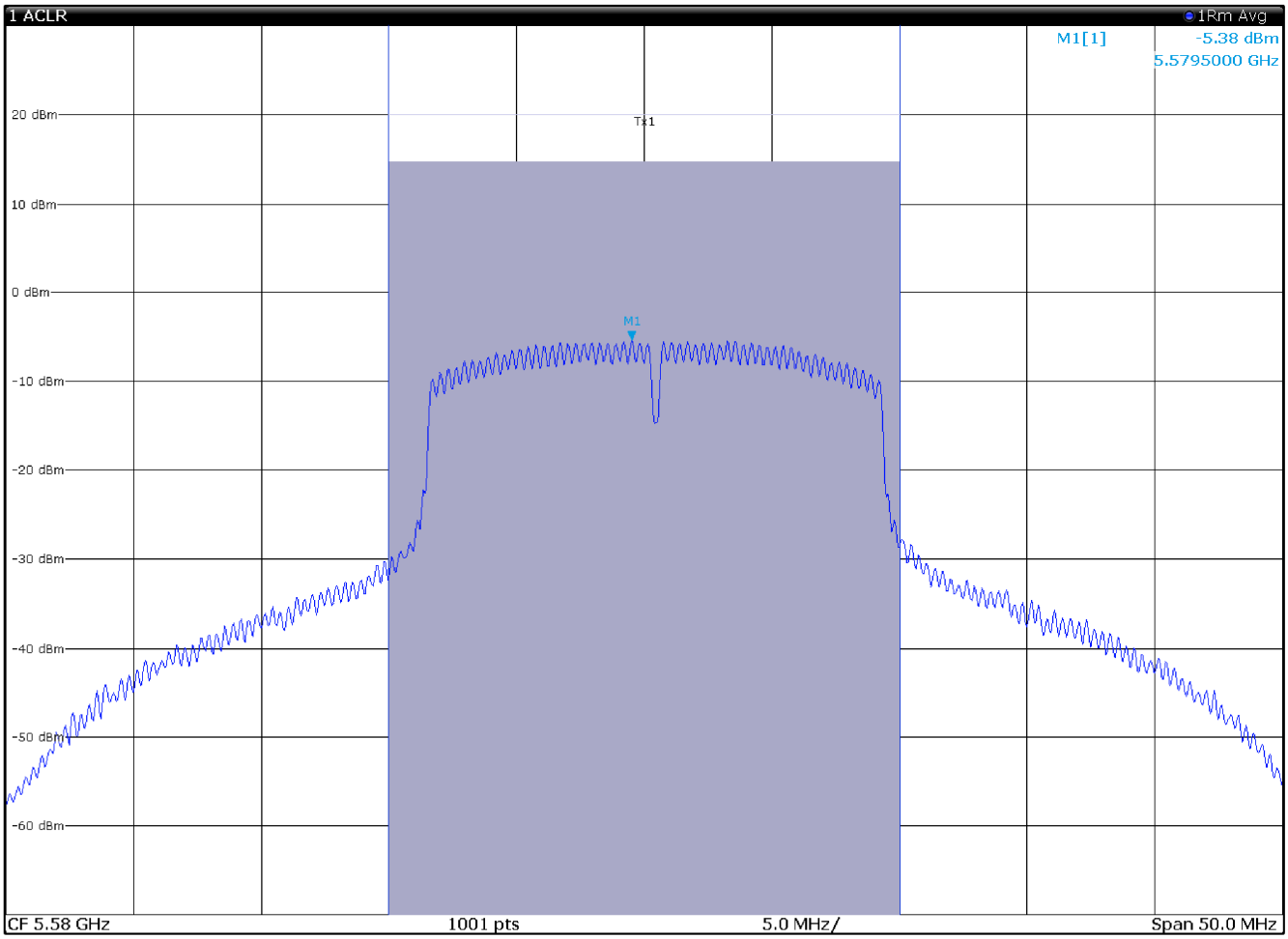
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**15.80 dBm**
Tx Total			**15.80 dBm**

Output power TX 5500 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 1**



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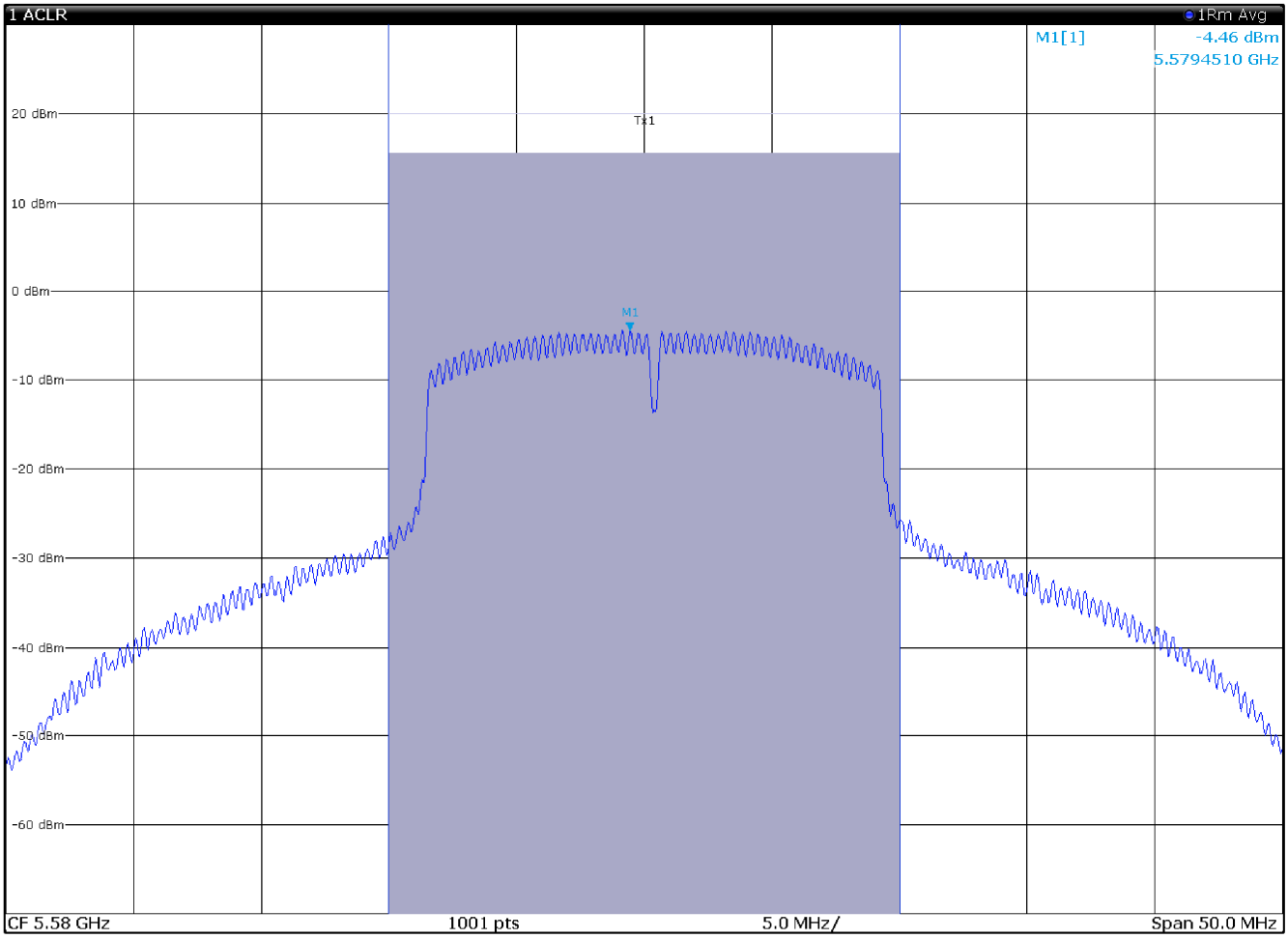
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**14.74 dBm**
Tx Total			**14.74 dBm**

Output power TX 5580 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 0**



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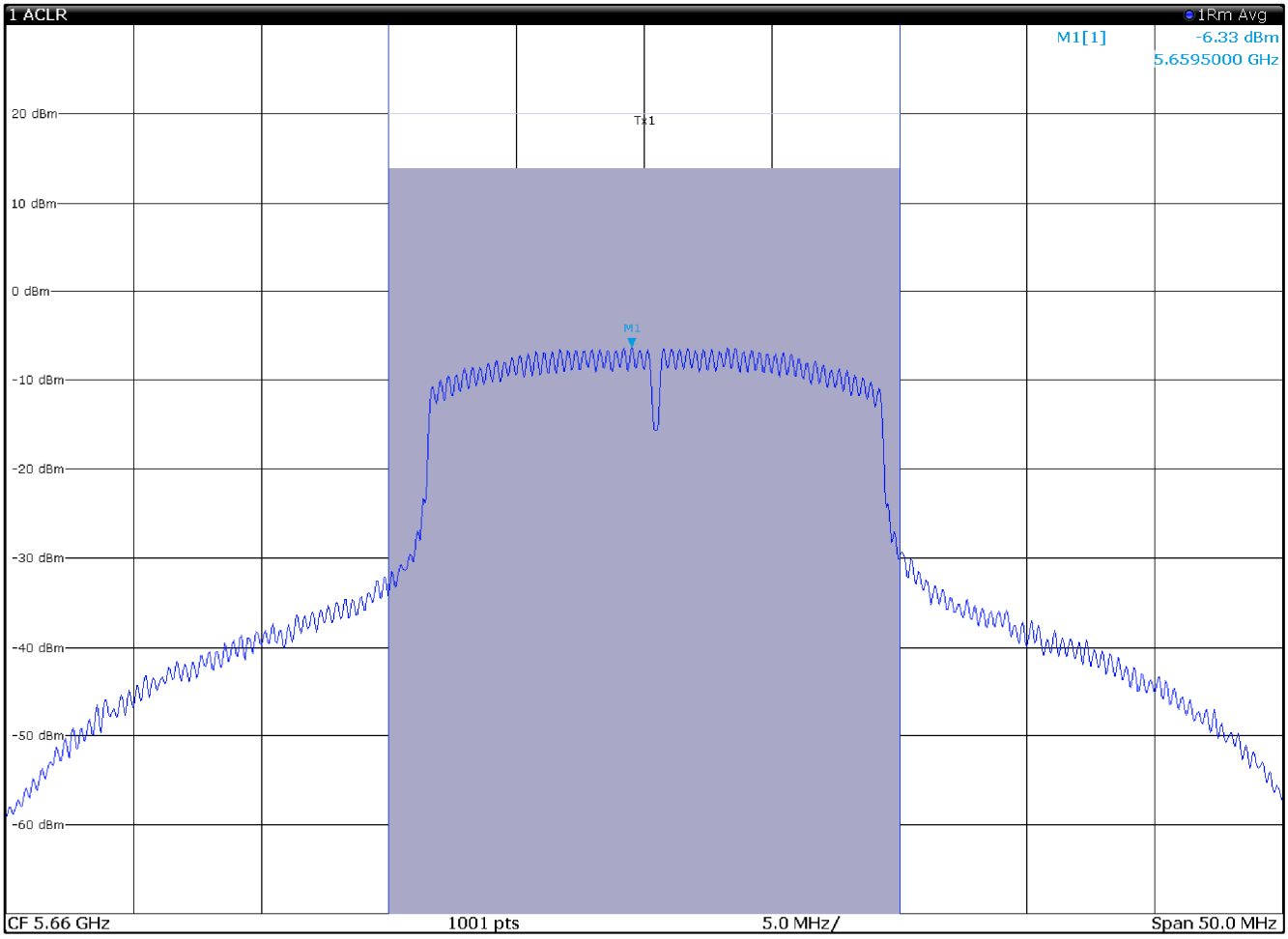
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**15.61 dBm**
Tx Total			**15.61 dBm**

Output power TX 5580 MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 1**



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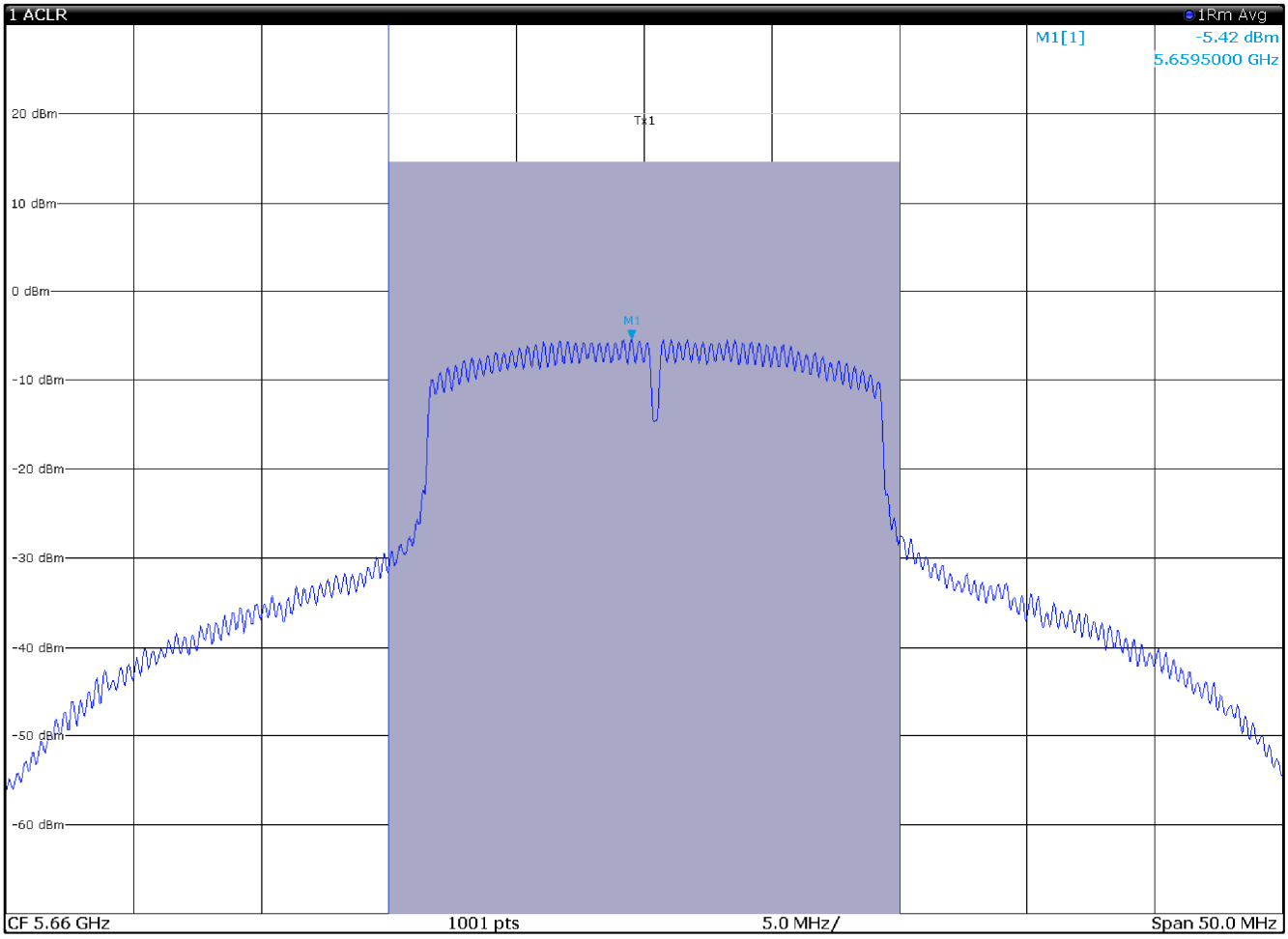
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**13.78 dBm**
Tx Total			**13.78 dBm**

Output power TX 5660MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 0**



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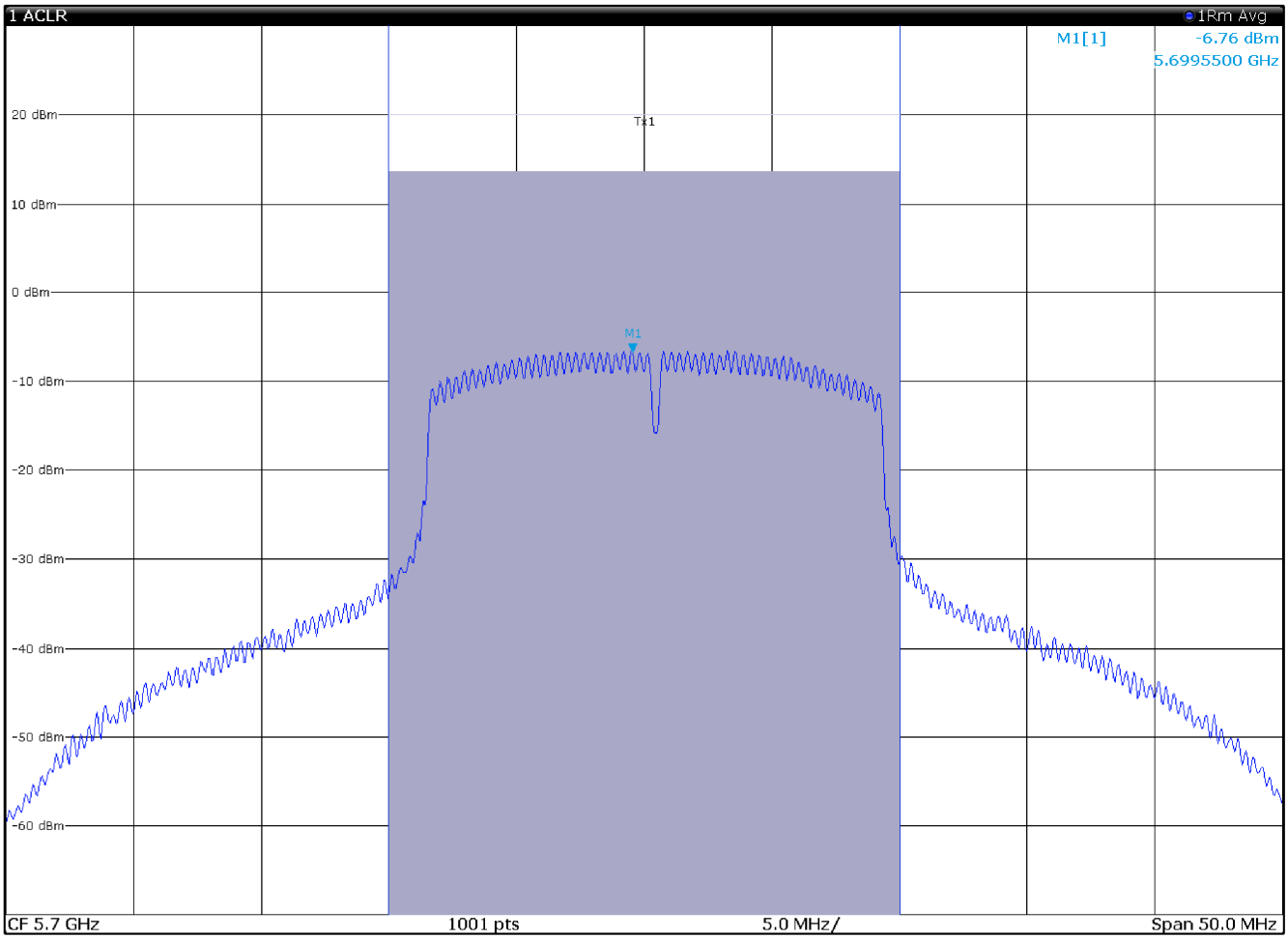
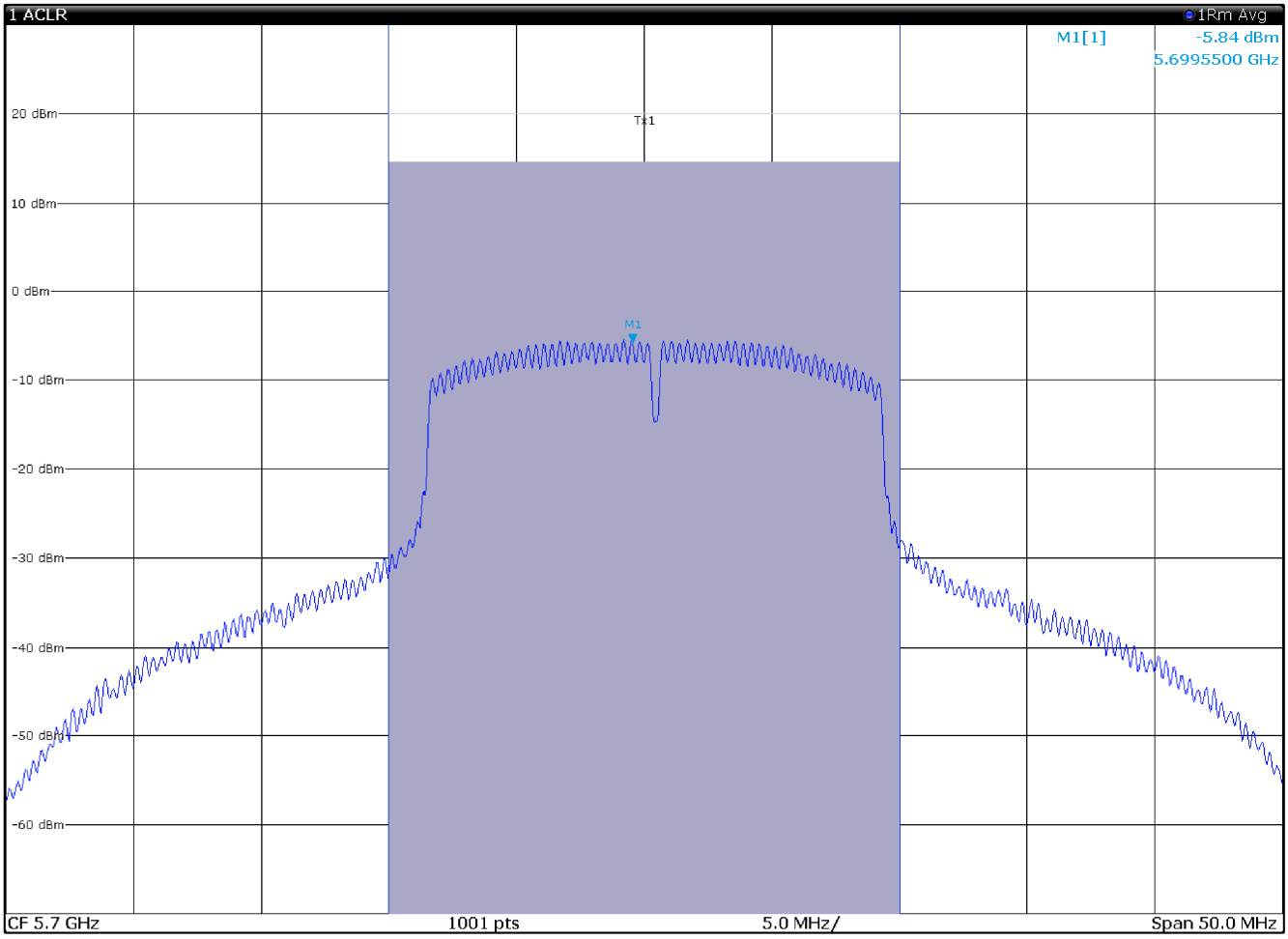
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**14.64 dBm**
Tx Total			**14.64 dBm**

Output power TX 5660MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 1**



2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**13.62 dBm**
Tx Total			**13.62 dBm**

Output power TX 5700MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 0**



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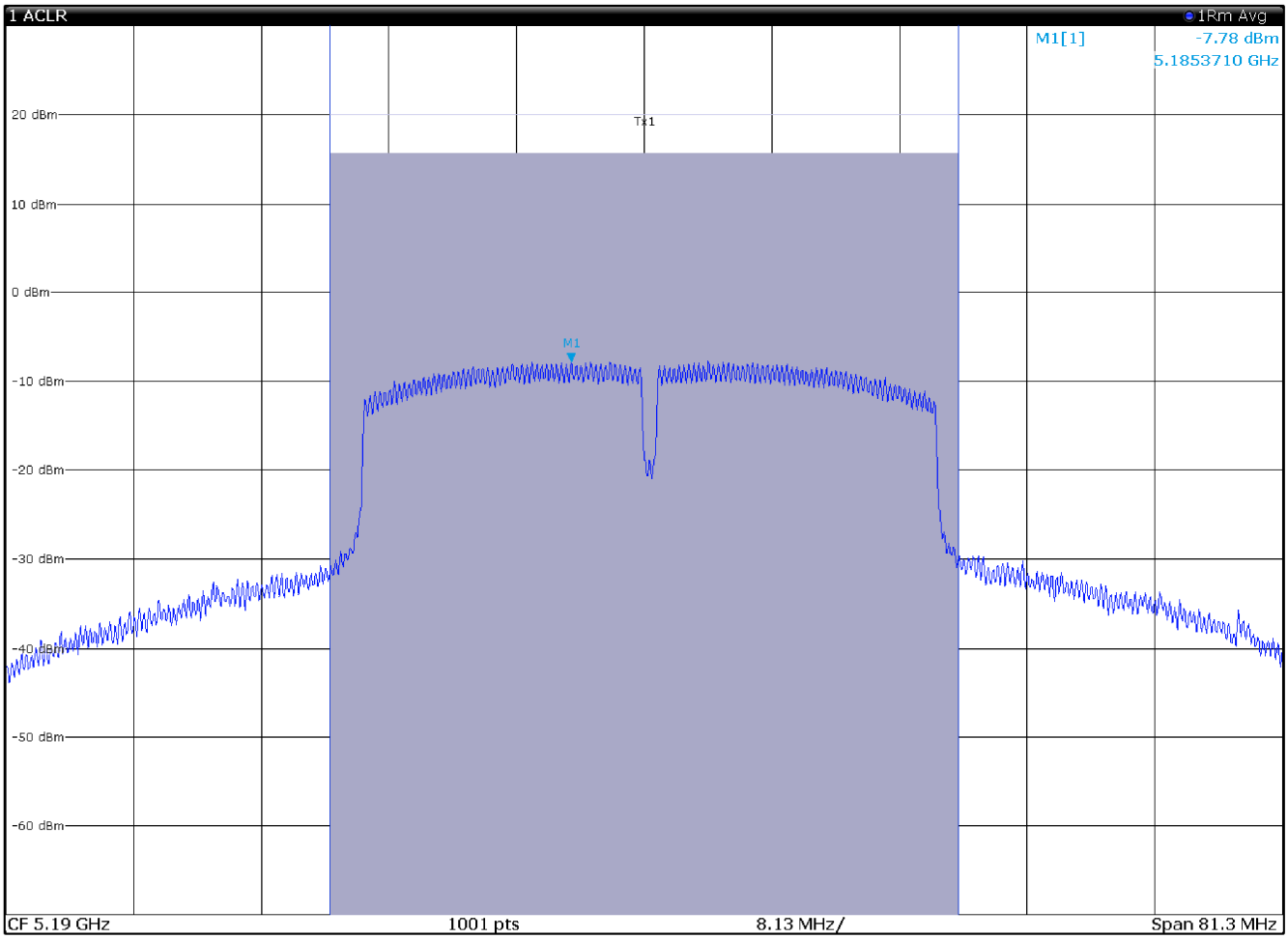
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	20.000 MHz		**14.57 dBm**
Tx Total			**14.57 dBm**

Output power TX 5700MHz, CH36, 802.11n (20MHz), 6.5Mbps,, multi chain **chain 1**



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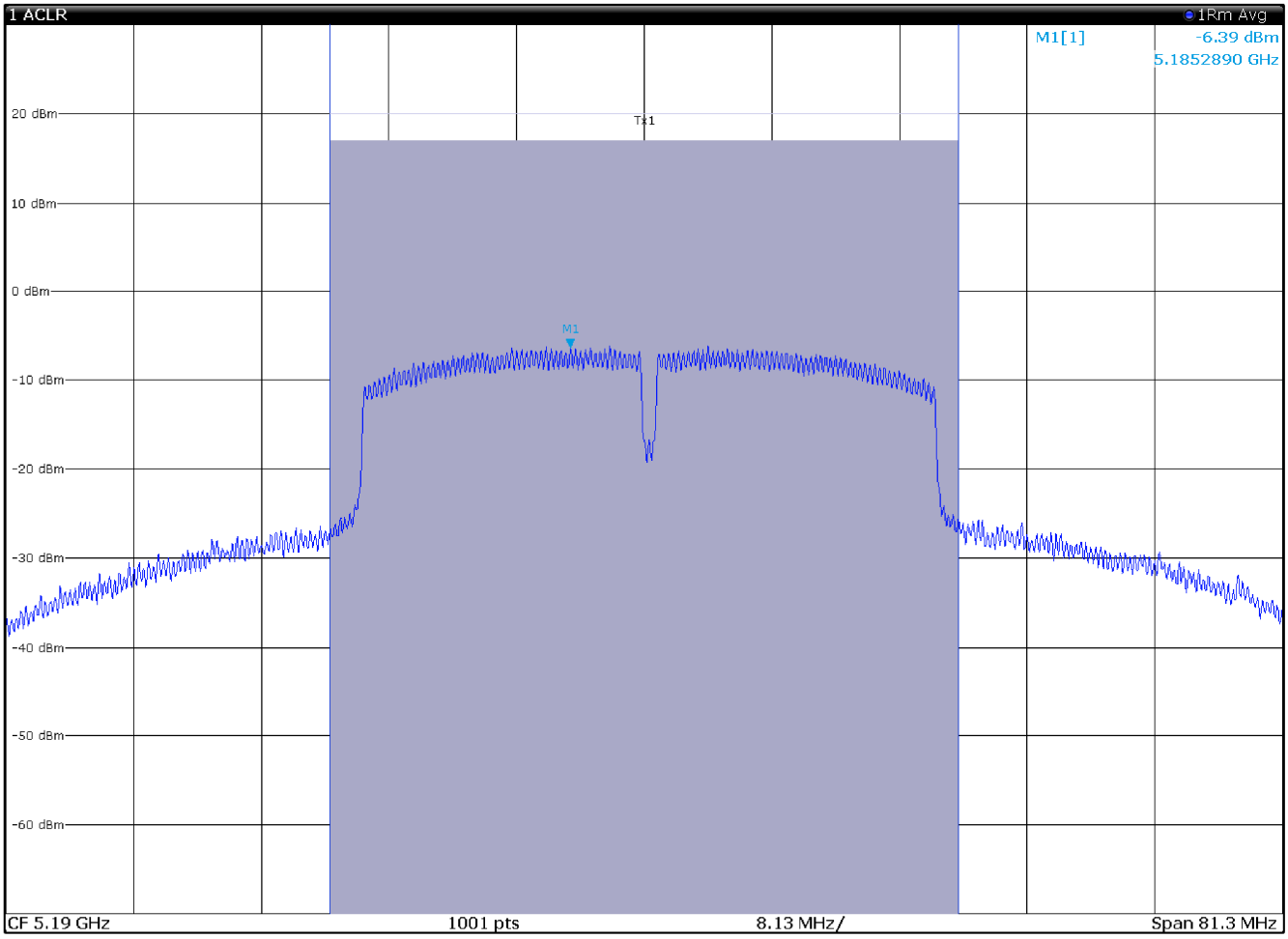
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**15.63 dBm**
Tx Total			**15.63 dBm**

Output power TX 5190MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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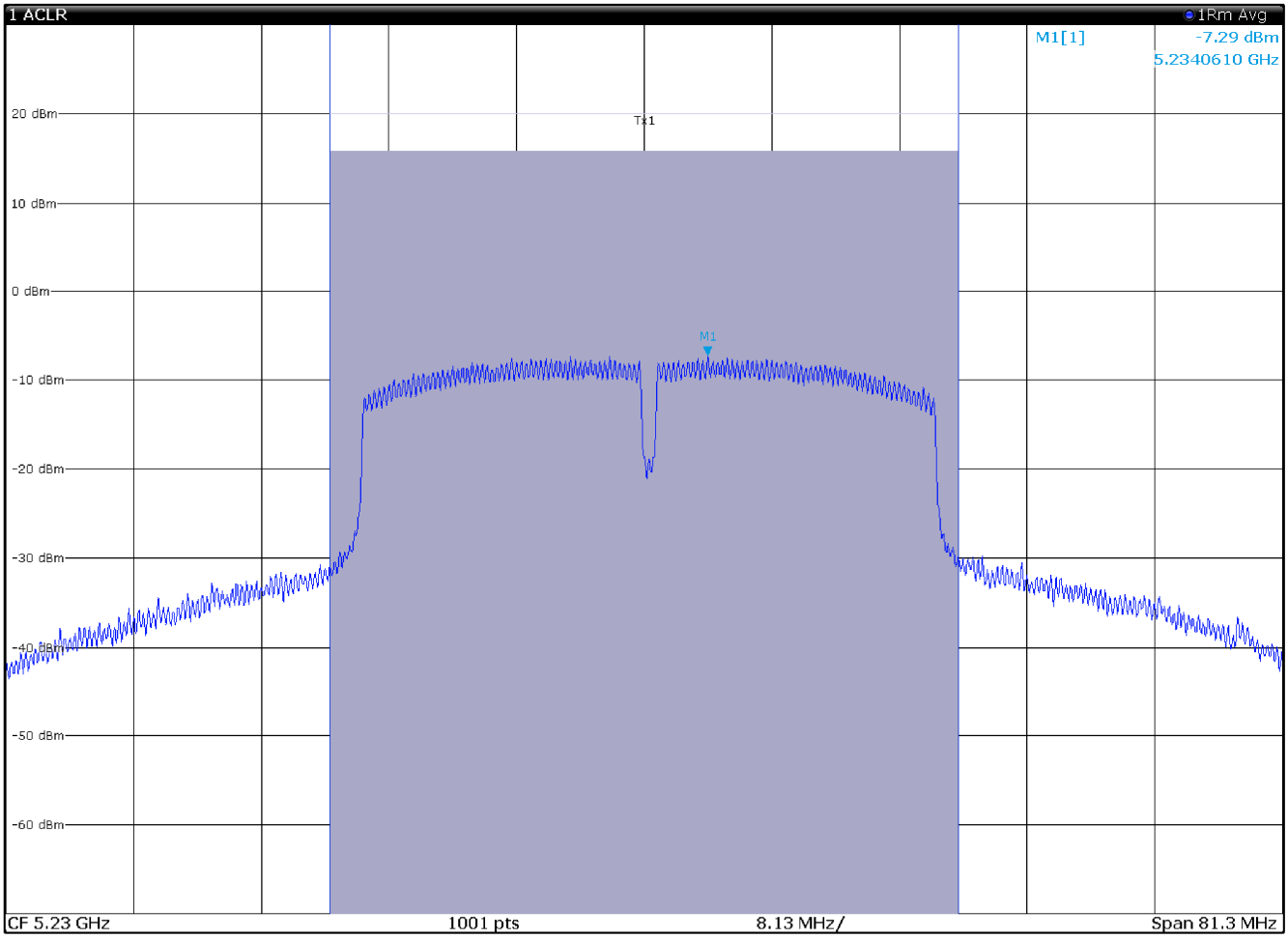
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**16.96 dBm**
Tx Total			**16.96 dBm**

Output power TX 5190MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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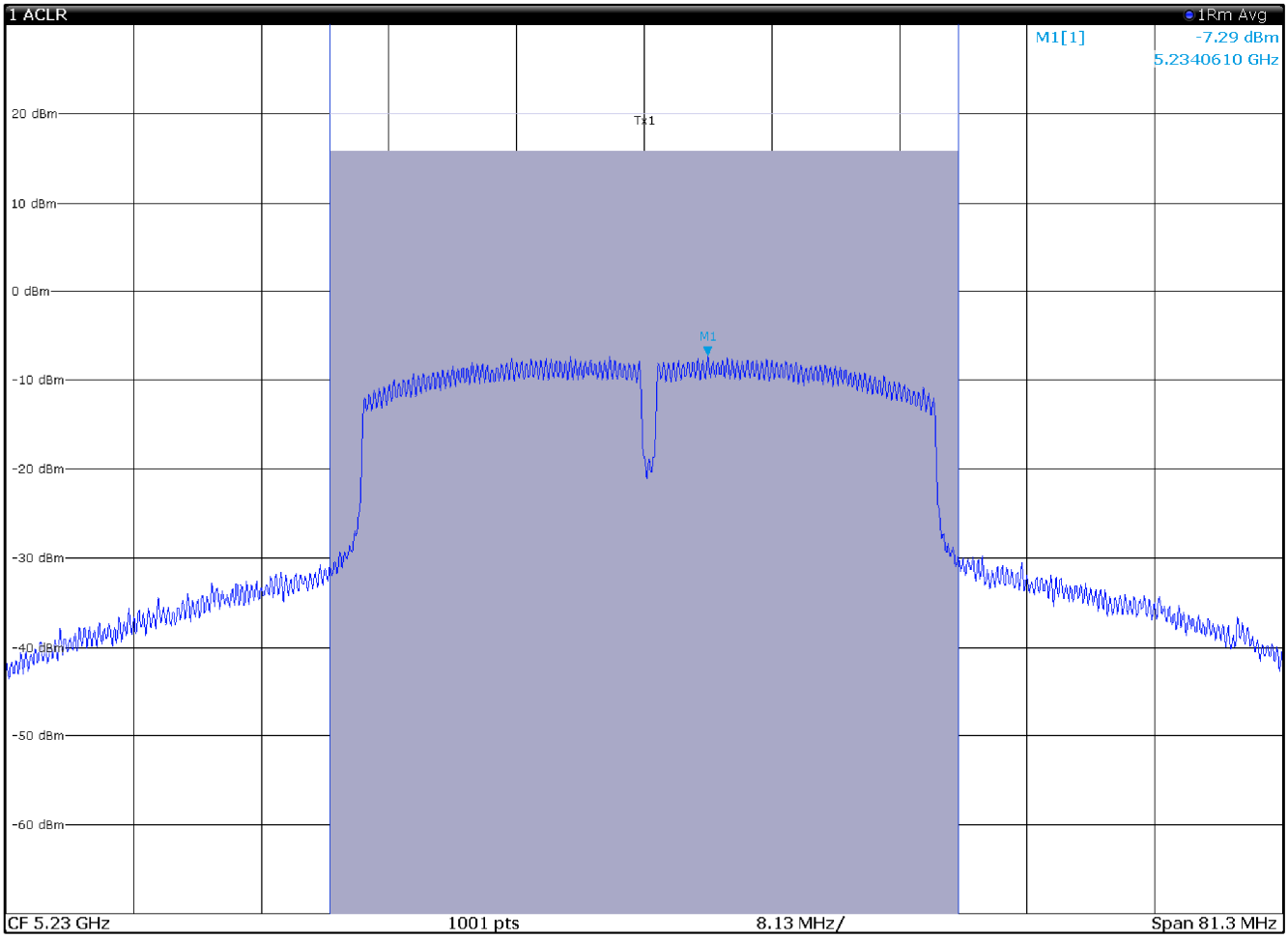
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**15.82 dBm**
Tx Total			**15.82 dBm**

Output power TX 5230MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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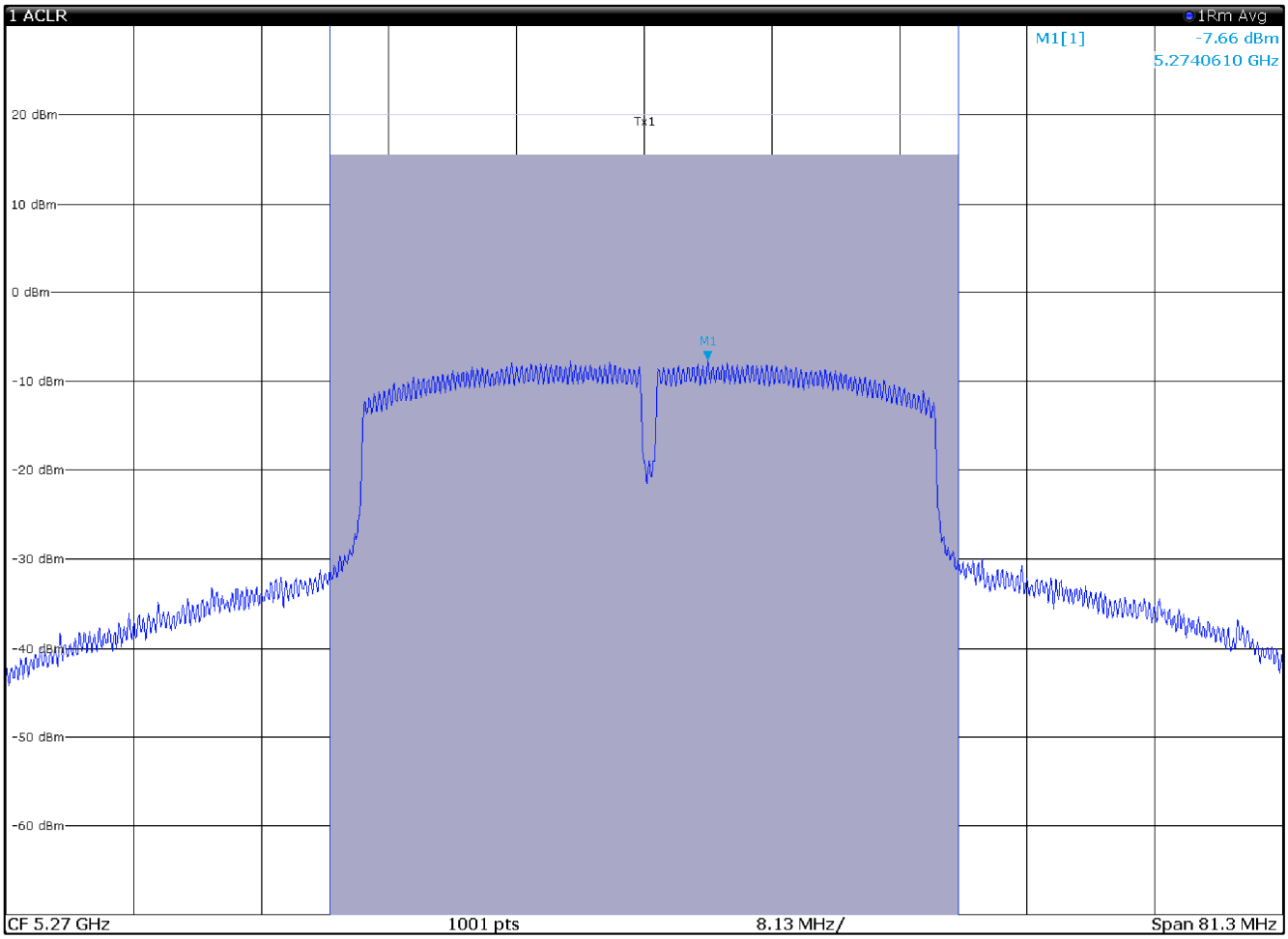
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**16.70 dBm**
Tx Total			**16.70 dBm**

Output power TX 5230MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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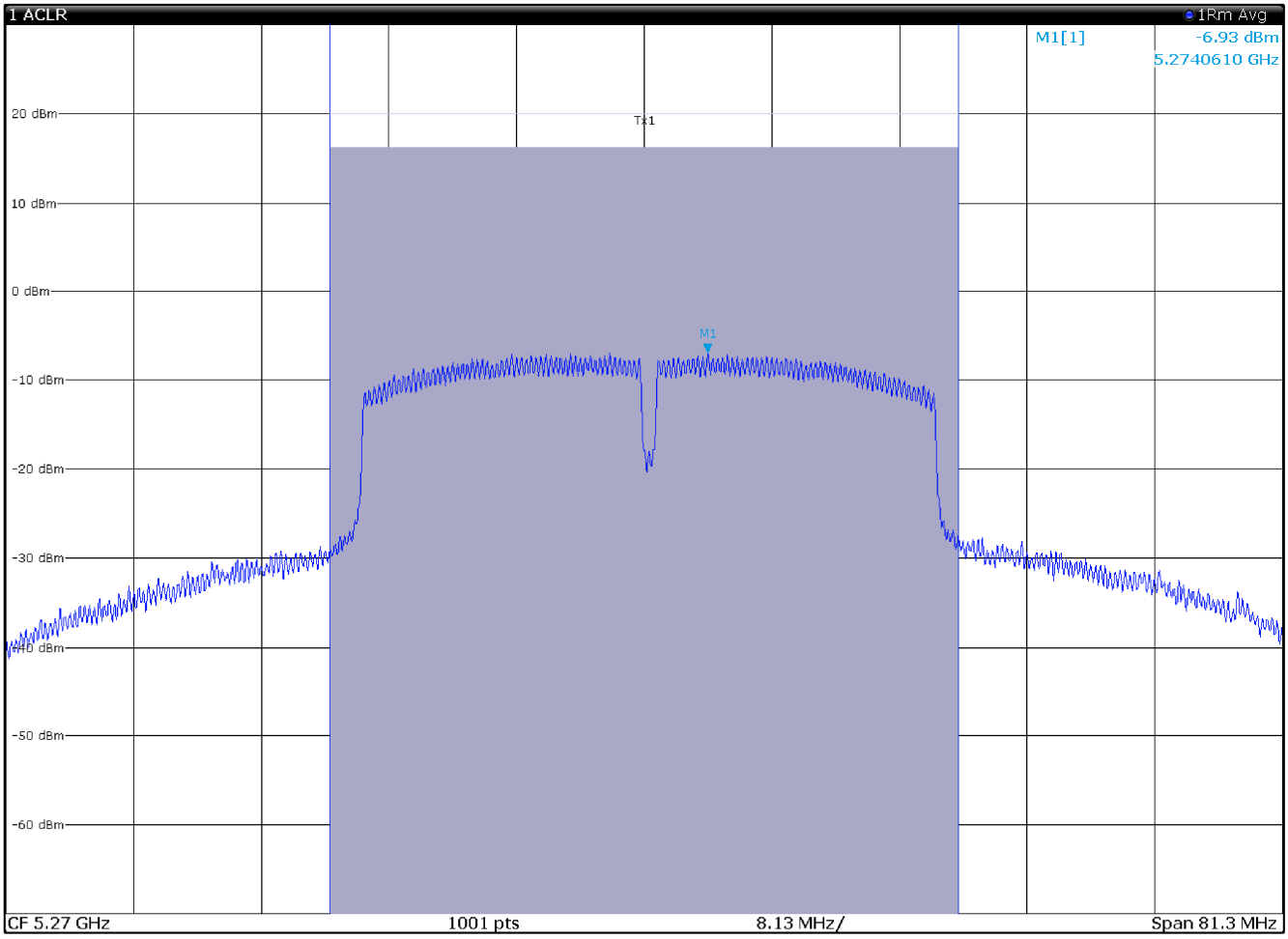
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**15.48 dBm**
Tx Total			**15.48 dBm**

Output power TX 5270MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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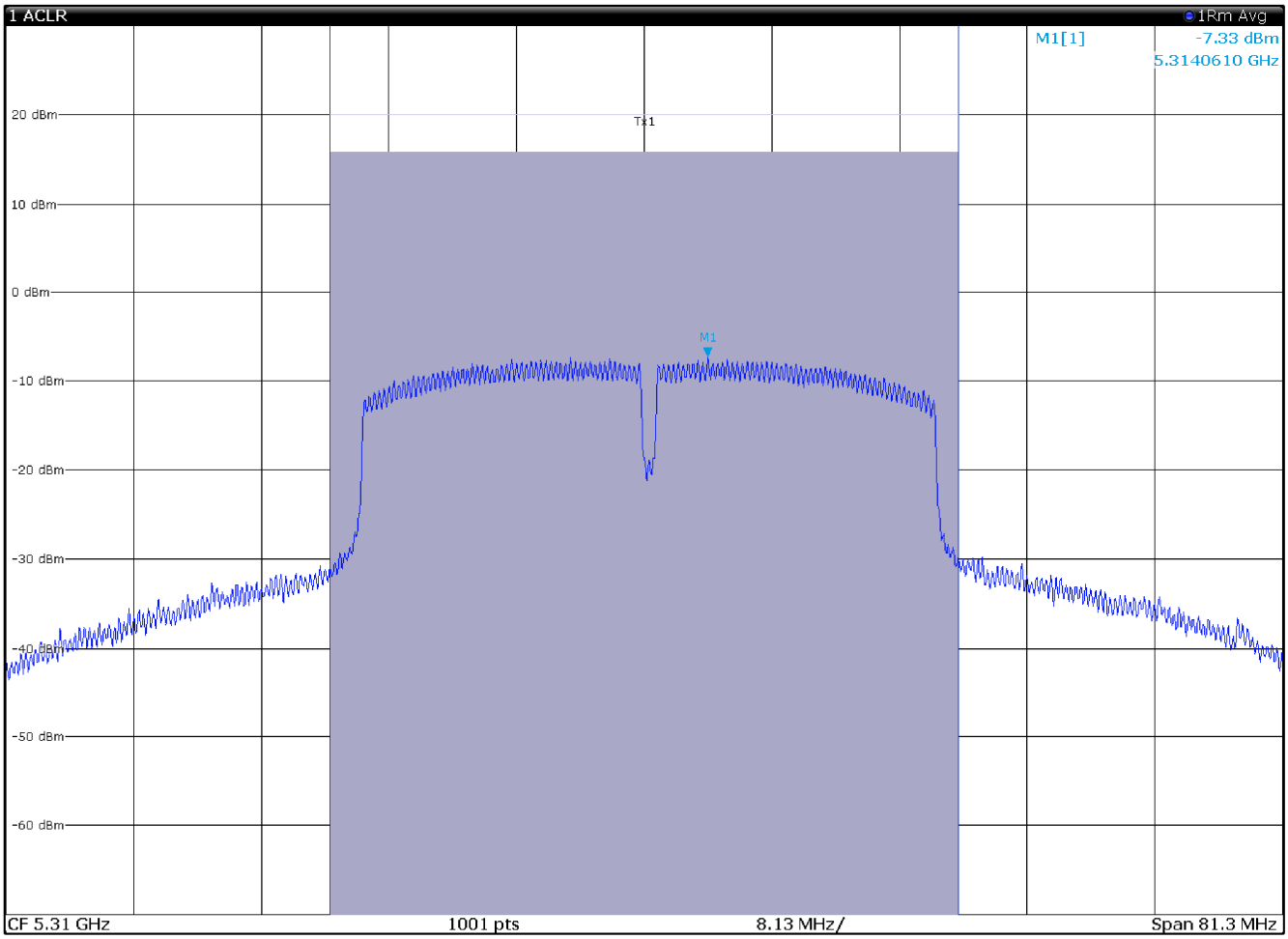
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**16.23 dBm**
Tx Total			**16.23 dBm**

Output power TX 5270MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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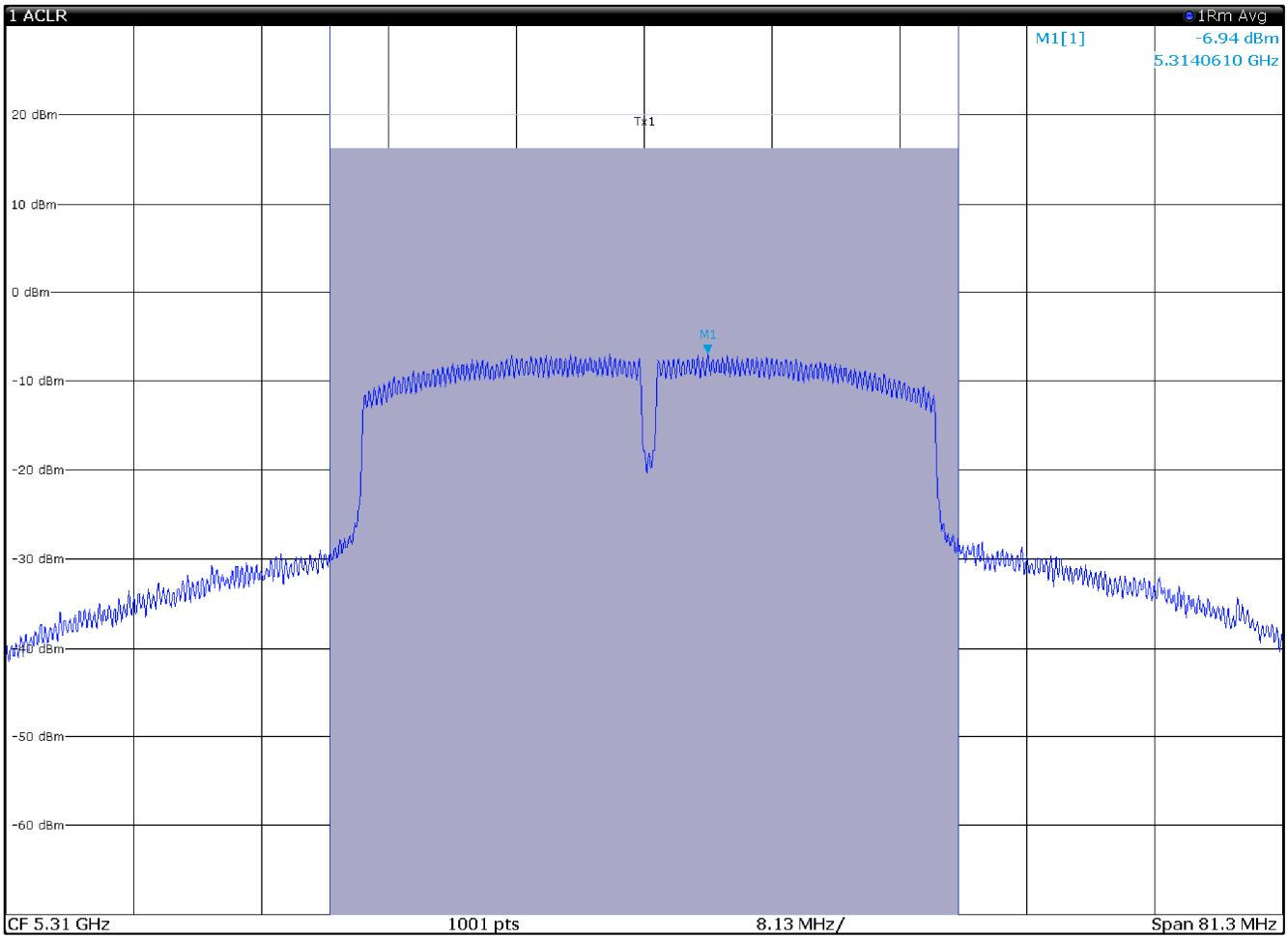
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**15.77 dBm**
Tx Total			**15.77 dBm**

Output power TX 5310MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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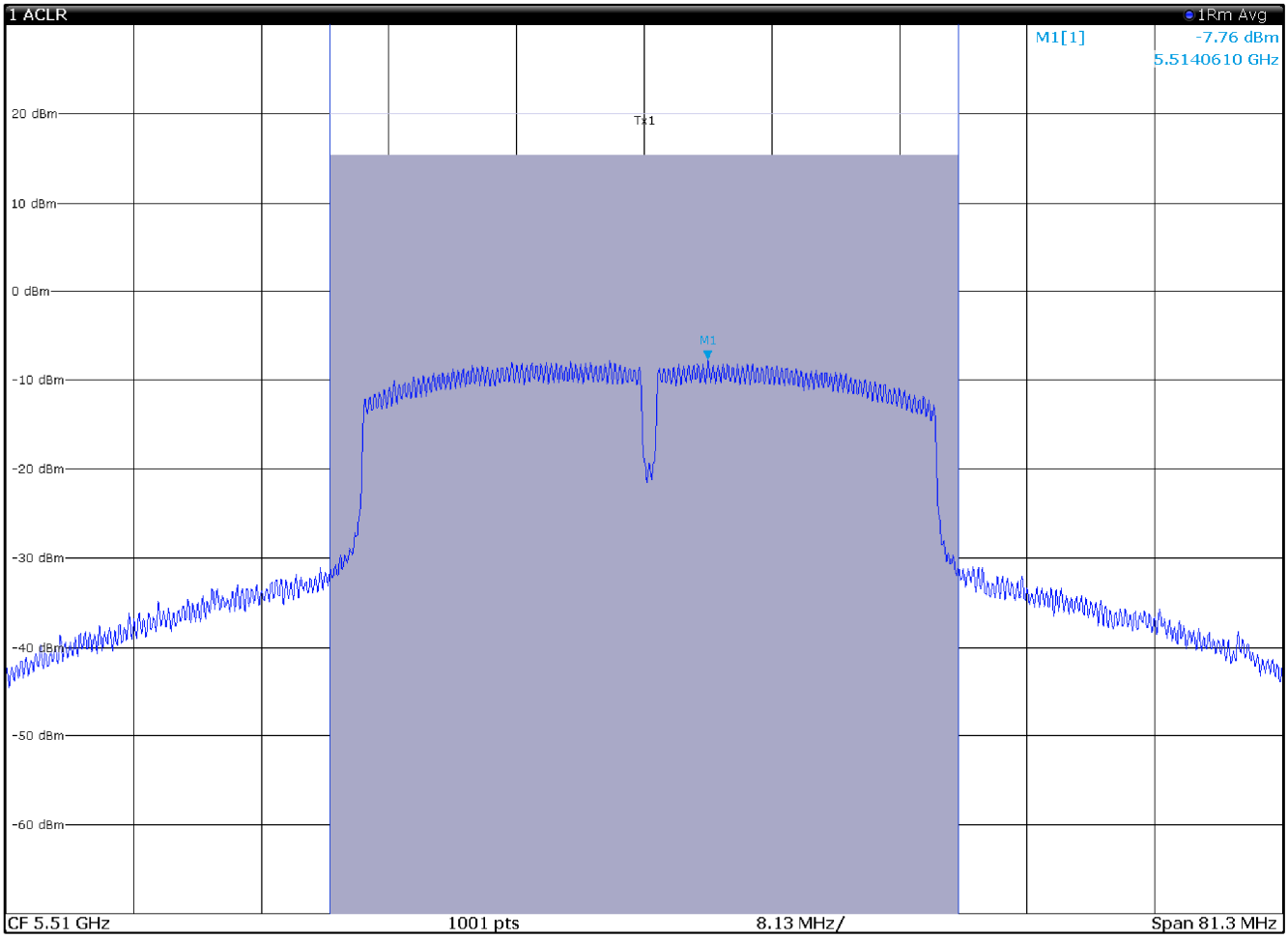
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**16.24 dBm**
Tx Total			**16.24 dBm**

Output power TX 5310MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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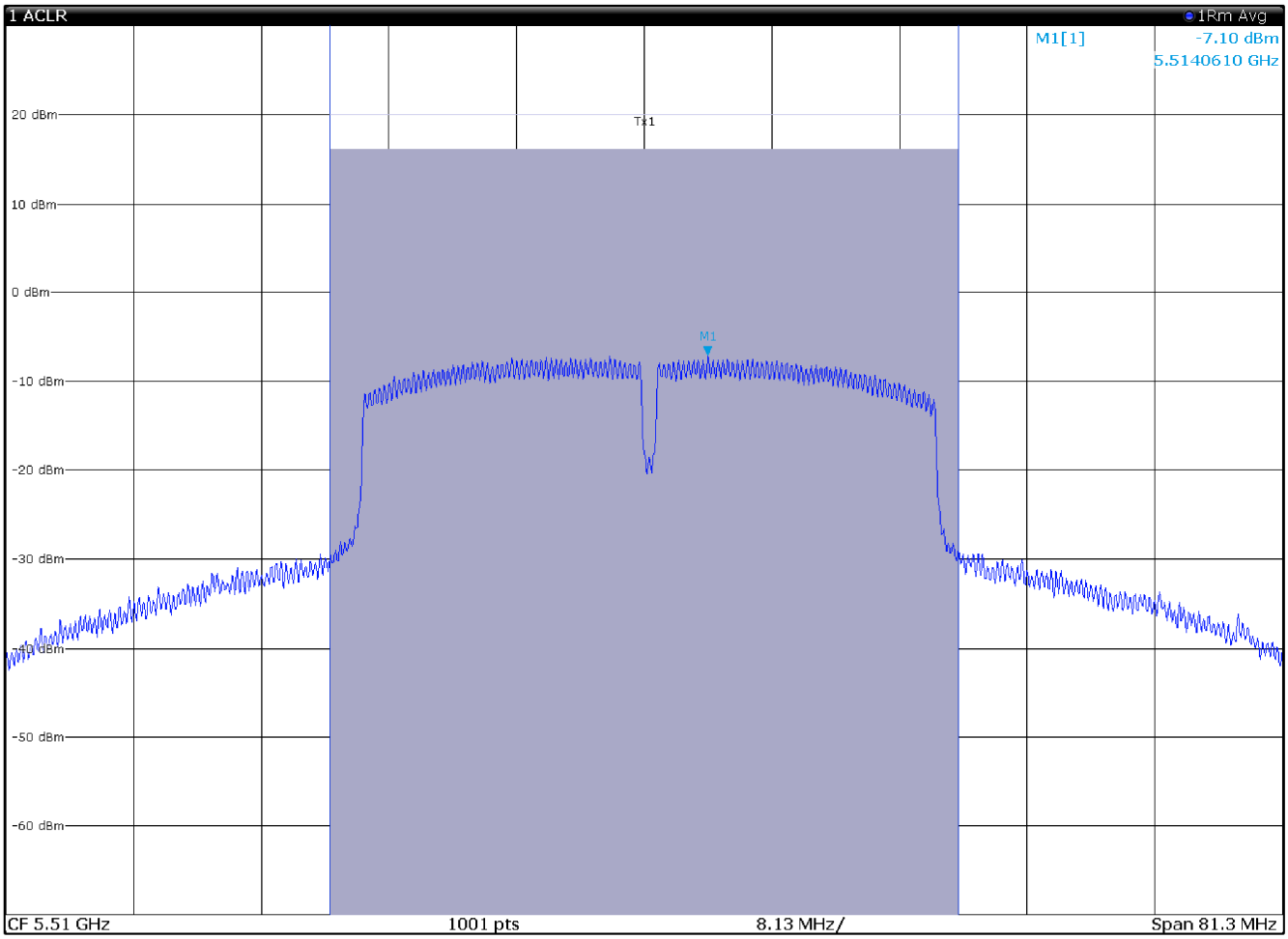
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**15.36 dBm**
Tx Total			**15.36 dBm**

Output power TX 5510MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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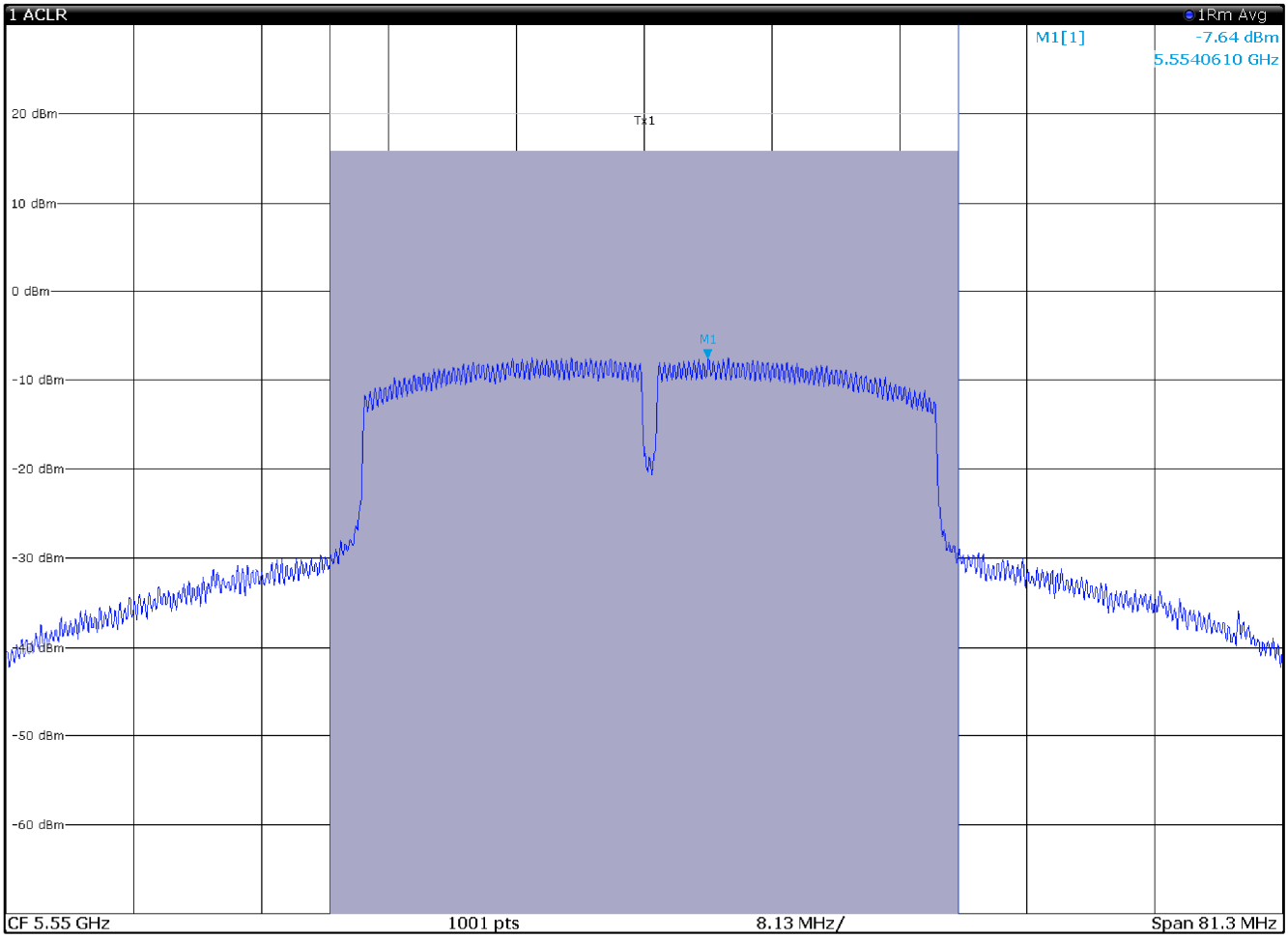
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**16.05 dBm**
Tx Total			**16.05 dBm**

Output power TX 5510MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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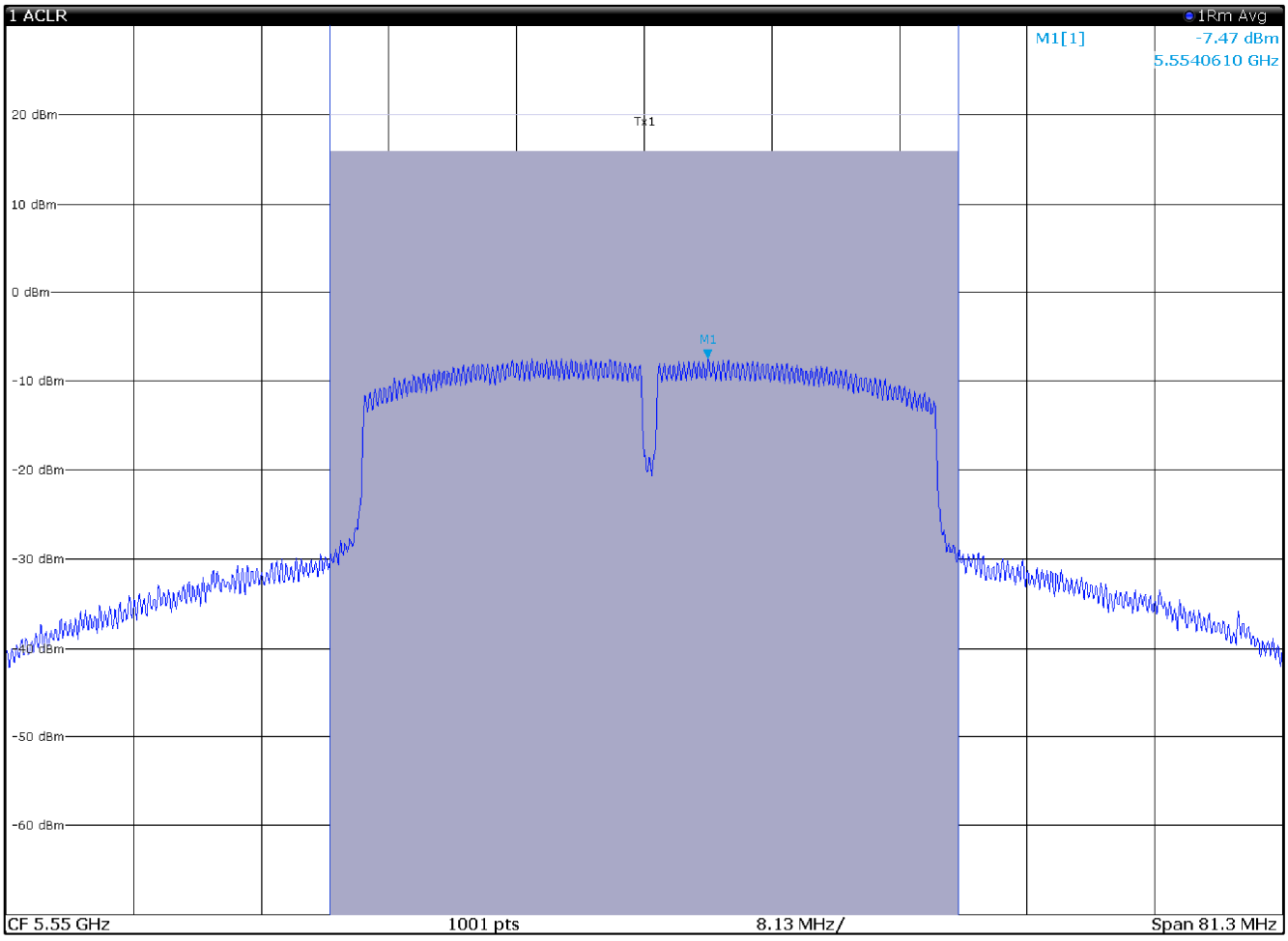
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**15.81 dBm**
Tx Total			**15.81 dBm**

Output power TX 5550MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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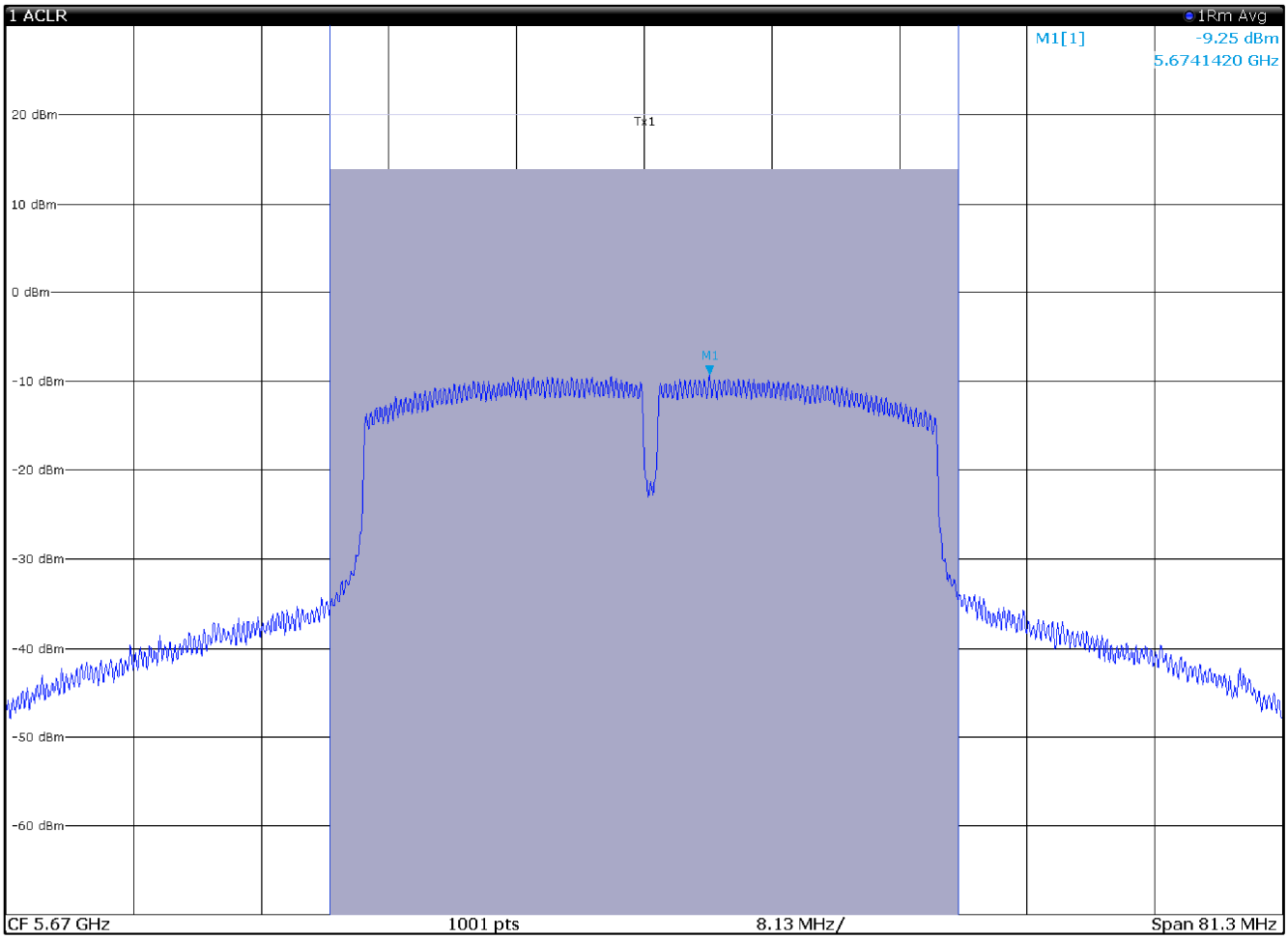
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**15.84 dBm**
Tx Total			**15.84 dBm**

Output power TX 5550MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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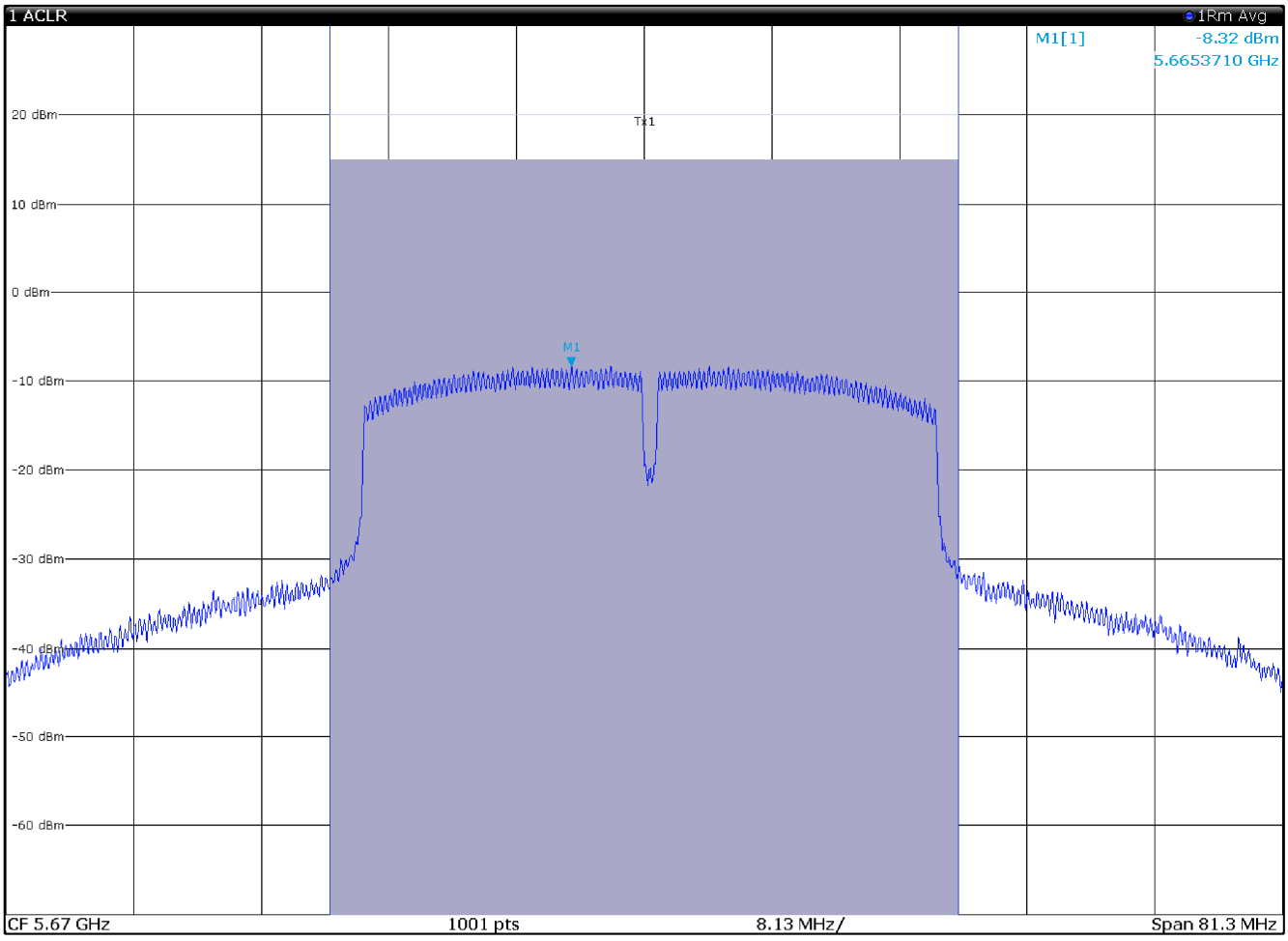
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**13.89 dBm**
Tx Total			**13.89 dBm**

Output power TX 5670MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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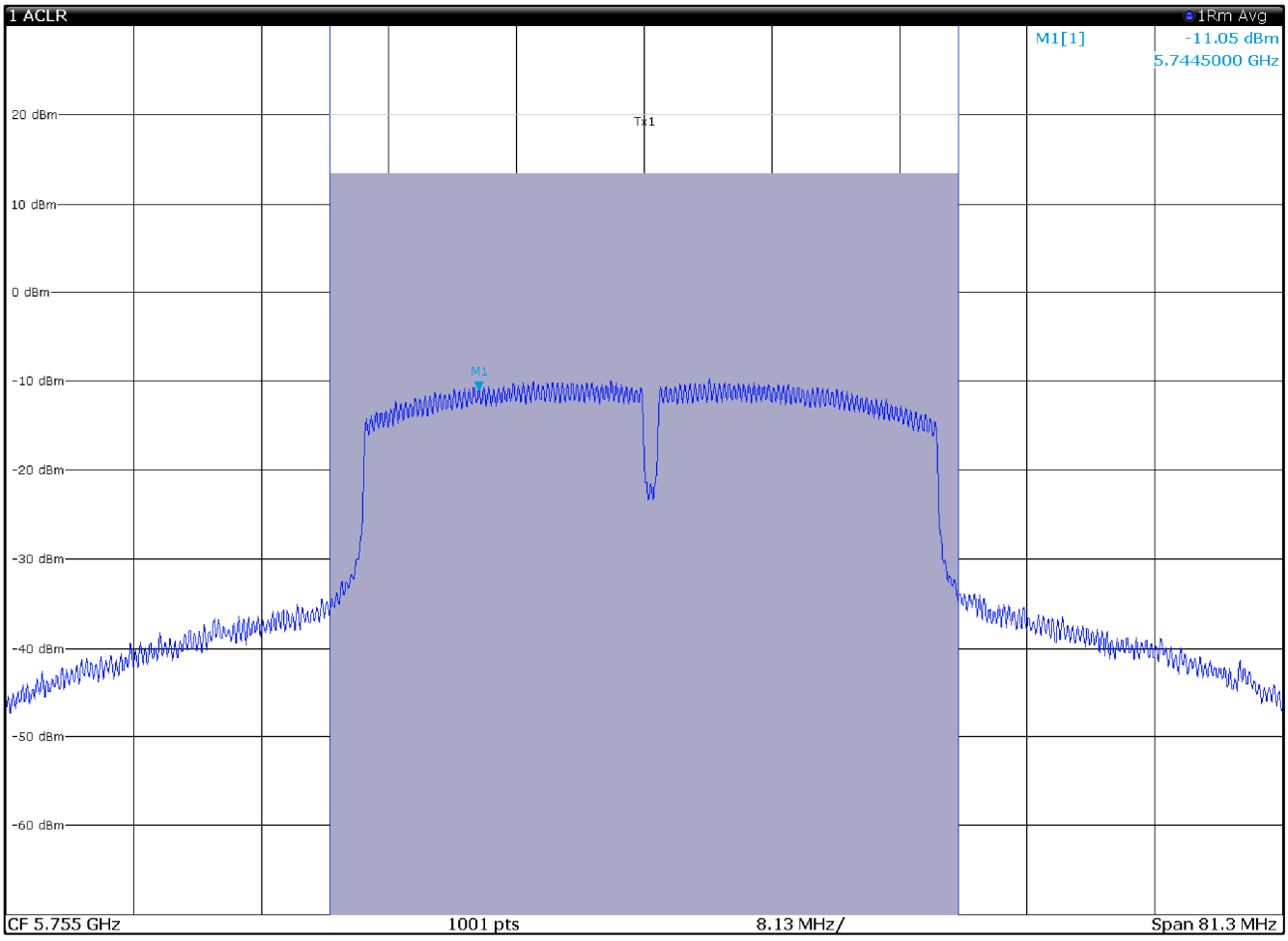
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**14.92 dBm**
Tx Total			**14.92 dBm**

Output power TX 5670MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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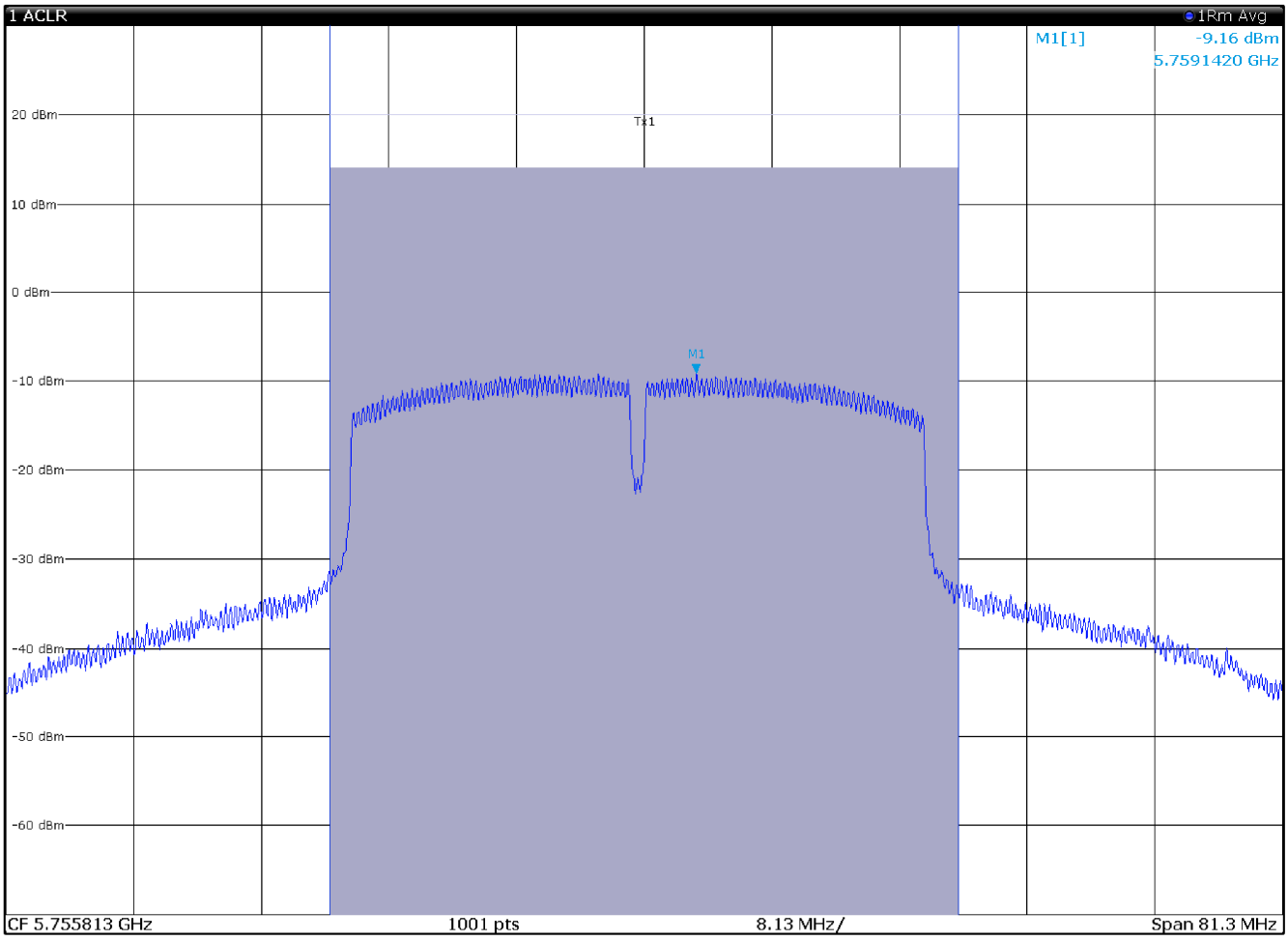
2 Result Summary		WLAN 802.11a		
Channel	Bandwidth	Offset	Power	
Tx1 (Ref)	40.000 MHz		**13.36 dBm**	
Tx Total			**13.36 dBm**	

Output power TX 5755MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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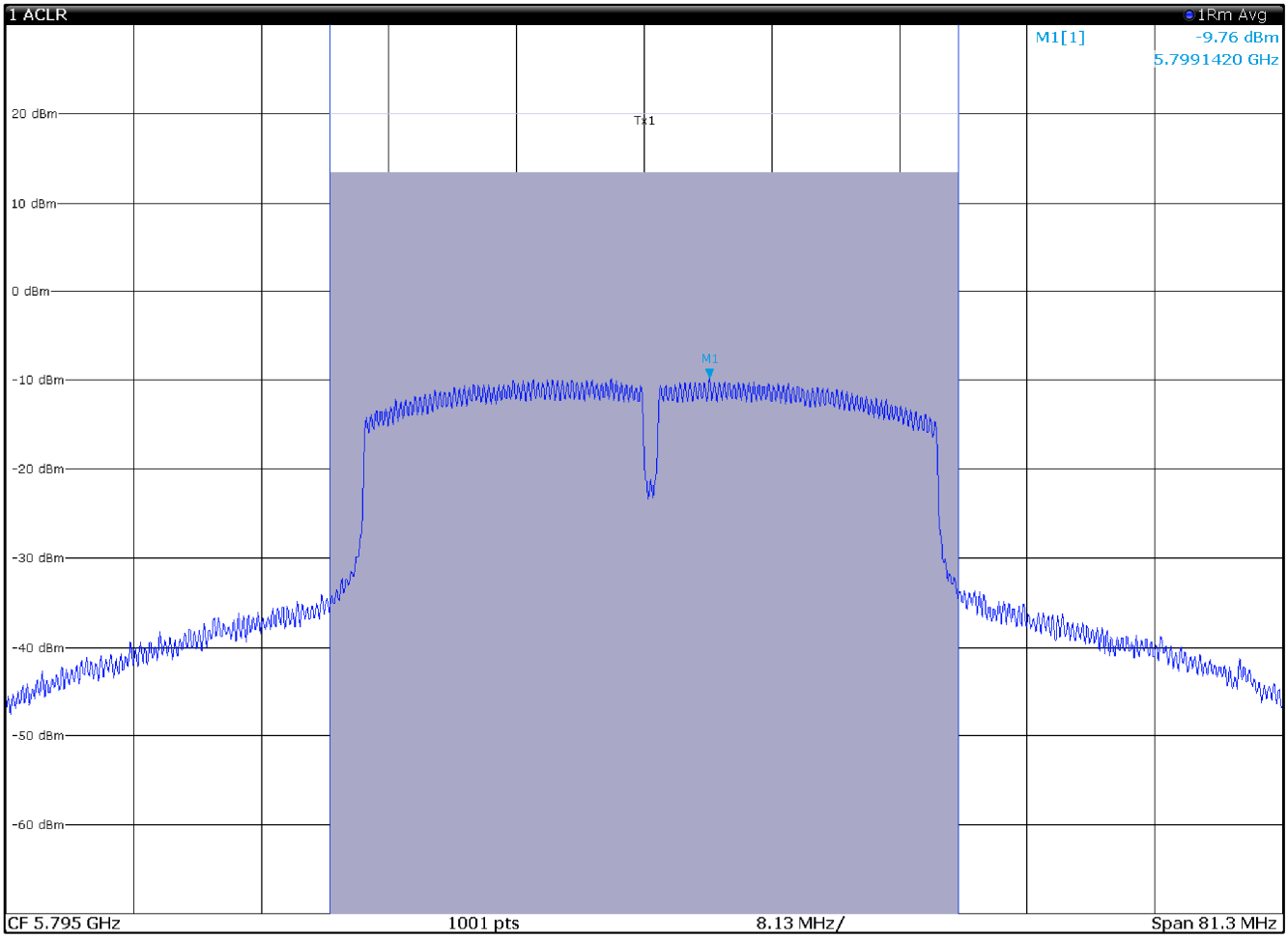
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**14.01 dBm**
Tx Total			**14.01 dBm**

Output power TX 5755MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**



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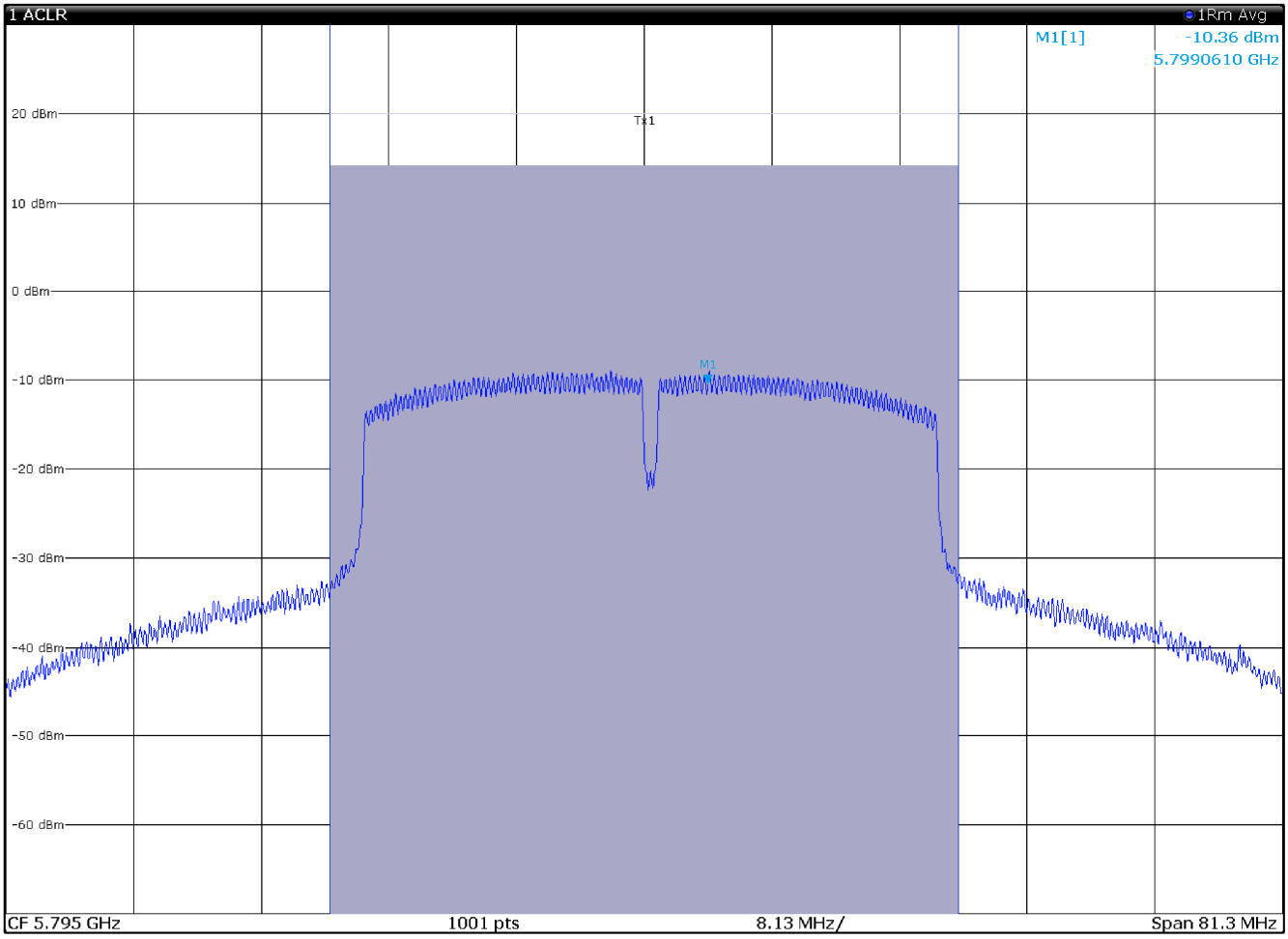
2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**13.41 dBm**
Tx Total			**13.41 dBm**

Output power TX 5795MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 0**



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2 Result Summary		WLAN 802.11a	
Channel	Bandwidth	Offset	Power
Tx1 (Ref)	40.000 MHz		**14.21 dBm**
Tx Total			**14.21 dBm**

Output power TX 5795MHz, 802.11n (40MHz), 13.5Mbps, multi chain,, **chain 1**

7.4 FCC 15.407(b) Undesirable (unwanted) emissions

7.4.1 Definitions and limits

FCC:
(1) 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 EIRP of −27 dBm/MHz.
(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.
(7) The provisions of § 15.205 apply to intentional radiators operating under this section.
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

ISED:
For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

RSS-Gen 8.10 Emissions falling within restricted frequency bands
Restricted bands, identified in Table 7.4-2, are designated primarily for safety-of-life services (distress calling and certain aeronautical bands), certain satellite downlinks, radio astronomy and some government uses. Except where otherwise indicated, the following restrictions apply:
(a) fundamental components of modulation of licence-exempt radio apparatus shall not fall within the restricted bands of below;
(b) unwanted emissions falling into restricted bands of below shall comply with the limits specified in RSS-Gen;
(c) unwanted emissions not falling within restricted frequency bands shall either comply with the limits specified in the applicable RSS, or with those specified in RSS-Gen.

Table 7.4-1: *FCC §15.209 and RSS-Gen – Radiated emission limits*

Frequency, MHz	Field strength of emissions µV/m	Field strength of emissions dBµV/m	Measurement distance, m
0.009–0.490	2400/F *(F in kHz)*	$67.6 - 20 \times \log_{10}$(F) *(F in kHz)*	300
0.490–1.705	24000/F *(F in kHz)*	$87.6 - 20 \times \log_{10}$(F) *(F in kHz)*	30
1.705–30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216–960	200	46.0	3
above 960	500	54.0	3

Notes: In the emission table above, the tighter limit applies at the band edges.
For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test

7.4.1 Definitions and limits, continued

Table 7.4-2: *ISED restricted frequency bands*

MHz	MHz	MHz	GHz
0.090–0.110	12.51975–12.52025	399.9–410	5.35–5.46
2.1735–2.1905	12.57675–12.57725	608–614	7.25–7.75
3.020–3.026	13.36–13.41	960–1427	8.025–8.5
4.125–4.128	16.42–16.423	1435–1626.5	9.0–9.2
4.17725–4.17775	16.69475–16.69525	1645.5–1646.5	9.3–9.5
4.20725–4.20775	16.80425–16.80475	1660–1710	10.6–12.7
5.677-5.683	25.5–25.67	1718.8–1722.2	13.25–13.4
6.215–6.218	37.5–38.25	2200–2300	14.47–14.5
6.26775–6.26825	73–74.6	2310–2390	15.35–16.2
6.31175–6.31225	74.8–75.2	2655–2900	17.7–21.4
8.291–8.294	108–138	3260–3267	22.01–23.12
8.362–8.366	156.52475–156.52525	3332–3339	23.6–24.0
8.37625–8.38675	156.7–156.9	3345.8–3358	31.2–31.8
8.41425–8.41475	240–285	3500–4400	36.43–36.5
12.29–12.293	322–335.4	4500–5150	Above 38.6

Note: Certain frequency bands listed in Table 7.4-2 and above 38.6 GHz are designated for low-power license-exempt applications. These frequency bands and the requirements that apply to the devices are set out in this Standard

Table 7.4-3: *FCC restricted frequency bands*

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
0.495–0.505	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2690–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	Above 38.6
13.36–13.41			

7.4.2 Test summary

Test start date:	April 14, 2020

7.4.3 Observations, settings and special notes

The spectrum was searched from 30 MHz to 40 GHz while the EUT was continuously transmitting.
Conducted measurements were performed on the antenna ports, with the highest and the lowest data rate, the worst case is presented.
In the conducted plots below, the reference level offset was adjusted to include antenna directional gains, the max peak gain of two antenna configurations has been applied to show as representative worst case.
Radiated measurements below 18 GHz were performed at a distance of 3 m. Radiated measurements above 18 GHz were performed at a distance of 1 m.
Cabinet radiation were performed while the antenna connector was terminated with 50 Ω load. Below 1 GHz and above 18 GHz, no emissions related to RF transmitter were detected within 6 dB below the limit.

Spectrum analyser for peak conducted measurements within restricted bands below 1 GHz:

Resolution bandwidth:	100 kHz
Video bandwidth:	300 kHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser for peak conducted measurements within restricted bands above 1 GHz:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser for average conducted measurements within restricted bands above 1 GHz for frequencies where peak results were above the average limit:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	RMS
Trace mode:	Power average
Number of averaging traces:	100

Spectrum analyser for peak conducted measurements outside restricted bands:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

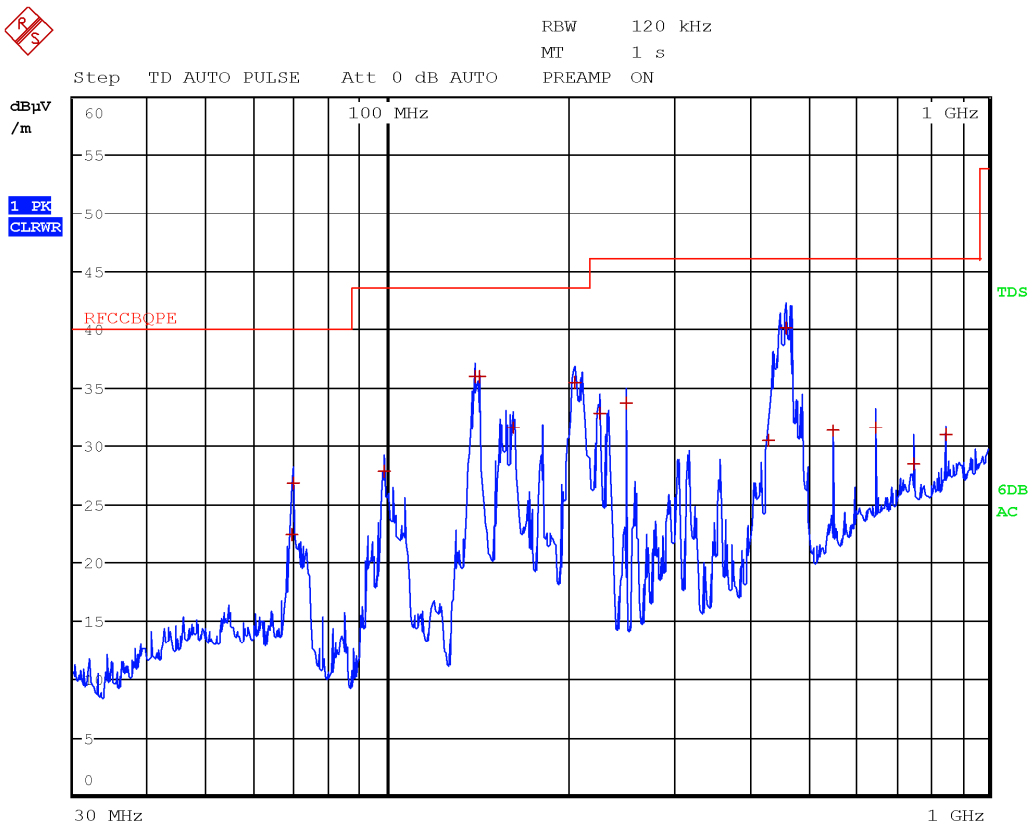
Spectrum analyzer settings for radiated measurements within restricted bands below 1 GHz:

Resolution bandwidth:	100 kHz
Video bandwidth:	300 kHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyzer settings for peak radiated measurements within restricted bands above 1 GHz:

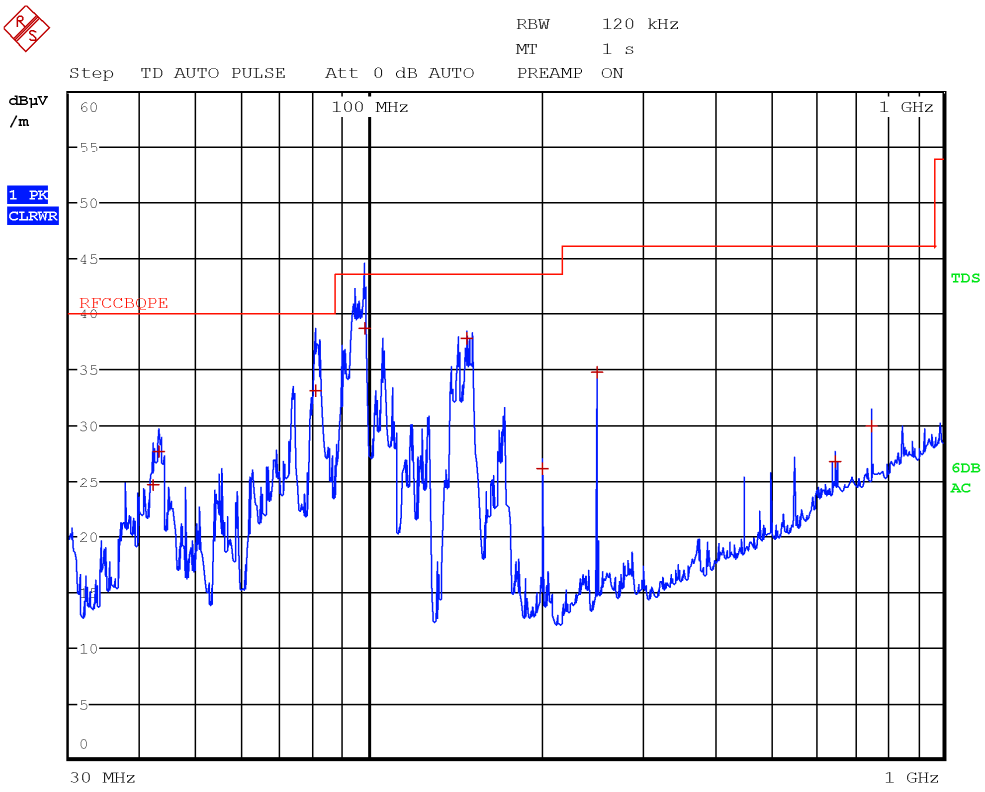
Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

7.4.4 Test data



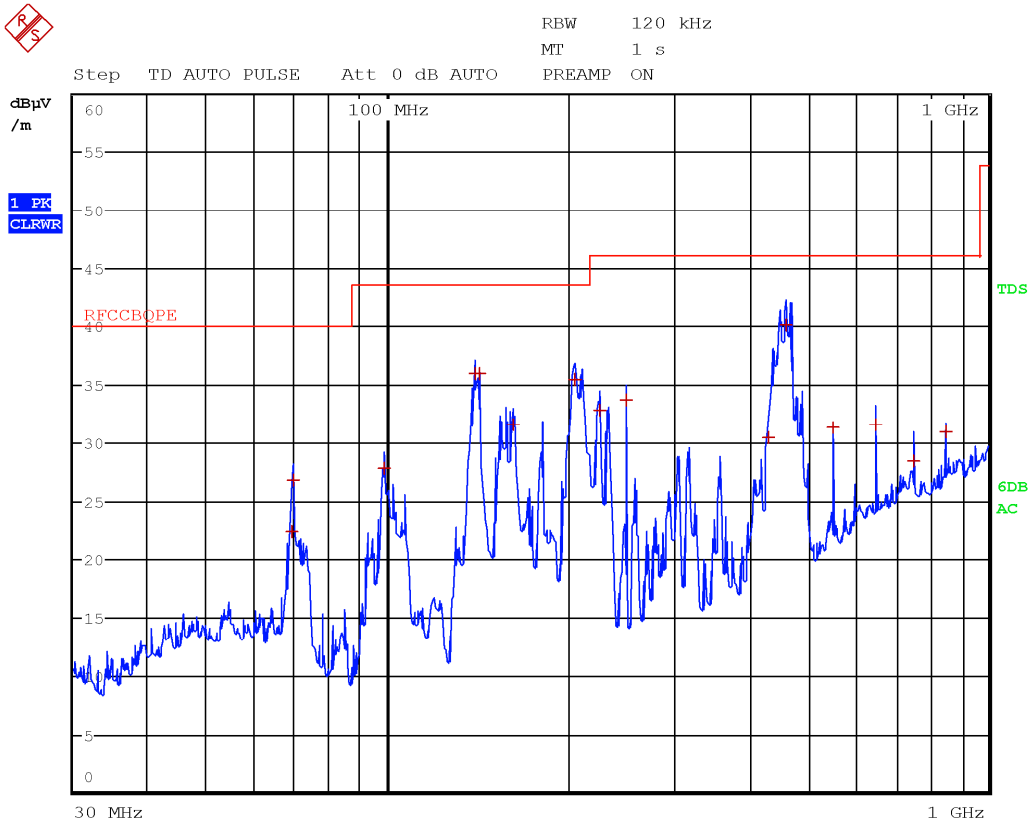
Radiated spurious emissions 30 to 1000 MHz, 5220 MHz with antenna in horizontal polarization p31 radiated emissions below 1 GHz (<1 GHz), TX 5580 MHz CH 116, 802.11n (20MHz), 6.5Mbps, multi chain

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
68.9700	26.3	40.0	-13.7	QP
98.4600	33.1	43.5	-10.4	QP
150.0000	28.2	43.5	-15.3	QP
200.0100	24.6	43.5	-18.9	QP
650.0100	32.2	46.0	-13.8	QP
750.0300	30.6	46.0	-15.4	QP



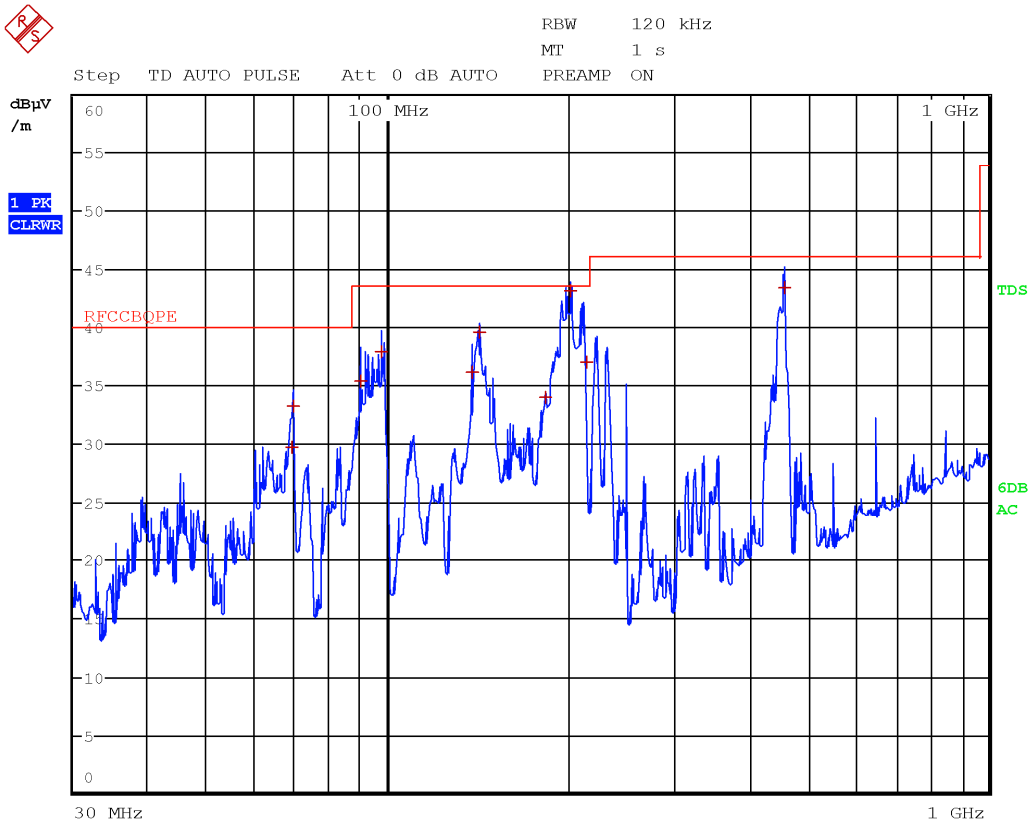
Radiated spurious emissions 30 to 1000 MHz, 5220 MHz with antenna in vertical polarization

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
69.1800	22.3	40.0	-17.7	QP
69.6900	26.8	40.0	-13.2	QP
98.5200	27.8	43.5	-15.7	QP
139.7400	36.0	43.5	-7.5	QP
142.0500	36.0	43.5	-7.5	QP
162.0000	31.6	43.5	-11.9	QP
205.5000	35.4	43.5	-8.1	QP
225.3900	32.8	46.0	-13.2	QP
250.0200	33.7	46.0	-12.3	QP
430.9200	30.5	46.0	-15.5	QP
460.3800	40.2	46.0	-5.8	QP
550.0200	31.4	46.0	-14.6	QP
650.0100	31.6	46.0	-14.4	QP
750.0300	28.4	46.0	-17.6	QP
849.9900	30.9	46.0	-15.1	QP



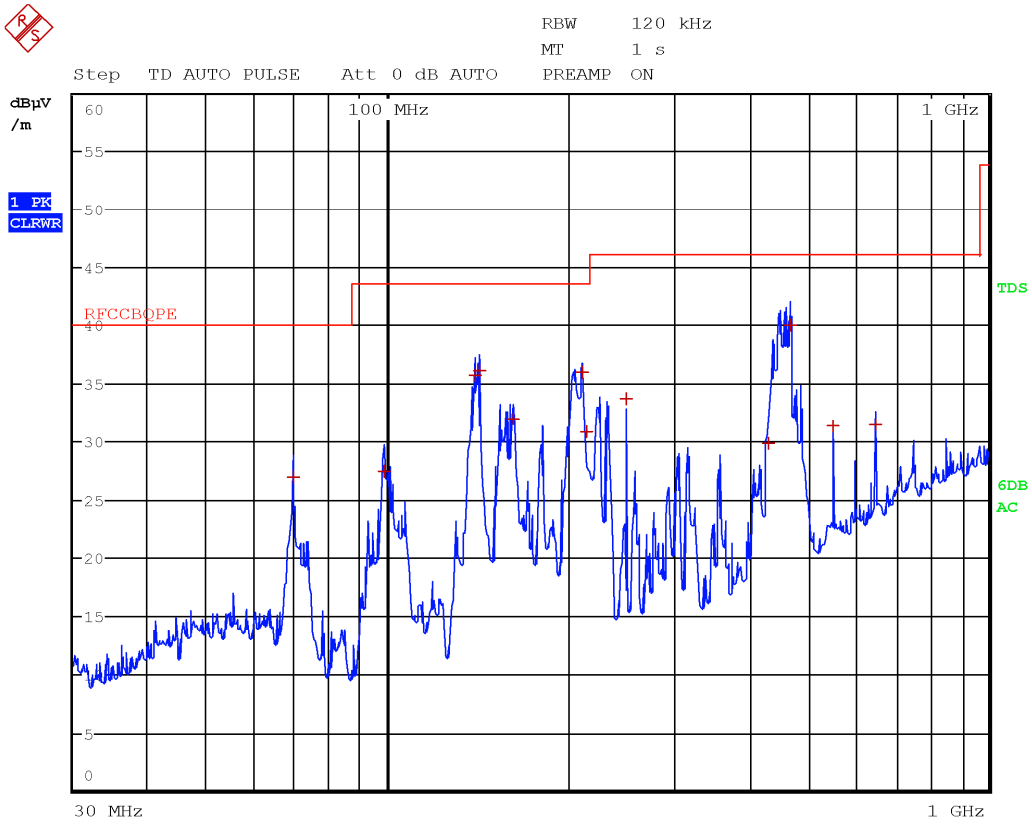
Radiated spurious emissions 30 to 1000 MHz, 5220 MHzl with antenna in horizontal polarization

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
68.9700	26.3	40.0	-13.7	QP
98.4600	33.1	43.5	-10.4	QP
150.0000	28.2	43.5	-15.3	QP
200.0100	24.6	43.5	-18.9	QP
650.0100	32.2	46.0	-13.8	QP
750.0300	30.6	46.0	-15.4	QP



: Radiated spurious emissions 30 to 1000 MHz, 5785 MHz with antenna in vertical polarization

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
69.3000	29.7	40.0	-10.3	QP
69.7200	33.2	40.0	-6.8	QP
90.3900	35.4	43.5	-8.1	QP
97.8300	37.8	43.5	-5.7	QP
138.5400	36.1	43.5	-7.4	QP
142.1100	39.7	43.5	-3.8	QP
183.2100	33.9	43.5	-9.6	QP
201.9900	43.1	43.5	-0.4	QP
213.7800	37.0	43.5	-6.5	QP
457.9800	43.4	46.0	-2.6	QP



Radiated spurious emissions 30 to 1000 MHz, 5785MHzl with antenna in horizontal polarization

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
69.6900	26.9	40.0	-13.1	QP
98.4900	27.5	43.5	-16.0	QP
139.7700	35.7	43.5	-7.8	QP
142.0800	36.1	43.5	-7.4	QP
162.0300	32.0	43.5	-11.5	QP
211.3800	36.0	43.5	-7.5	QP
213.7800	30.8	43.5	-12.7	QP
250.0200	33.7	46.0	-12.3	QP
430.9200	29.8	46.0	-16.2	QP
467.4000	40.0	46.0	-6.0	QP
550.0200	31.3	46.0	-14.7	QP
650.0100	31.5	46.0	-14.5	QP

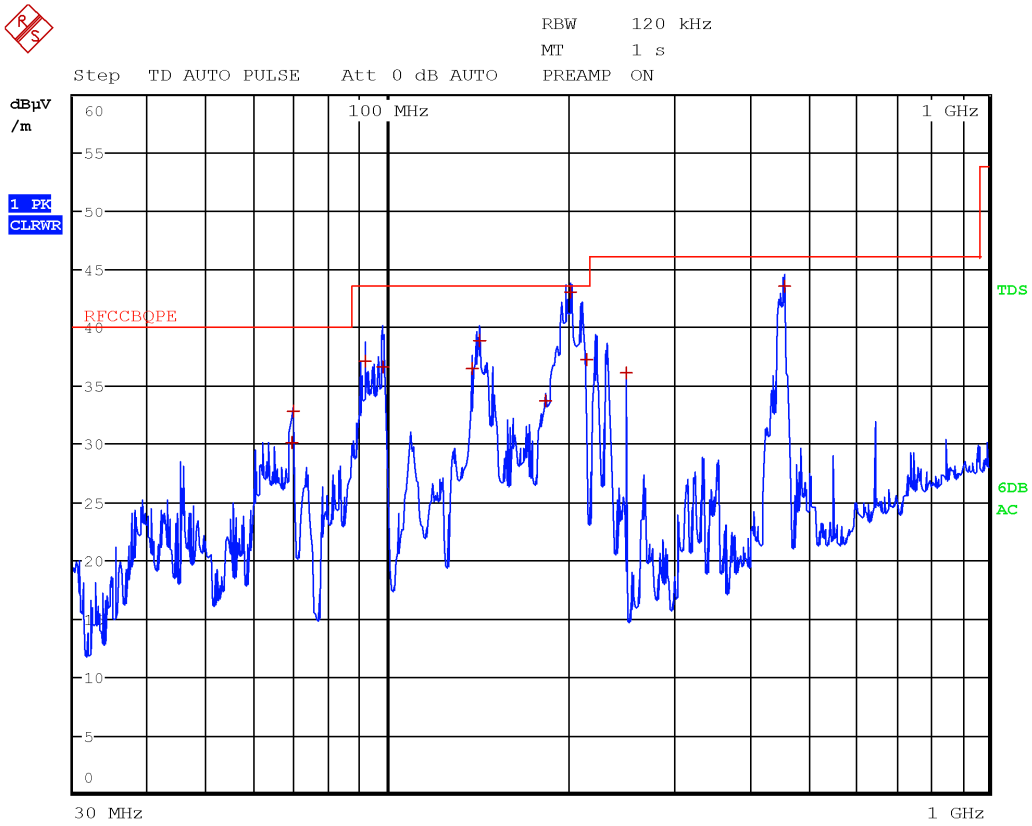


Figure 7.4-1: *Radiated spurious emissions 30 to 1000 MHz, 5300 MHz with antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
69.3000	30.1	40.0	-9.9	QP
69.7200	32.8	40.0	-7.2	QP
91.5600	37.1	43.5	-6.4	QP
98.4300	36.6	43.5	-6.9	QP
138.6000	36.4	43.5	-7.1	QP
142.1400	38.9	43.5	-4.6	QP
183.2400	33.8	43.5	-9.7	QP
201.9600	43.1	43.5	-0.4	QP
213.7800	37.2	43.5	-6.3	QP
250.0200	36.1	46.0	-9.9	QP
456.7800	43.6	46.0	-2.4	QP

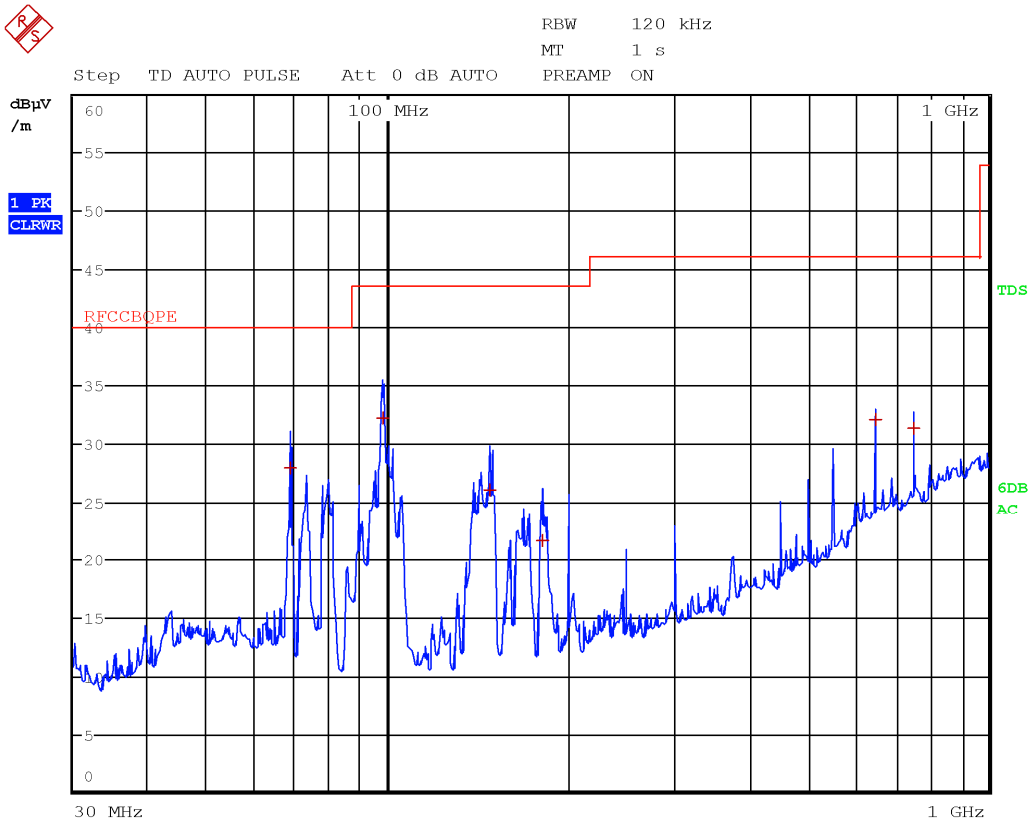


Figure 7.4-2: *Radiated spurious emissions 30 to 1000 MHz, 5300 MHz with antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
69.6900	25.8	40.0	-14.2	QP
98.4300	27.0	43.5	-16.5	QP
139.7400	35.3	43.5	-8.2	QP
142.0800	36.2	43.5	-7.3	QP
162.0300	32.4	43.5	-11.1	QP
211.3500	36.2	43.5	-7.3	QP
213.7800	30.4	43.5	-13.1	QP
250.0200	33.6	46.0	-12.4	QP
430.9500	29.8	46.0	-16.2	QP
467.3400	40.2	46.0	-5.8	QP
549.9900	31.3	46.0	-14.7	QP
650.0100	31.4	46.0	-14.6	QP
850.0200	30.8	46.0	-15.2	QP

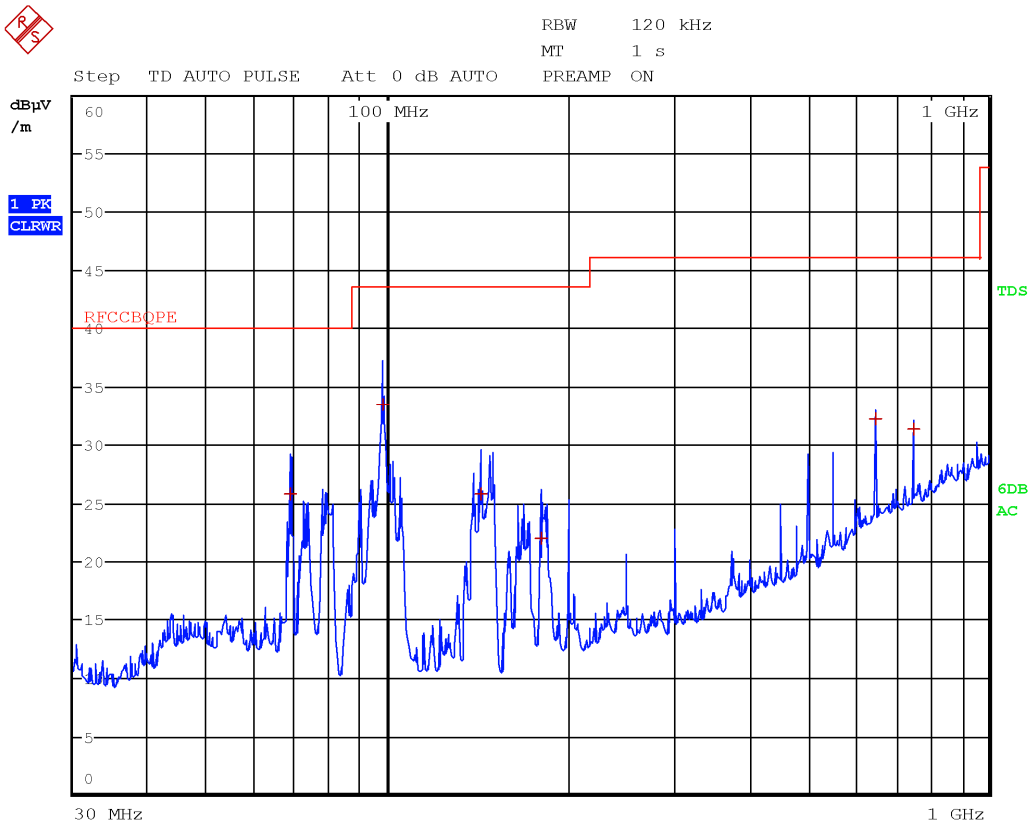


Figure 7.4-3: *Radiated spurious emissions 30 to 1000 MHz, 5580 MHz with antenna in horizontal polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
69.6900	27.3	40.0	-12.7	QP
98.4900	25.6	43.5	-17.9	QP
138.5100	34.4	43.5	-9.1	QP
142.1100	36.0	43.5	-7.5	QP
162.0300	32.6	43.5	-10.9	QP
211.3500	36.3	43.5	-7.2	QP
232.4700	32.8	46.0	-13.2	QP
250.0200	33.7	46.0	-12.3	QP
430.8600	29.2	46.0	-16.8	QP
467.4300	39.7	46.0	-6.3	QP
550.0200	31.2	46.0	-14.8	QP
650.0100	31.4	46.0	-14.6	QP
850.0200	30.8	46.0	-15.2	QP

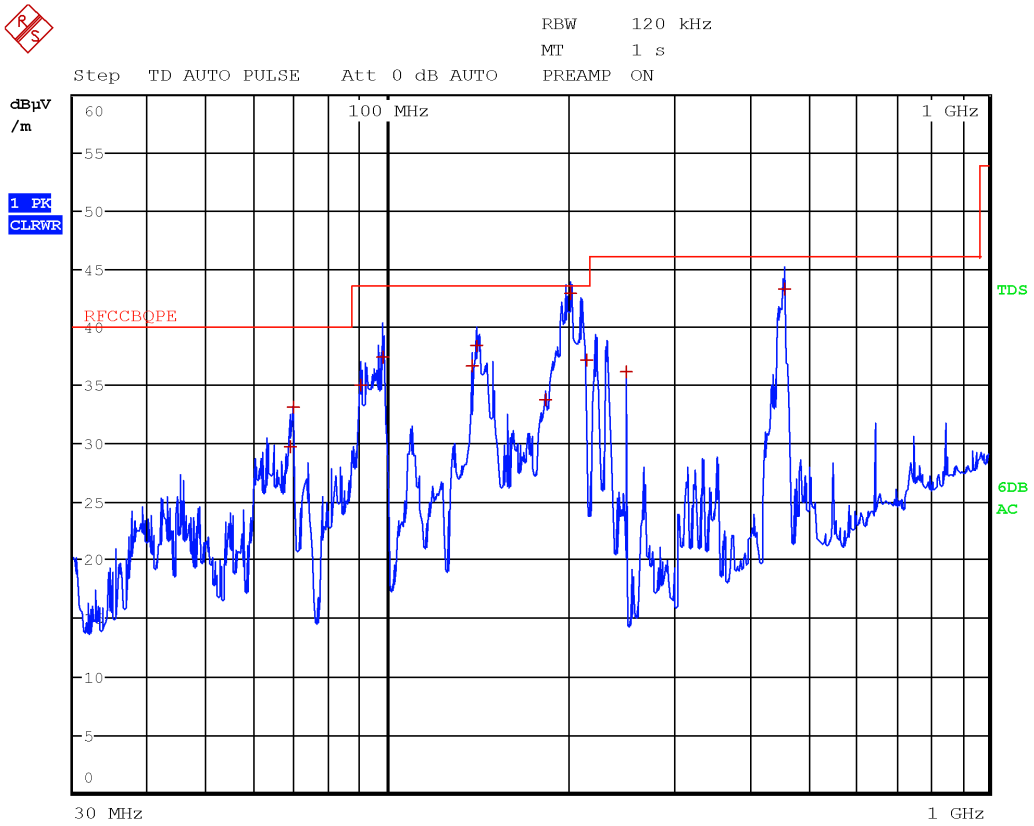
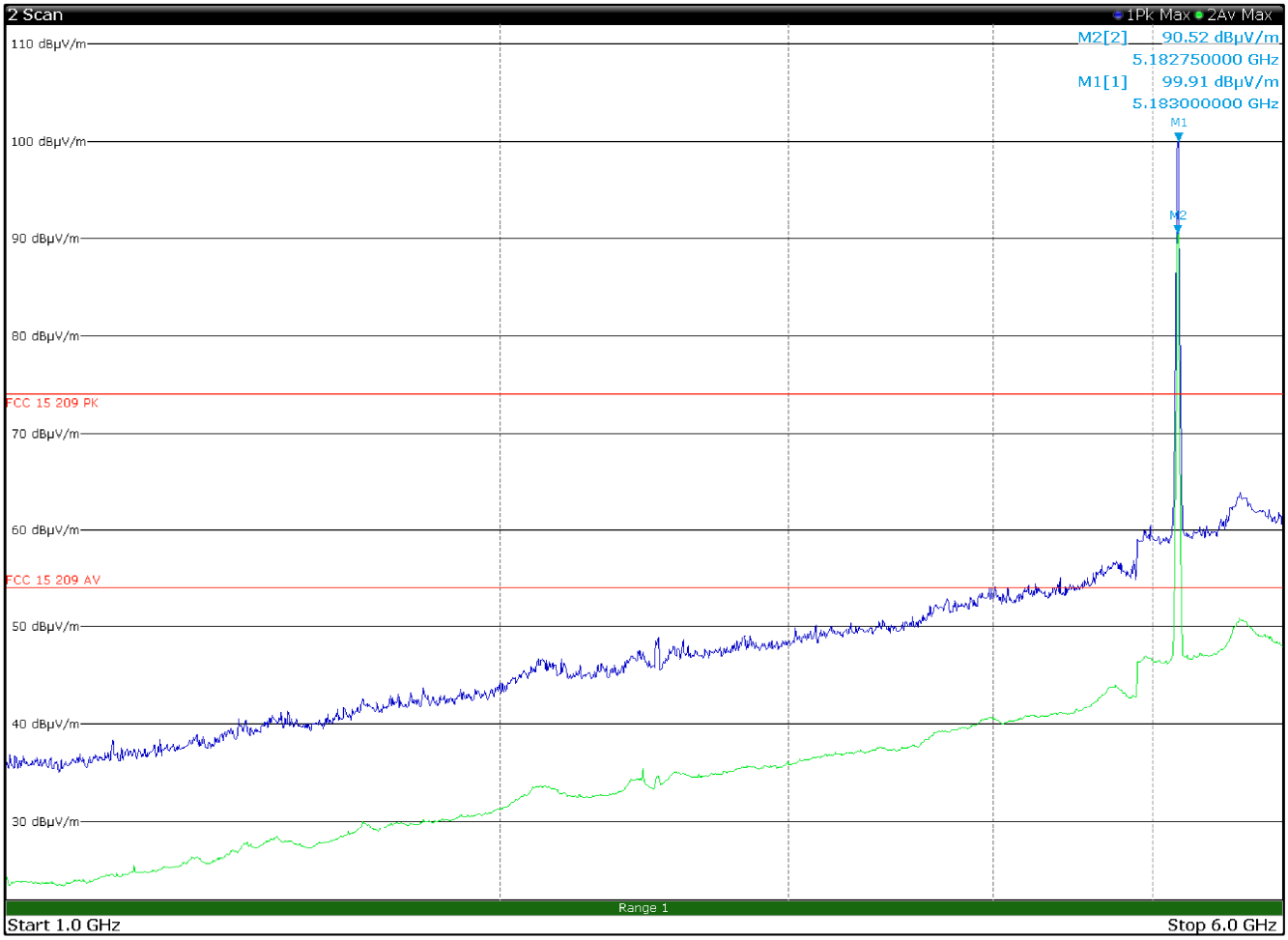


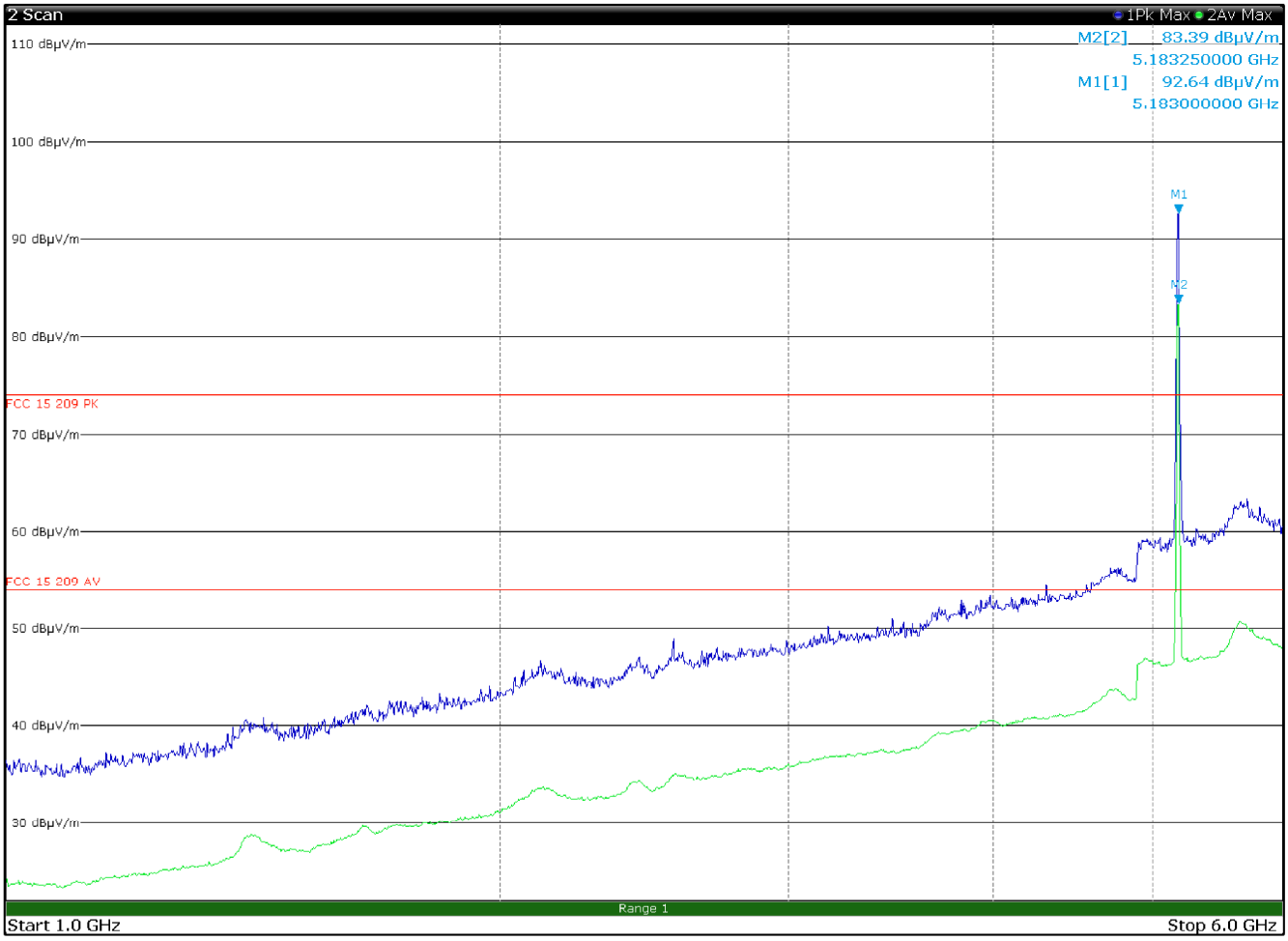
Figure 7.4-4: *Radiated spurious emissions 30 to 1000 MHz, 5580 MHz with antenna in vertical polarization*

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
42.3300	25.4	40.0	-14.6	QP
43.5000	29.0	40.0	-11.0	QP
81.5400	31.8	40.0	-8.2	QP
98.4000	39.7	43.5	-3.8	QP
150.0000	37.2	43.5	-6.3	QP
200.0100	25.9	43.5	-17.6	QP
250.0200	34.1	46.0	-11.9	QP
650.0100	27.2	46.0	-18.8	QP
750.0000	29.9	46.0	-16.1	QP



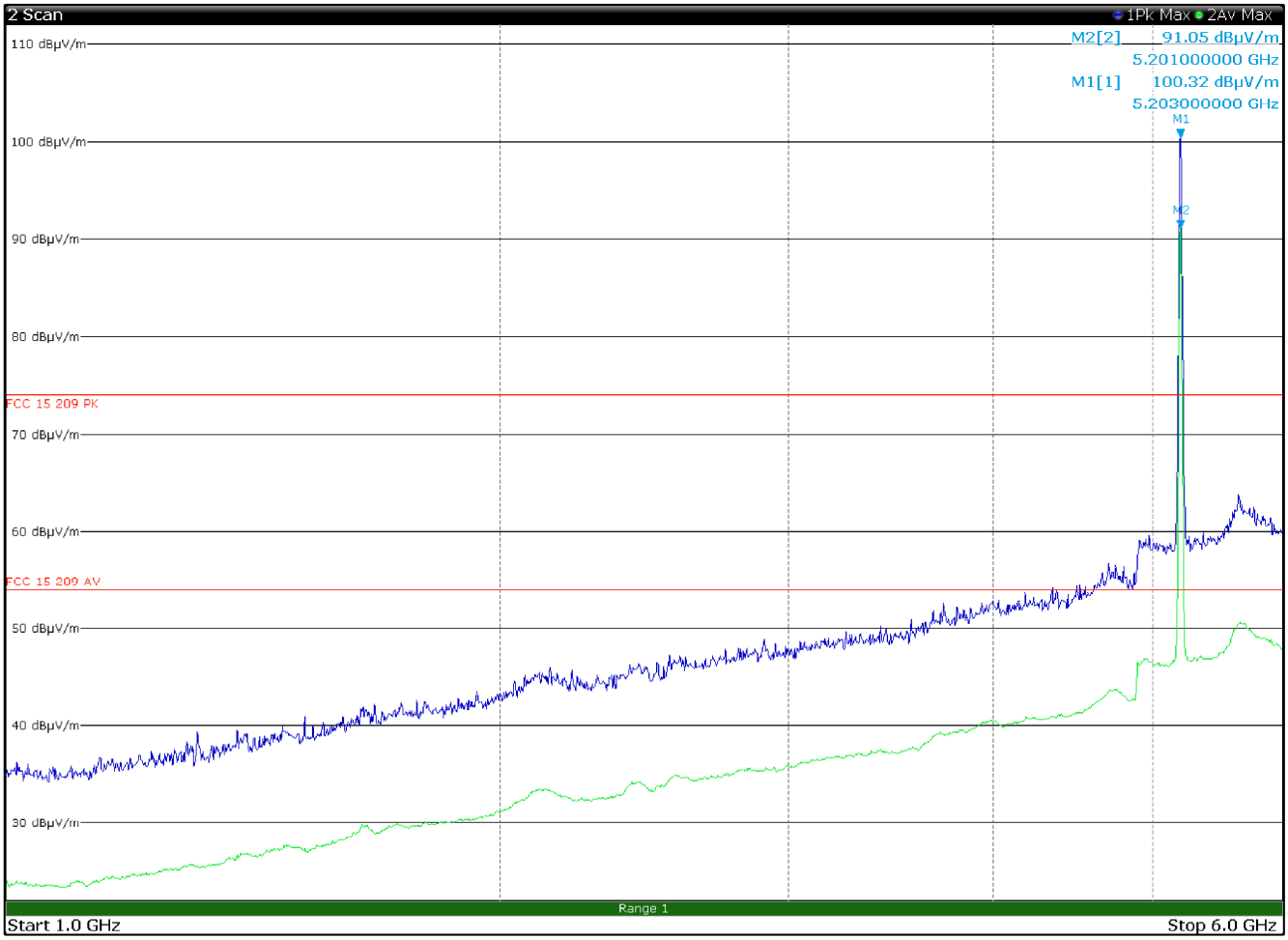
: Radiated spurious emissions 1 to 6 GHz, TX 5180 MHz, CH36, 802.11a, 6Mbps, single chain with antenna in horizontal polarization

Limit exceeded by the carrier



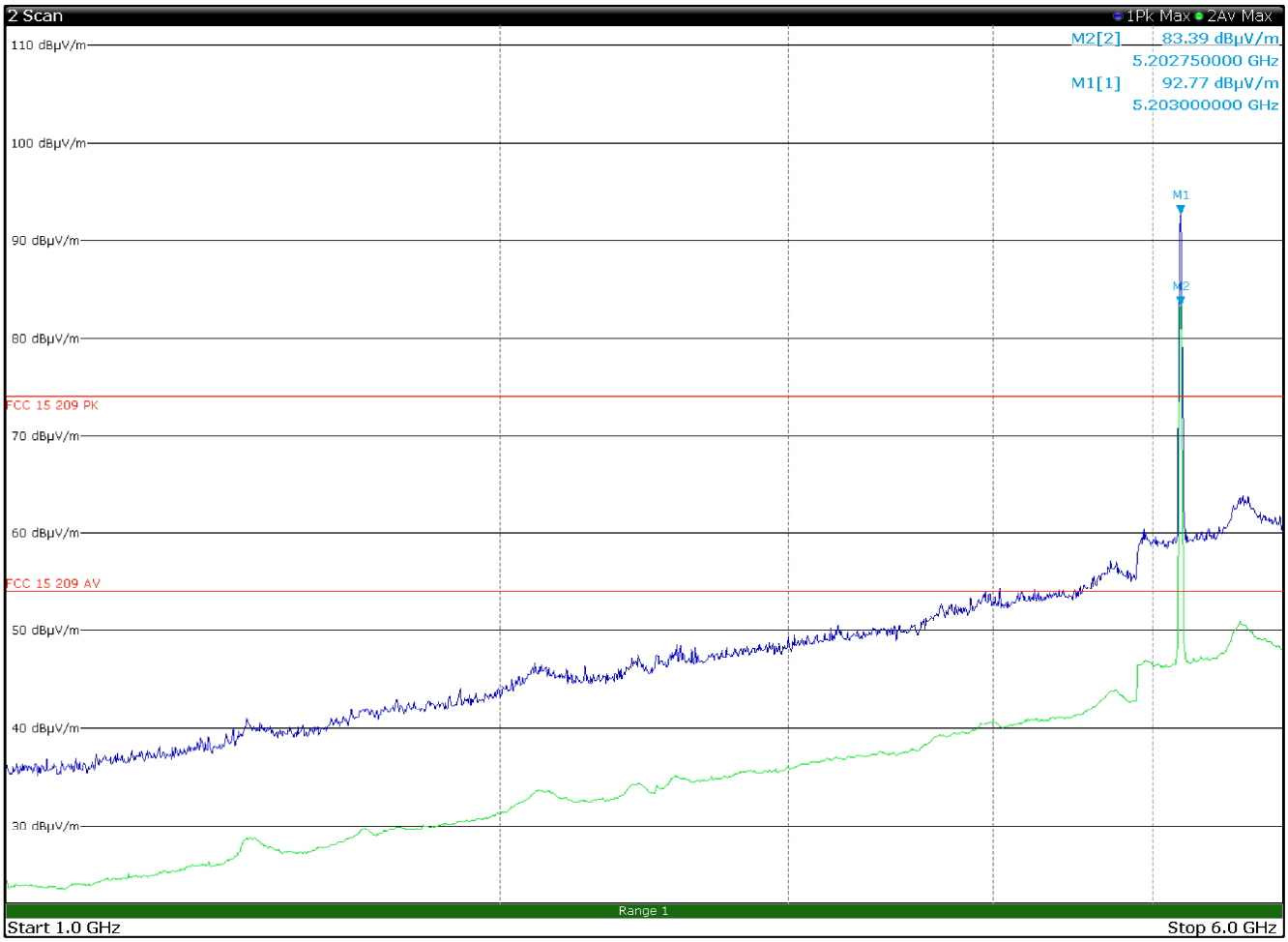
Radiated spurious emissions 1 to 6 GHz, TX 5180 MHz, CH36, 802.11a, 6Mbps, single chain with antenna in vertical polarization

Limit exceeded by the carrier

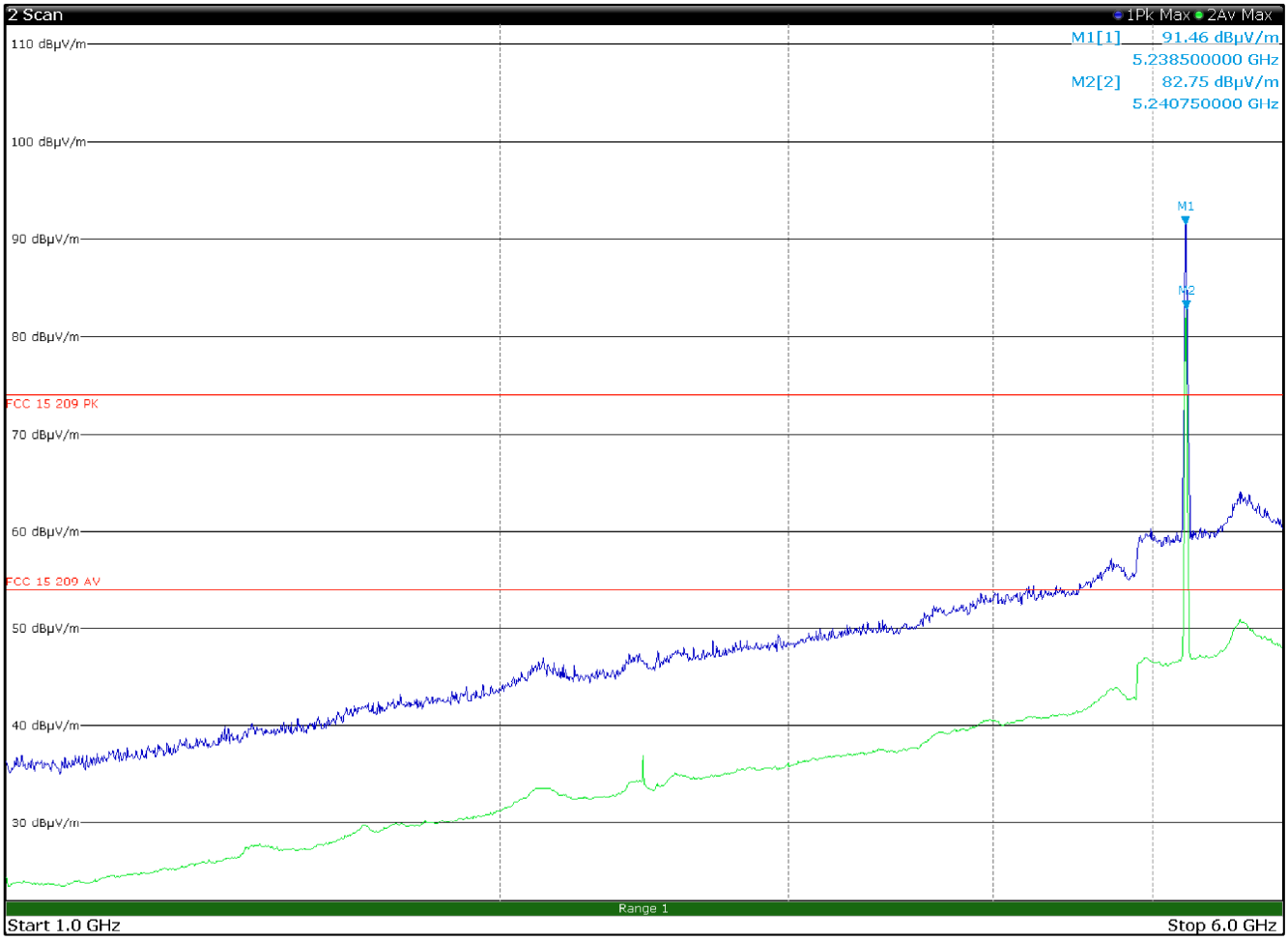


: Radiated spurious emissions 1 to 6 GHz, TX 5200 MHz, CH40, 802.11a, 6Mbps, single chain with antenna in horizontal polarization

Limit exceeded by the carrier

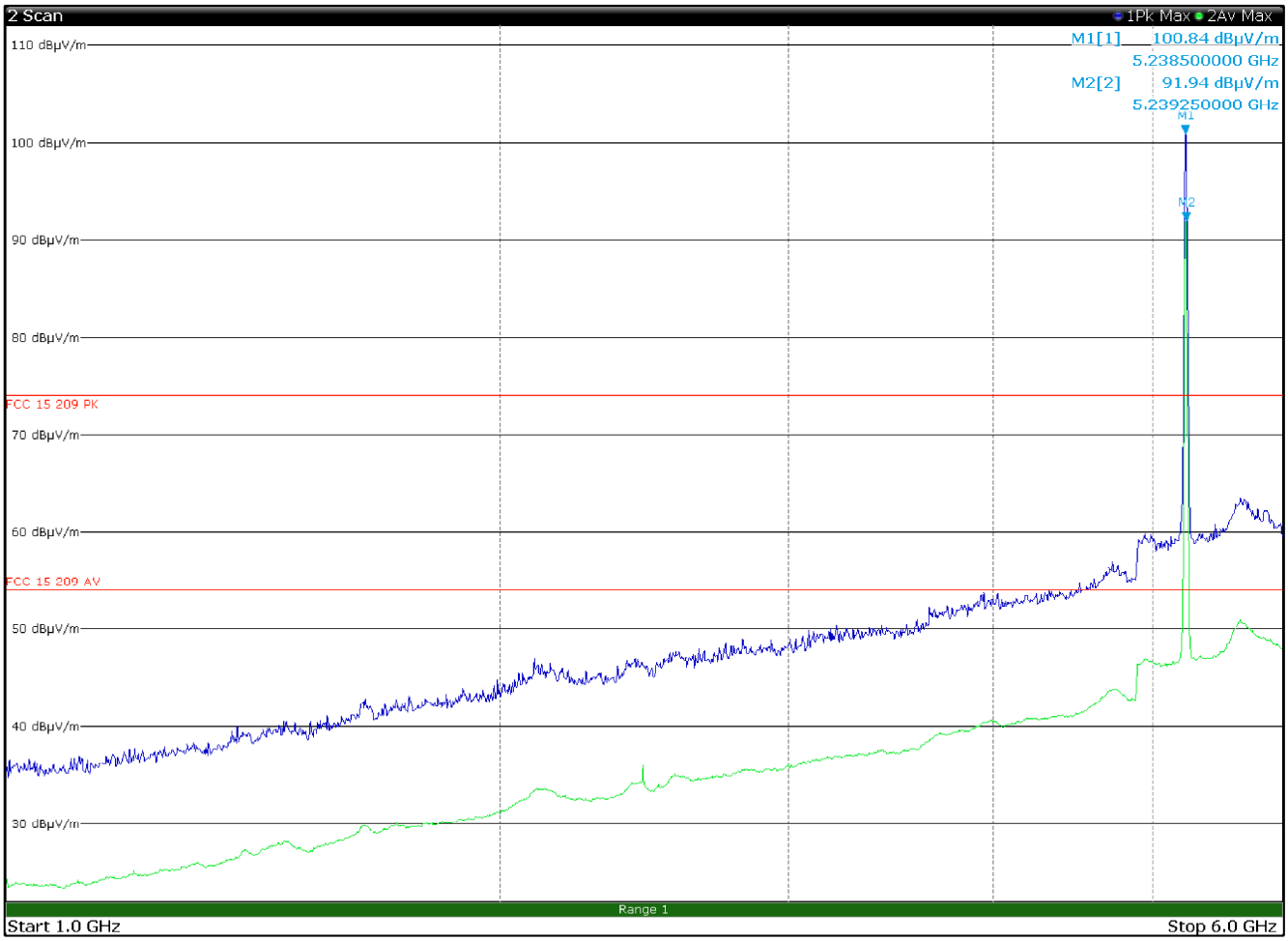


Radiated spurious emissions 1 to 6 GHz, TX 5200 MHz, CH40, 802.11a, 6Mbps, single chain with antenna in vertical polarization



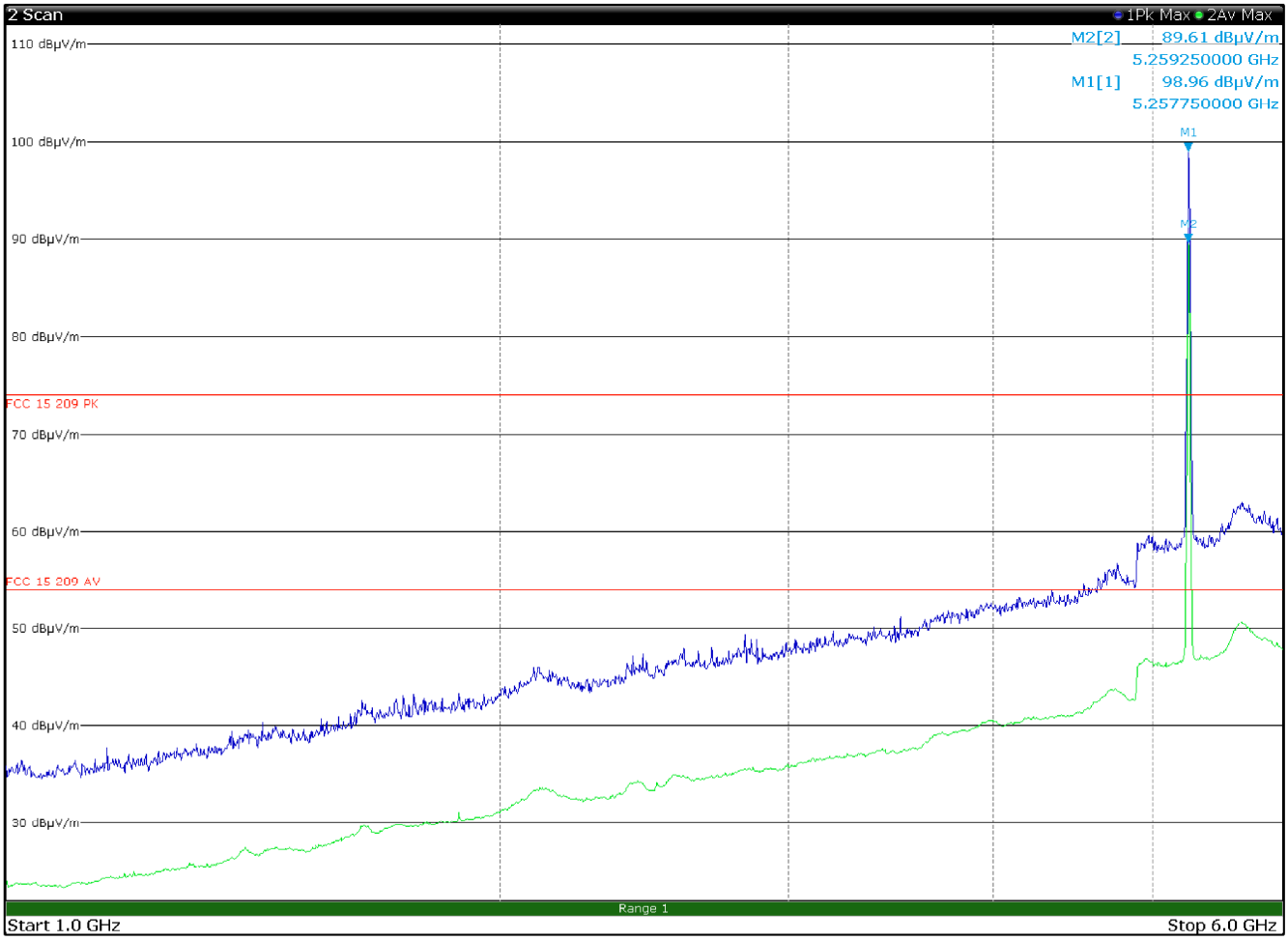
Radiated spurious emissions 1 to 6 GHz, TX 5240 MHz, CH48, 802.11a, 6Mbps, single chain with antenna in vertical polarization

Limit exceeded by the carrier



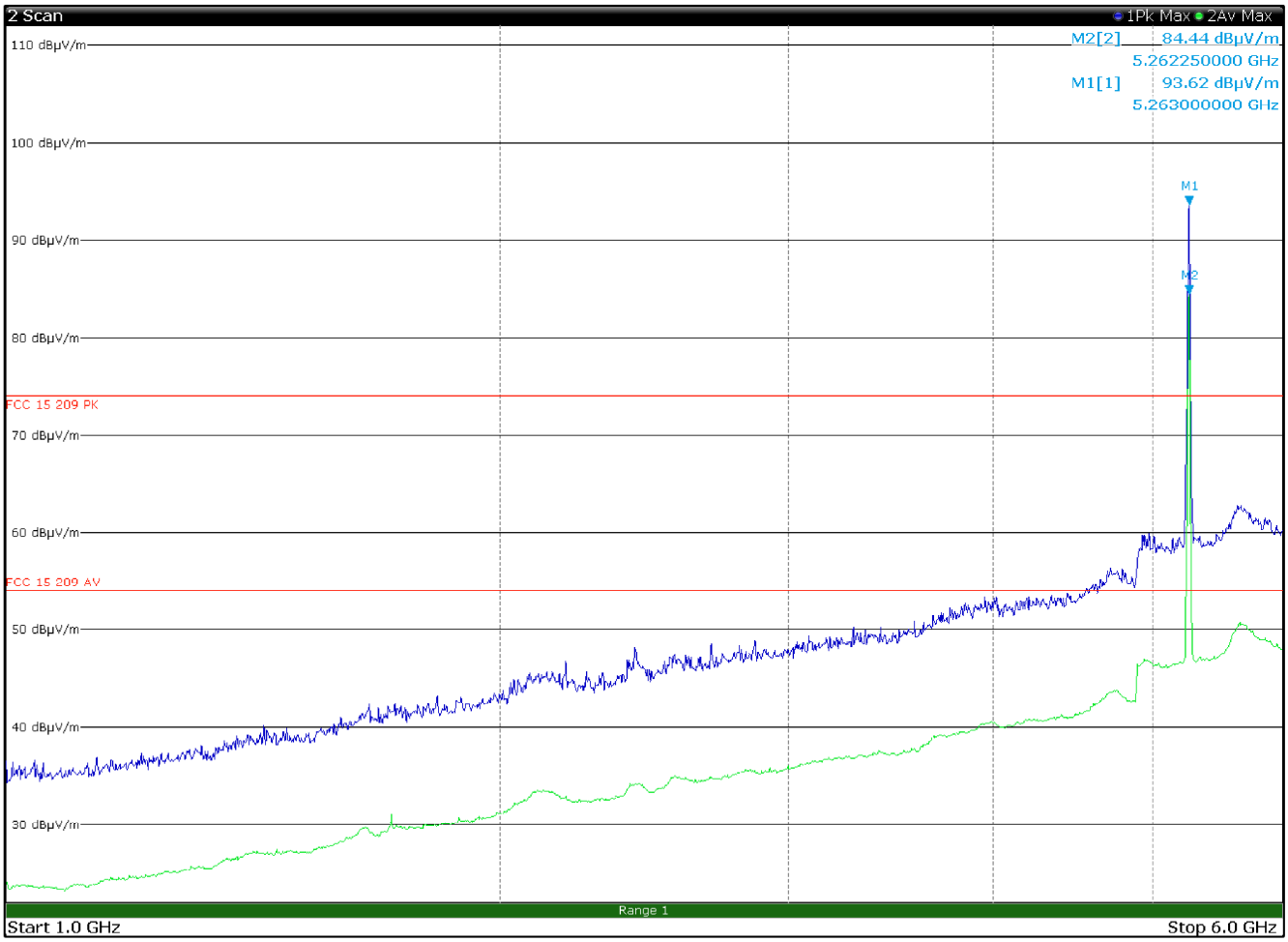
Radiated spurious emissions 1 to 6 GHz, TX 5240 MHz, CH48, 802.11a, 6Mbps, single chain with antenna in horizontal polarization

Limit exceeded by the carrier



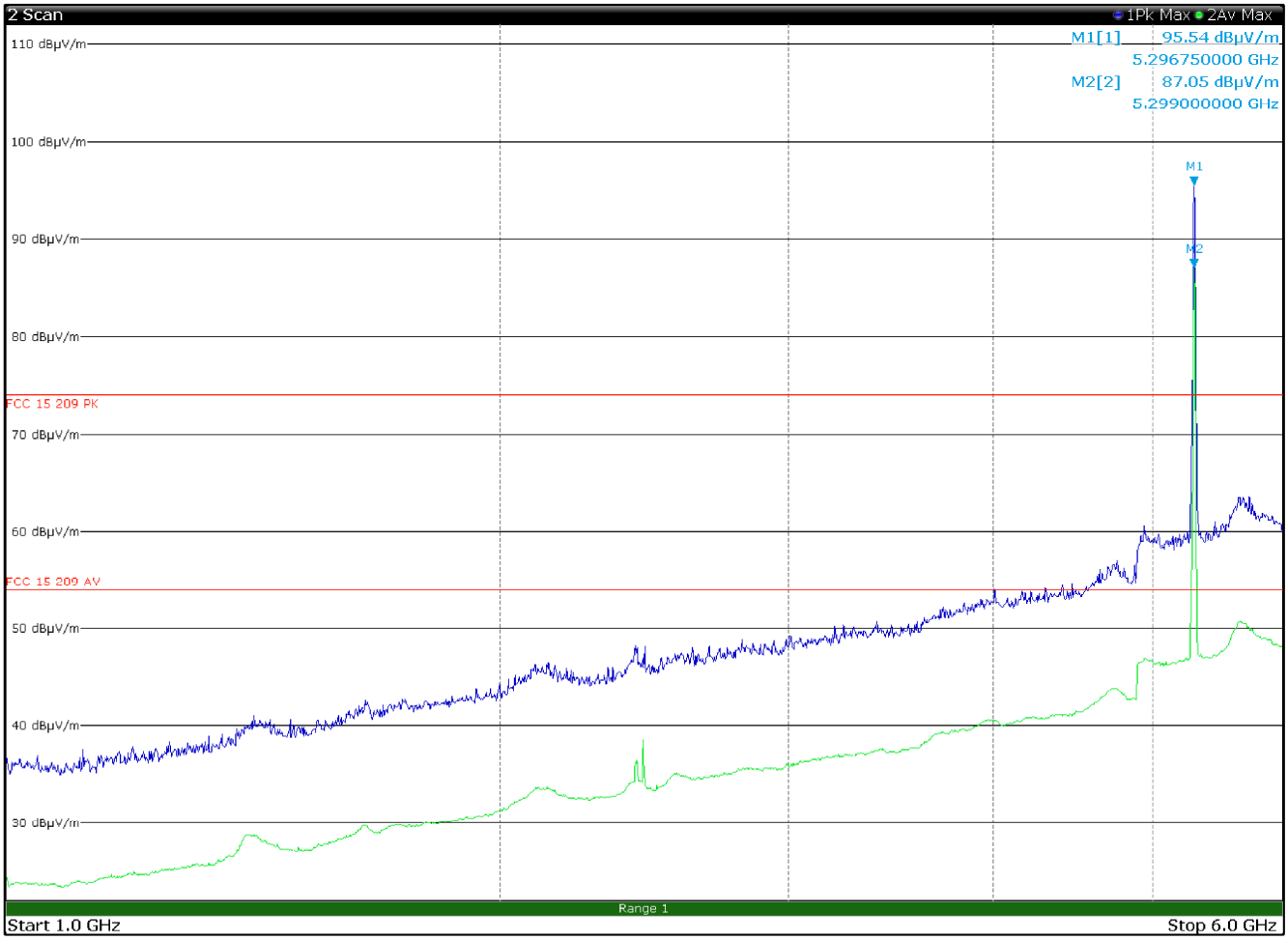
Radiated spurious emissions 1 to 6 GHz, TX 5260 MHz, CH52, 802.11a, 6Mbps, single chain with antenna in horizontal polarization

Limit exceeded by the carrier



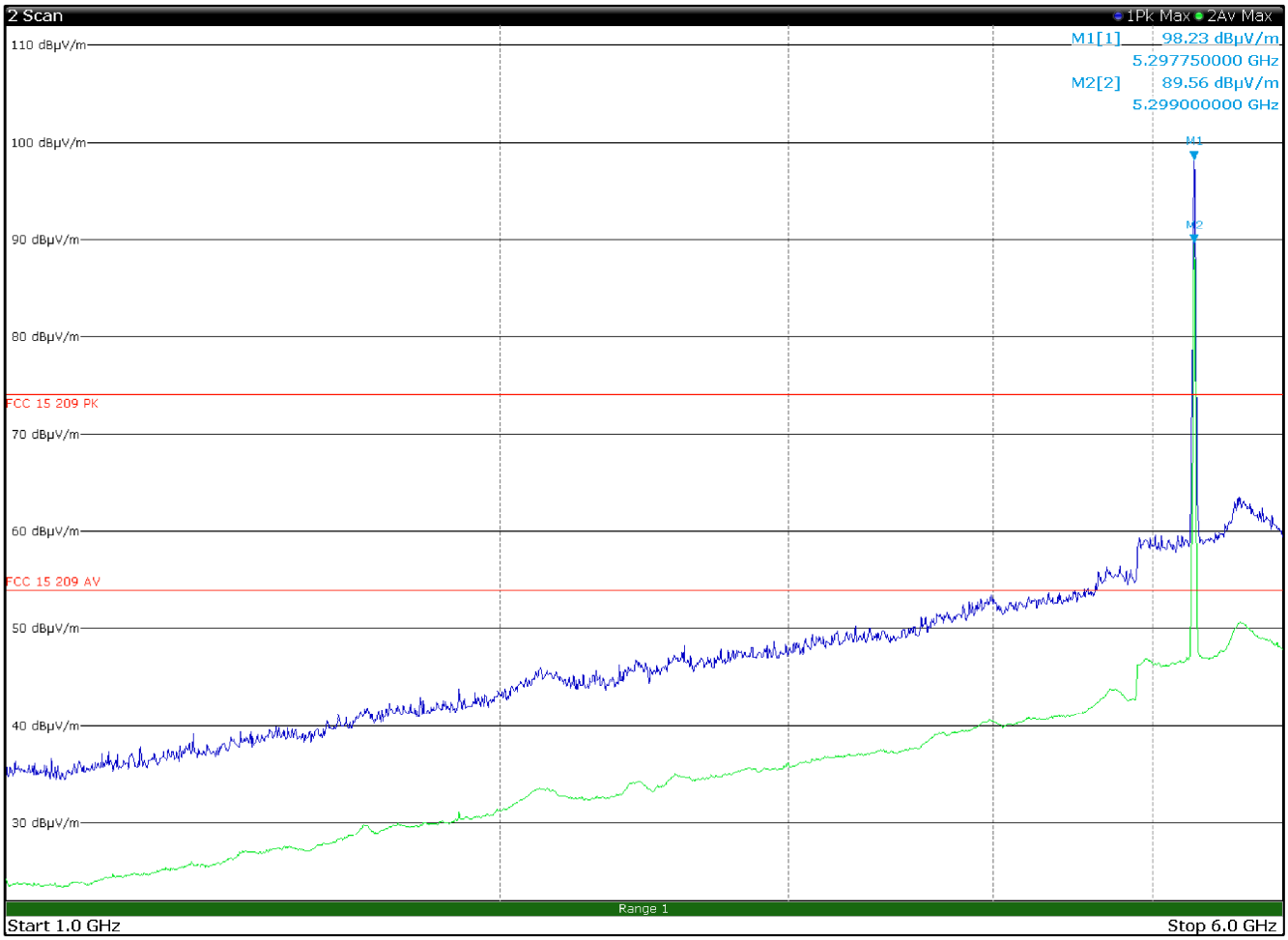
Radiated spurious emissions 1 to 6 GHz, TX 5260 MHz, CH52, 802.11a, 6Mbps, single chain with antenna in vertical polarization

Limit exceeded by the carrier



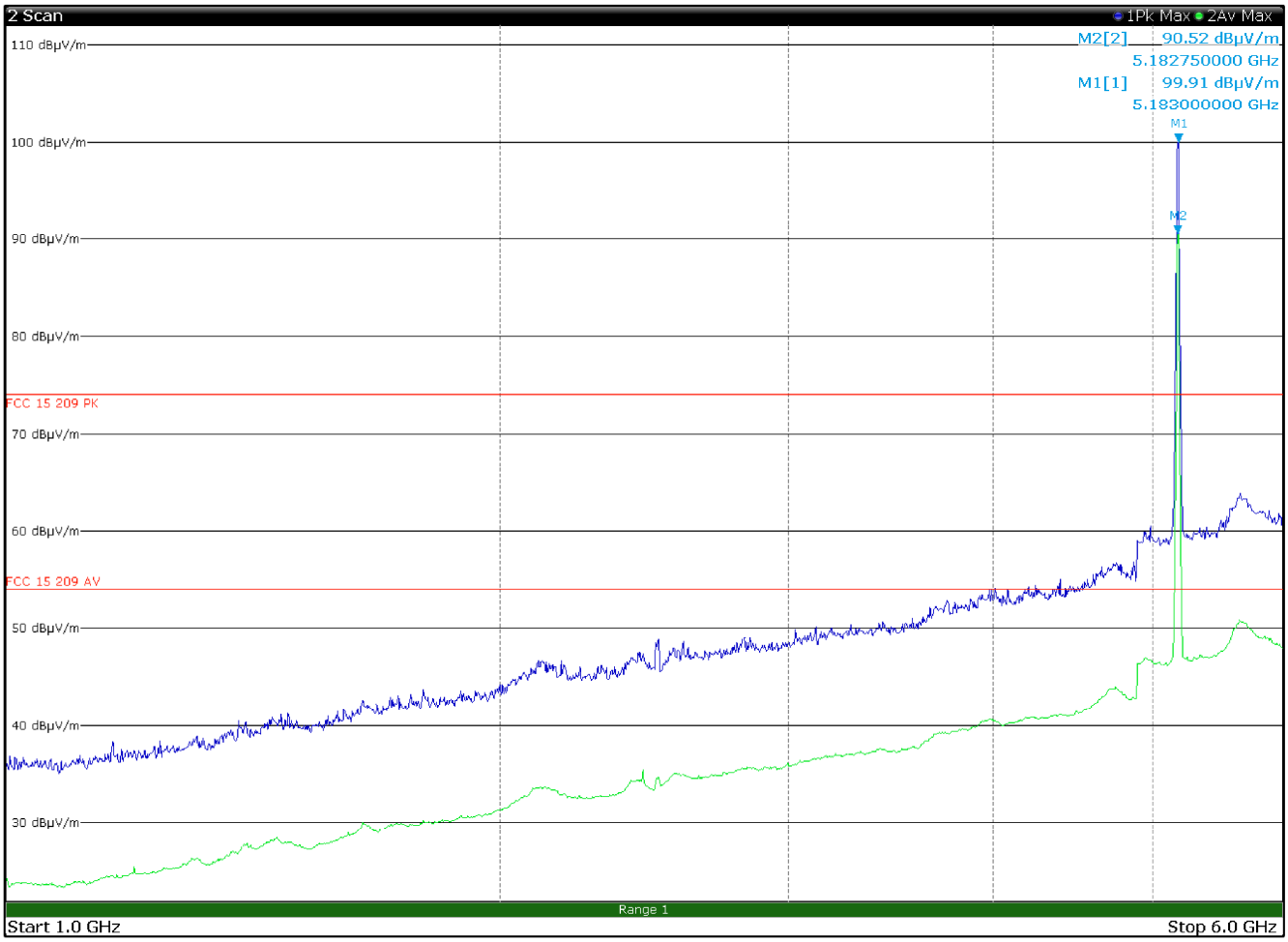
Radiated spurious emissions 1 to 6 GHz, TX 5300 MHz, CH60, 802.11a, 6Mbps, single chain with antenna in vertical polarization

Limit exceeded by the carrier



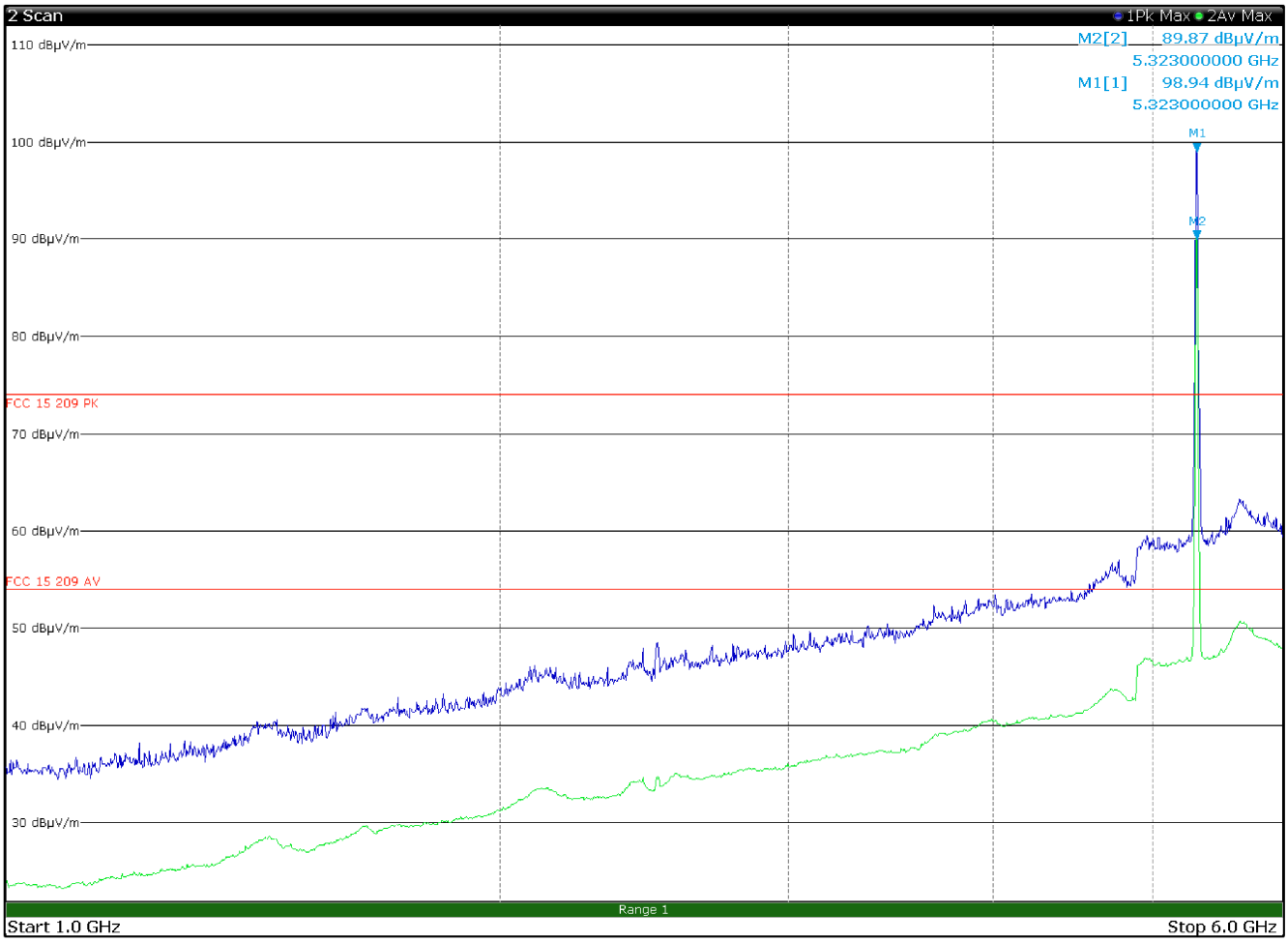
Radiated spurious emissions 1 to 6 GHz, TX 5300 MHz, CH60, 802.11a, 6Mbps, single chain with antenna in horizontal polarization

Limit exceeded by the carrier



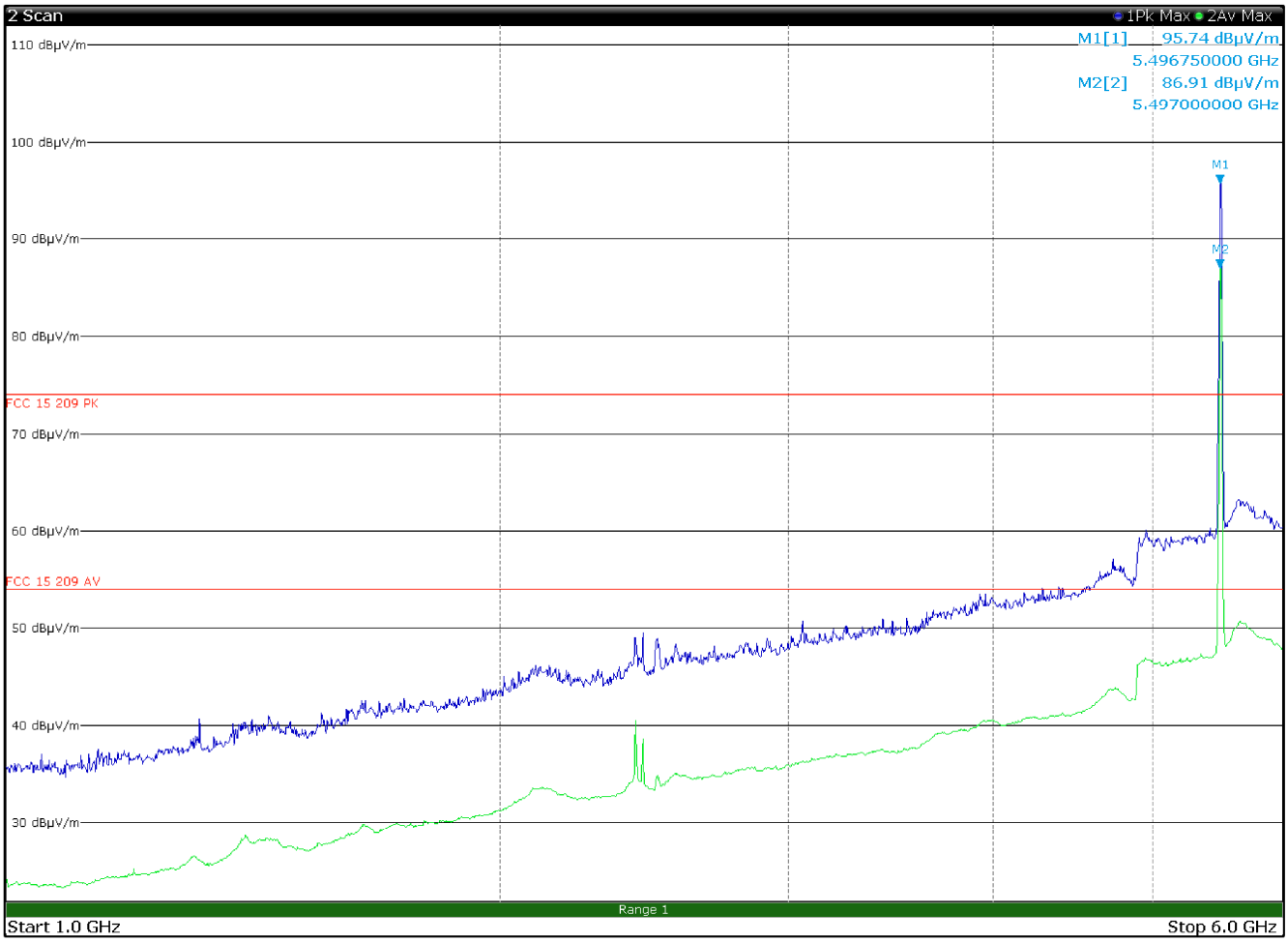
Radiated spurious emissions 1 to 6 GHz, TX 5320 MHz, CH64, 802.11a, 6Mbps, single chain with antenna in vertical polarization

Limit exceeded by the carrier



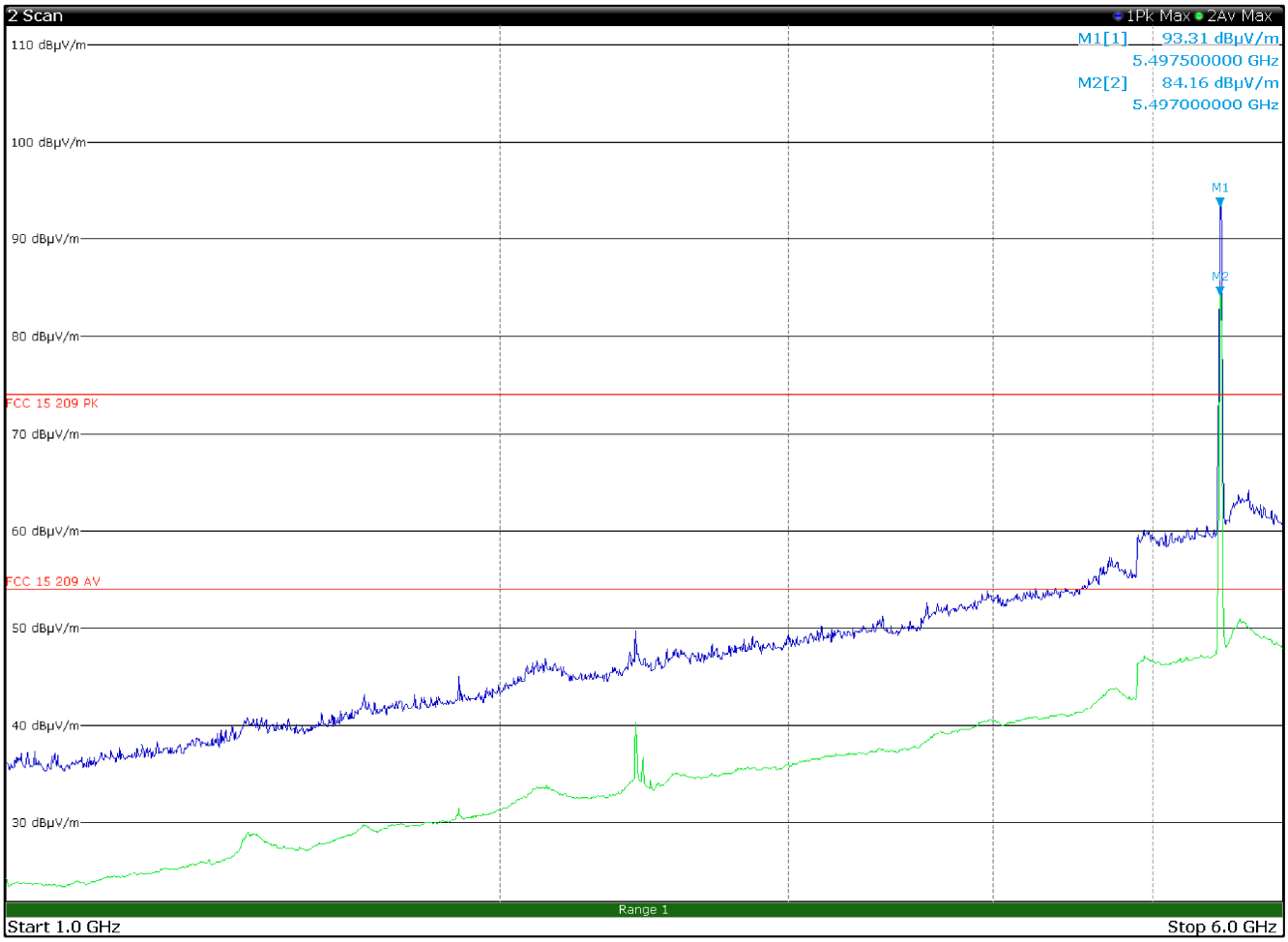
Radiated spurious emissions 1 to 6 GHz, TX 5320 MHz, CH64, 802.11a, 6Mbps, single chain with antenna in horizontal polarization

Limit exceeded by the carrier



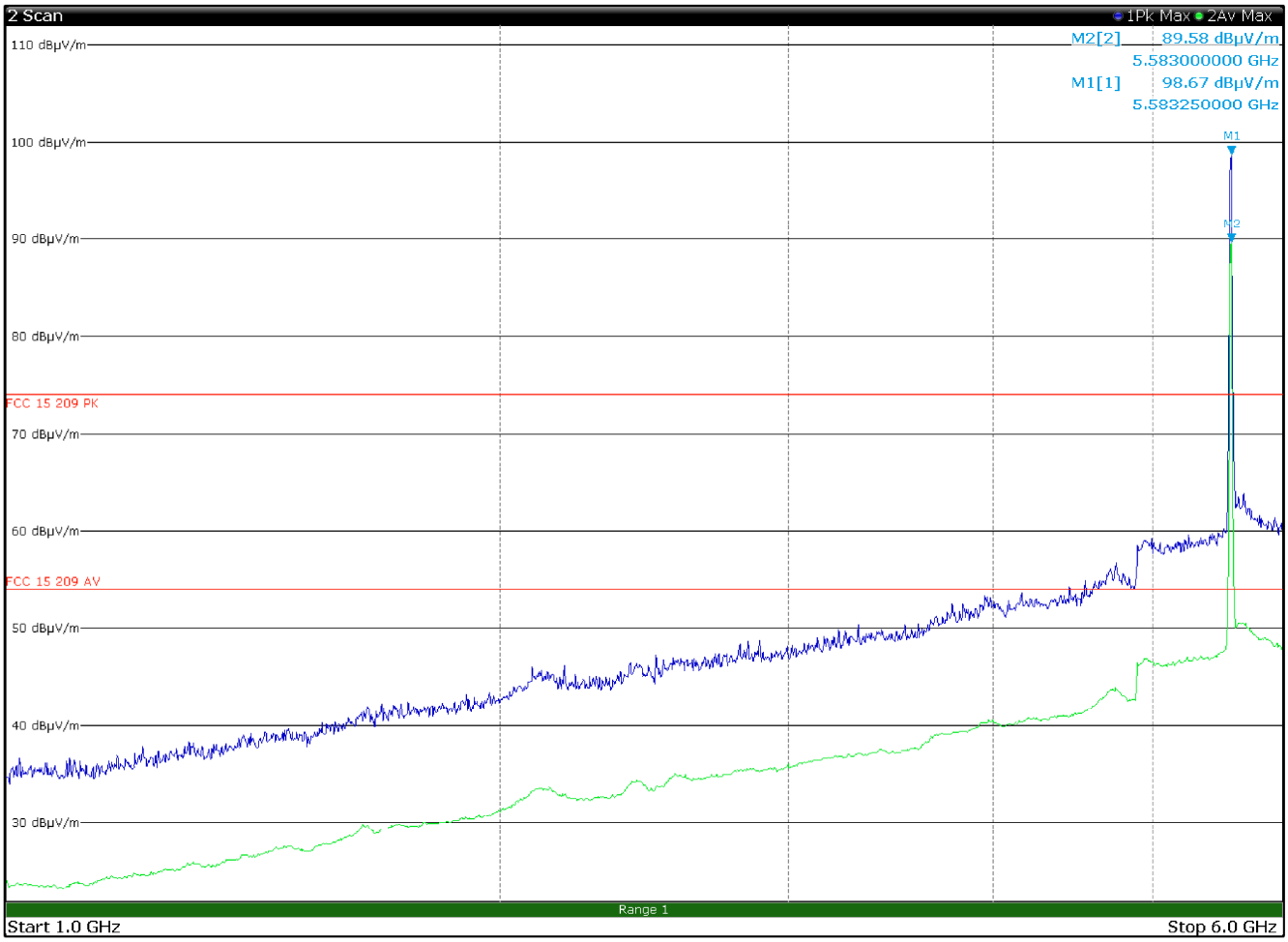
Radiated spurious emissions 1 to 6 GHz, TX 5500 MHz, CH100, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization

Limit exceeded by the carrier



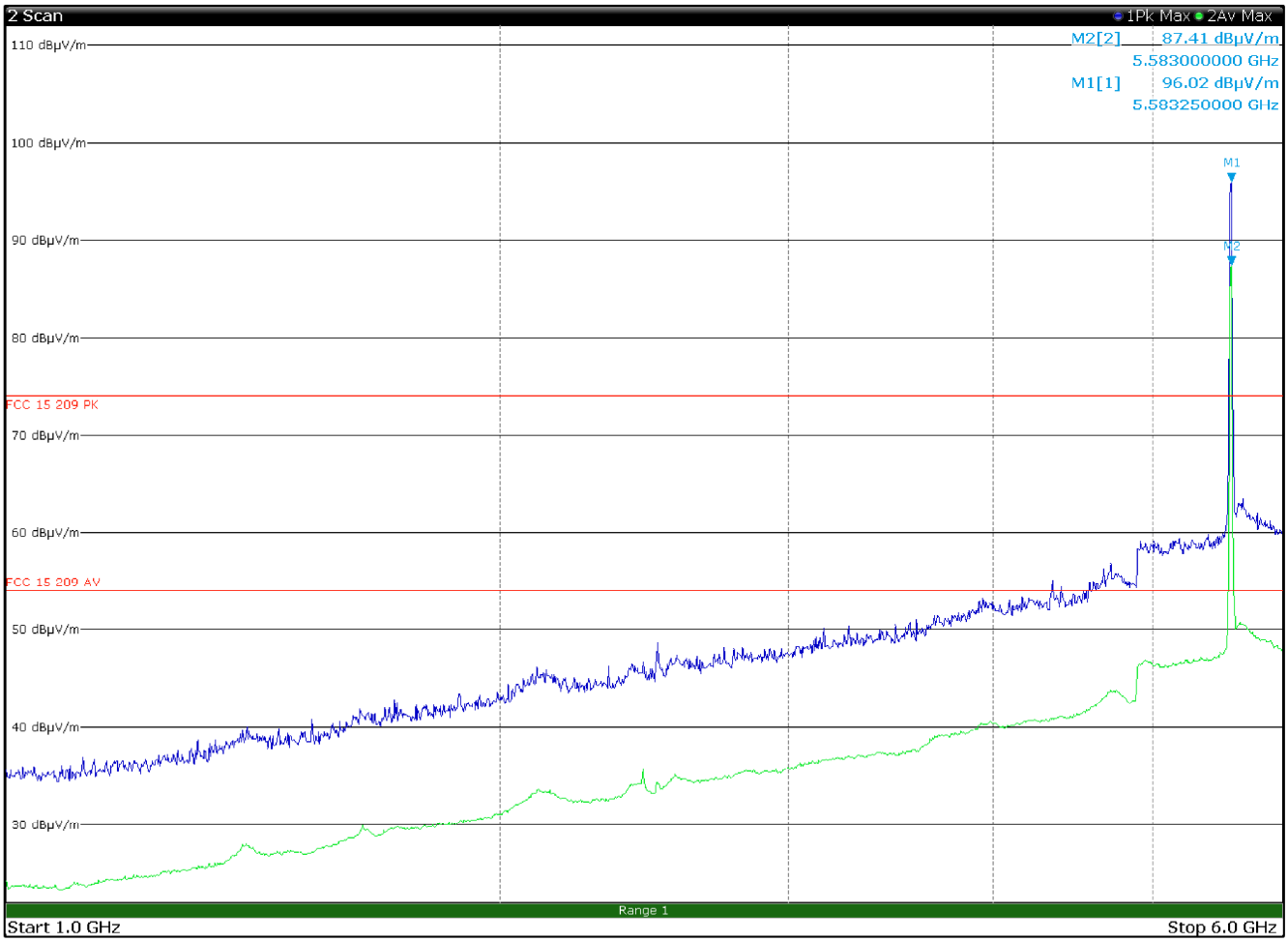
Radiated spurious emissions 1 to 6 GHz, TX 5500 MHz, CH100, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization

Limit exceeded by the carrier



Radiated spurious emissions 1 to 6 GHz,mid TX 5580 MHz, CH116, 802.11a, 6Mbps, single chain with antenna in horizontal polarization (

Limit exceeded by the carrier



Radiated spurious emissions 1 to 6 GHz,mid TX 5580 MHz, CH116, 802.11a, 6Mbps, single chain with antenna in vertical polarization

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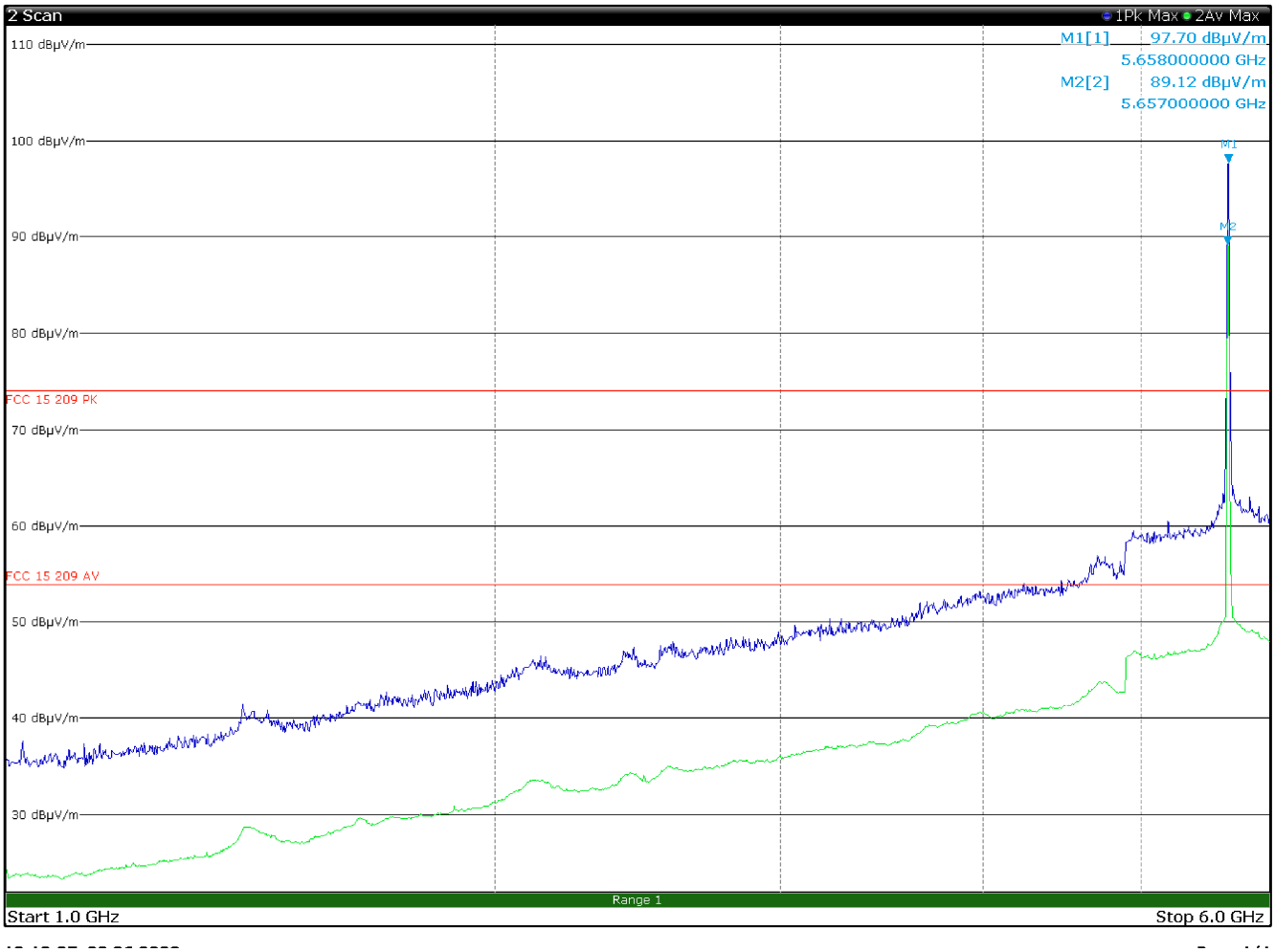


: Radiated spurious emissions 1 to 6 GHz, TX 5660 MHz, CH132, 802.11a, 6Mbps, single chain with antenna in vertical polarization

Limit exceeded by the carrier

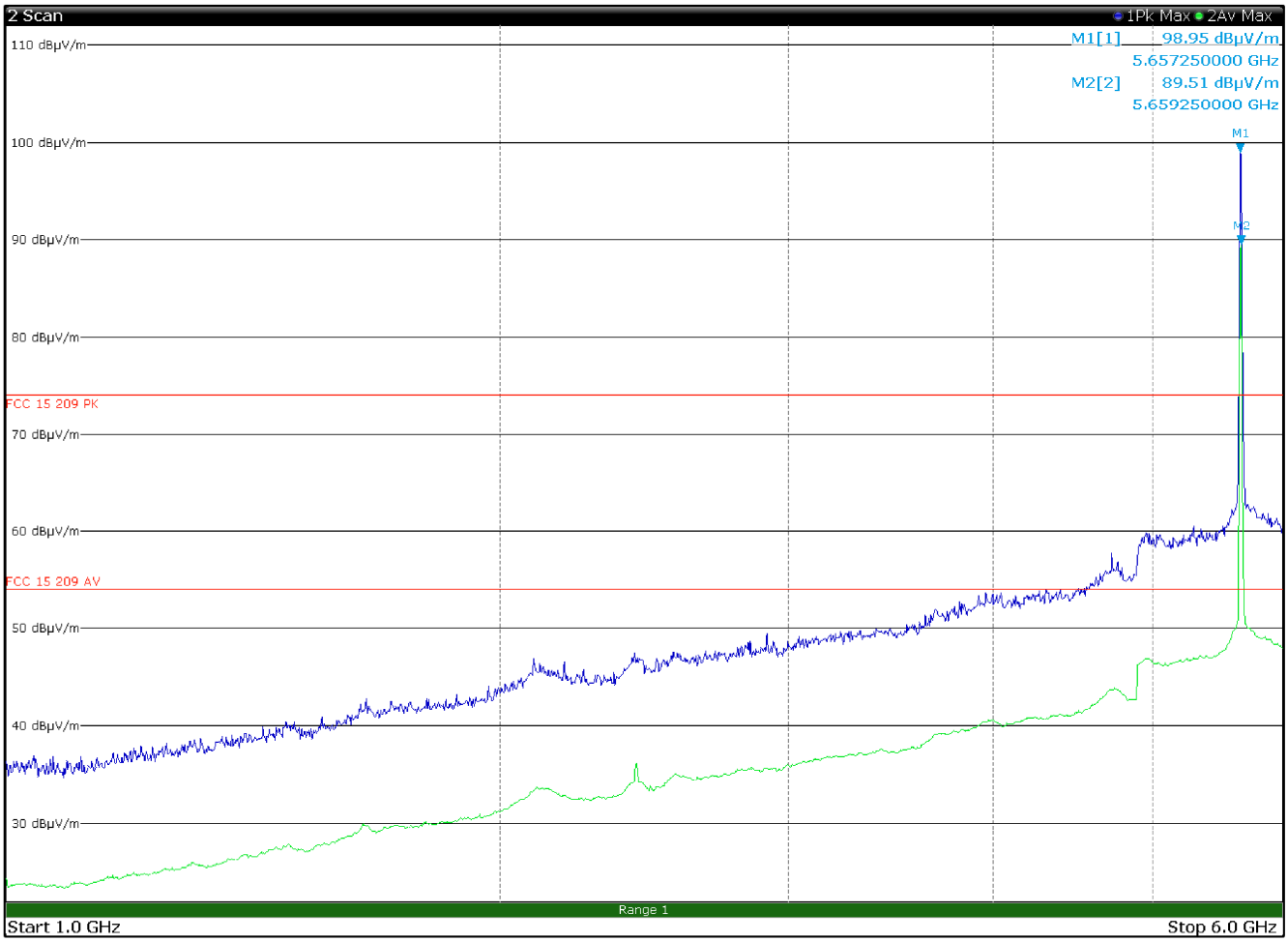
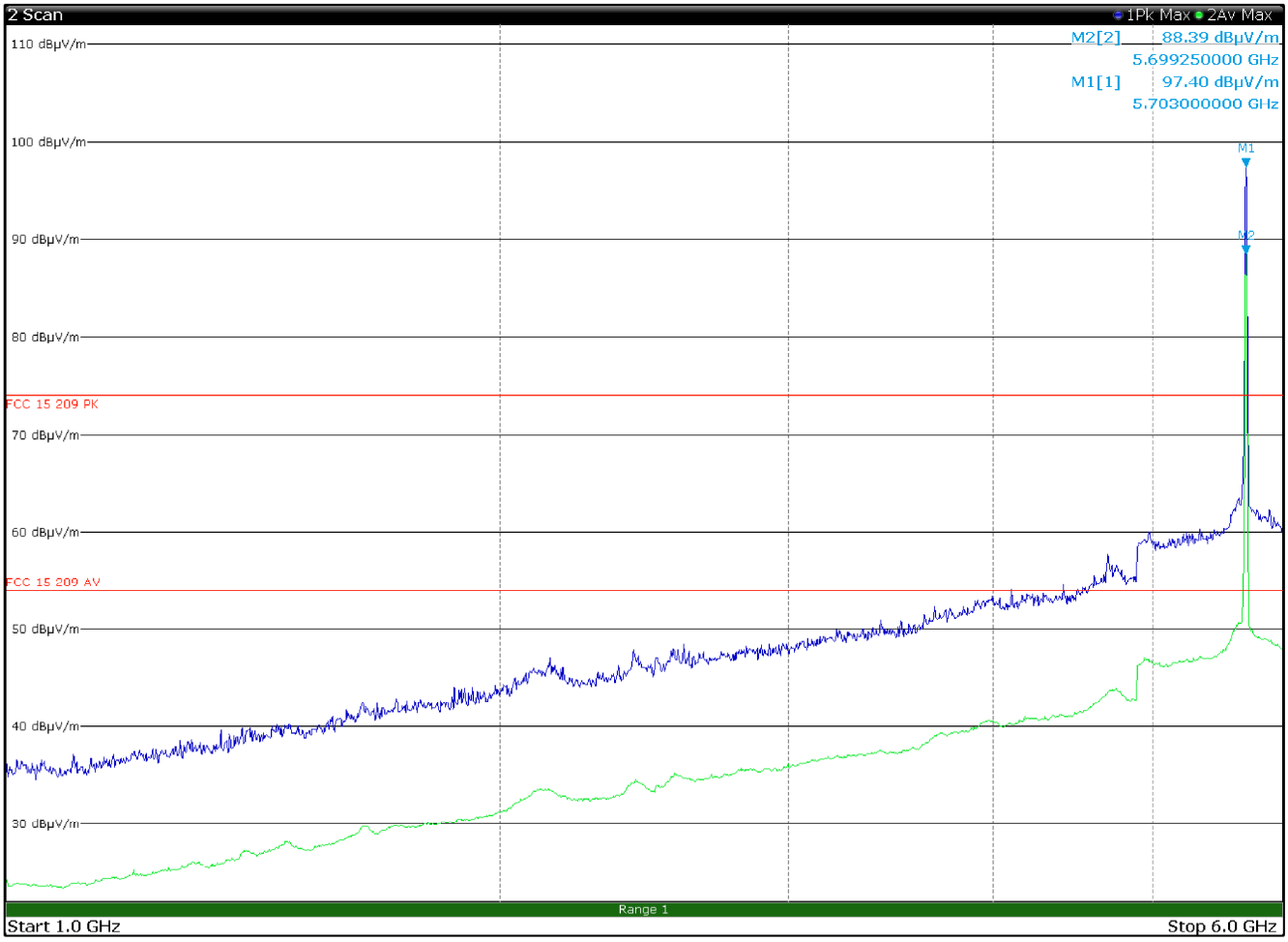


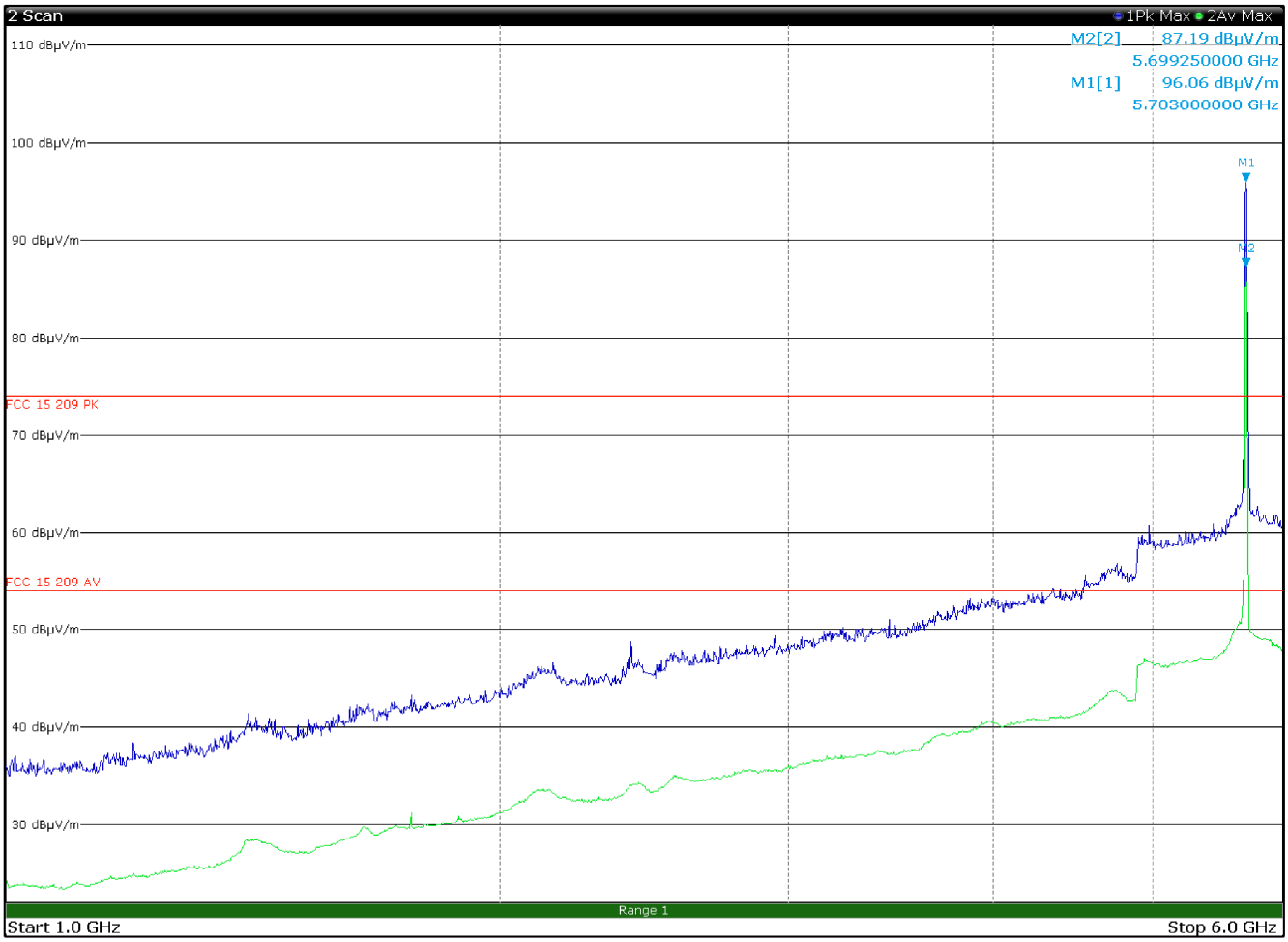
Figure 7.4-5: *Radiated spurious emissions 1 to 6 GHz, TX 5660 MHz, CH132, 802.11a, 6Mbps, single chain with antenna in horizontal polarization*

Limit exceeded by the carrier



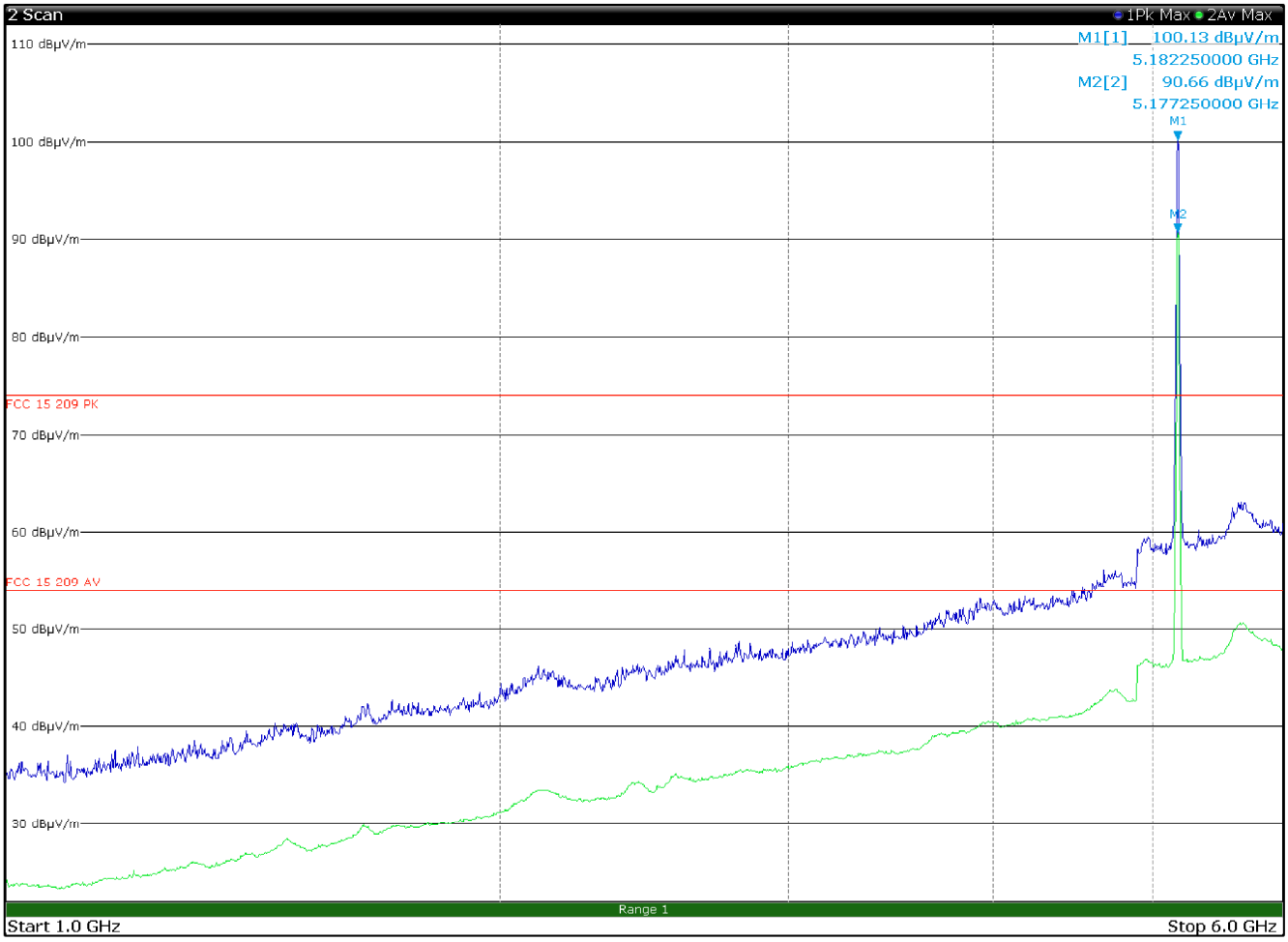
Radiated spurious emissions 1 to 6 GHz, TX 5700 MHz, CH140, 802.11a, 6Mbps, single chain with antenna in horizontal polarization

Limit exceeded by the carrier



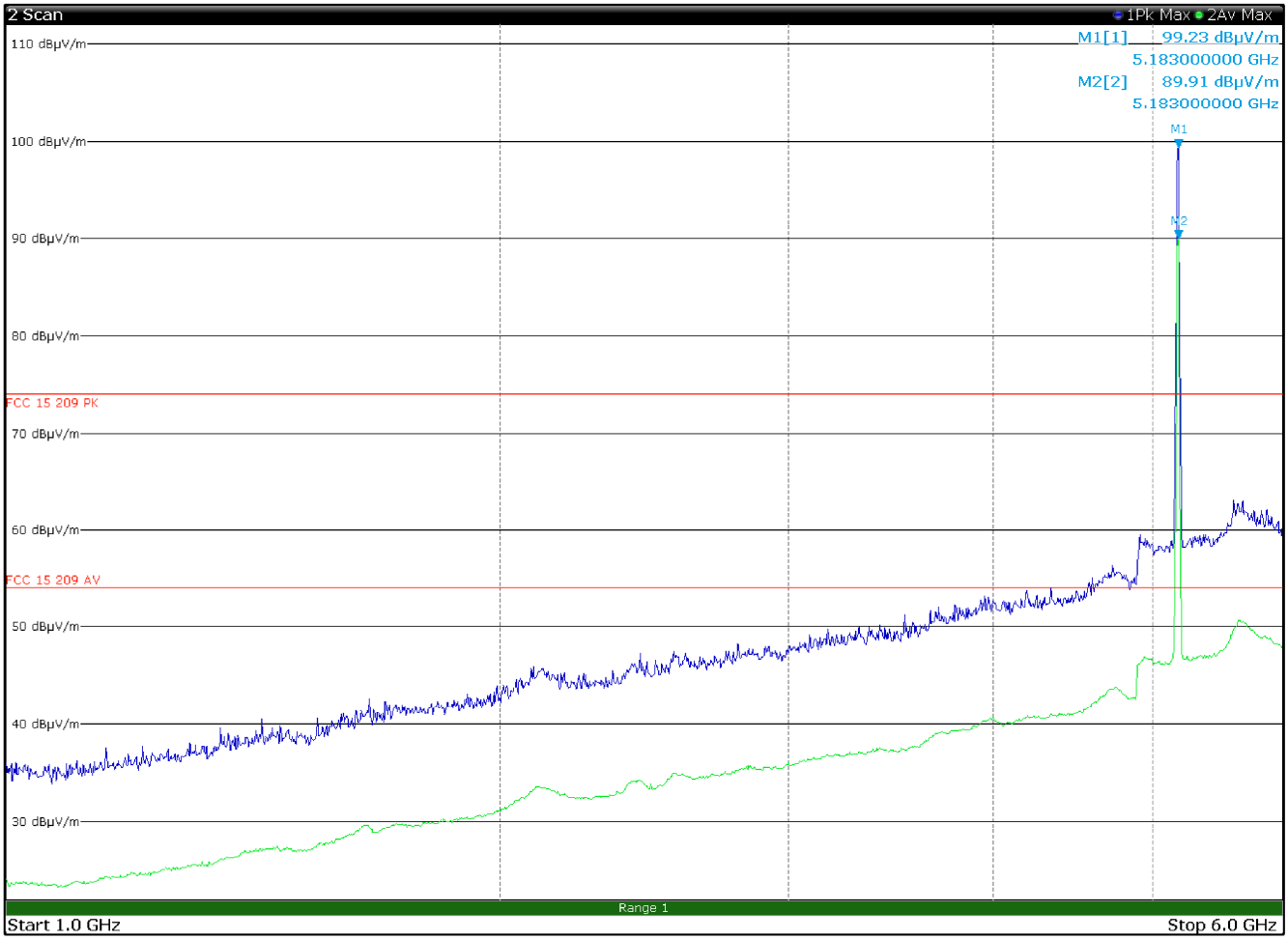
Radiated spurious emissions 1 to 6 GHz, TX 5700 MHz, CH140, 802.11a, 6Mbps, single chain with antenna in vertical polarization

Limit exceeded by the carrier

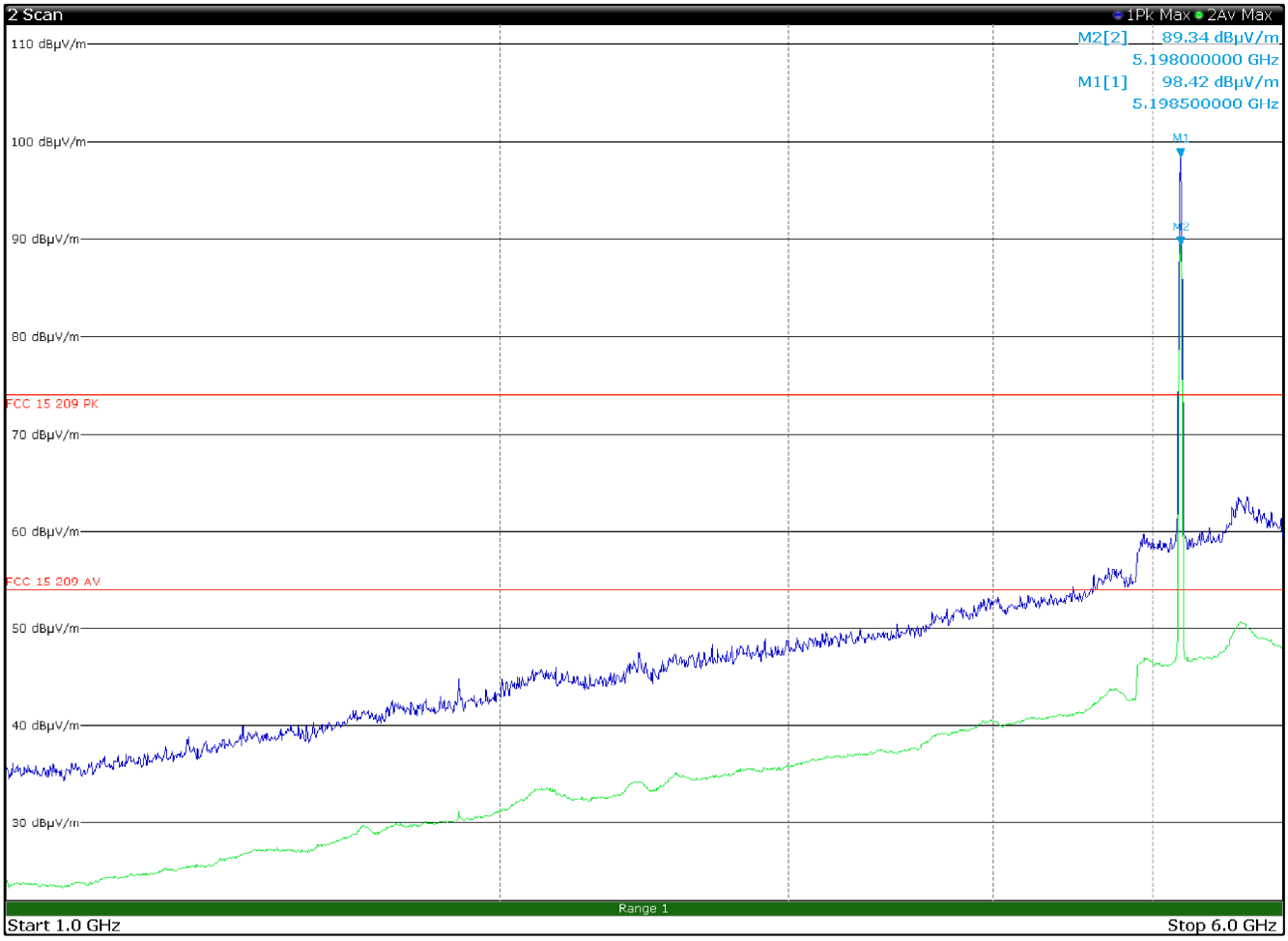


Radiated spurious emissions 1 to 6 GHz, TX 5180 MHz, CH36, 802.11n (20MHz), 6.5Mbps, multi chain channel with antenna in horizontal polarization

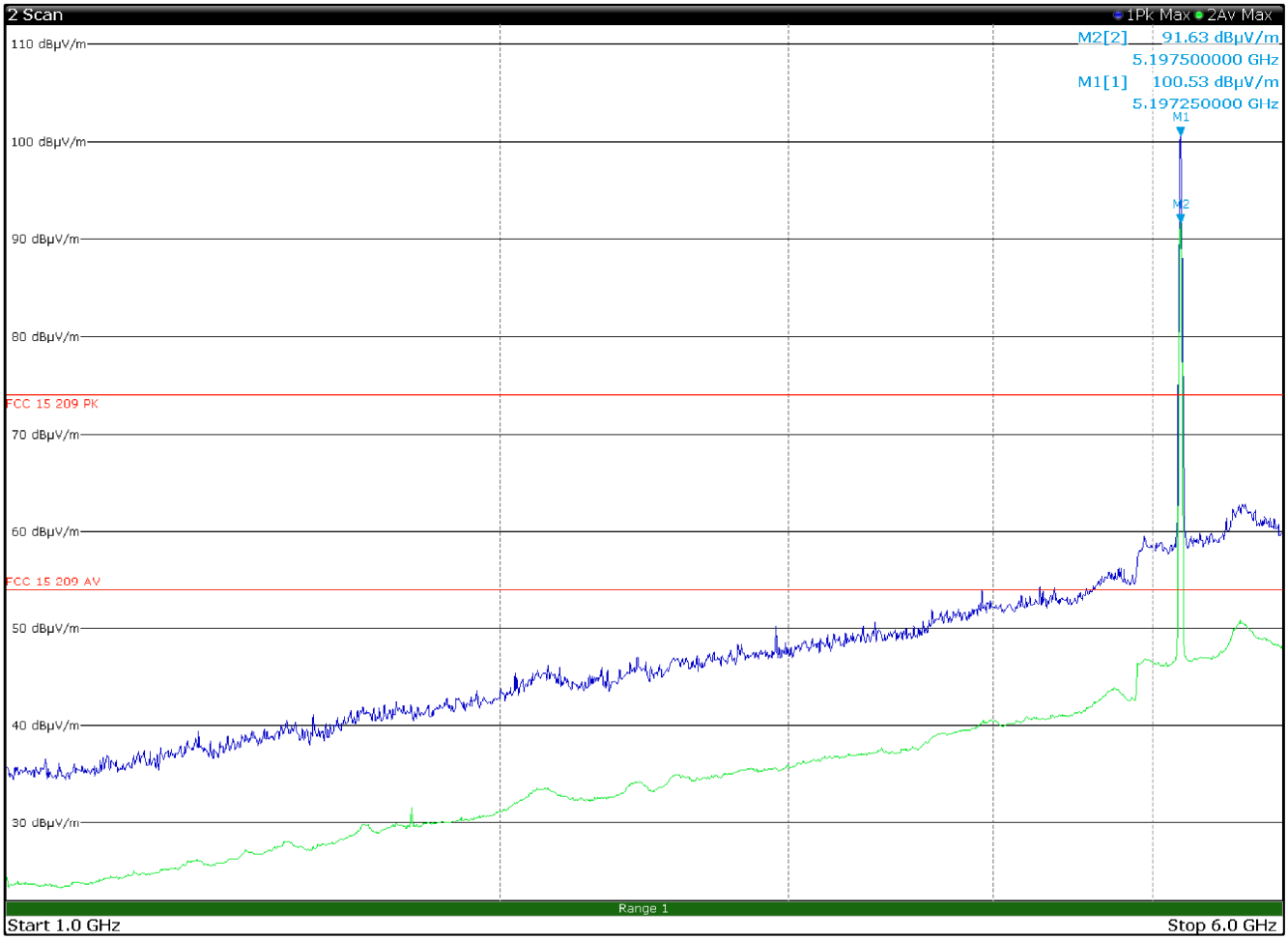
Limit exceeded by the carrier



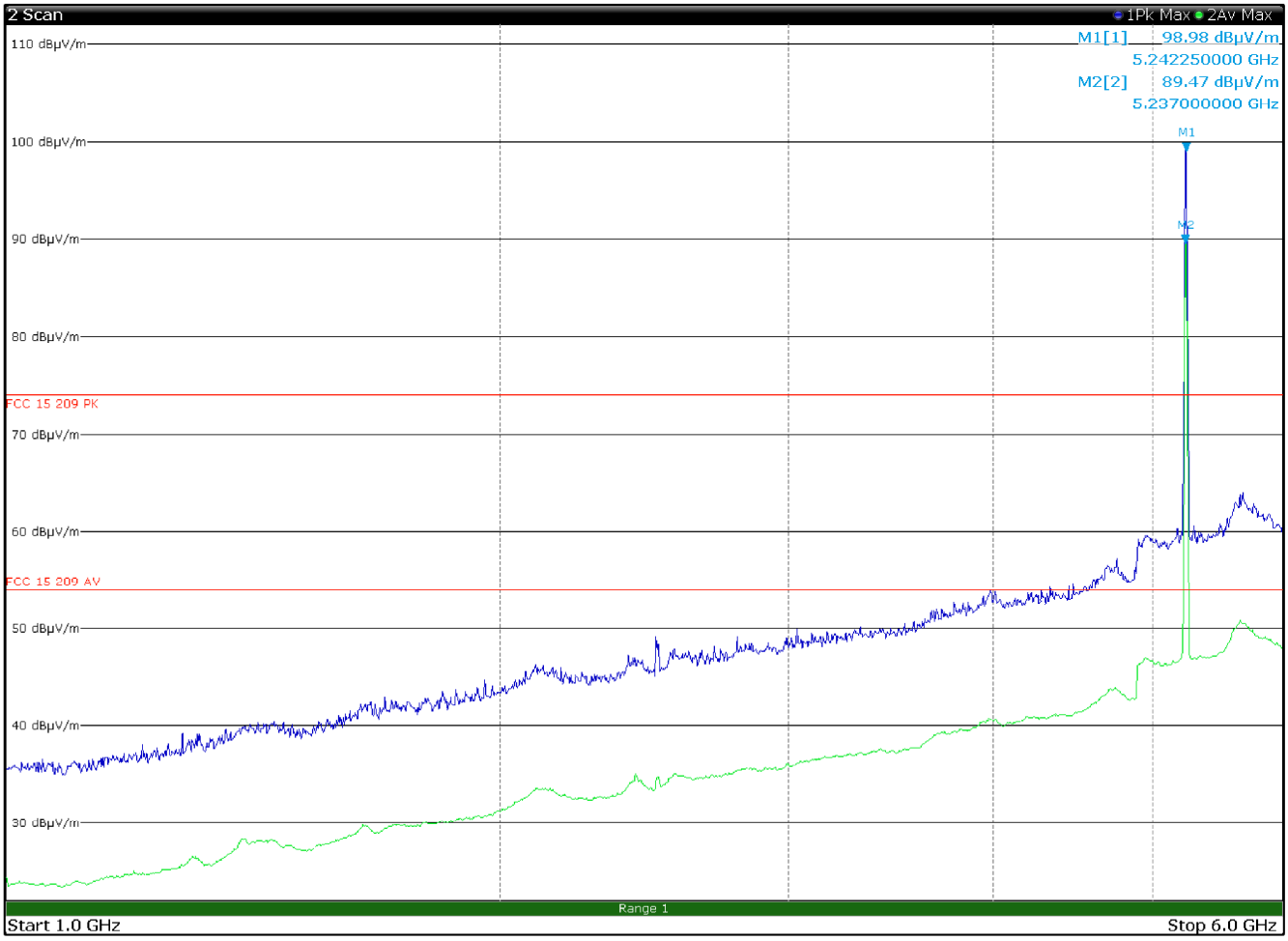
Radiated spurious emissions 1 to 6 GHz TX 5180 MHz, CH36, 802.11n (20MHz), 6.5Mbps, multi chain channel with antenna with antenna in horizontal polarization



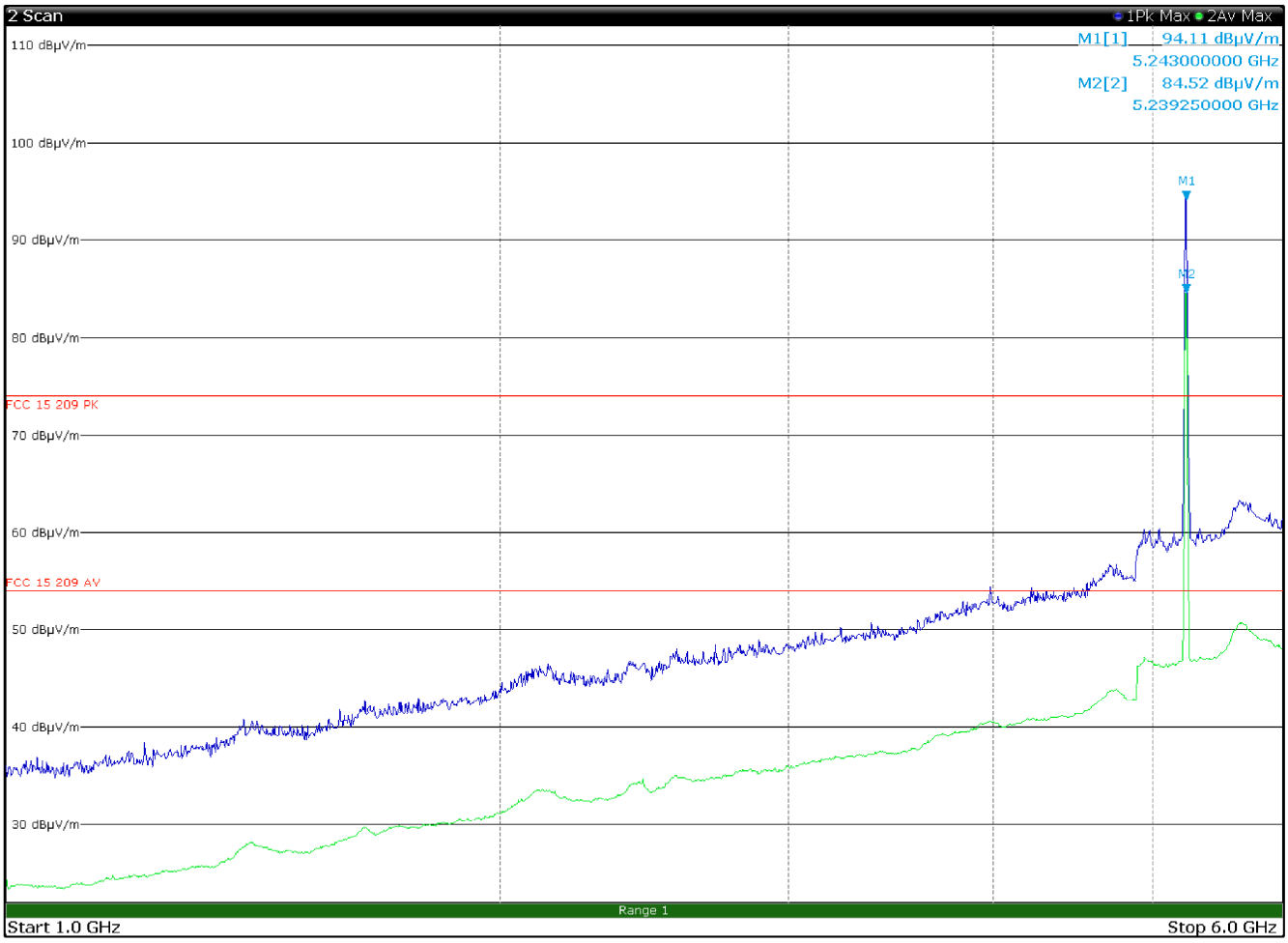
Radiated spurious emissions 1 to 6 GHz, TX 5200 MHz, CH40, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



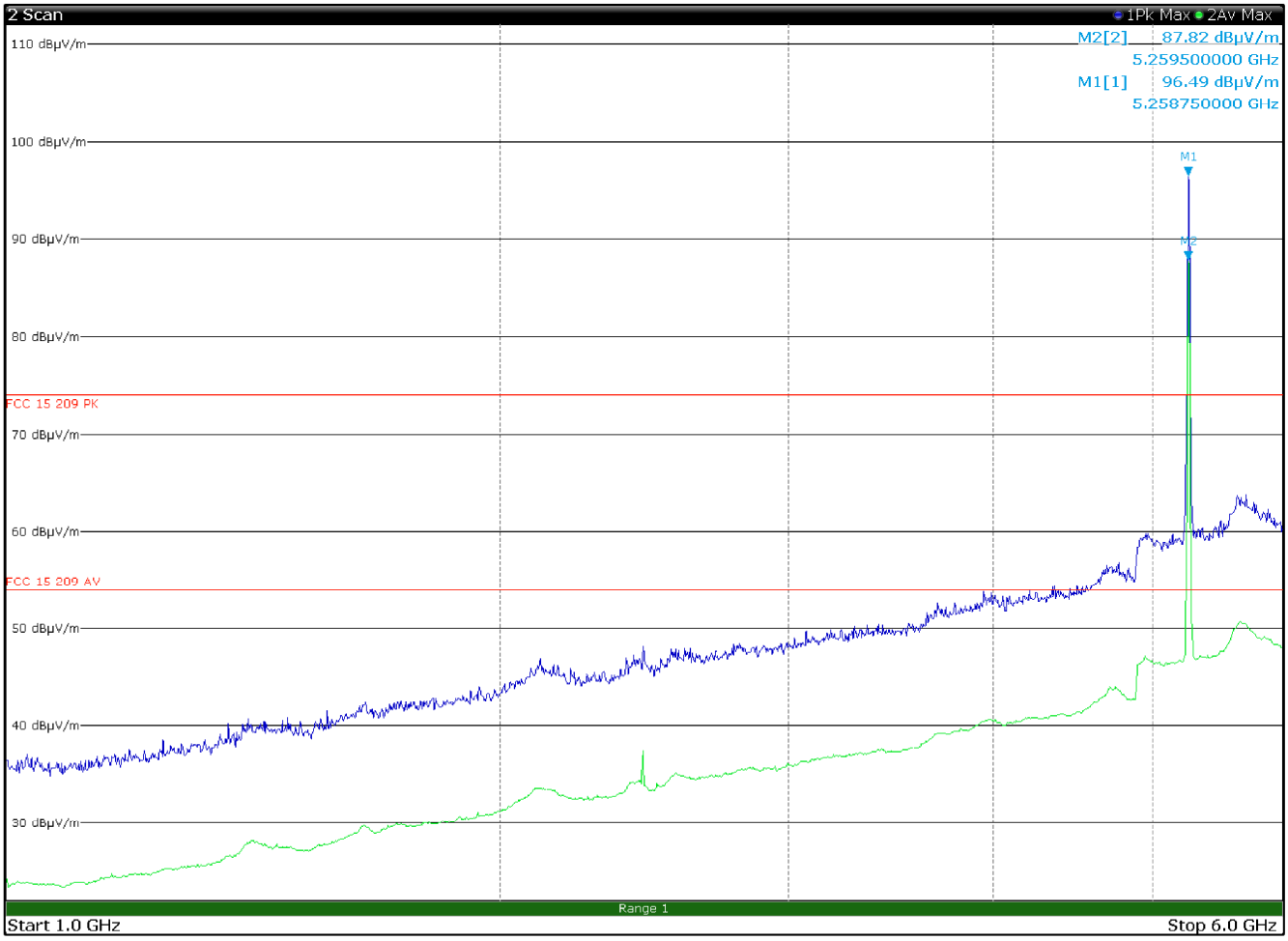
: Radiated spurious emissions 1 to 6 GHz, TX 5200 MHz, CH40, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



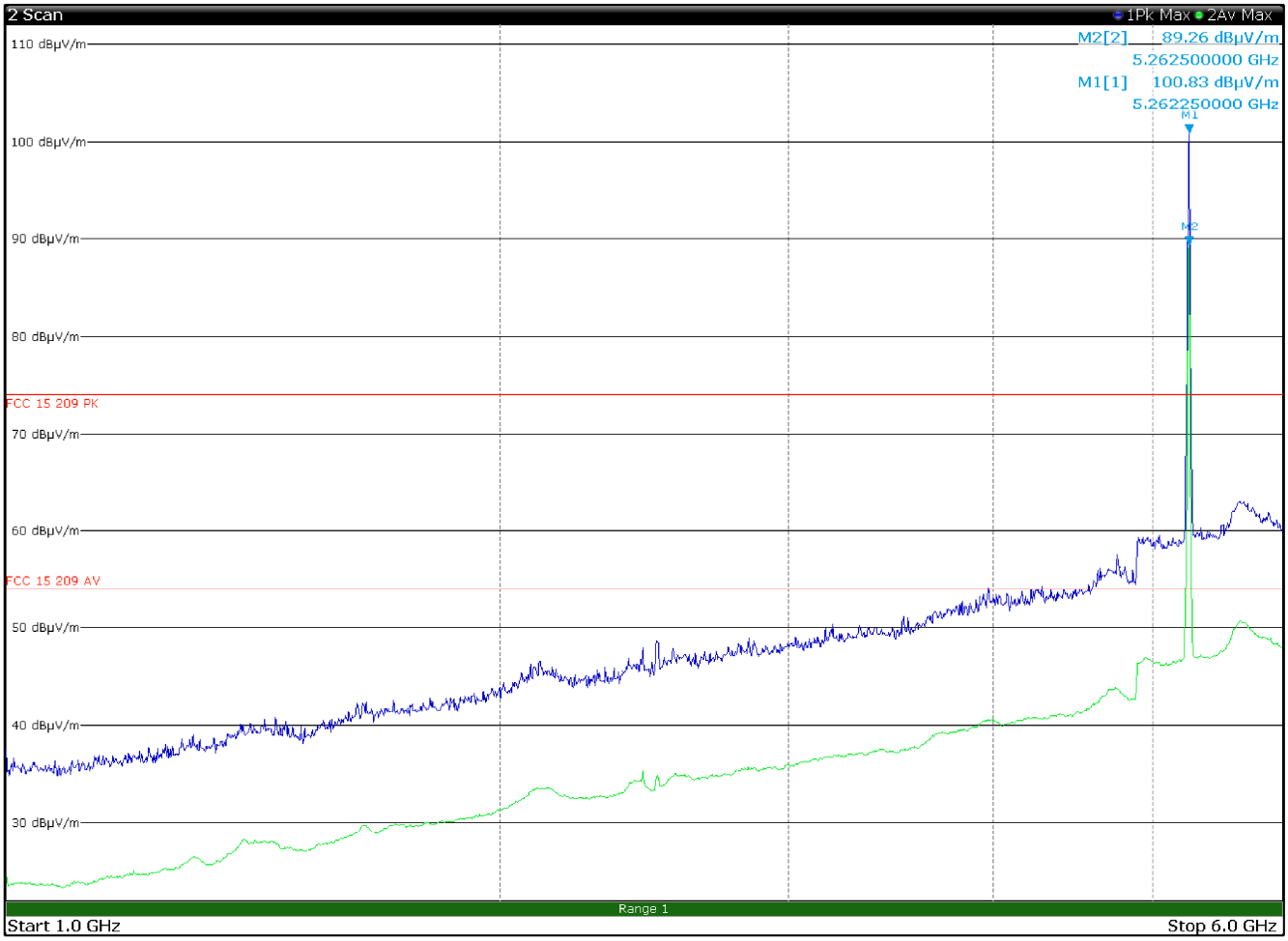
Radiated spurious emissions 1 to 6 GHz, TX 5240 MHz, CH48, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



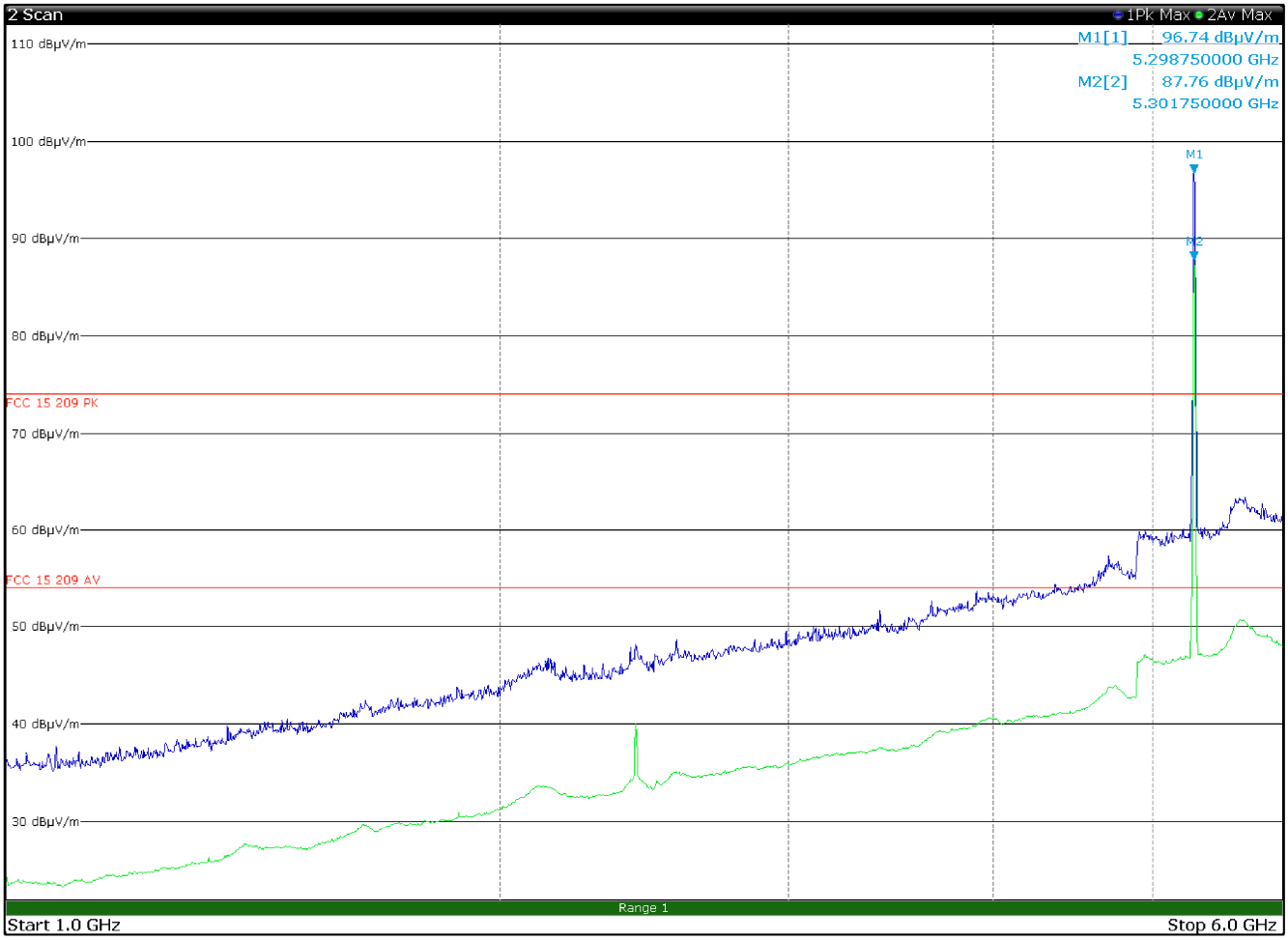
Radiated spurious emissions 1 to 6 GHz, TX 5240 MHz, CH48, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



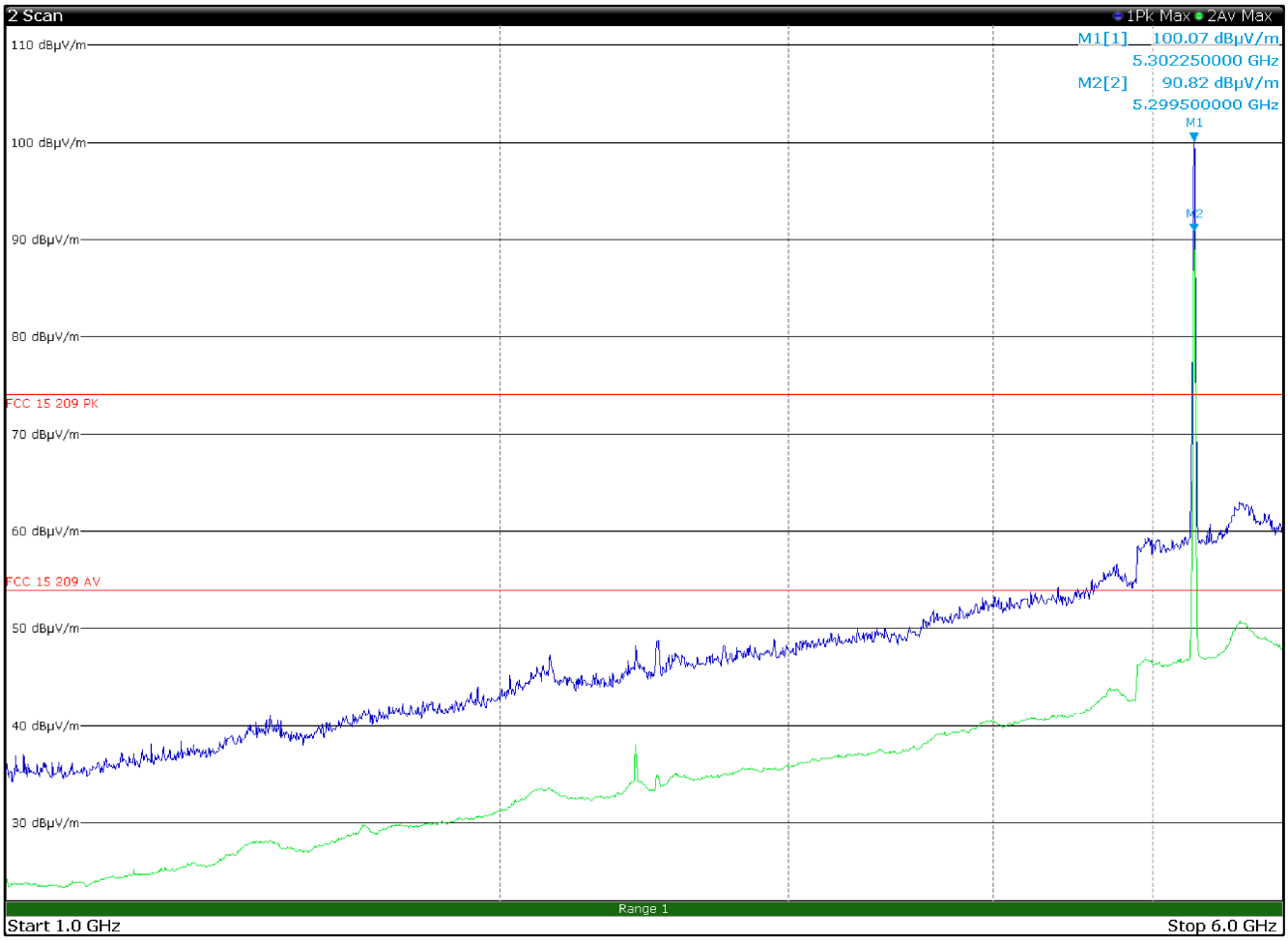
Radiated spurious emissions 1 to 6 GHz, TX 5260 MHz, CH52, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



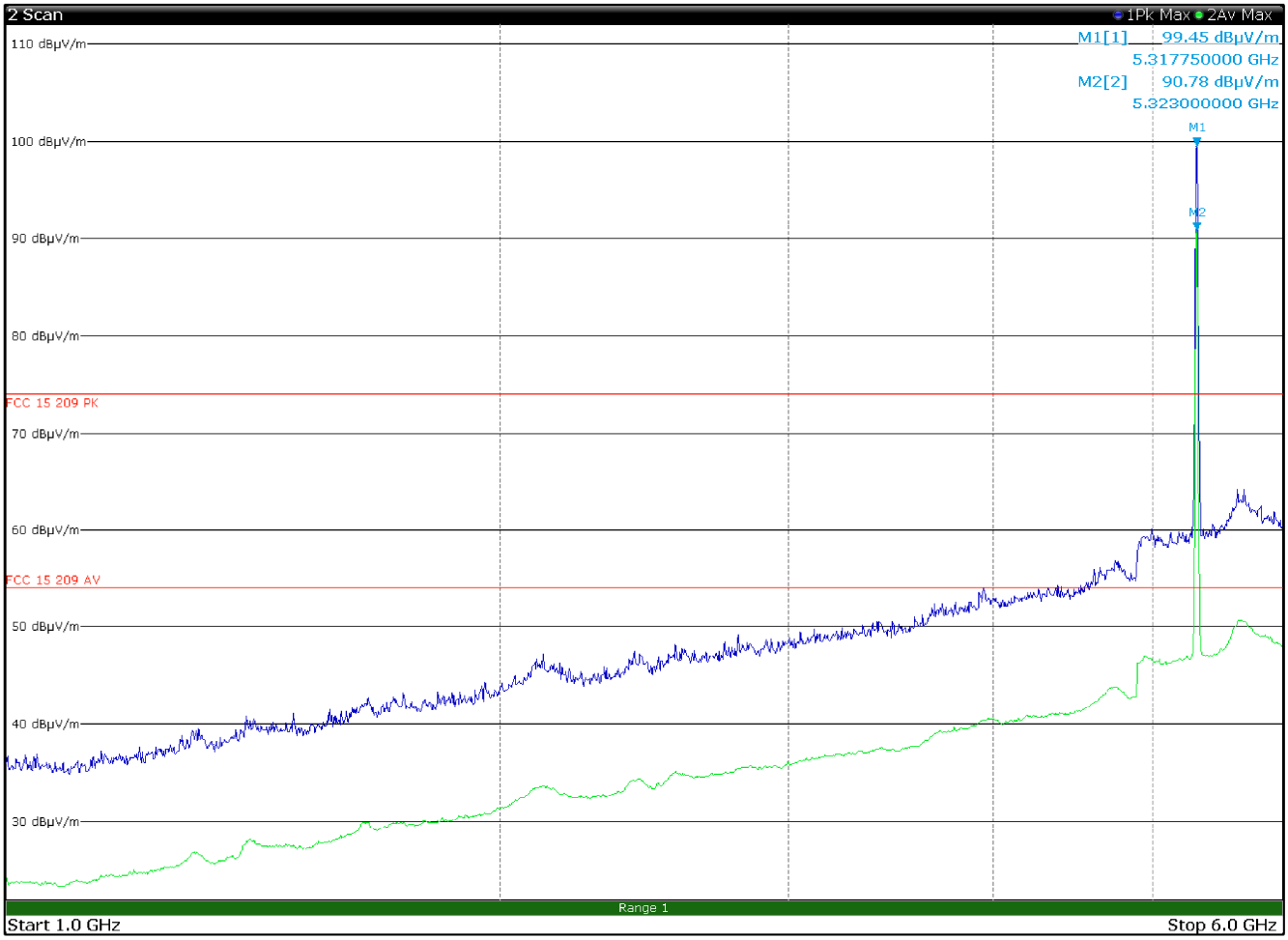
Radiated spurious emissions 1 to 6 GHz, TX 5260 MHz, CH52, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



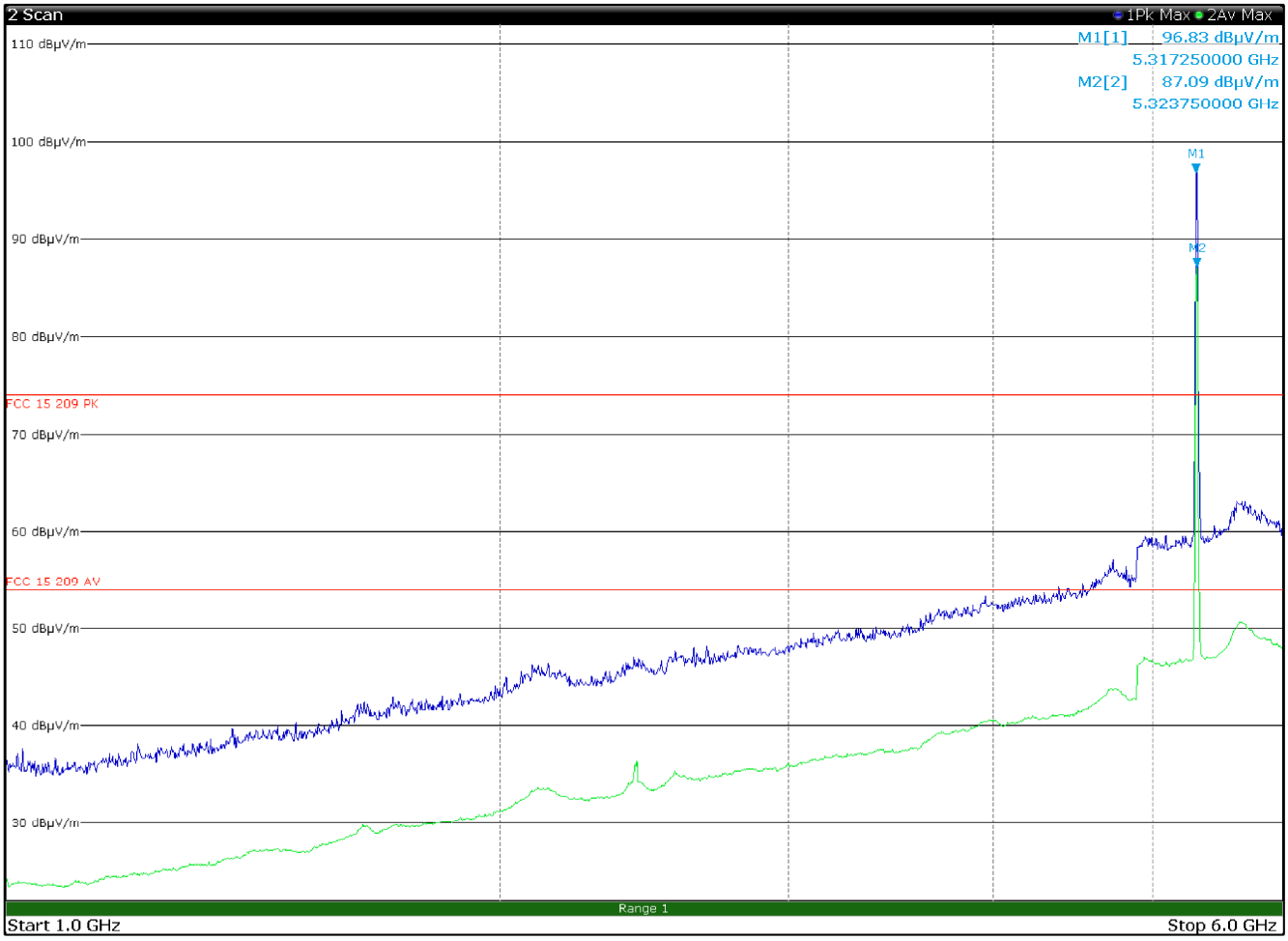
Radiated spurious emissions 1 to 6 GHz, TX 5300 MHz, CH60, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



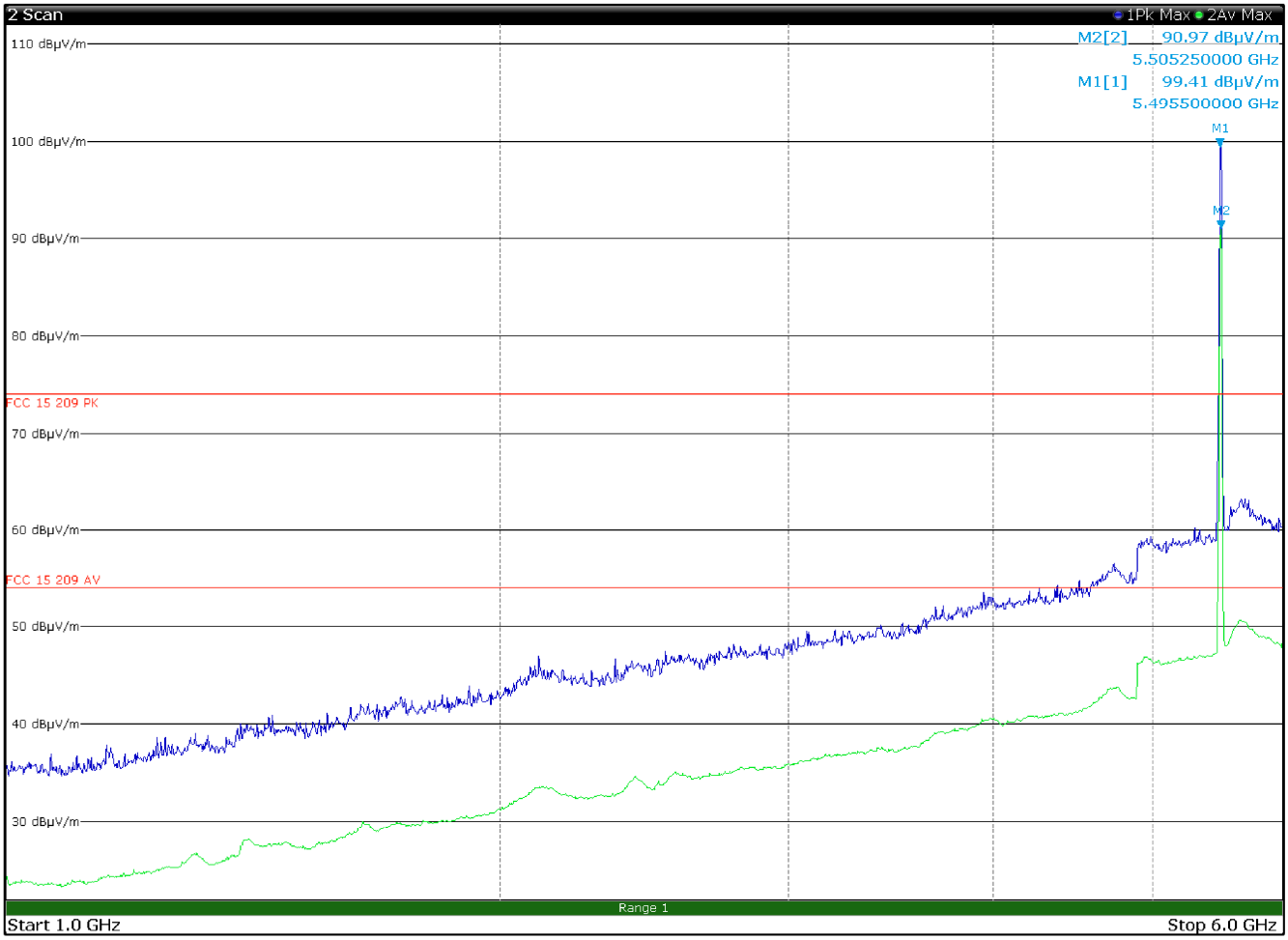
Radiated spurious emissions 1 to 6 GHz, TX 5300 MHz, CH60, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



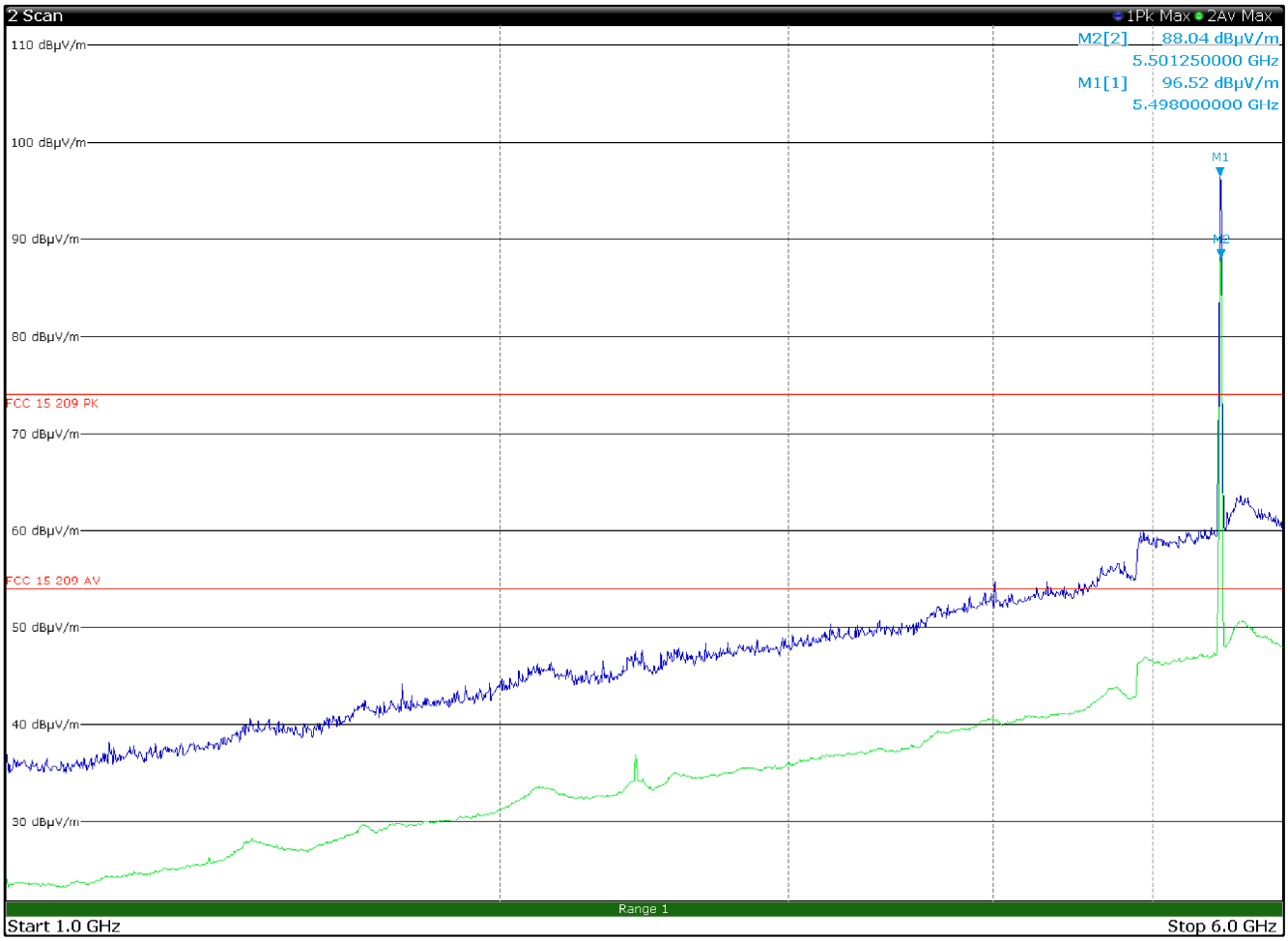
Radiated spurious emissions 1 to 6 GHz, TX 5320 MHz, CH64, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



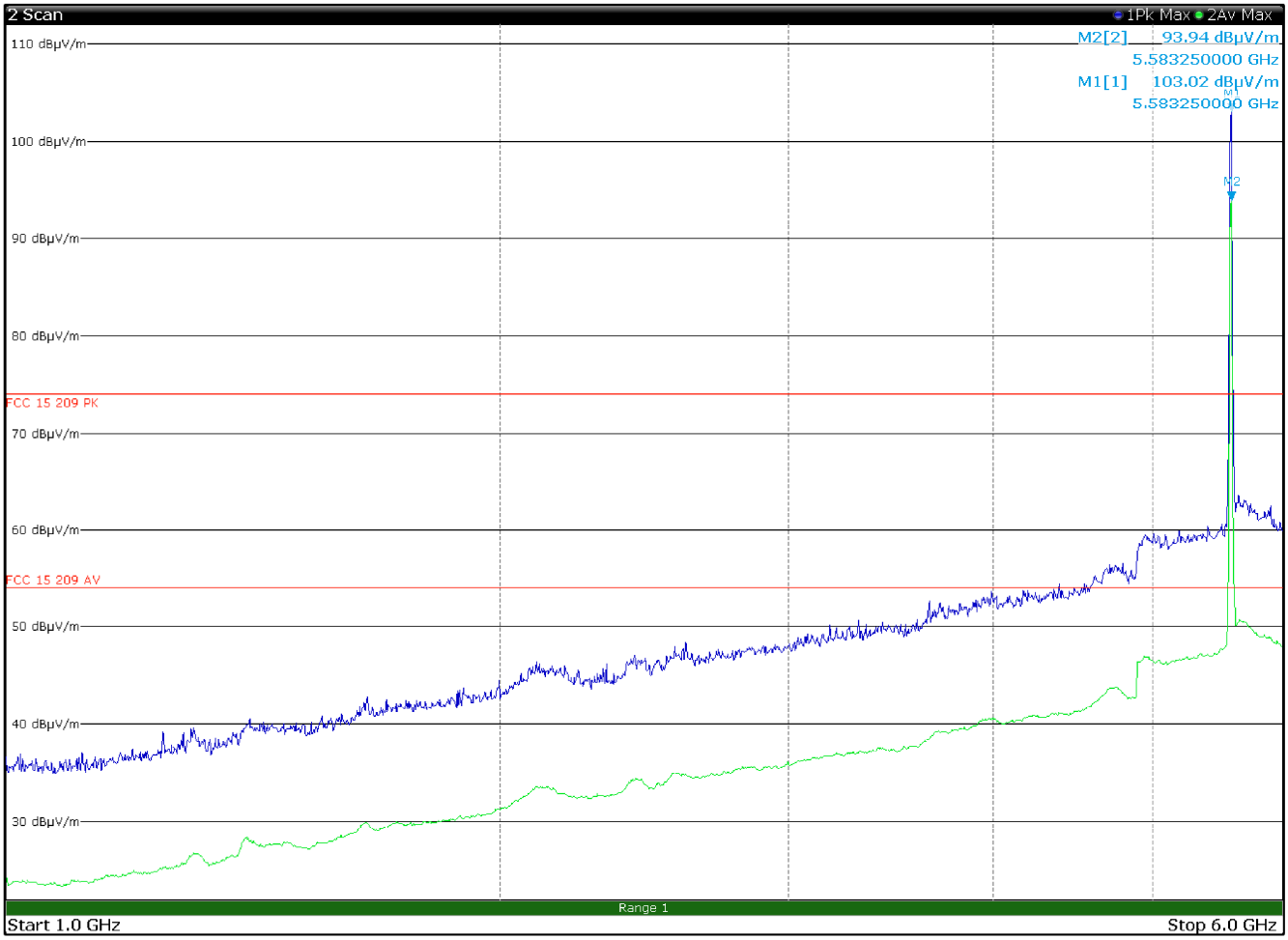
Radiated spurious emissions 1 to 6 GHz, TX 5320 MHz, CH64, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



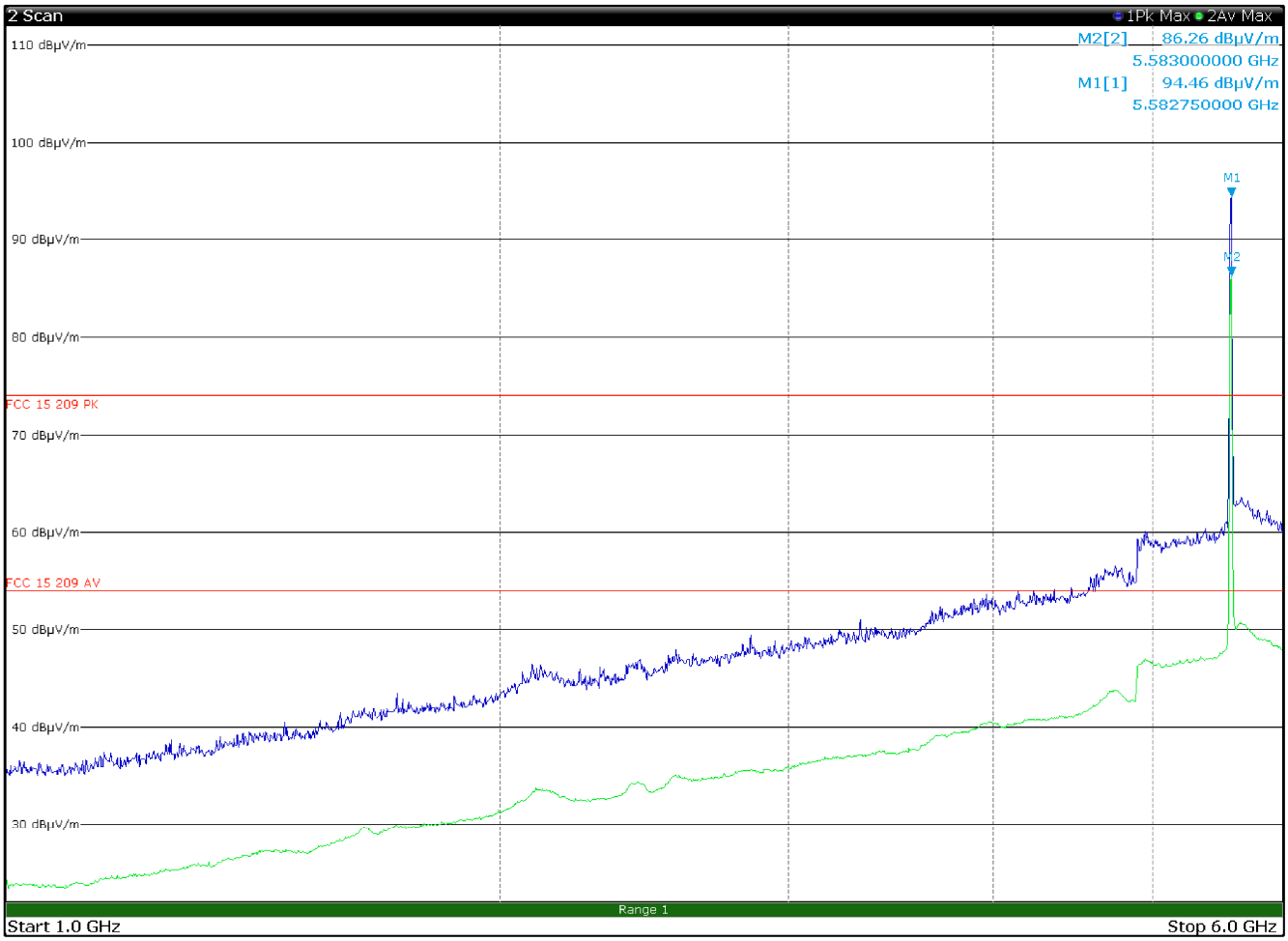
Radiated spurious emissions 1 to 6 GHz, TX 5500 MHz, CH100, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



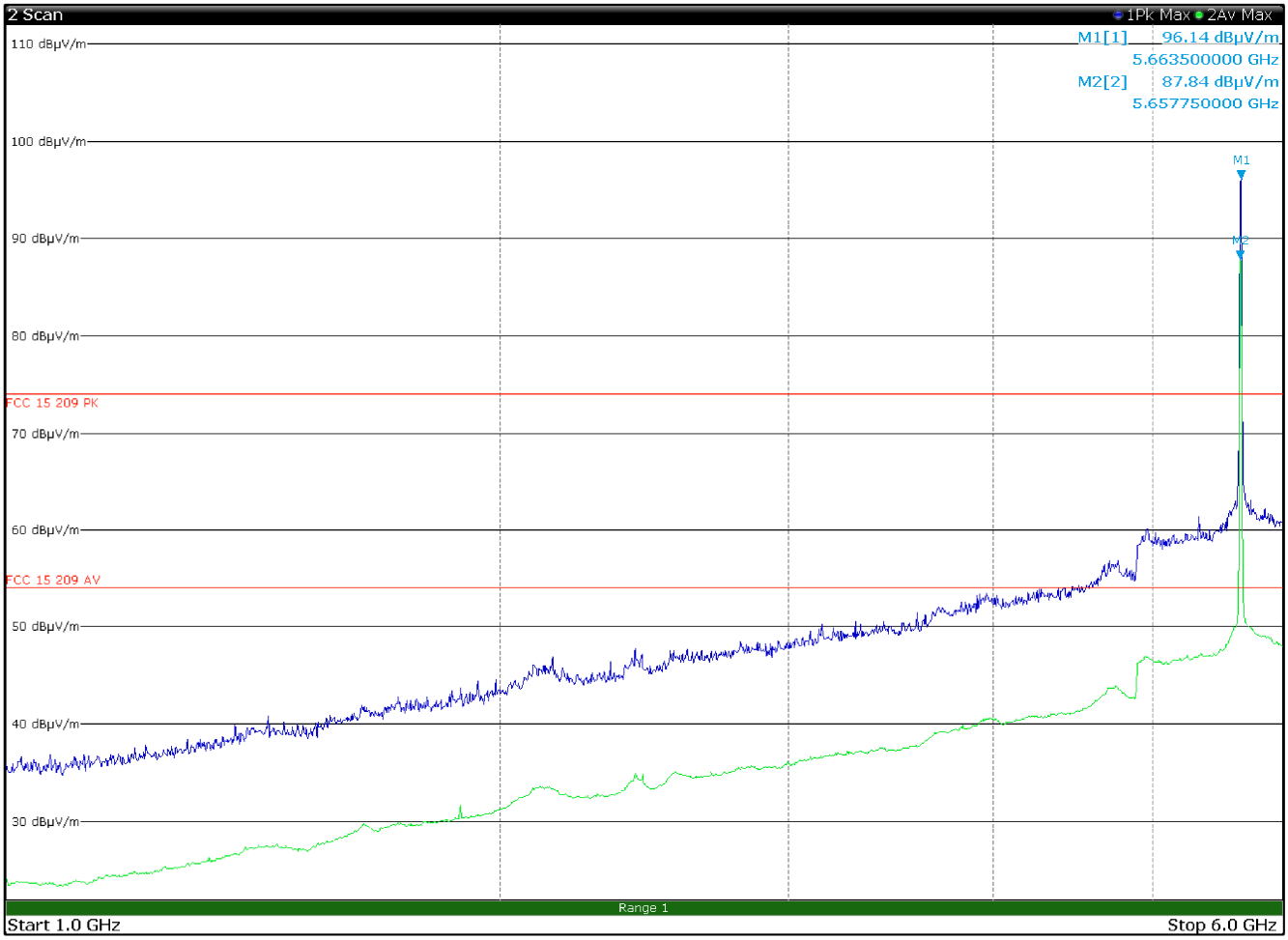
Radiated spurious emissions 1 to 6 GHz, TX 5500 MHz, CH100, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



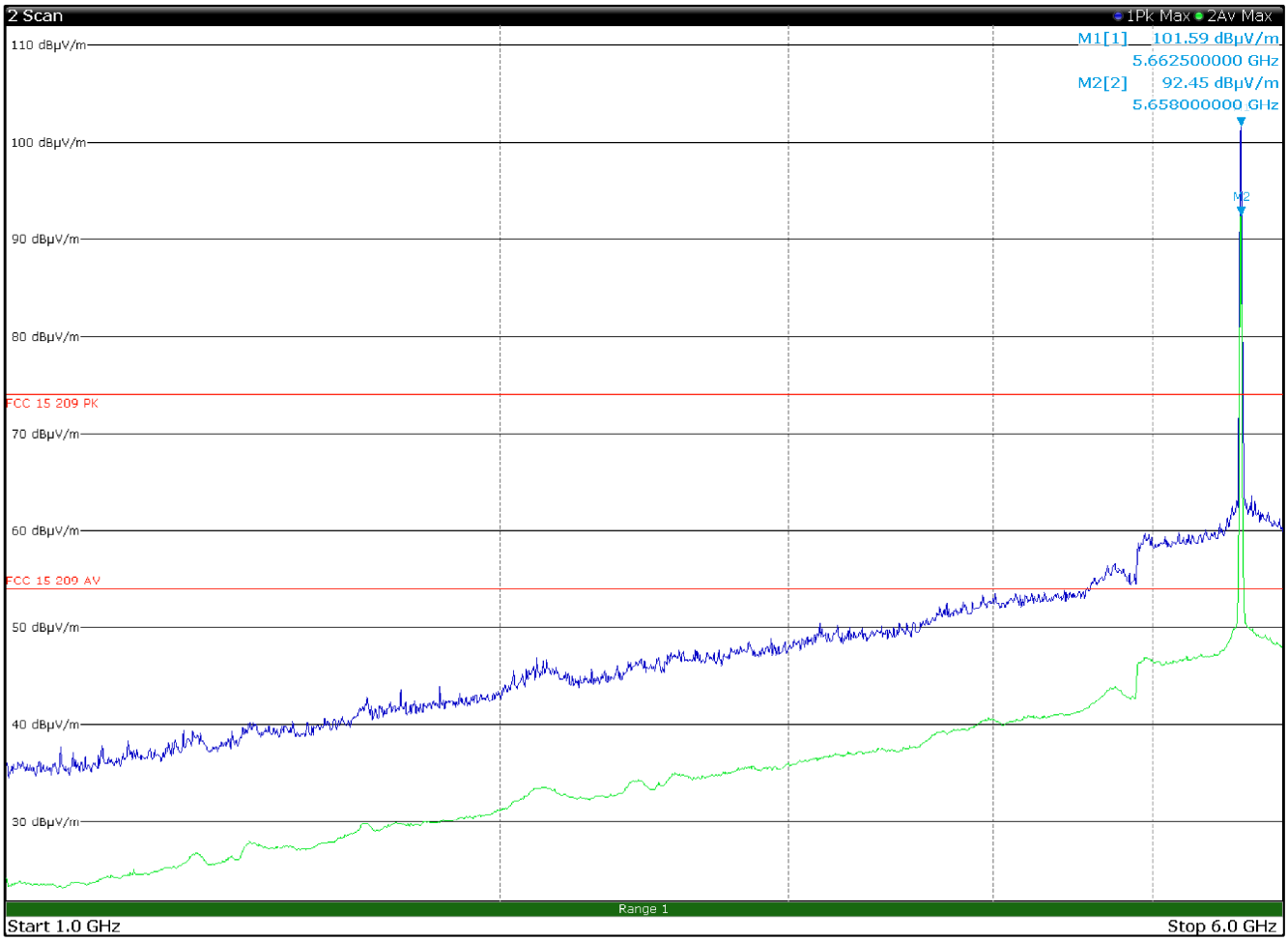
Radiated spurious emissions 1 to 6 GHz,ITX 5580 MHz, CH116, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



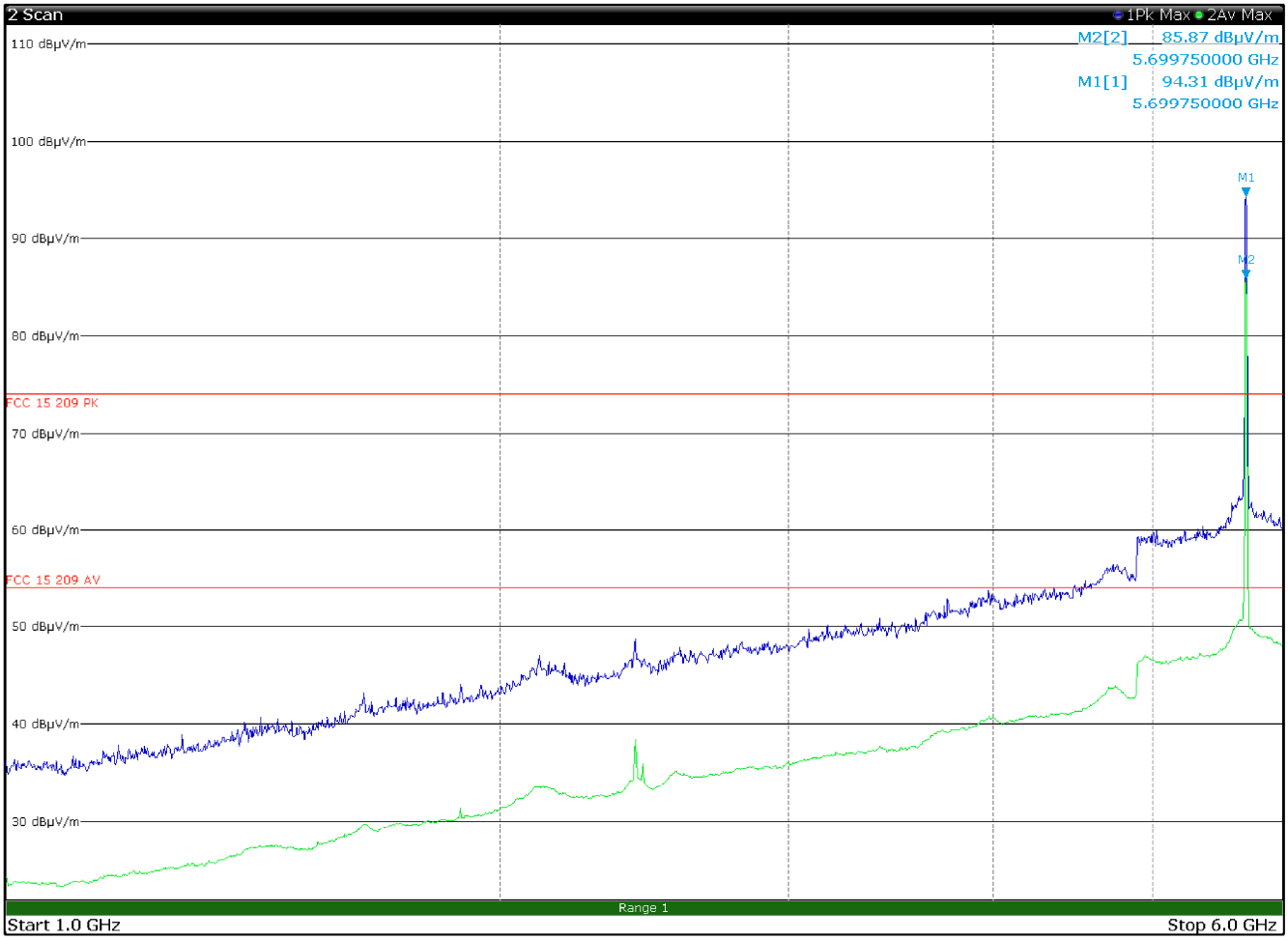
Radiated spurious emissions 1 to 6 GHz,TX 5580 MHz, CH116, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



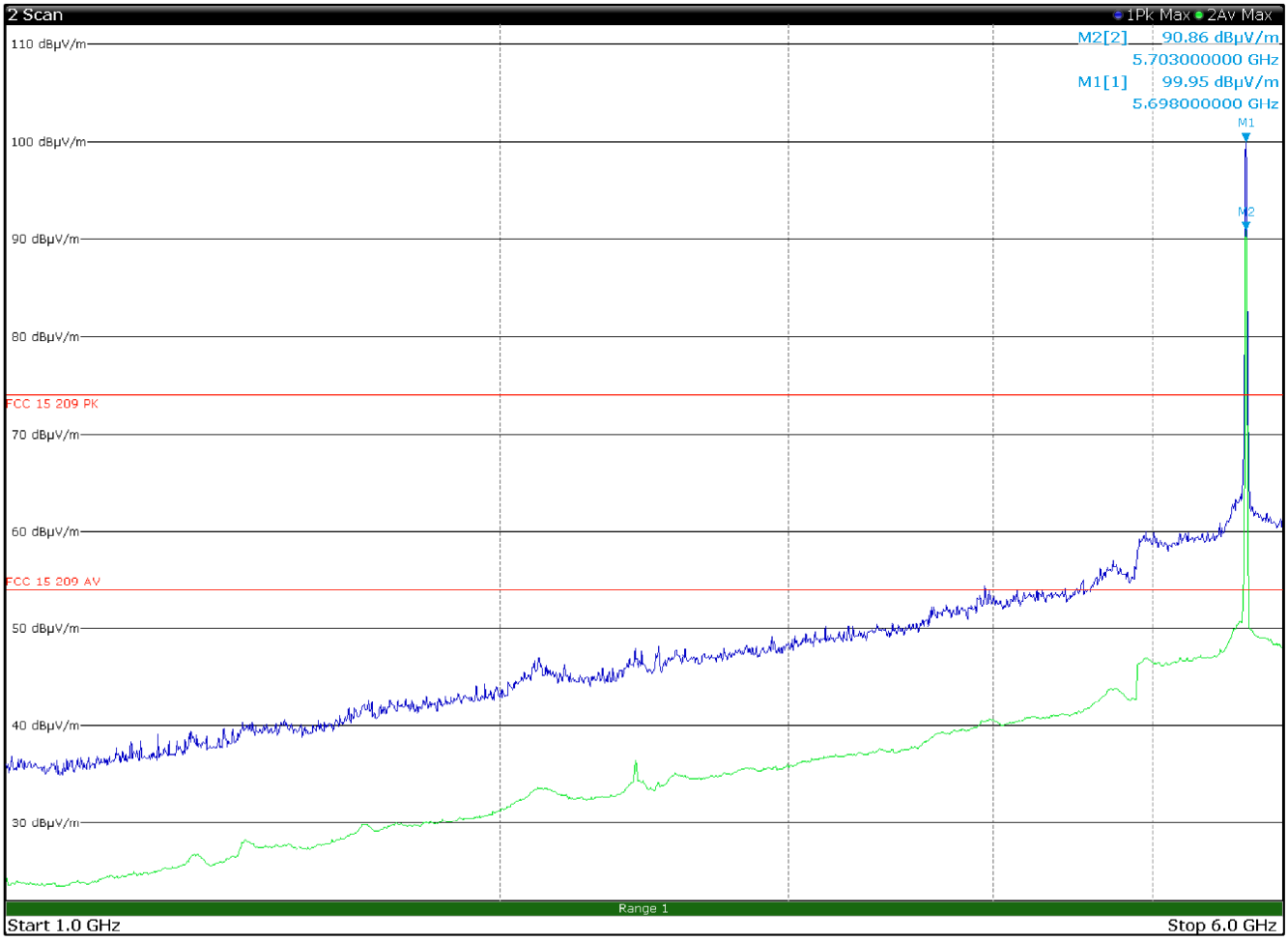
Radiated spurious emissions 1 to 6 GHz, TX 5660 MHz, CH132, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



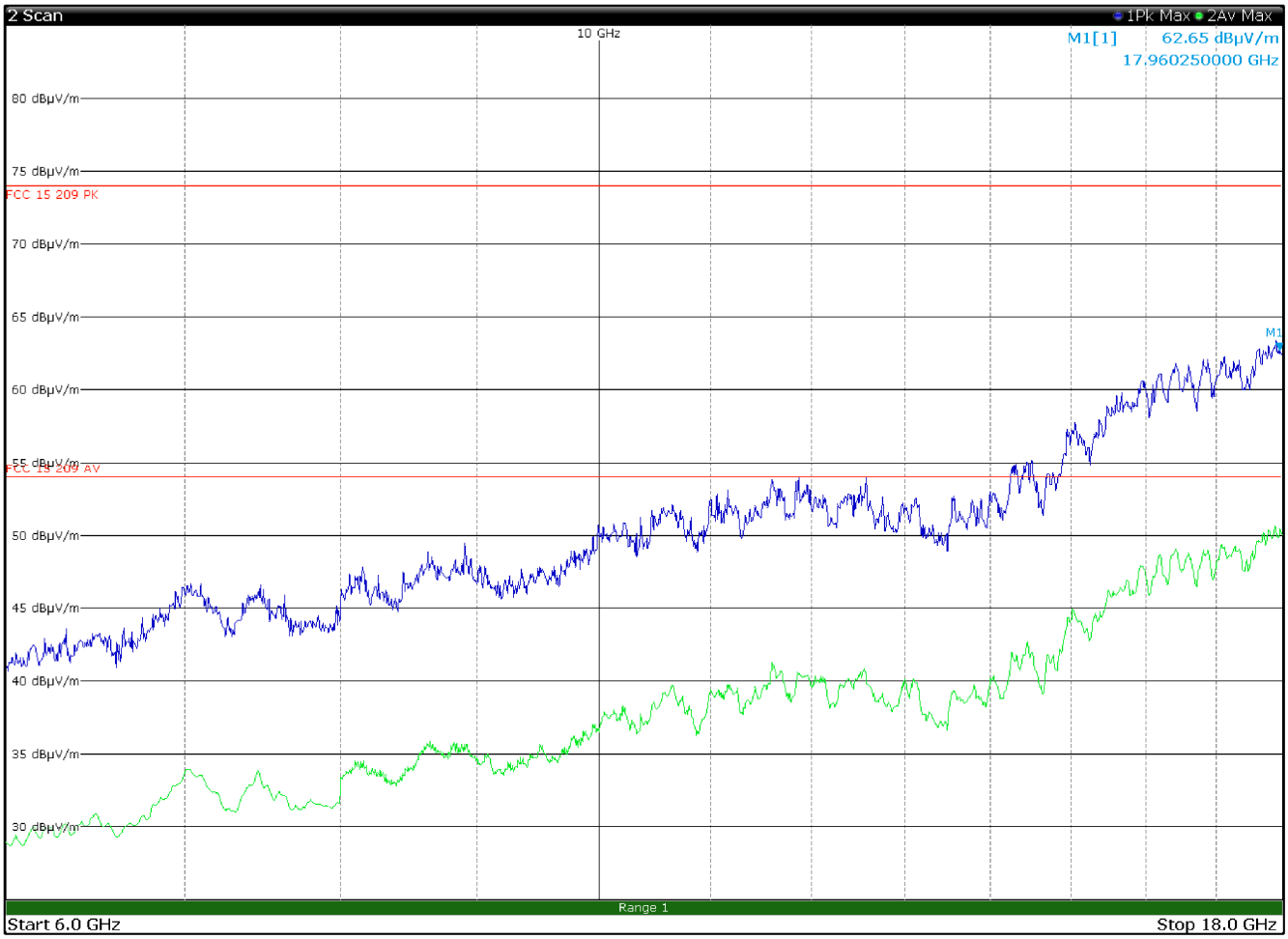
Radiated spurious emissions 1 to 6 GHz, TX 5660 MHz, CH132, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



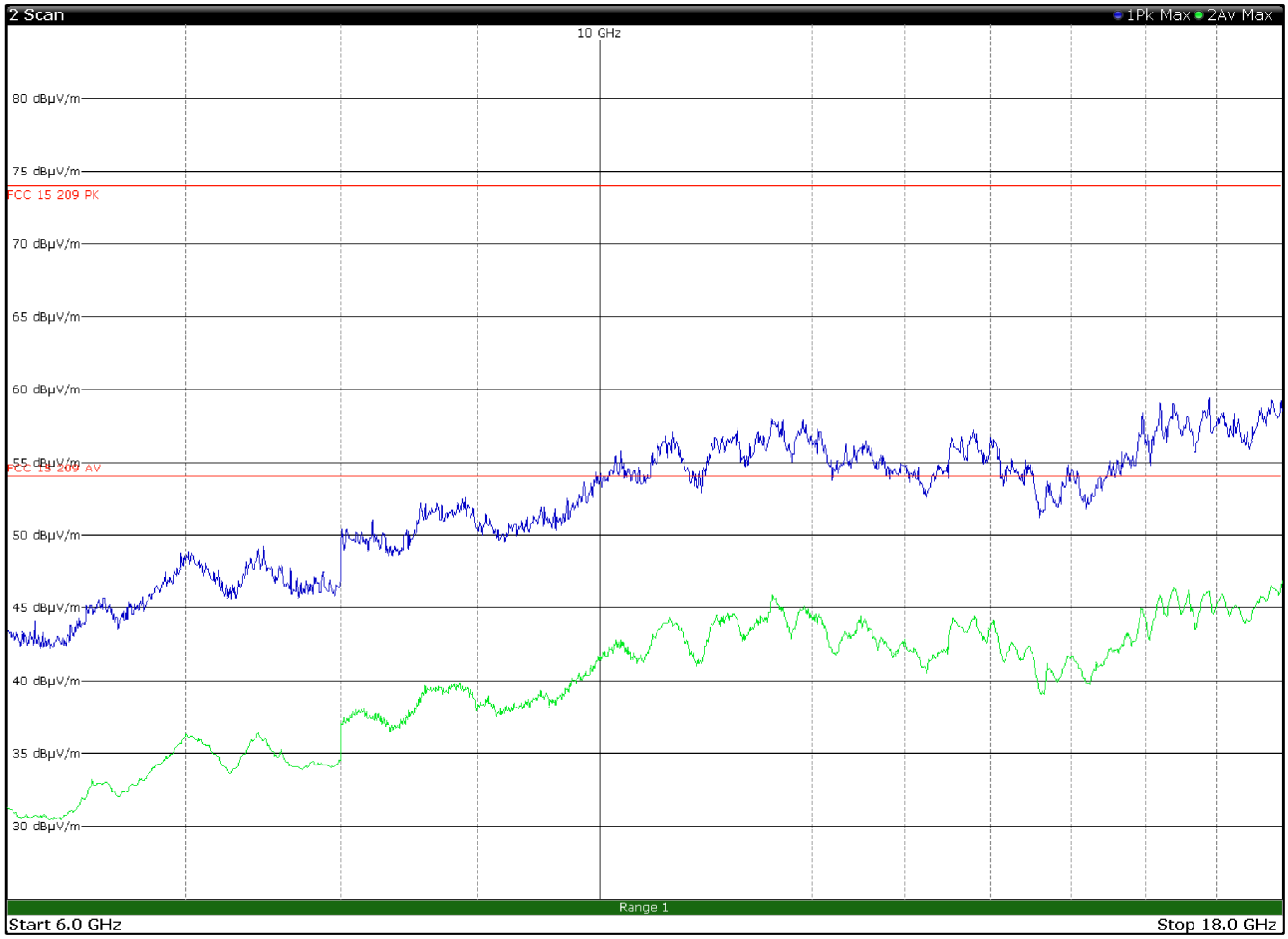
Radiated spurious emissions 1 to 6 GHz, TX 5700 MHz, CH140, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



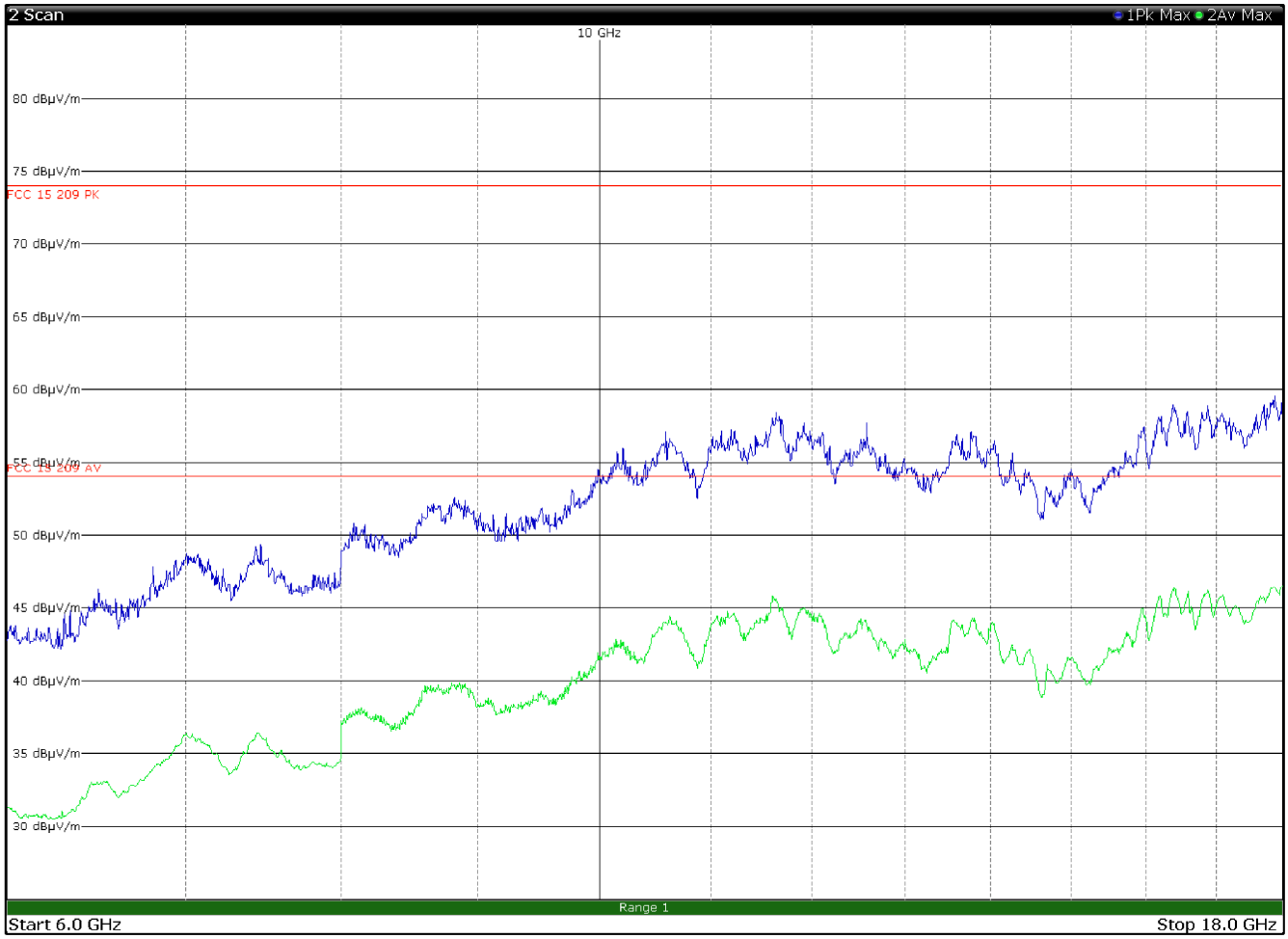
Radiated spurious emissions 1 to 6 GHz, TX 5700 MHz, CH140, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



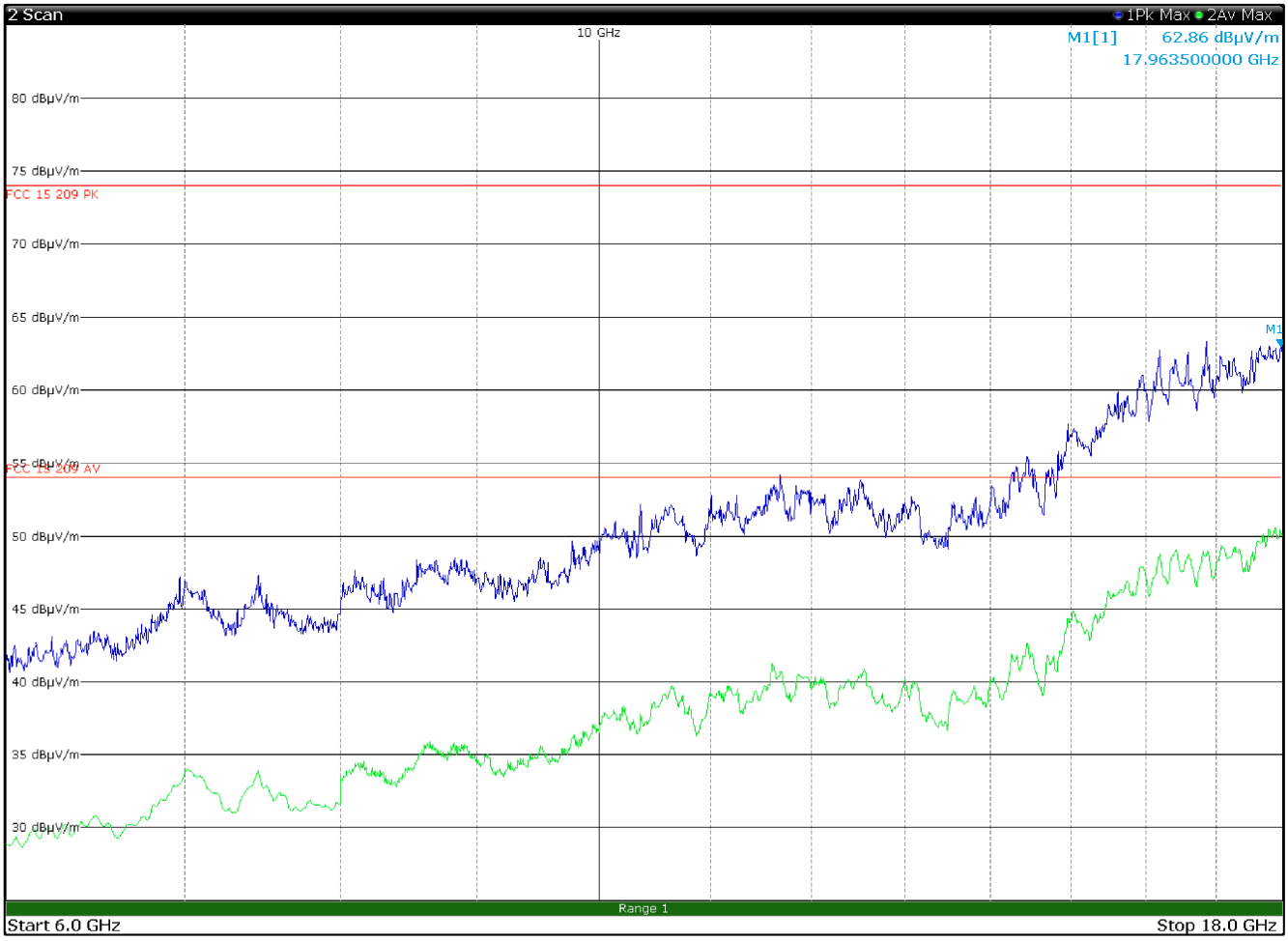
Radiated spurious emissions 6 to 18 GHz, TX 5700 MHz, CH140, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



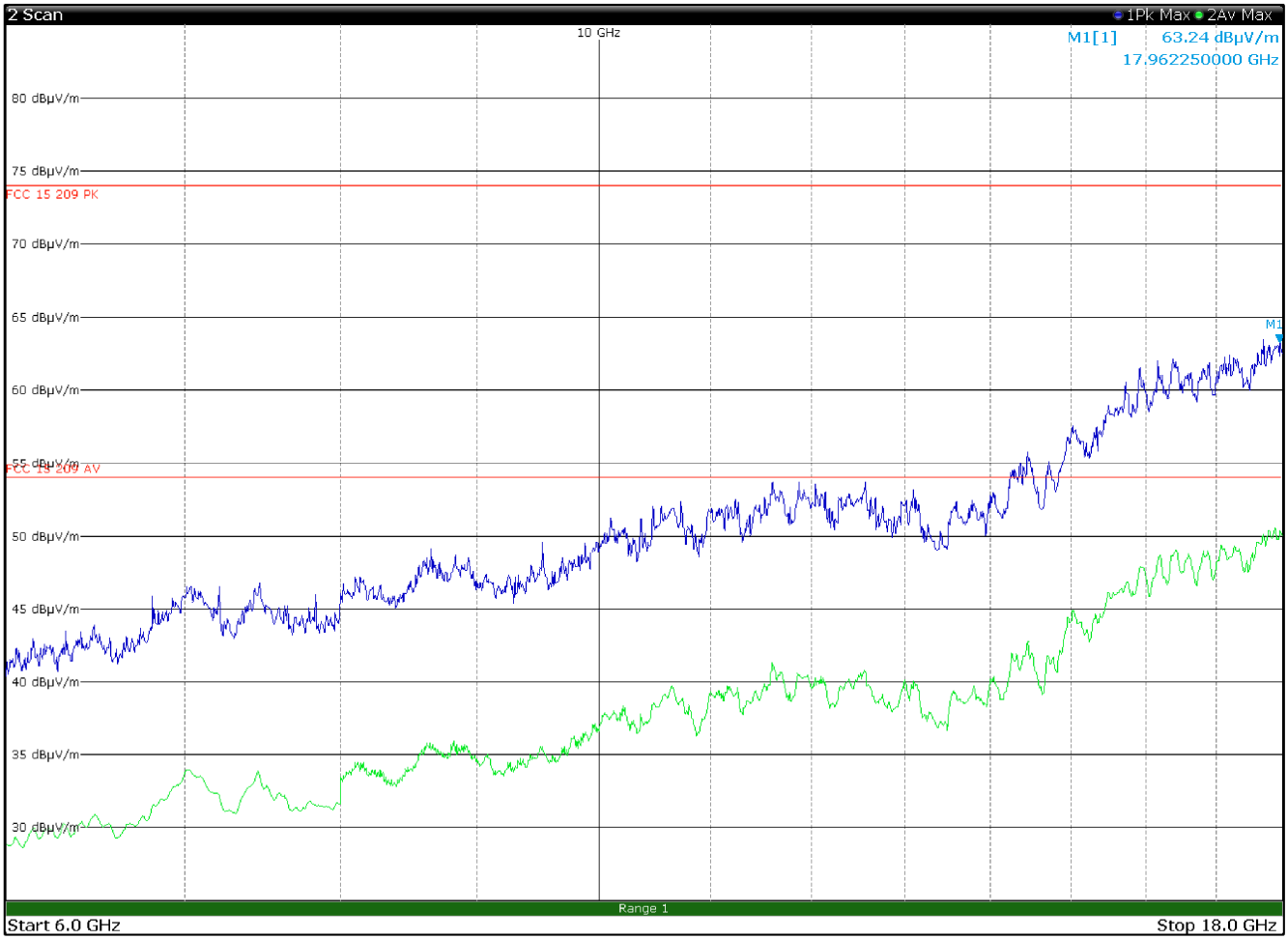
: Radiated spurious emissions 6 to 18 GHz, TX 5700 MHz, CH140, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



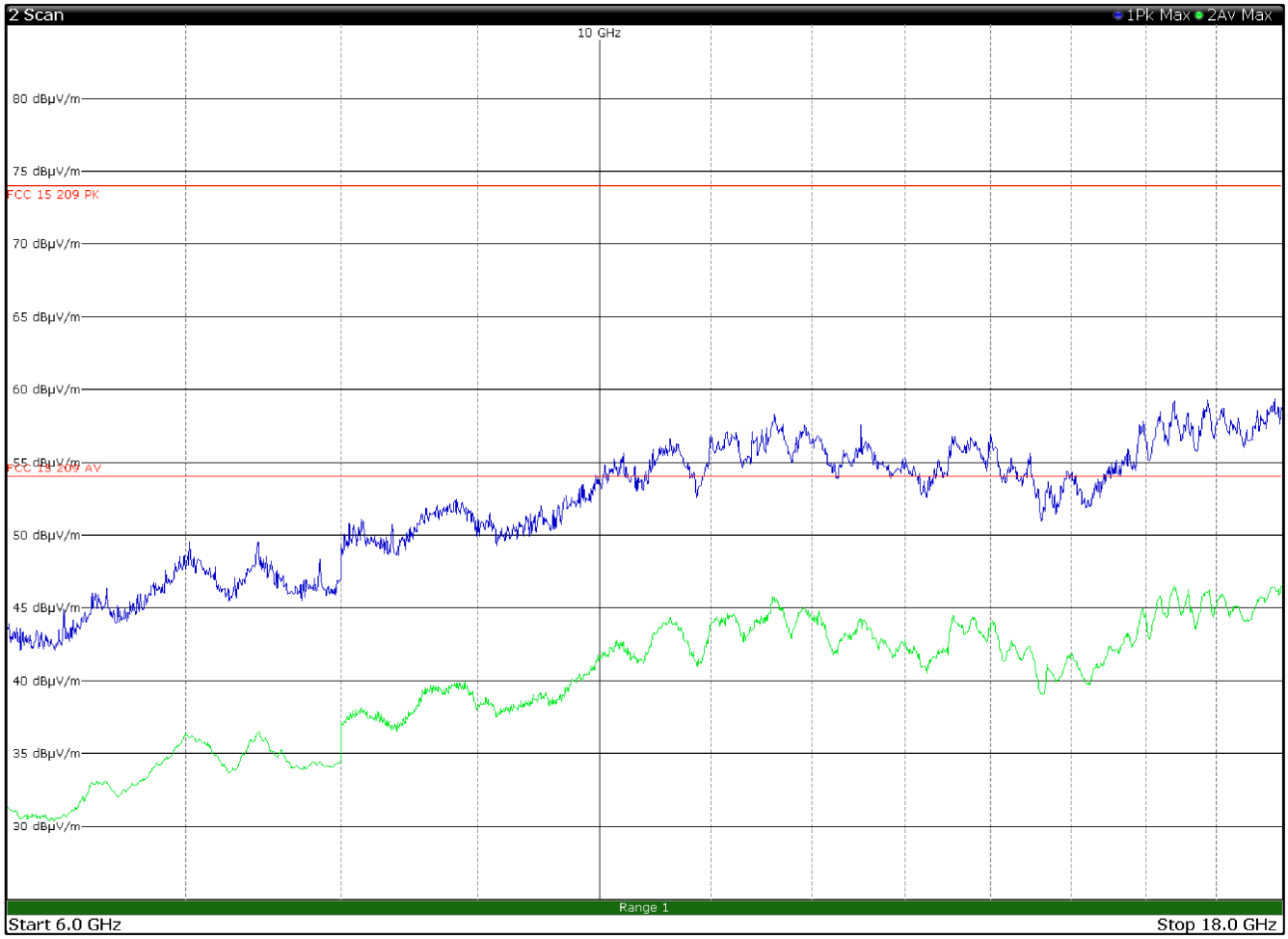
: Radiated spurious emissions 6 to 18 GHz, TX 5660 MHz, CH132, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



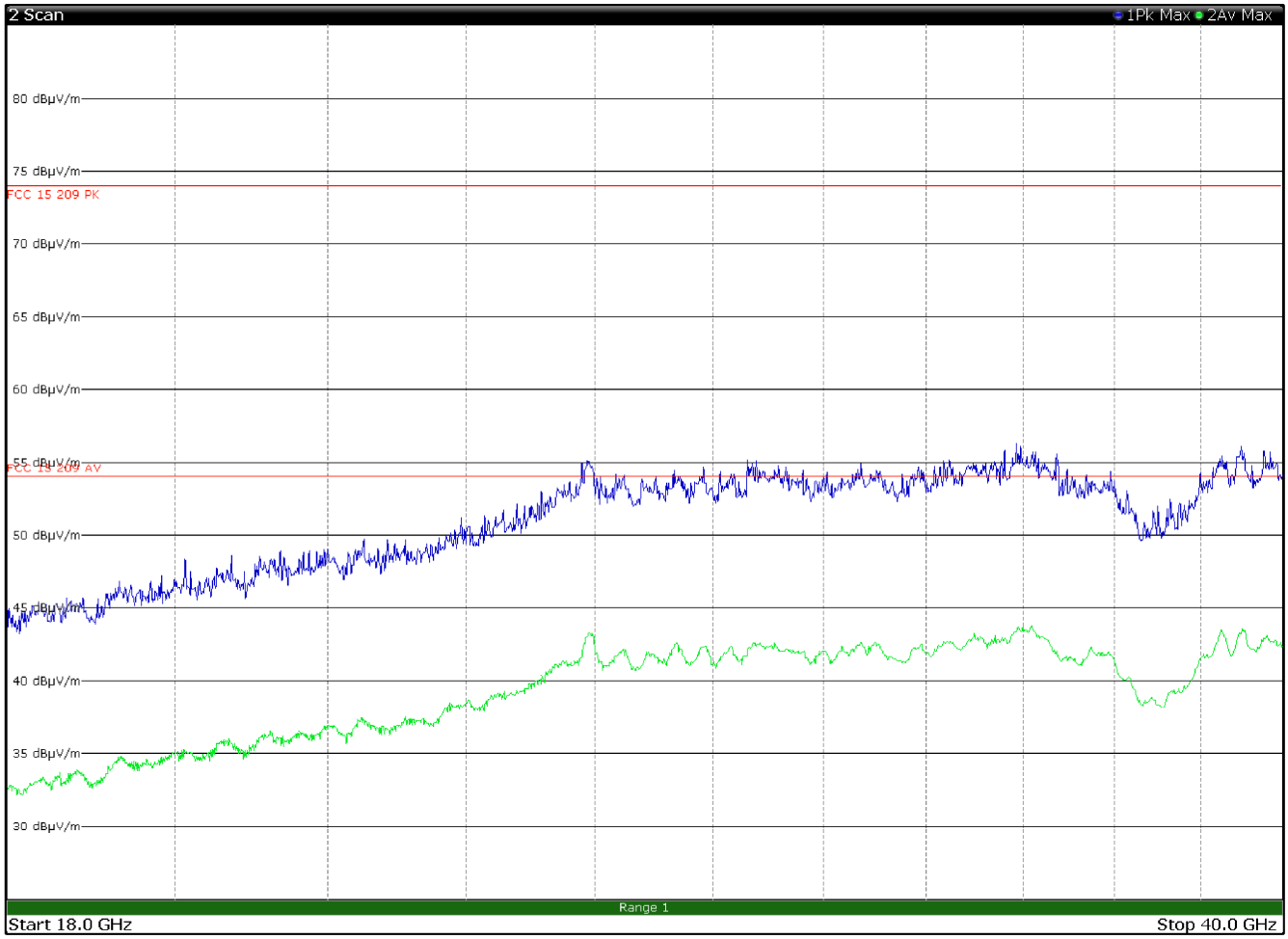
Radiated spurious emissions 6 to 18 GHz, TX 5660 MHz, CH132, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



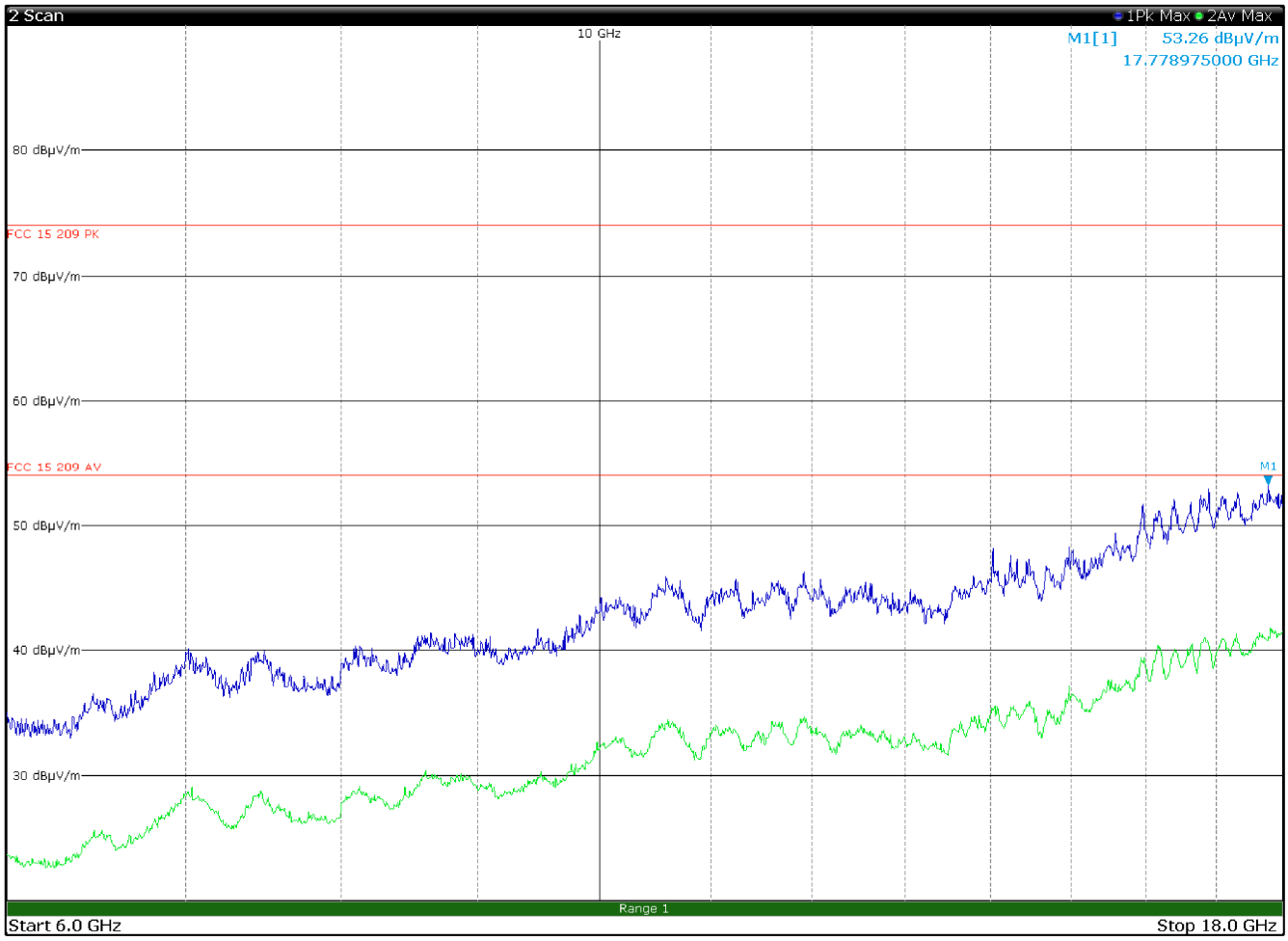
Radiated spurious emissions 6 to 18 GHz, 5580 MHz, CH116, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



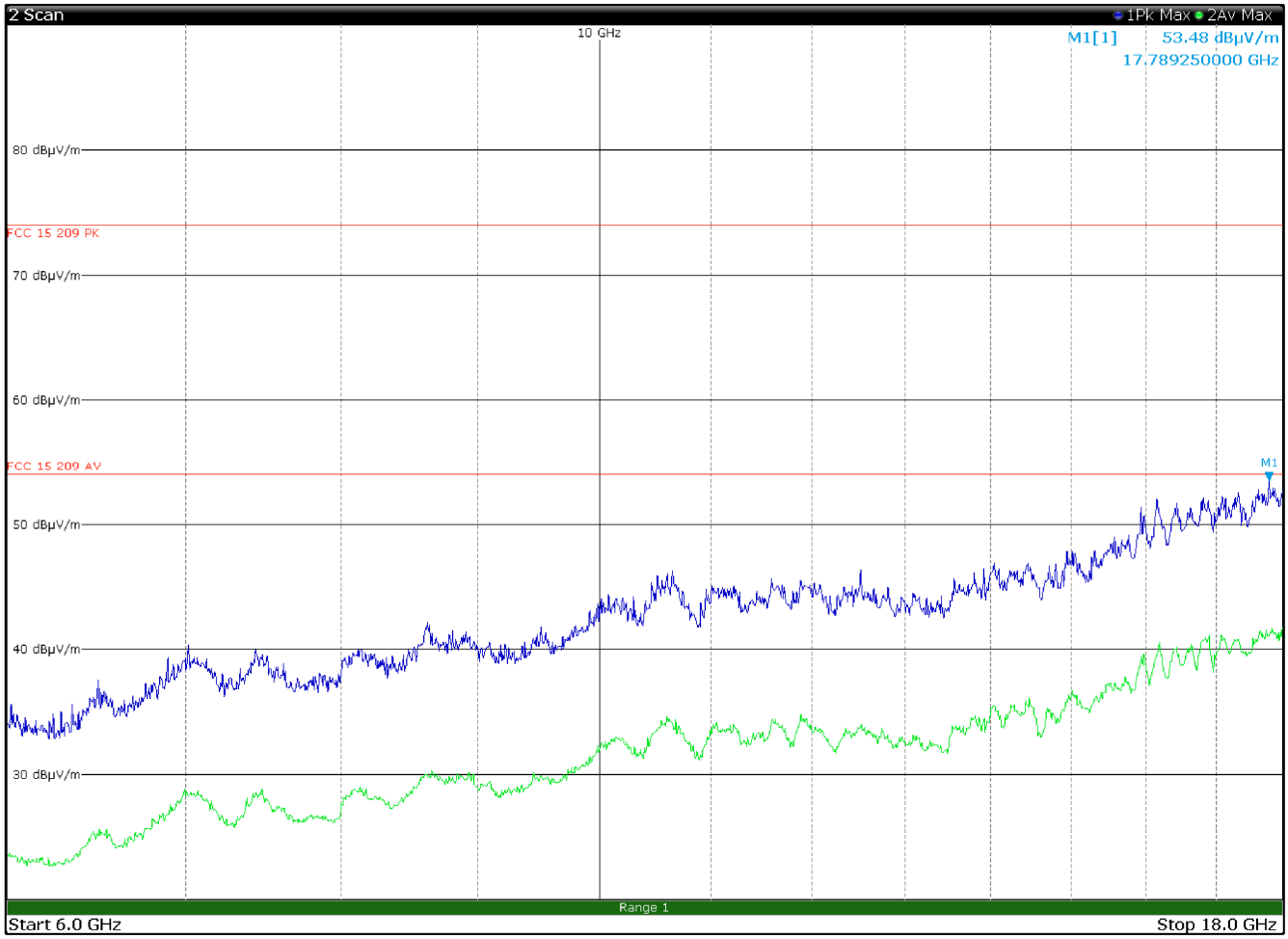
Radiated spurious emissions 6 to 18 GHz, 5580 MHz, CH116, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



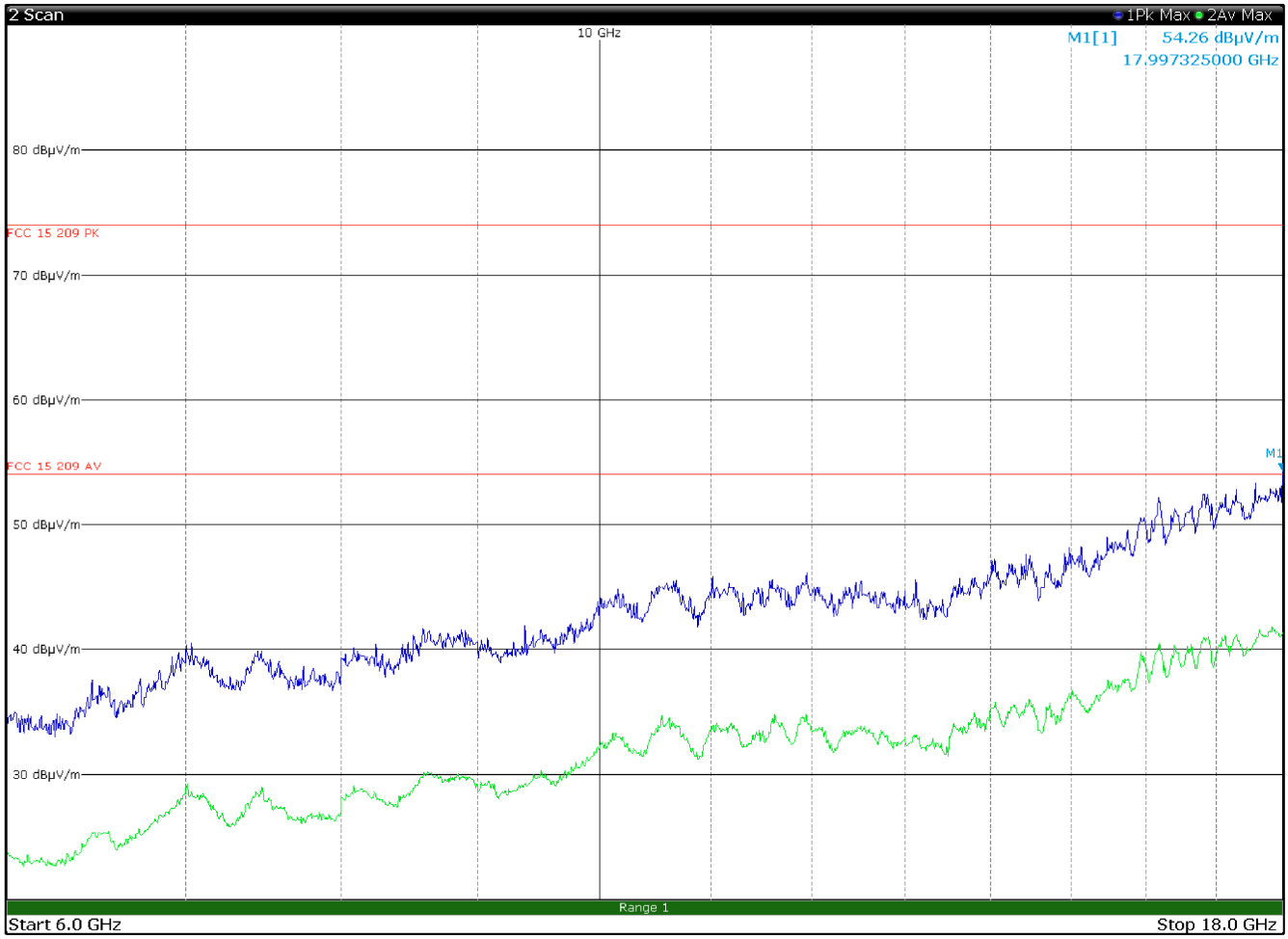
Radiated spurious emissions 18 to 40 GHz, TX 5500 MHz, CH100, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



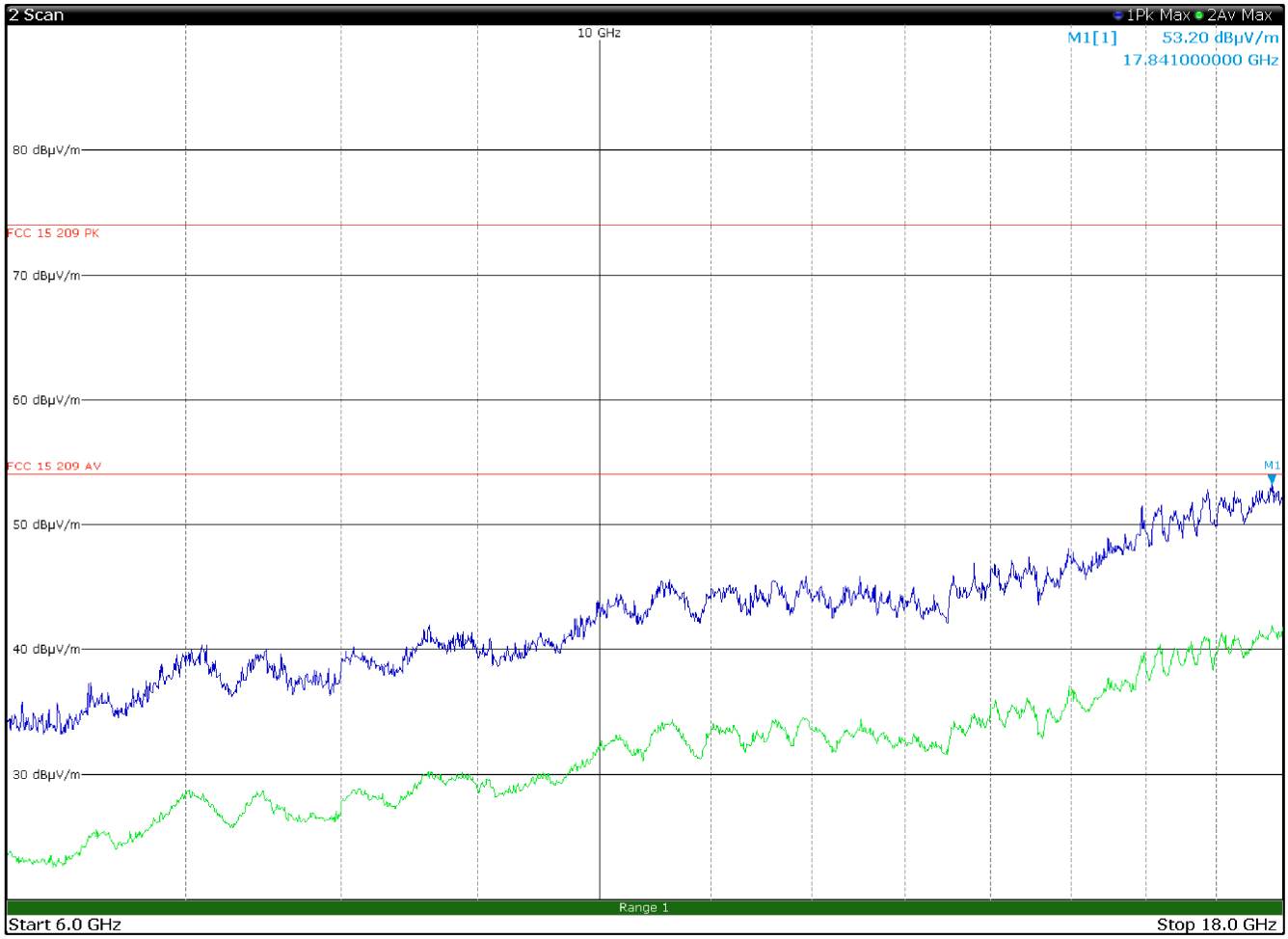
: TX 5320 MHz, CH64, 802.11a, 6Mbps, single chain with antenna in horizontal polarization



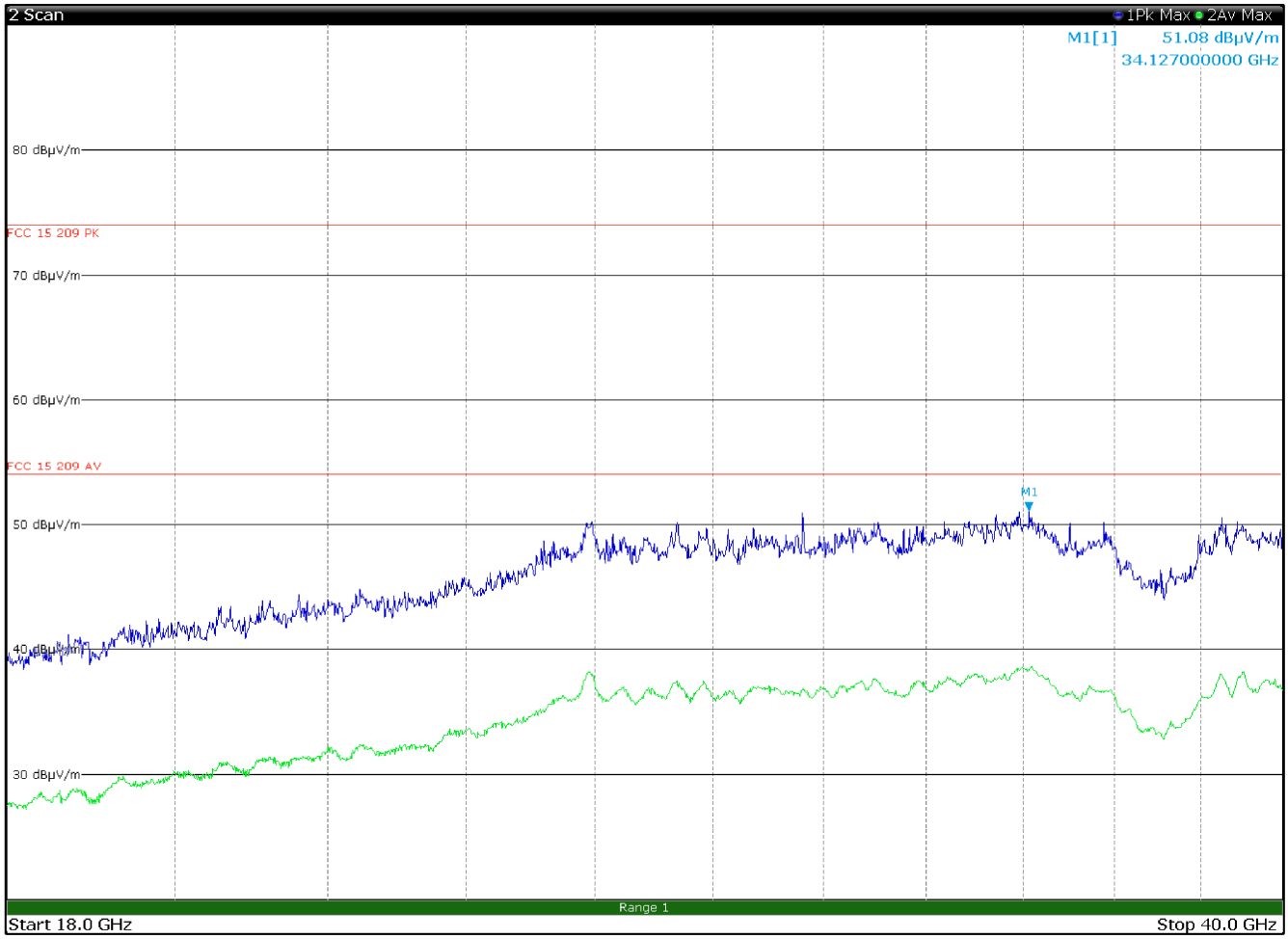
TX 5320 MHz, CH64, 802.11a, 6Mbps, single chain with antenna in vertical polarization



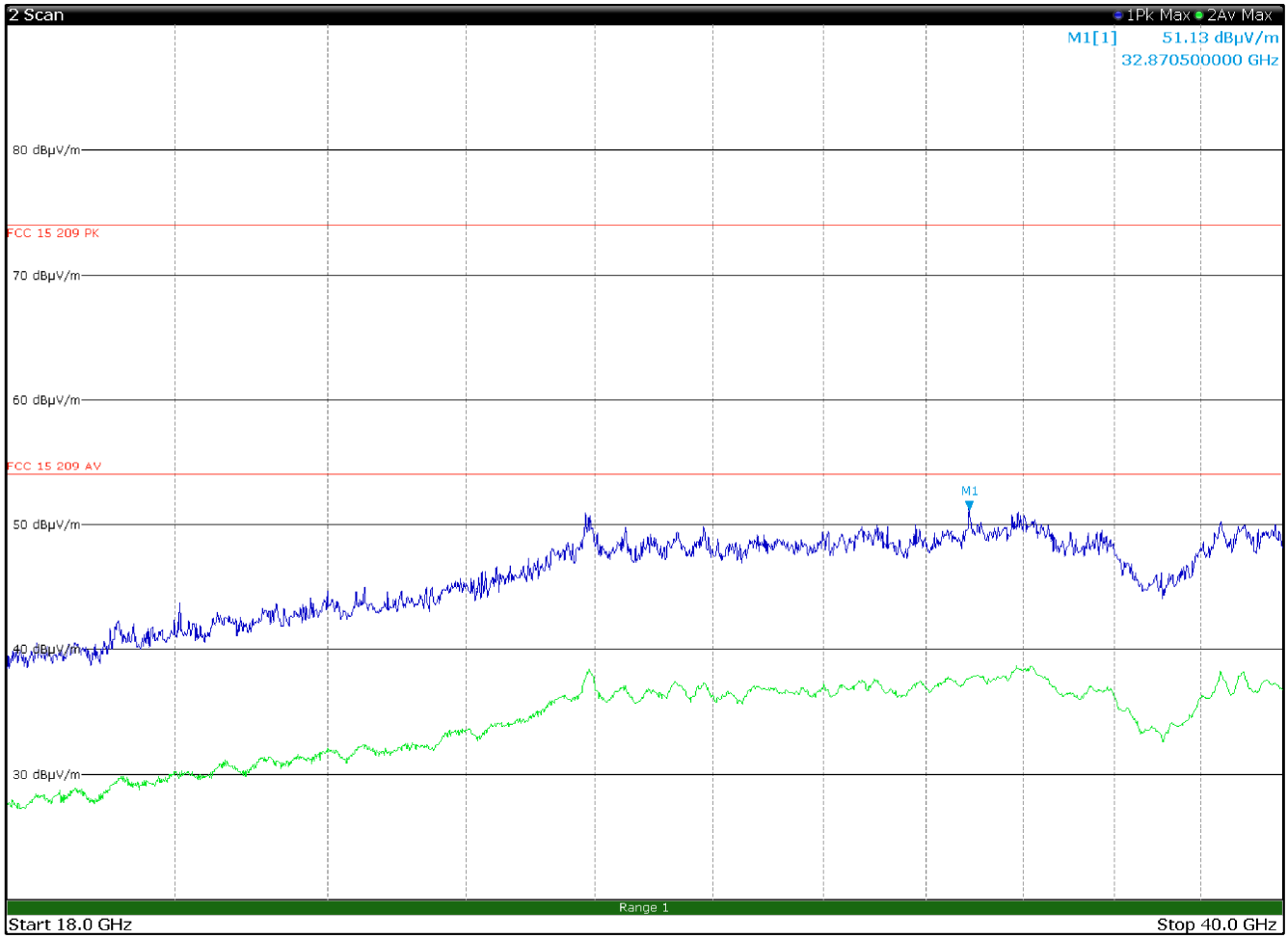
TX 5300 MHz, CH60, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in vertical polarization



TX 5300 MHz, CH60, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



TX 5300 MHz, CH60, 802.11n (20MHz), 6.5Mbps, multi chain with antenna in horizontal polarization



TX 5300 MHz, CH60, 802.11n (20MHz), 6.5Mbps, multi chain with antenna iin vertical polarization

7.5 FCC 15.207(a) and RSS-Gen 8.8 AC power line conducted emissions limits

7.5.1 Definitions and limits

FCC §15.407(b)(8):

Any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207

FCC §15.207(a):
Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 Ω line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

ISED:
A radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz, shall not exceed the limits in table below.

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

Table 7.5-1: *Conducted emissions limit*

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average**
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

Note: * - The level decreases linearly with the logarithm of the frequency.
** - A linear average detector is required.

7.5.2 Test summary

Test start date:	June 04, 2020

7.5.3 Observations, settings and special notes

The EUT was set up as tabletop configuration.

The spectral scan has been corrected with transducer factors (i.e. cable loss, LISN factors, and attenuators) for determination of compliance.

A preview measurement was generated with the receiver in continuous scan mode. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement.

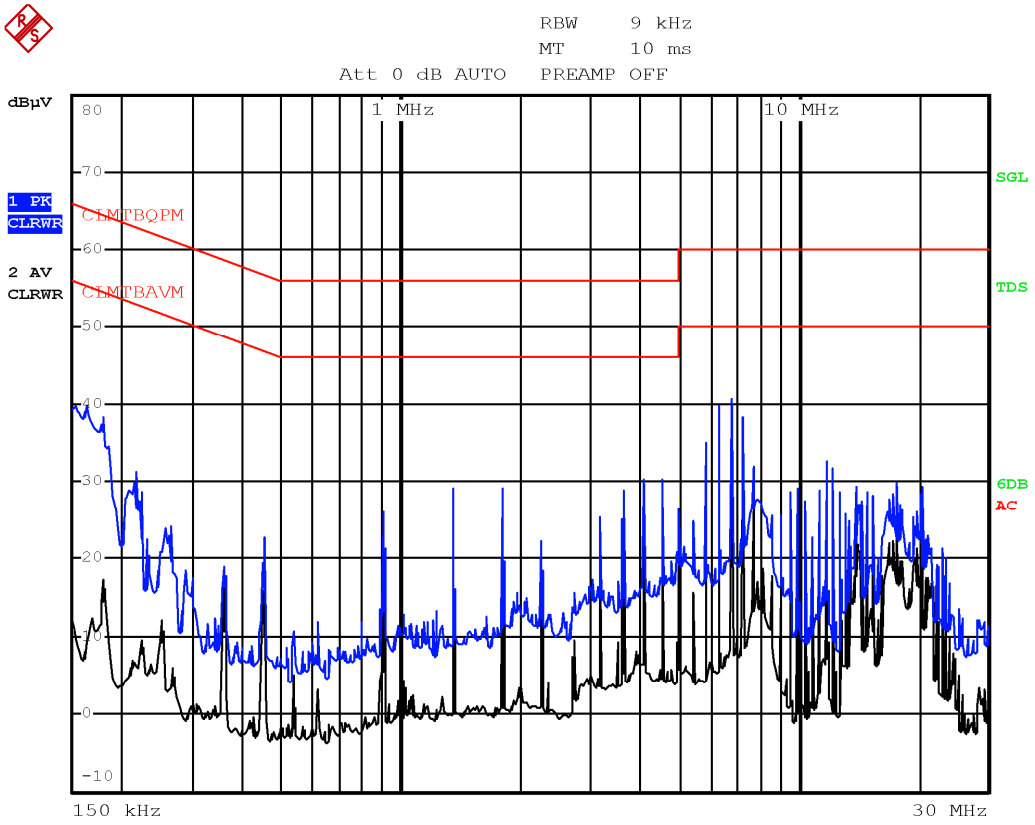
Receiver settings for preview measurements:

Resolution bandwidth	9 kHz
Video bandwidth	30 kHz
Detector mode	Peak and Average
Trace mode	Max Hold
Measurement time	100 ms

Receiver settings for final measurements:

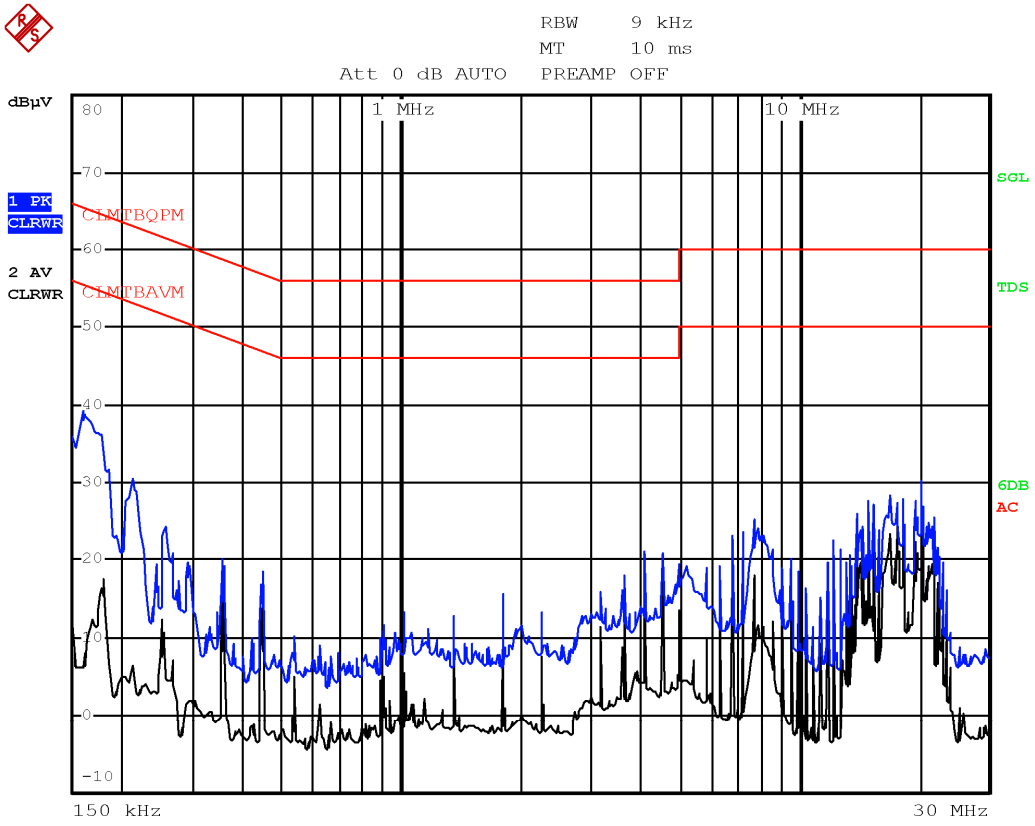
Resolution bandwidth	9 kHz
Video bandwidth	30 kHz
Detector mode	Quasi-Peak and Average
Trace mode	Max Hold
Measurement time	100 ms

7.5.4 Test data



Plot 7.5-1: *Conducted emissions on phase line*

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
--	--	--	--	--



Plot 7.5-2: *Conducted emissions on neutral line*

Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
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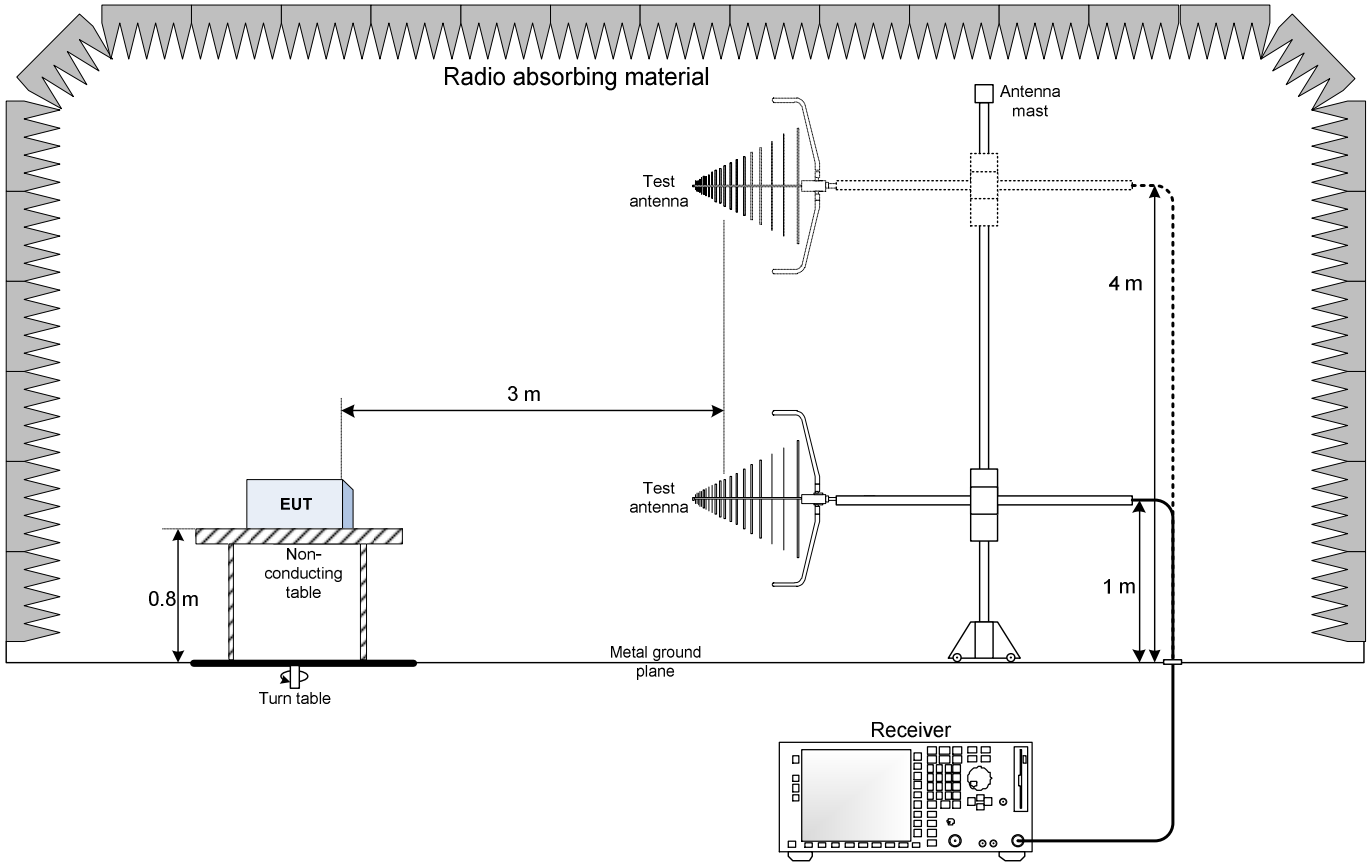
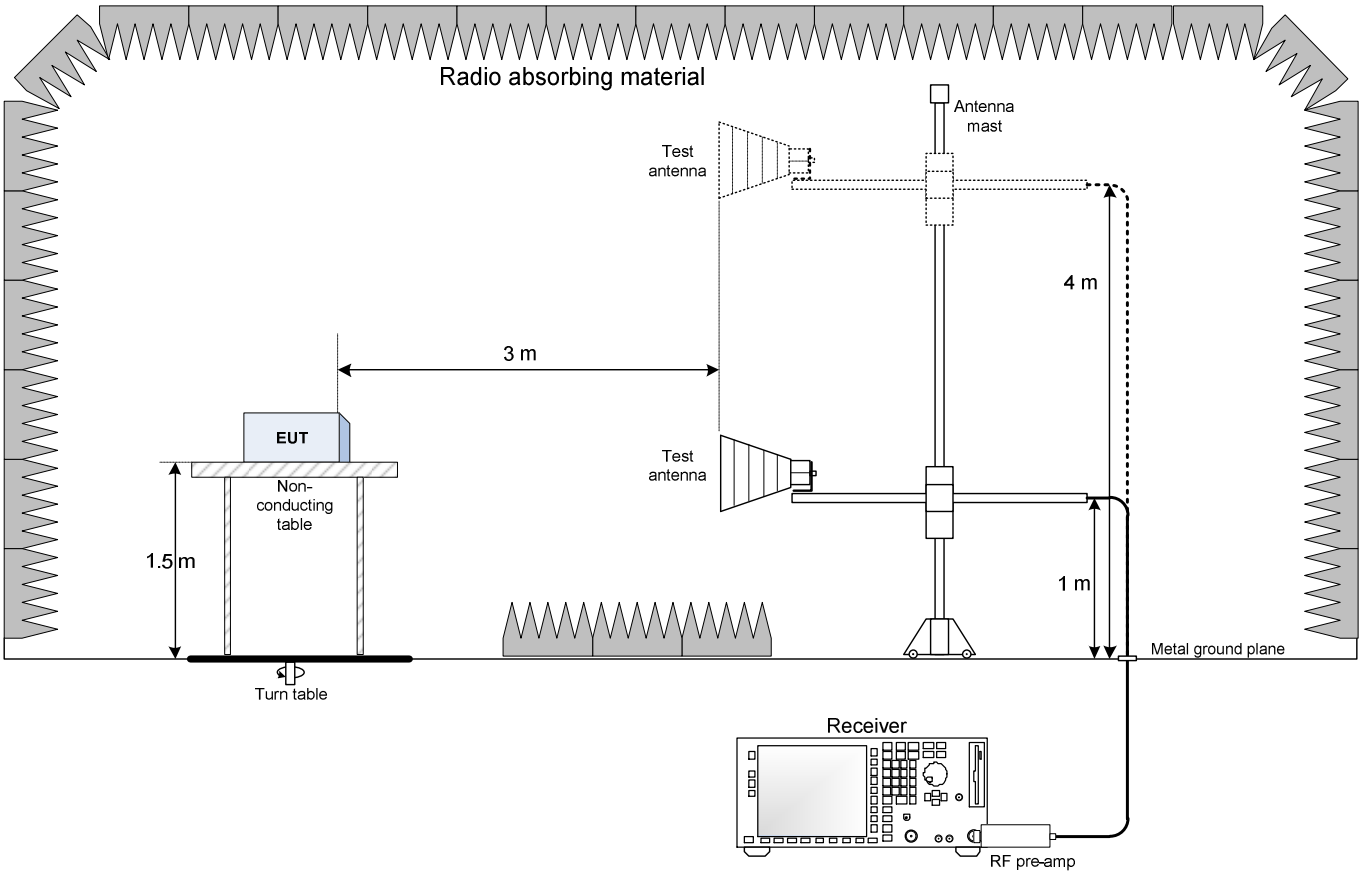
Section 8. Block diagrams of test set-ups

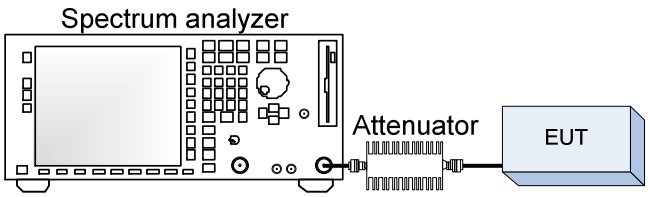
8.1 Radiated emissions set-up for frequencies below 1 GHz



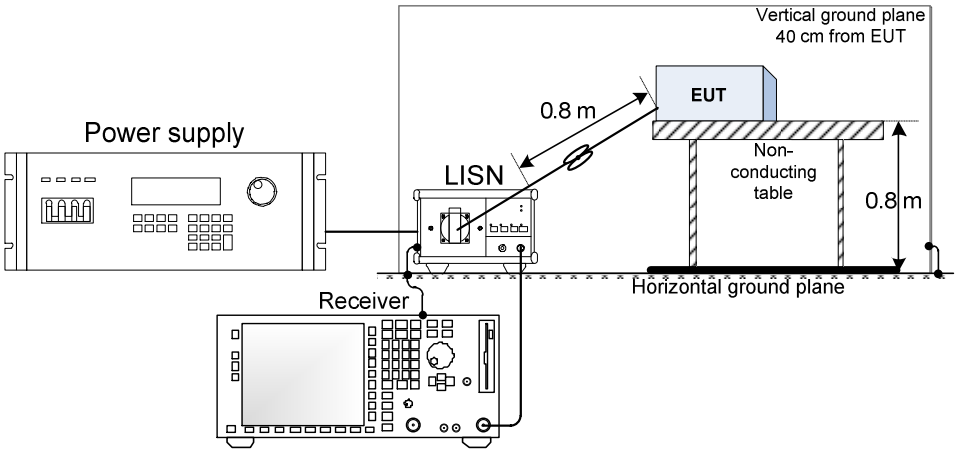
8.2 Radiated emissions set-up for frequencies above 1 GHz



8.3 Antenna port conducted measurements set-up

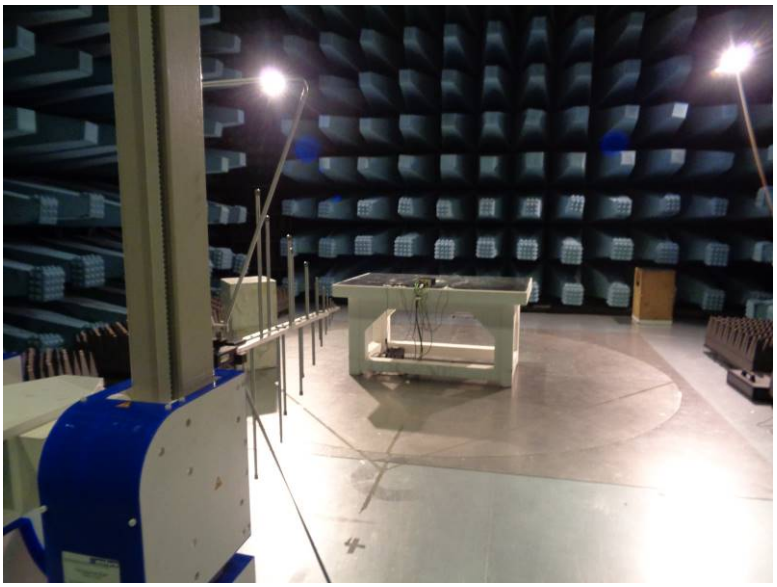


8.4 Power line Conducted emissions set-up

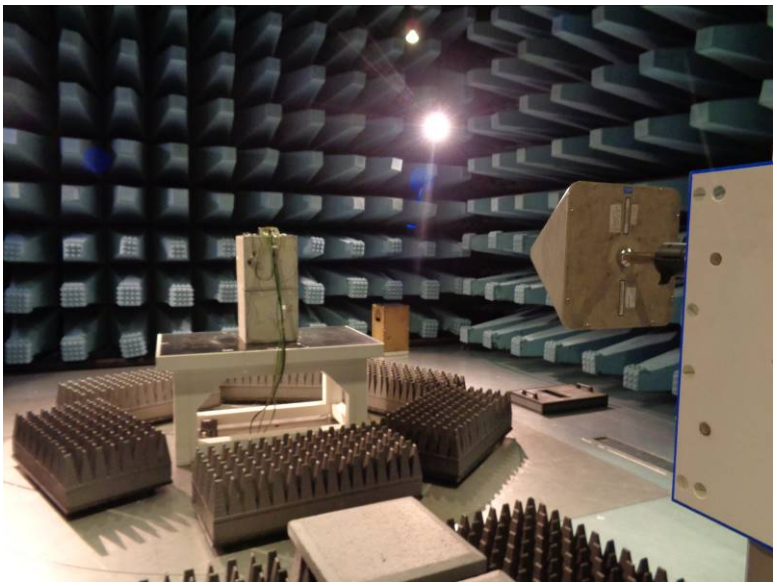


Section 9. Photos

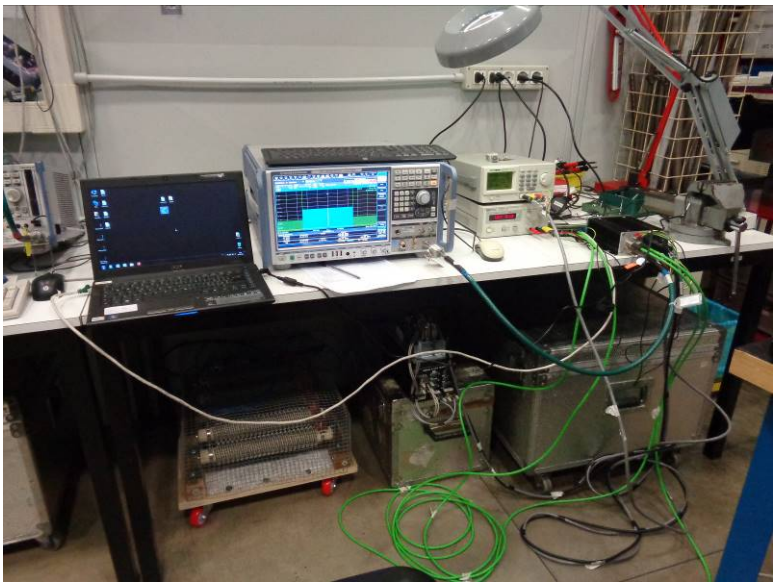
9.1 Photos of the test set-up



Radiated emission below 1 GHz



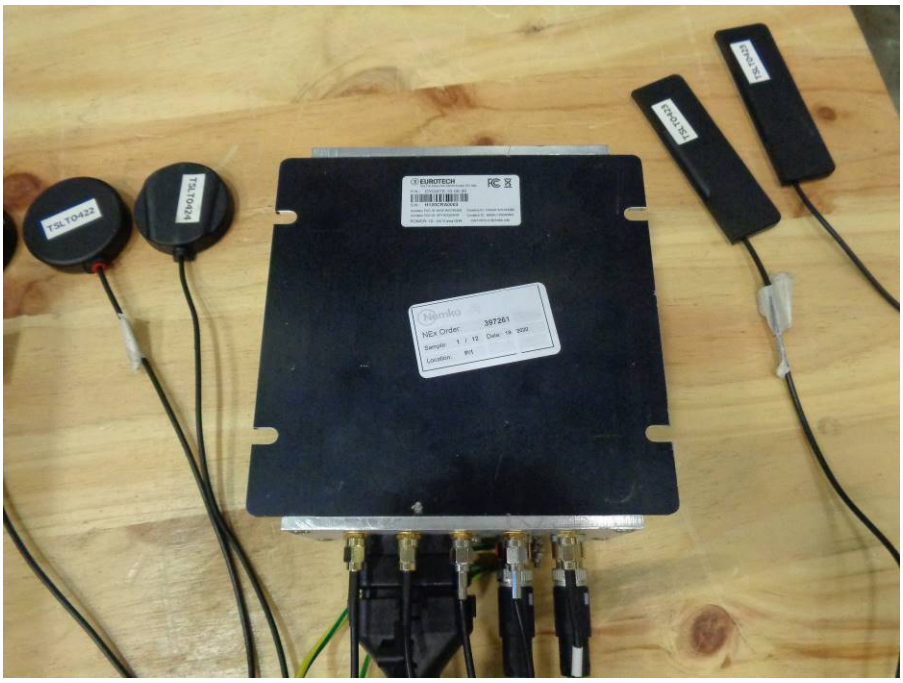
Radiated emission above 1 GHz

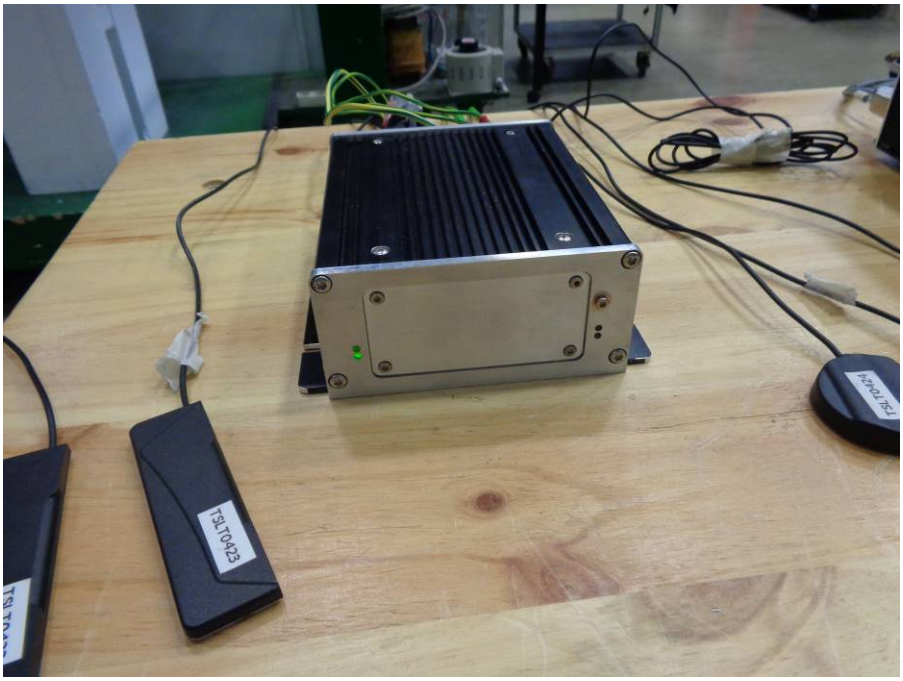


Conducted emission on the antenna port

Conducted emission on the AC Mains

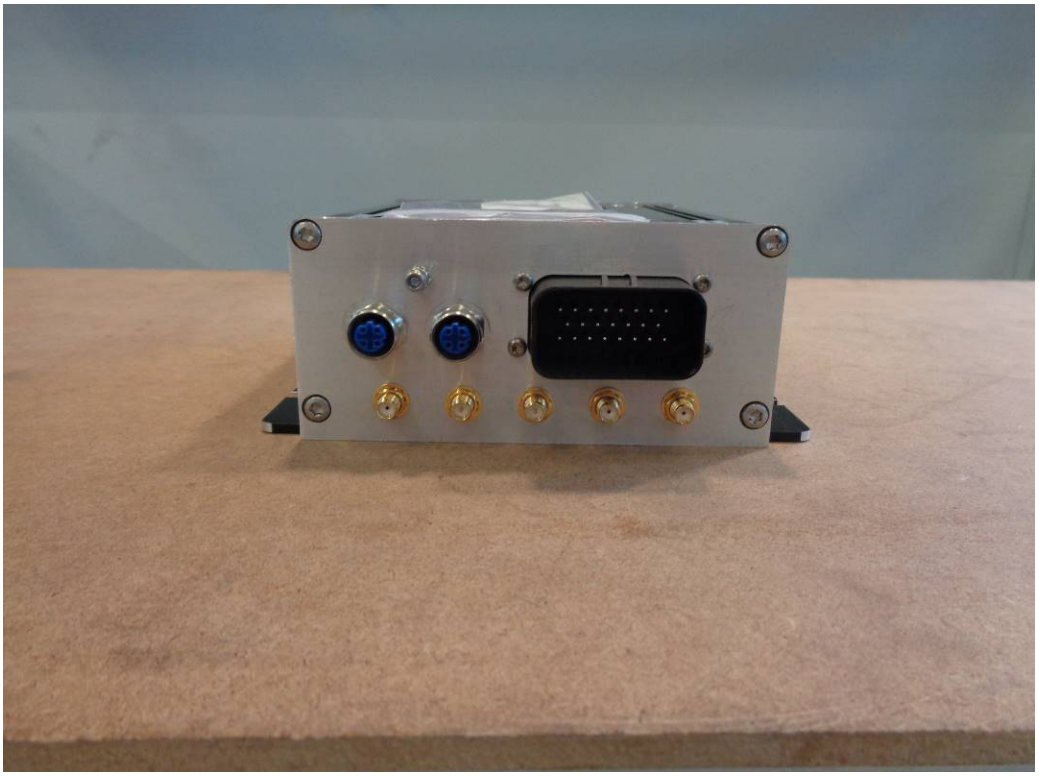
9.2 Photos of the EUT



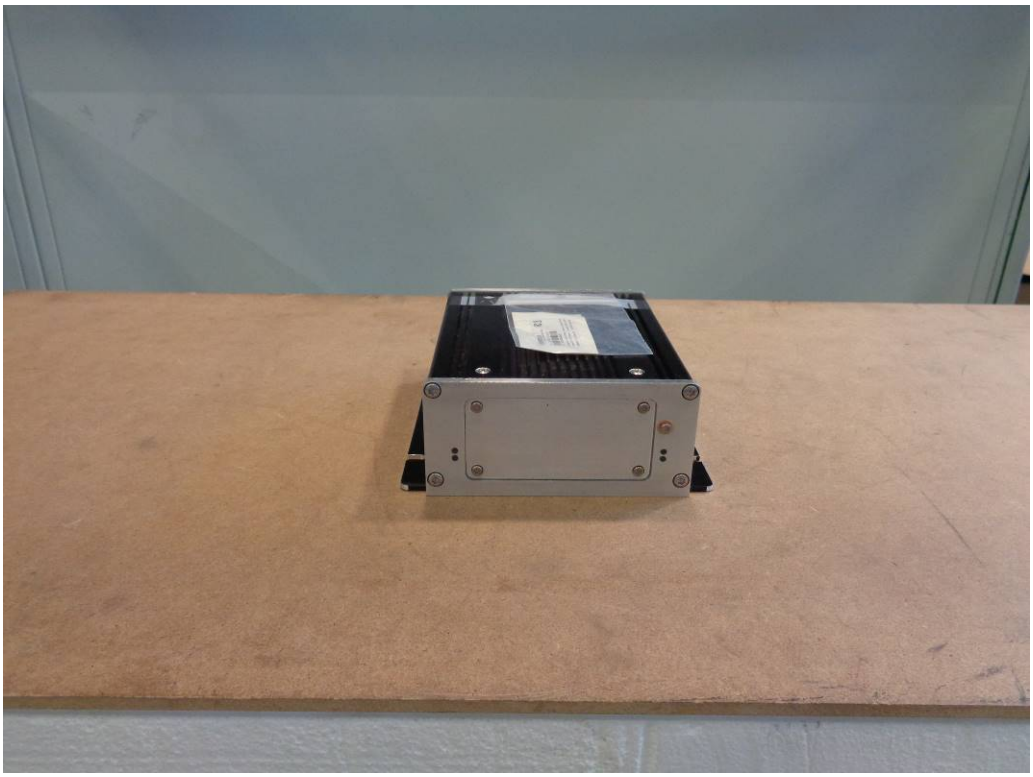



TSLT0422
TSLT0424


TSLT0423
TSLT0423




Nemko
NEL Order:
397261
EURO TECH



(End of report)