

### 11.7 Occupied bandwidth – 99% emission bandwidth

**Description:**

Measurement of the 99% bandwidth of the modulated signal acc. RSS-GEN.

**Measurement:**

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	300 kHz / 500 kHz
Video bandwidth:	1 MHz / 3 MHz
Span:	50 MHz / 100 MHz
Measurement procedure:	Measurement of the 99% bandwidth using the integration function of the analyser
Trace – mode:	Max hold (allow trace to stabilize)
Test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See sub clause 8

**Usage:**

-/-	IC
Occupied Bandwidth – 99% emission bandwidth	
OBW is necessary for Emission Designator	

**Result:**

OFDM / a – mode	99% bandwidth [kHz]			
	5180 MHz	5220 MHz	5240 MHz	-/-
Channel	16733	16733	16833	-/-
Channel	5260 MHz	5280 MHz	5320 MHz	-/-
	16783	16783	16733	-/-
Channel	5500 MHz	5600 MHz	5700 MHz	-/-
	16783	16733	16833	-/-
Channel	5745 MHz	5785 MHz	5825 MHz	-/-
	16783	16833	16783	-/-

**Result:**

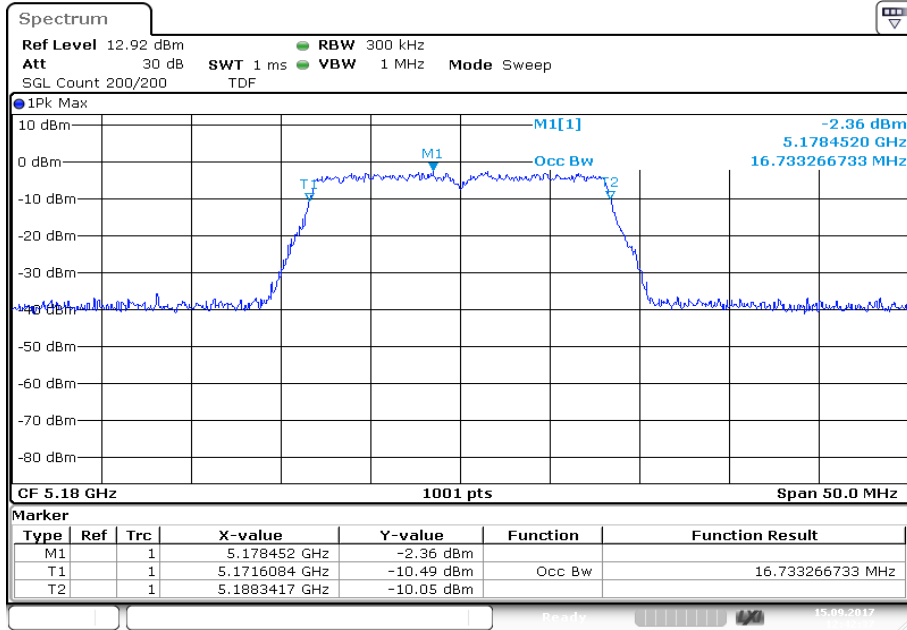
OFDM / n/ac HT20 – mode	99% bandwidth [kHz]			
	5180 MHz	5220 MHz	5240 MHz	-/-
Channel	17882	17882	17882	-/-
Channel	5260 MHz	5280 MHz	5320 MHz	-/-
	17882	17882	17882	-/-
Channel	5500 MHz	5600 MHz	5700 MHz	-/-
	17982	17982	17982	-/-
Channel	5745 MHz	5785 MHz	5825 MHz	-/-
	17982	17932	17982	-/-

**Result:**

OFDM / n/ac HT40 – mode Channel	99% bandwidth [kHz]			
	5190 MHz	5230 MHz	5270 MHz	5310 MHz
	36464	36464	36464	36464
Channel	5510 MHz	5550 MHz	5590 MHz	5670 MHz
	36464	36464	36464	36464
Channel	5755 MHz	5795 MHz	-/-	-/-
	36464	36464	-/-	-/-

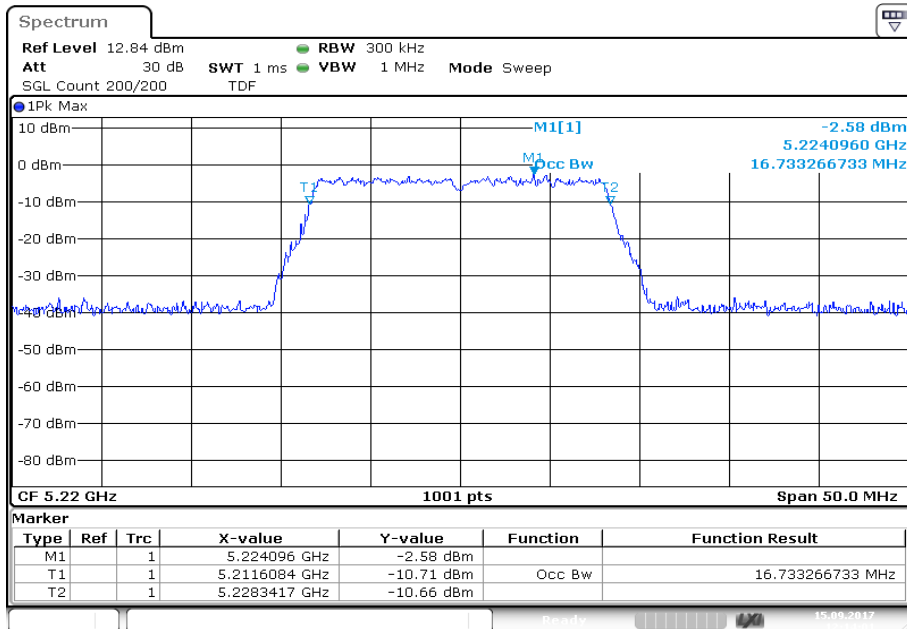
**Plots:** OFDM / a – mode

**Plot 1:** 5180 MHz



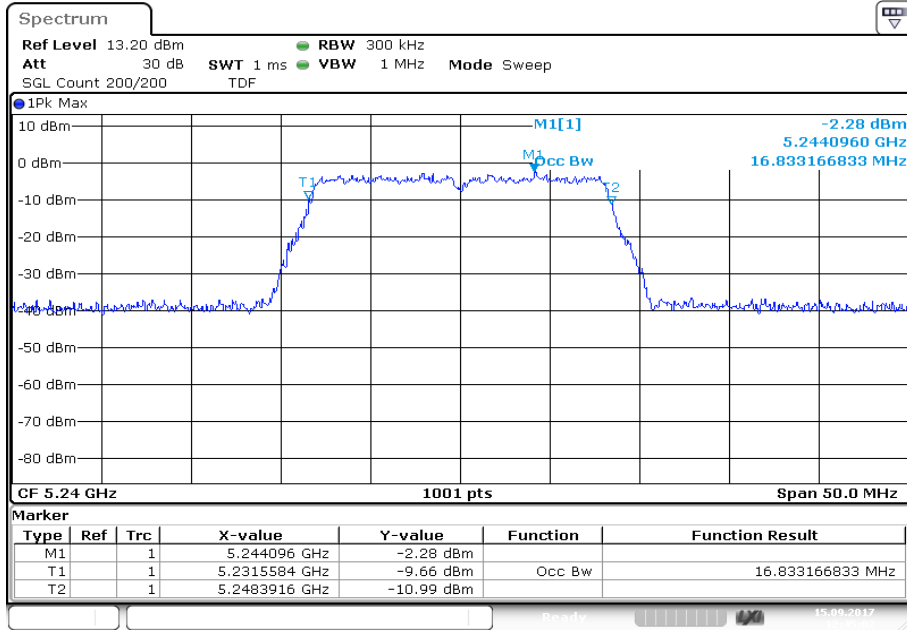
Date: 15.SEP.2017 12:42:37

**Plot 2:** 5220 MHz

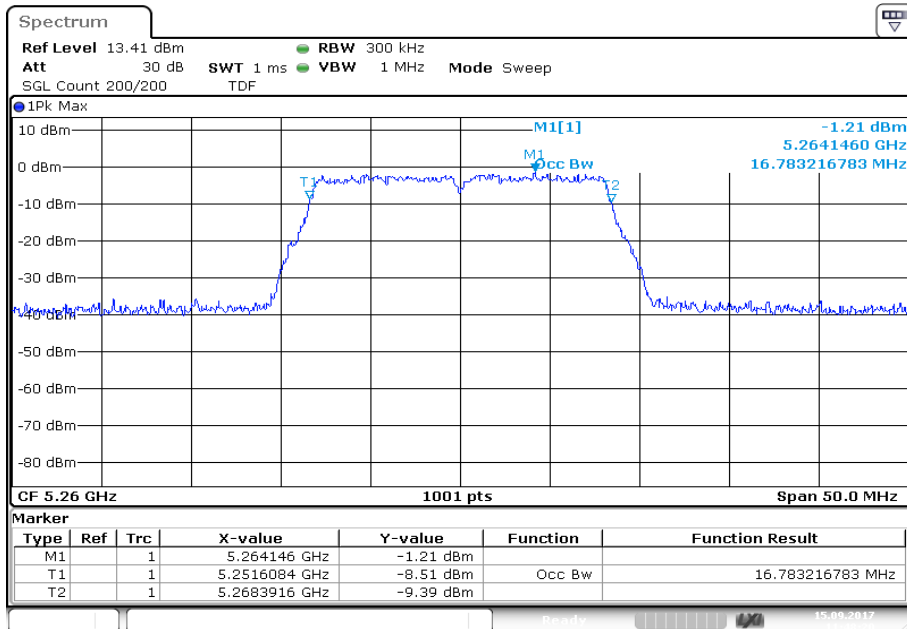


Date: 15.SEP.2017 12:14:01

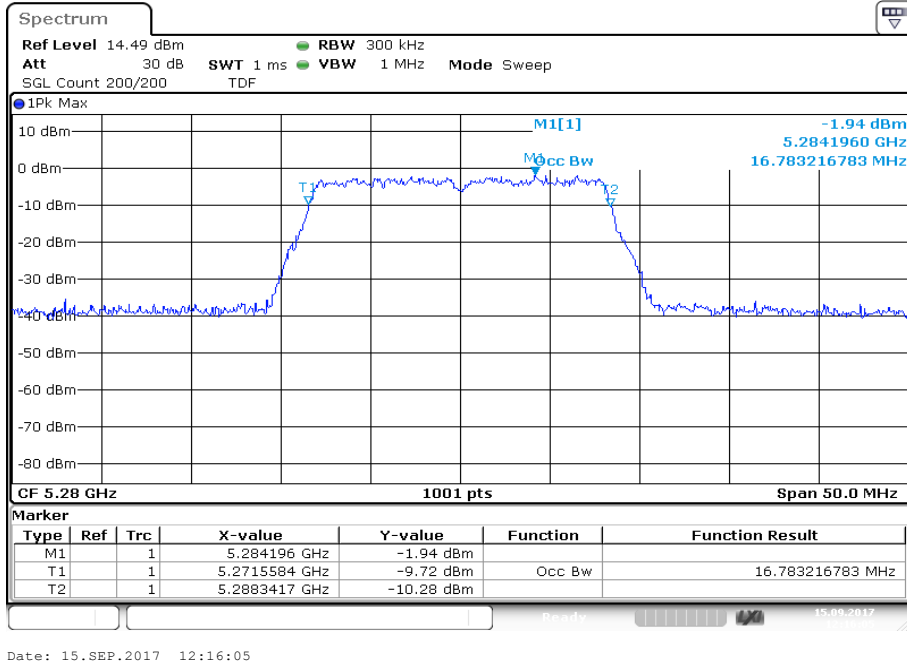
Plot 3: 5240 MHz



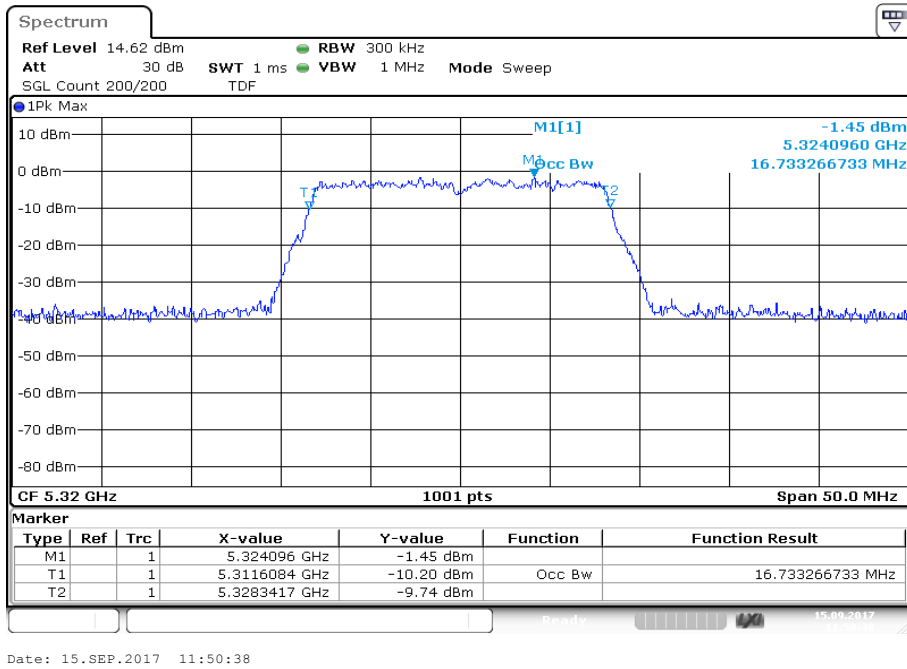
Plot 4: 5260 MHz



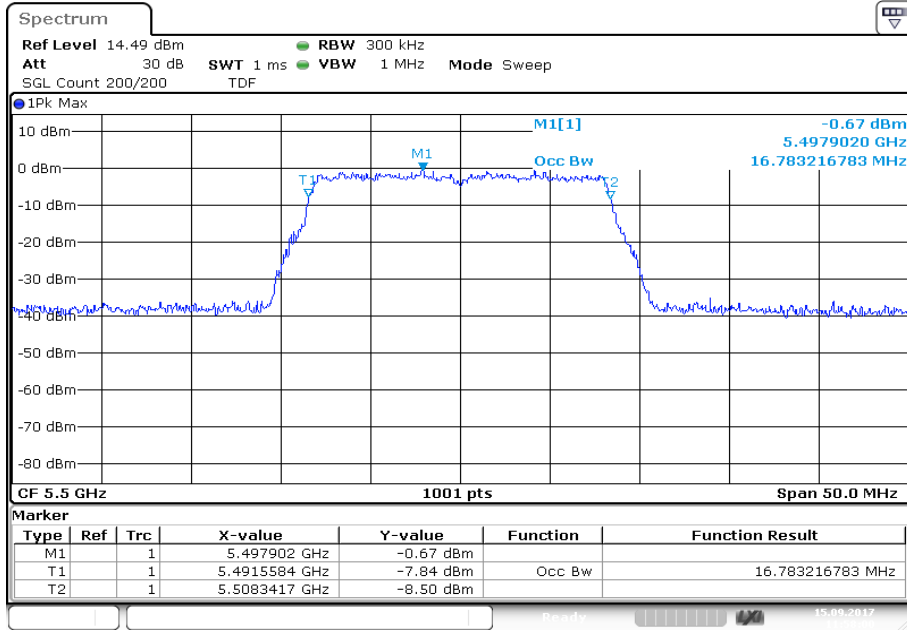
Plot 5: 5280 MHz



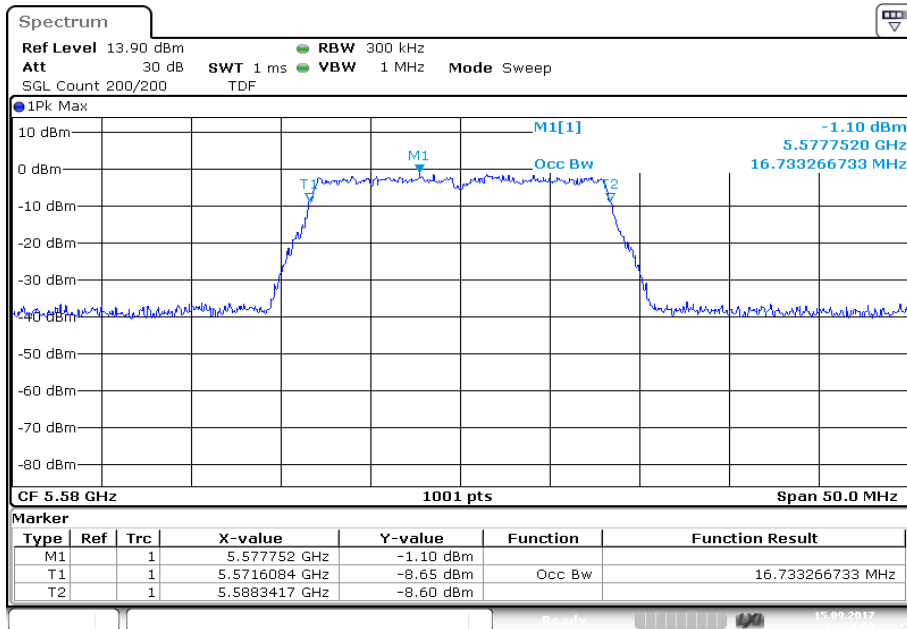
Plot 6: 5320 MHz



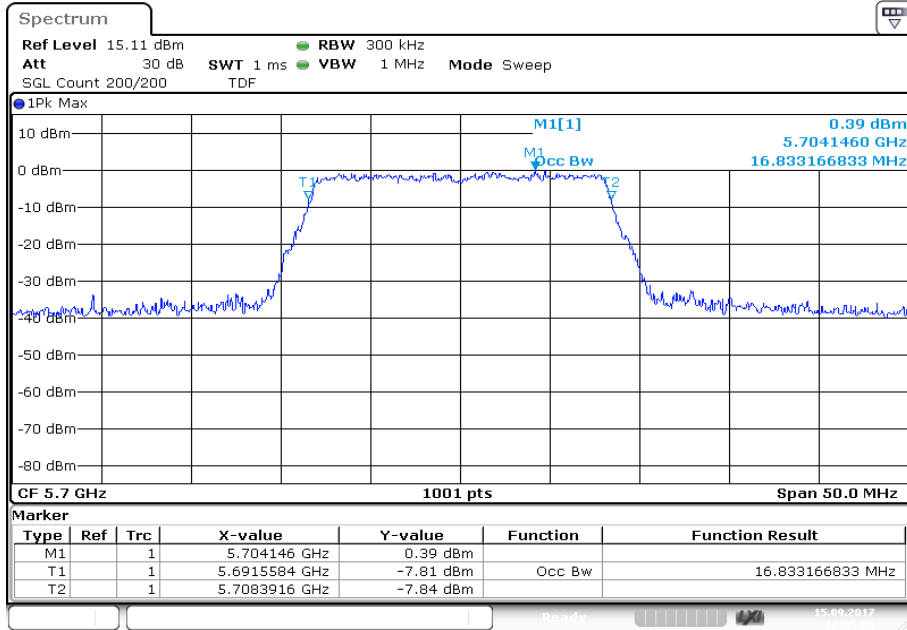
Plot 7: 5500 MHz



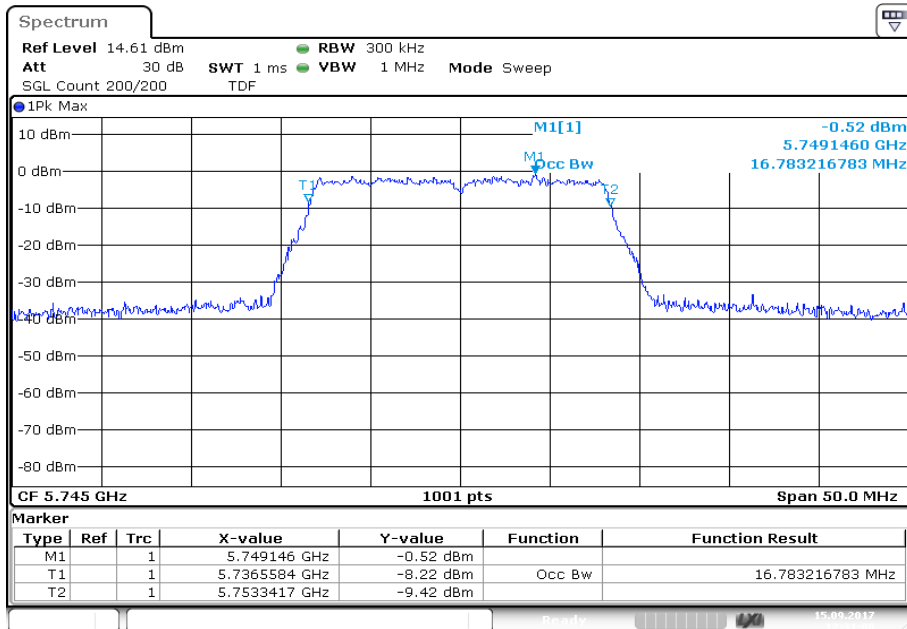
Plot 8: 5580 MHz



Plot 9: 5700 MHz

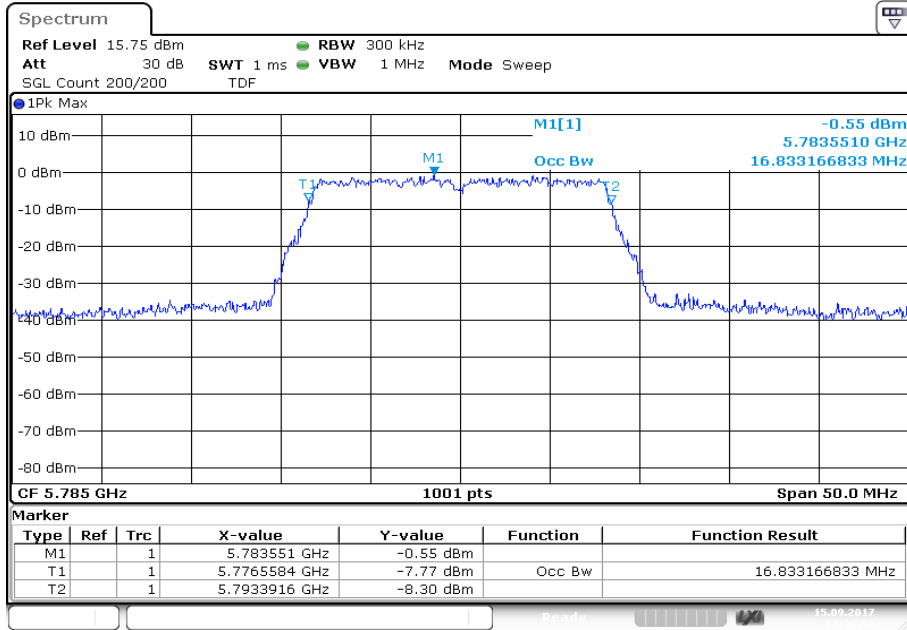


Plot 10: 5745 MHz



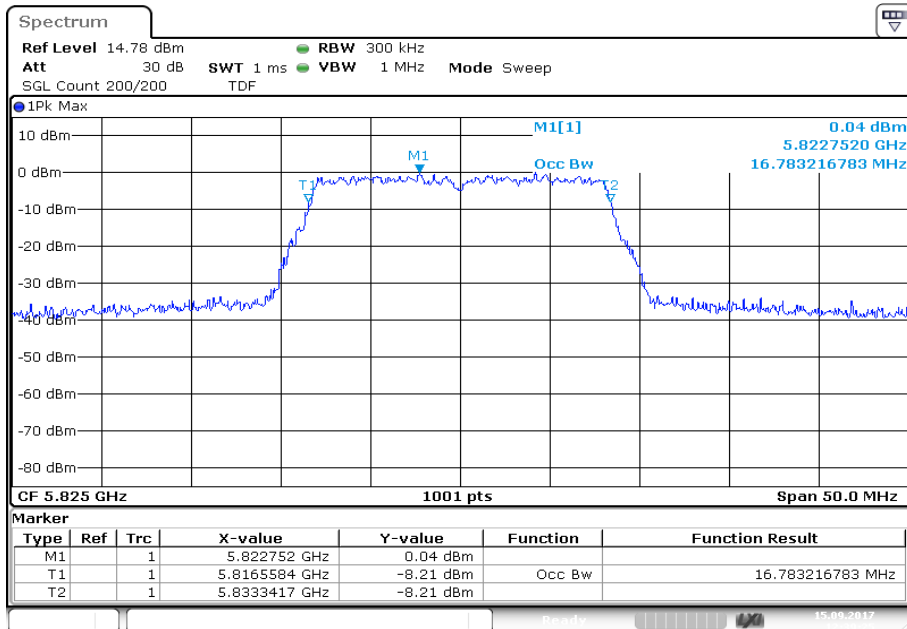


Plot 11: 5785 MHz



Date: 15.SEP.2017 12:36:53

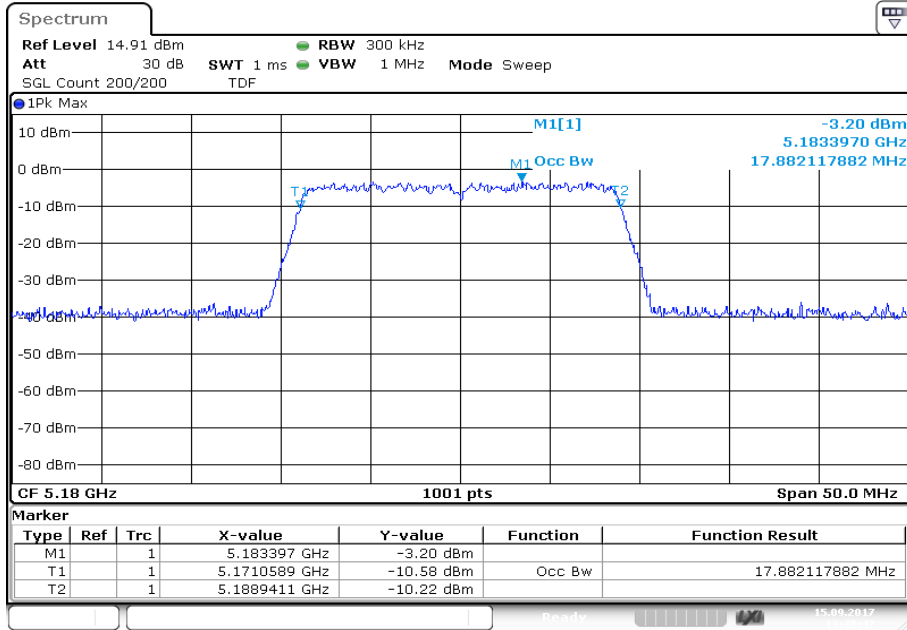
Plot 12: 5825 MHz



Date: 15.SEP.2017 12:39:25

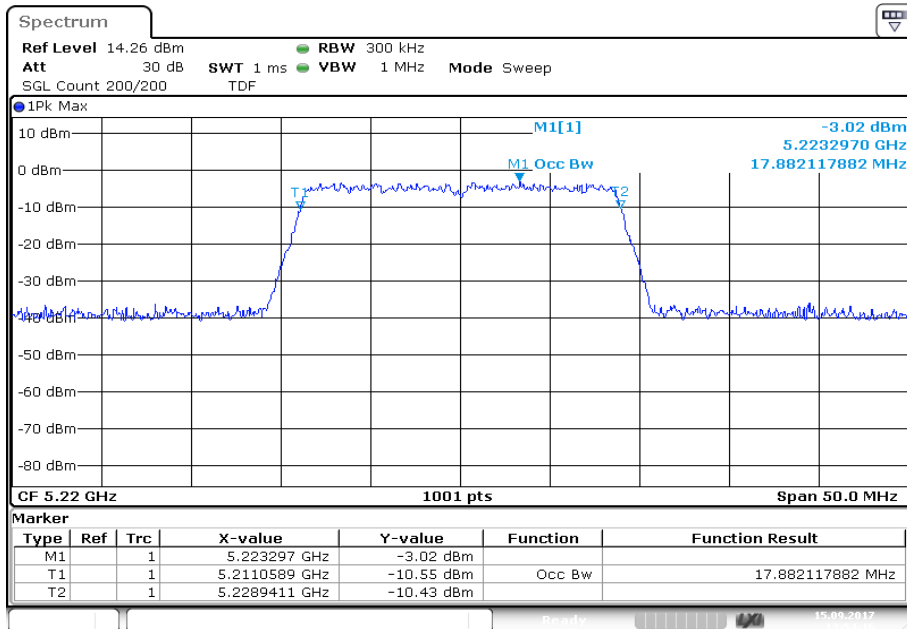
**Plots:** OFDM / n/ac HT20 – mode

**Plot 1:** 5180 MHz



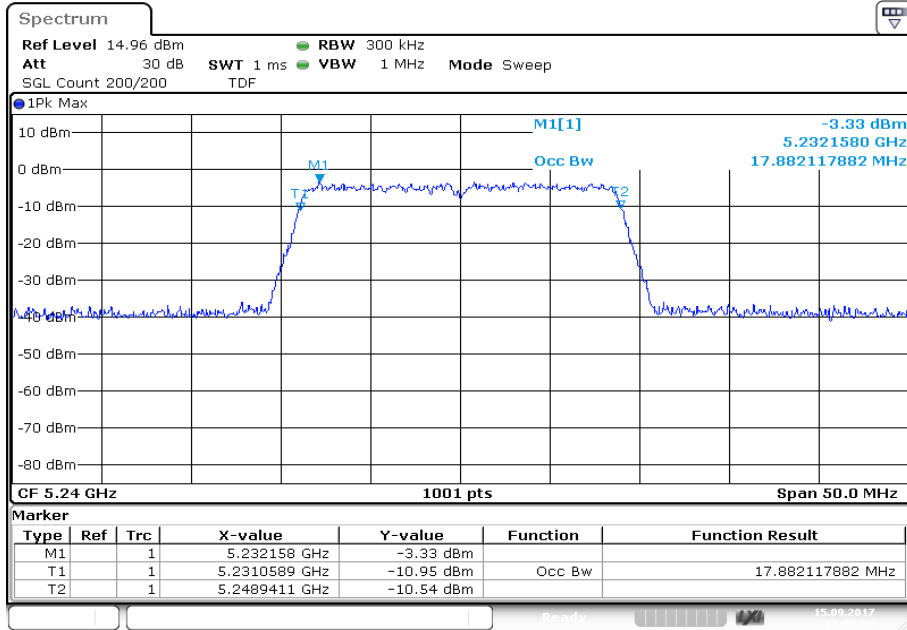
Date: 15.SEP.2017 13:48:47

**Plot 2:** 5220 MHz

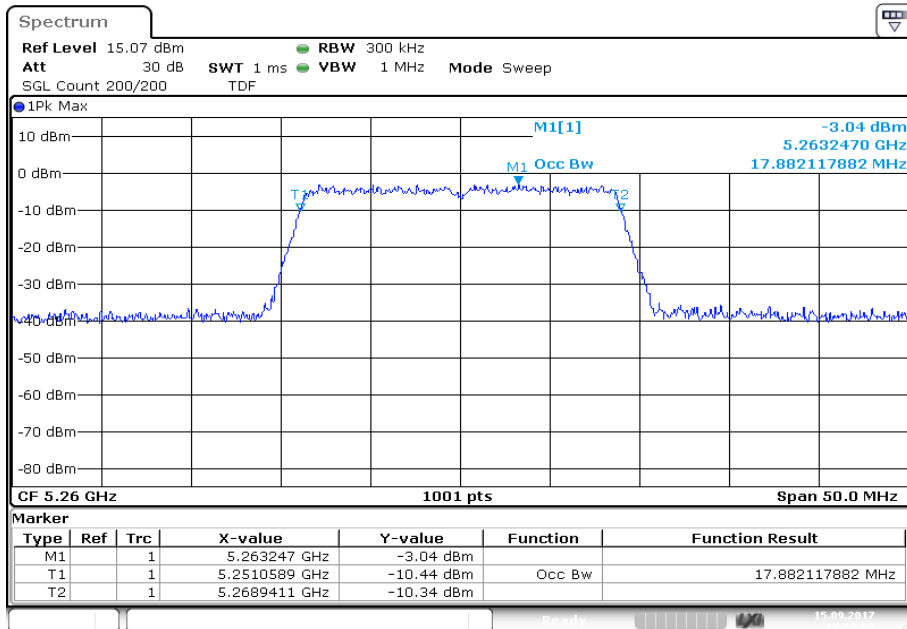


Date: 15.SEP.2017 13:54:16

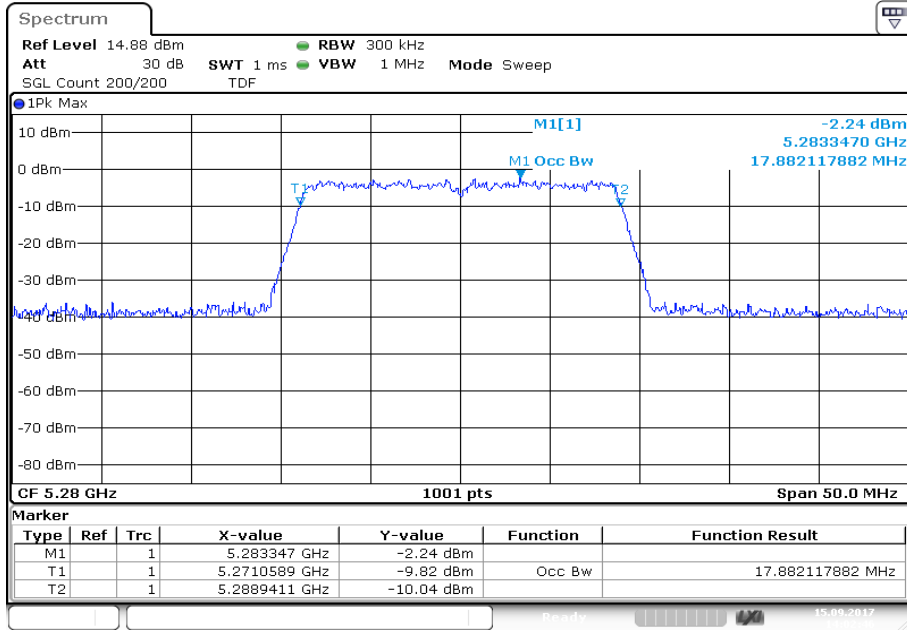
Plot 3: 5240 MHz



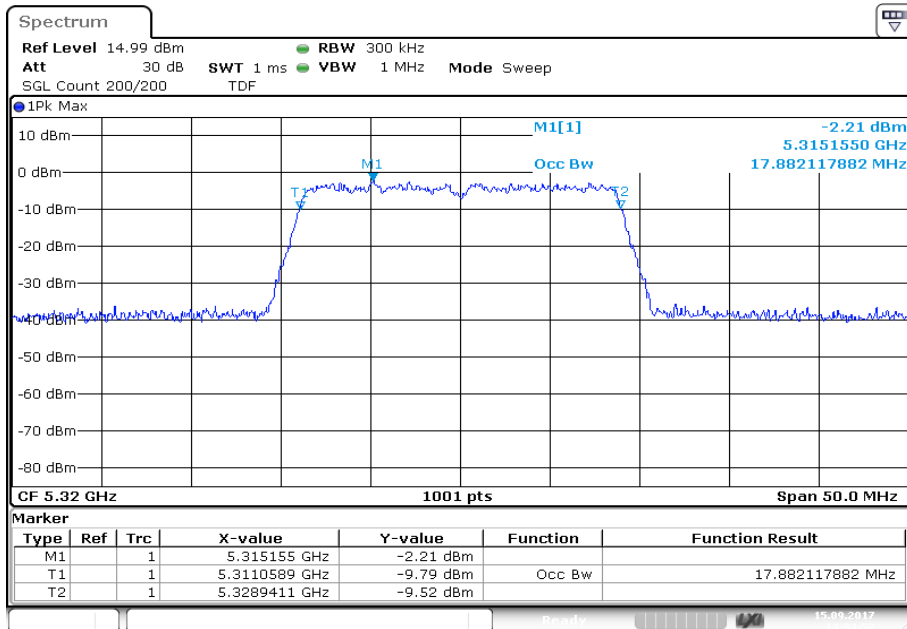
Plot 4: 5260 MHz



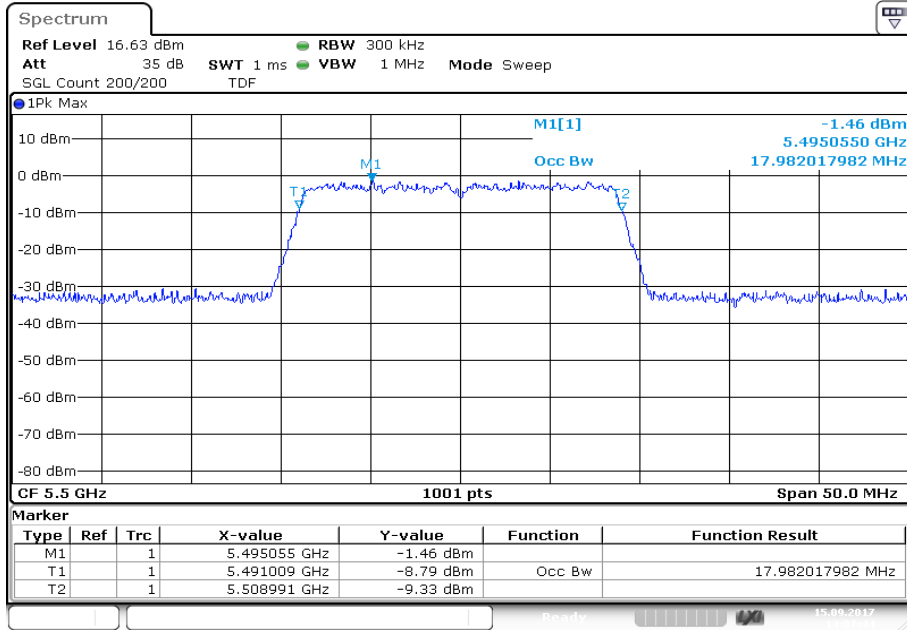
Plot 5: 5280 MHz



Plot 6: 5320 MHz

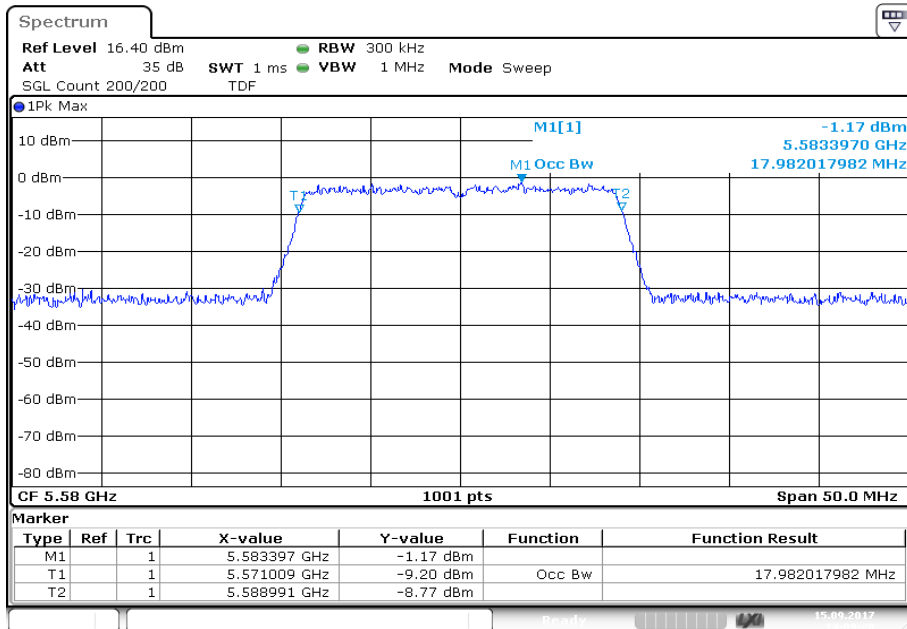


Plot 7: 5500 MHz



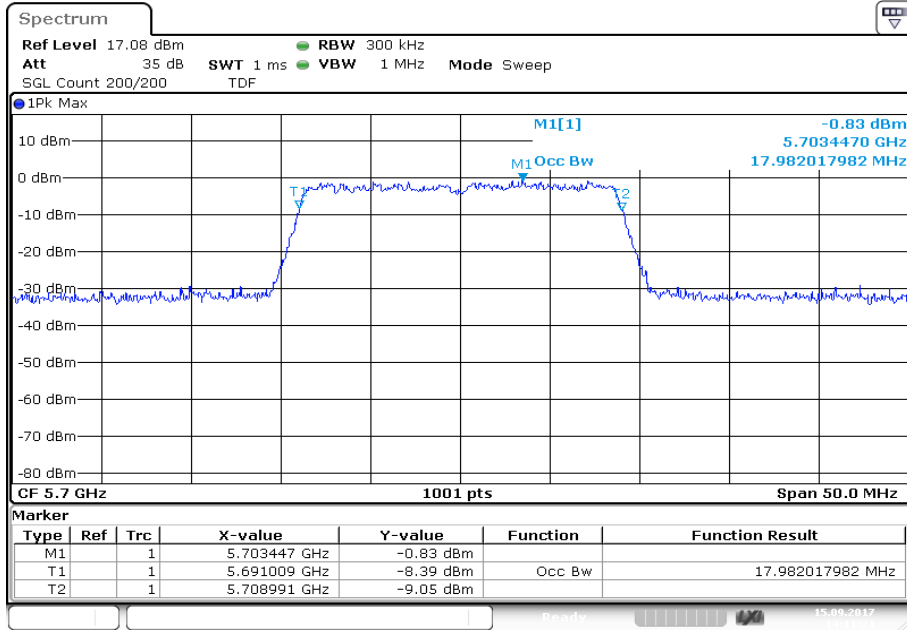
Date: 15.SEP.2017 14:07:44

Plot 8: 5580 MHz



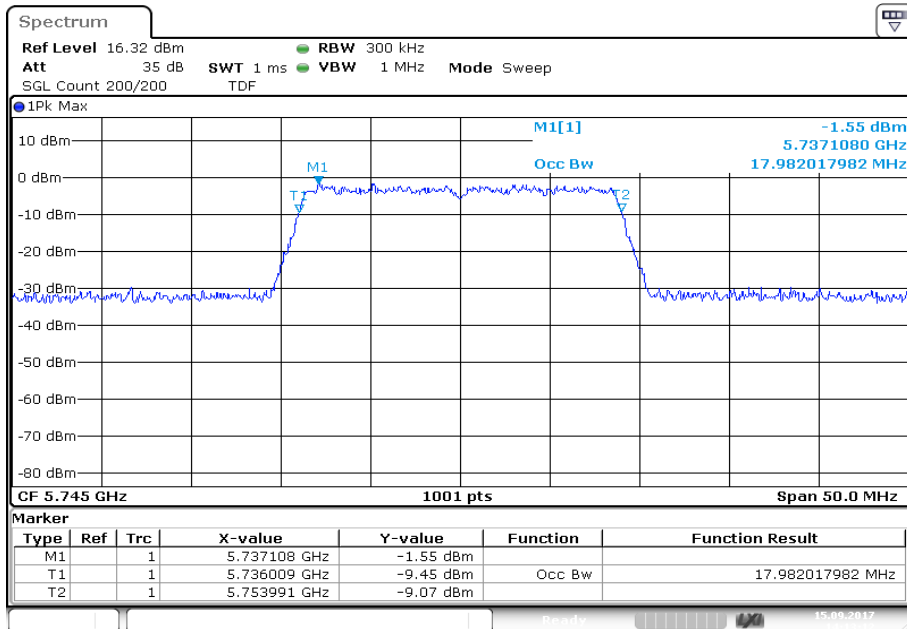
Date: 15.SEP.2017 14:09:28

Plot 9: 5700 MHz



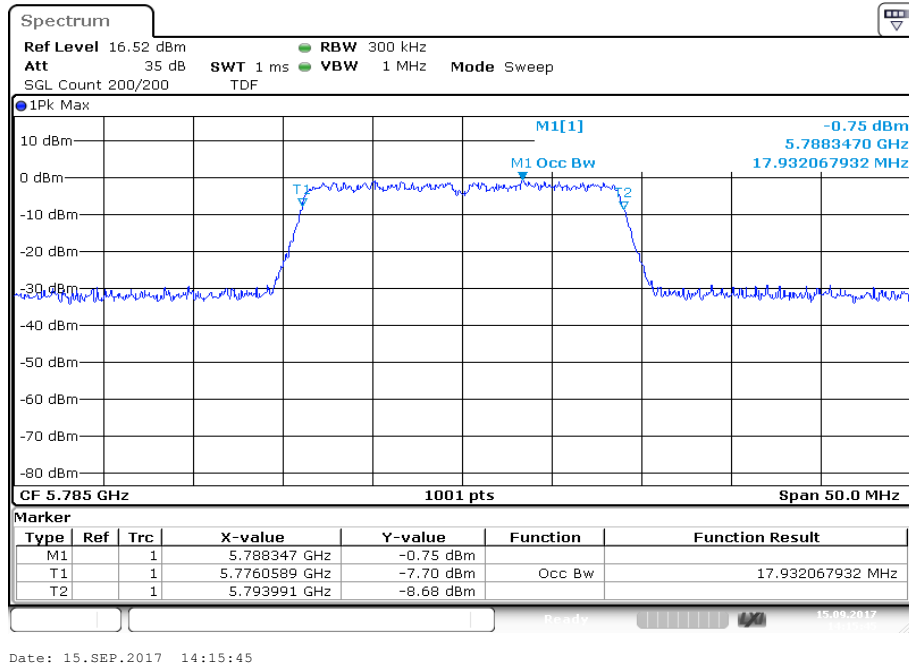
Date: 15.SEP.2017 14:11:21

Plot 10: 5745 MHz

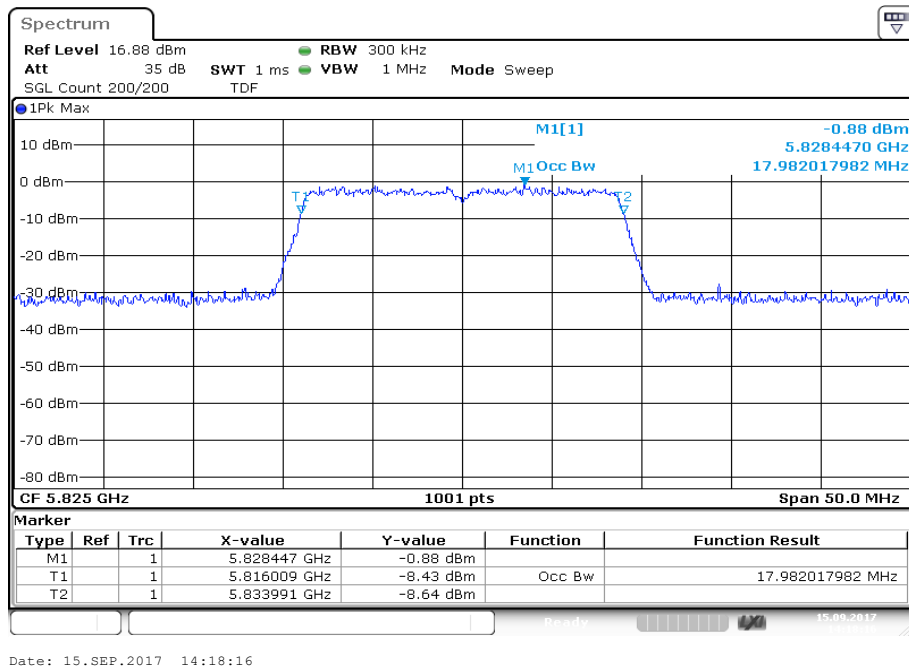


Date: 15.SEP.2017 14:13:12

**Plot 11: 5785 MHz**

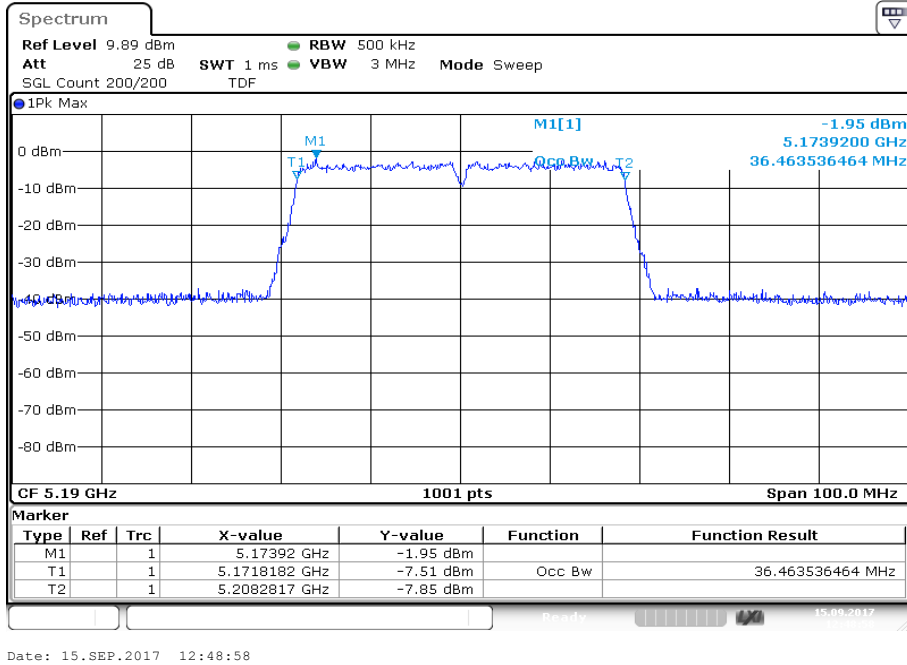


**Plot 12: 5825 MHz**

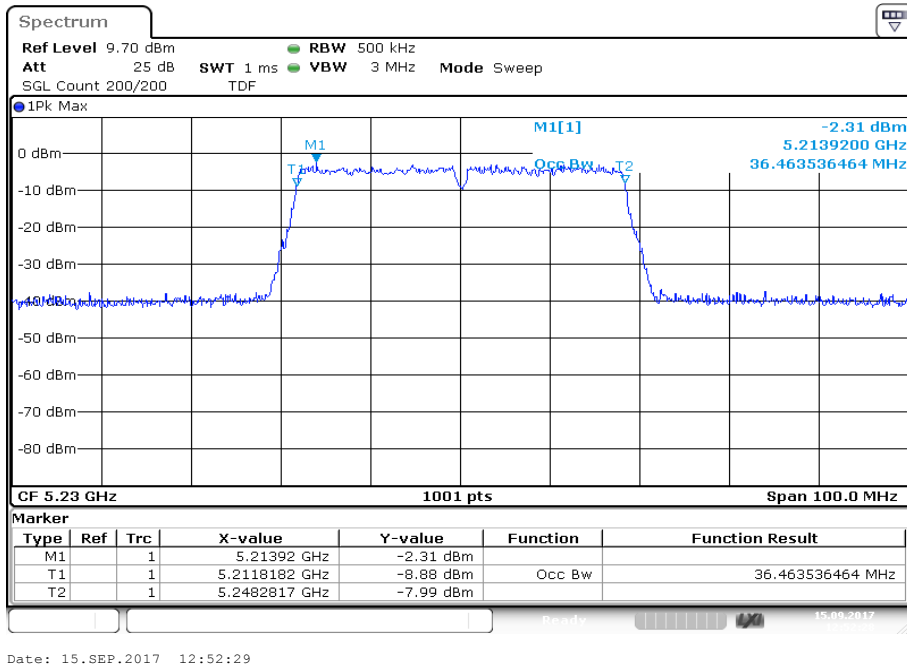


**Plots:** OFDM / n/ac HT40 – mode

**Plot 1:** 5190 MHz

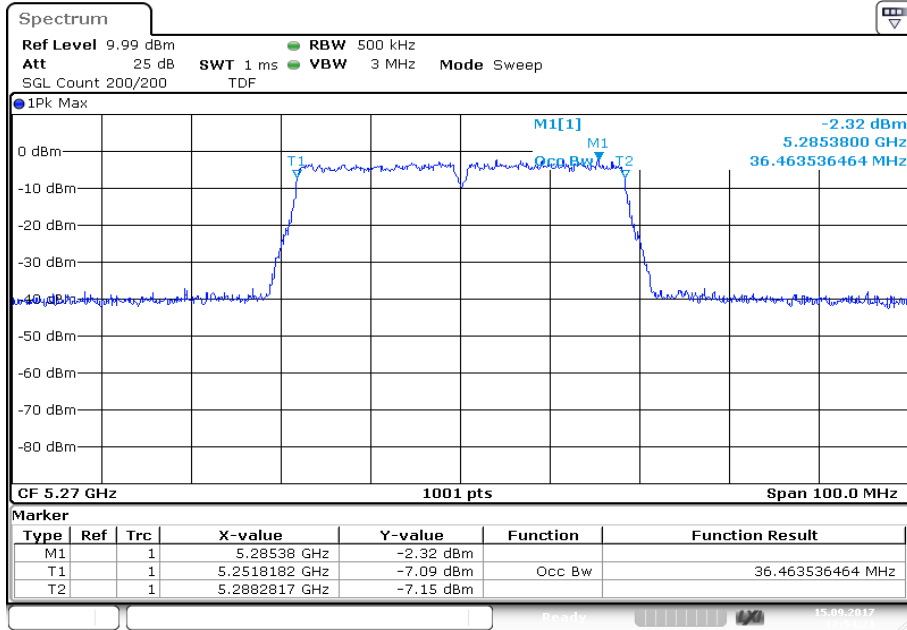


**Plot 2:** 5230 MHz



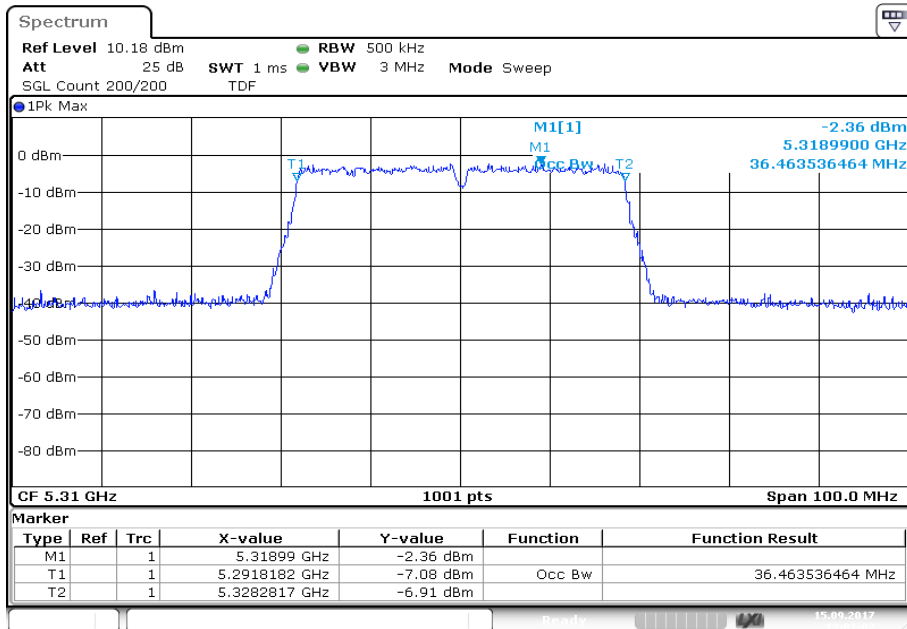


Plot 3: 5270 MHz



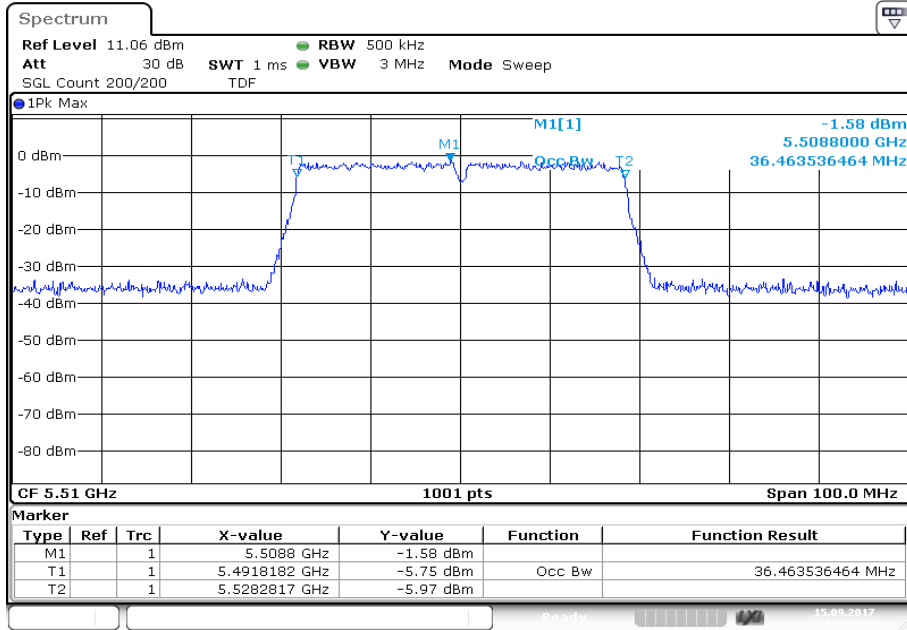
Date: 15.SEP.2017 12:54:21

Plot 4: 5310 MHz

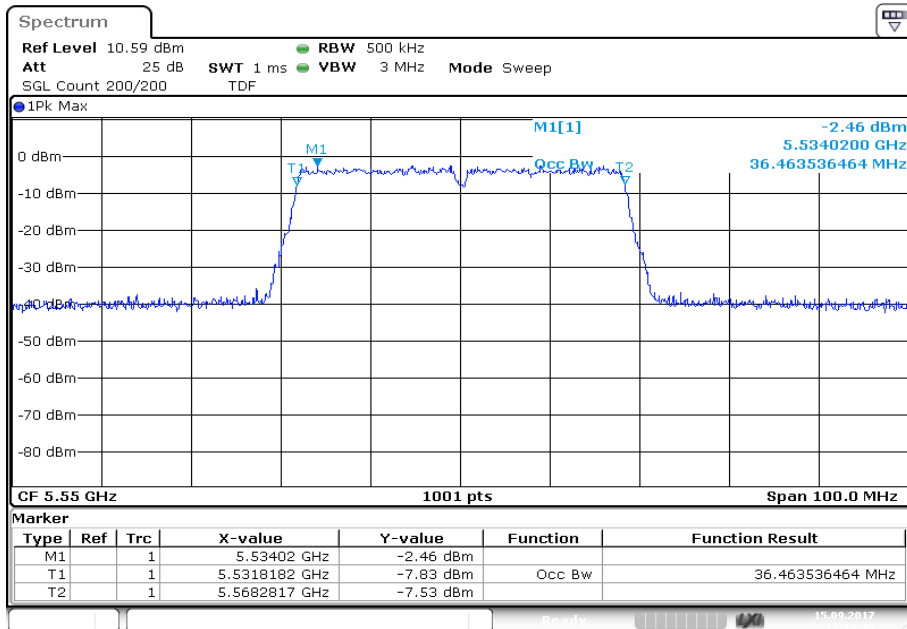


Date: 15.SEP.2017 13:01:03

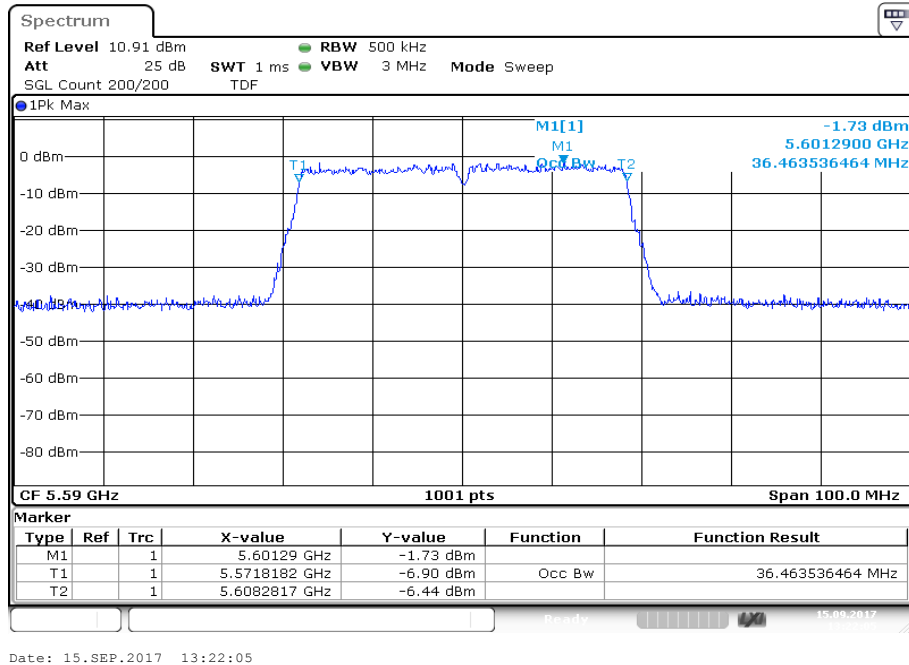
Plot 5: 5510 MHz



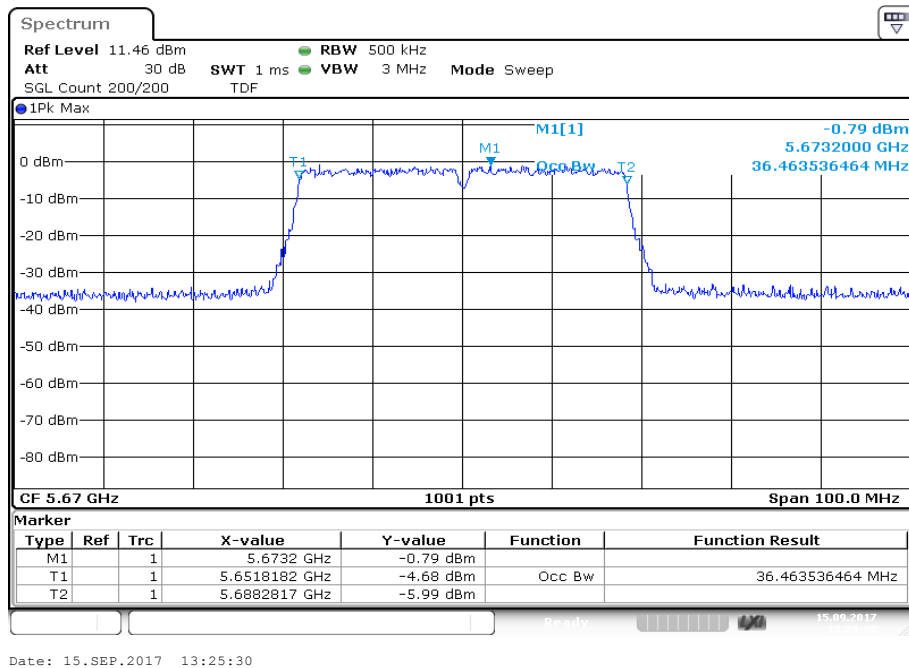
Plot 6: 5550 MHz



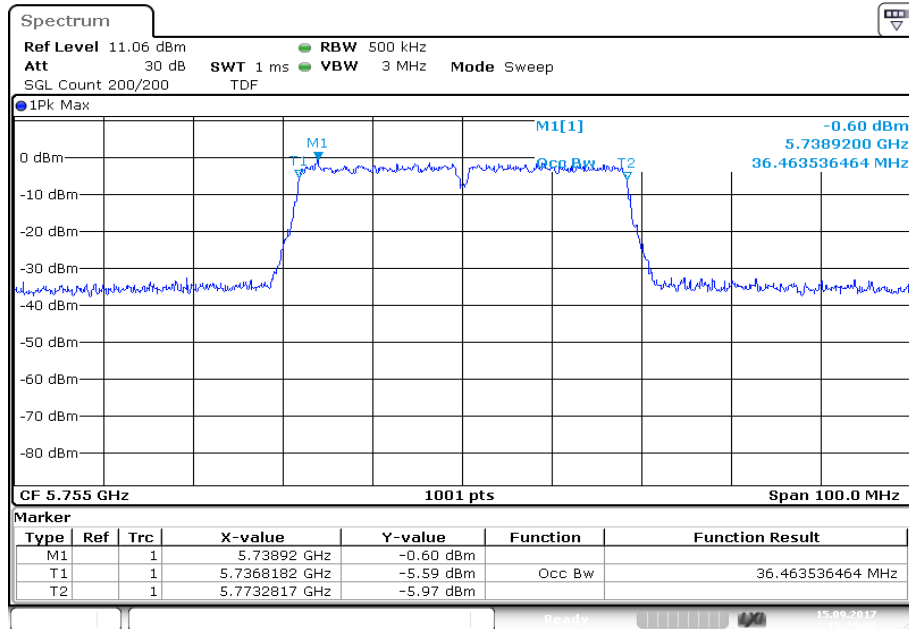
Plot 7: 5590 MHz



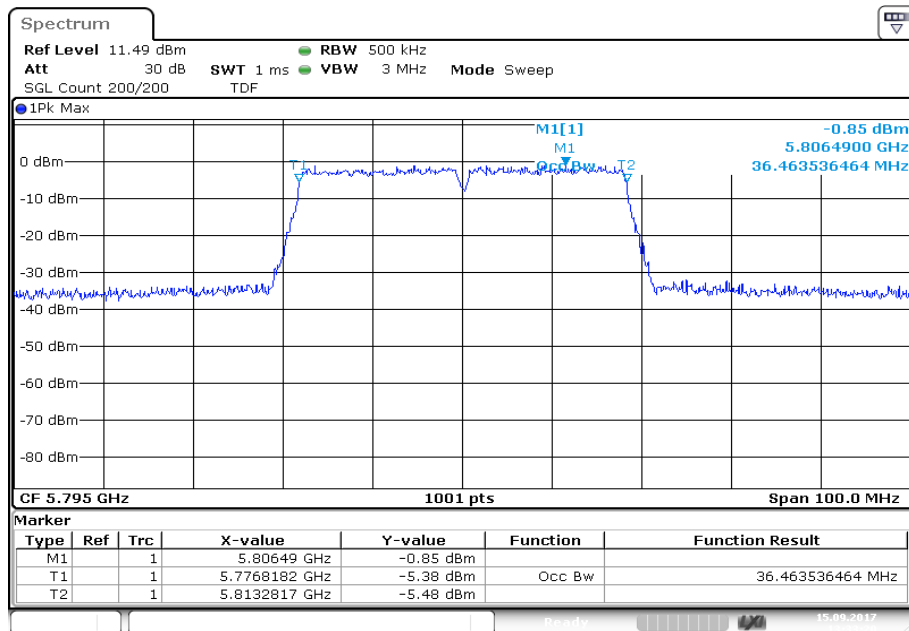
Plot 8: 5670 MHz



Plot 9: 5755 MHz



Plot 10: 5795 MHz



## 11.8 Band edge compliance radiated

### Description:

Measurement of the radiated band edge compliance. The EUT is turned in the position that results in the maximum level at the band edge. Then a sweep over the corresponding restricted band is performed. The EUT is set to the lowest channel for the lower restricted band and to the highest channel for the upper restricted band. Measurement distance is 3m.

### Measurement:

Measurement parameter	
Detector:	Peak / RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	≥ 3 x RBW
Span:	See plots!
Trace – mode:	Max Hold
Test setup:	See sub clause 6.2 – A
Measurement uncertainty:	See chapter 8

### Limits:

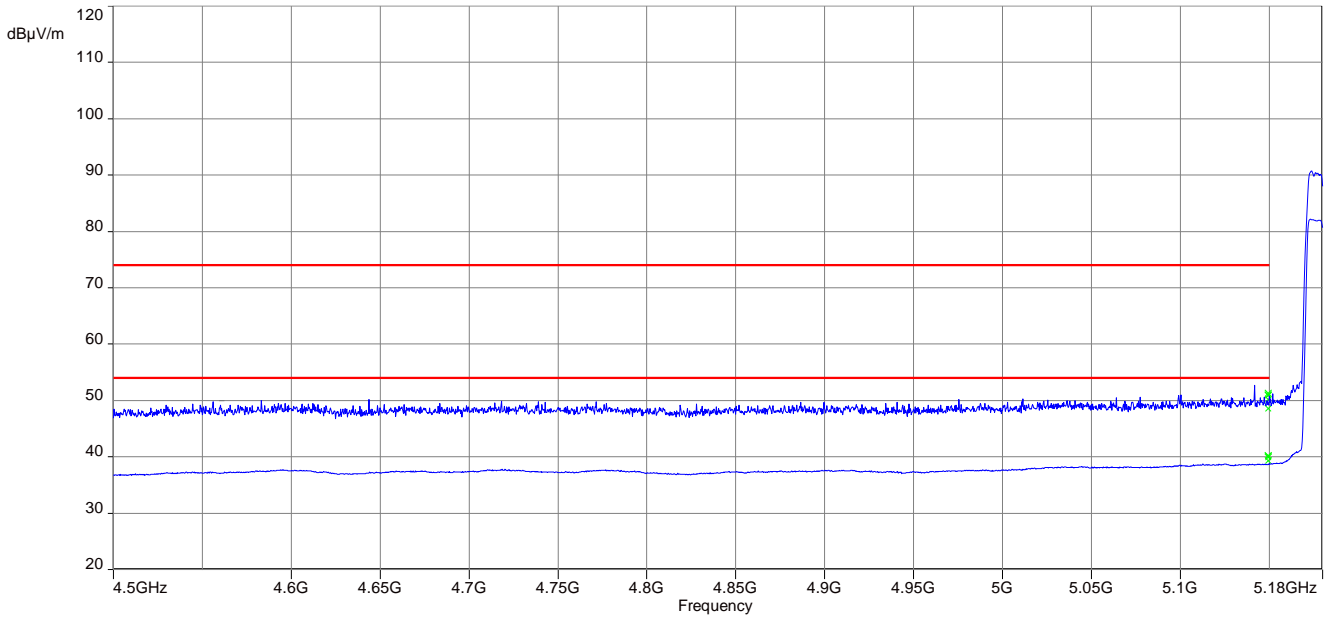
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).
74 dBµV/m (peak) 54 dBµV/m (average)

### Result:

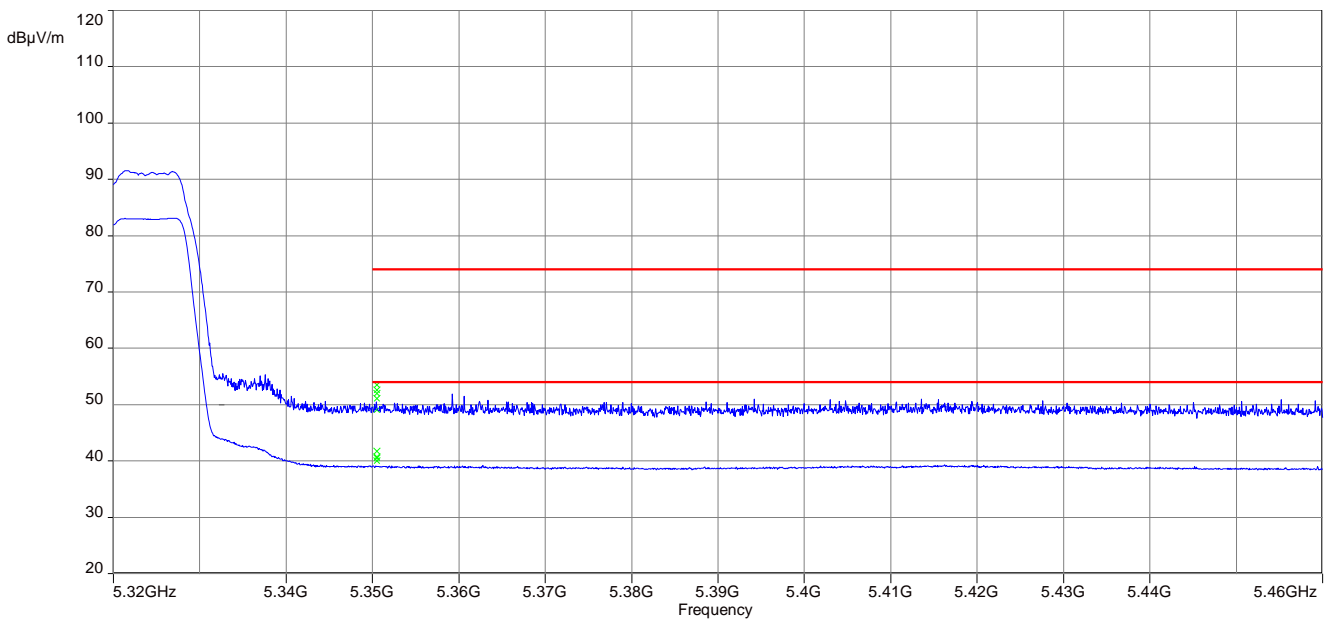
Scenario	Band Edge Compliance Radiated [dBµV/m]
band edge	< 74 dBµV/m (peak) < 54 dBµV/m (average)

**Plots:**

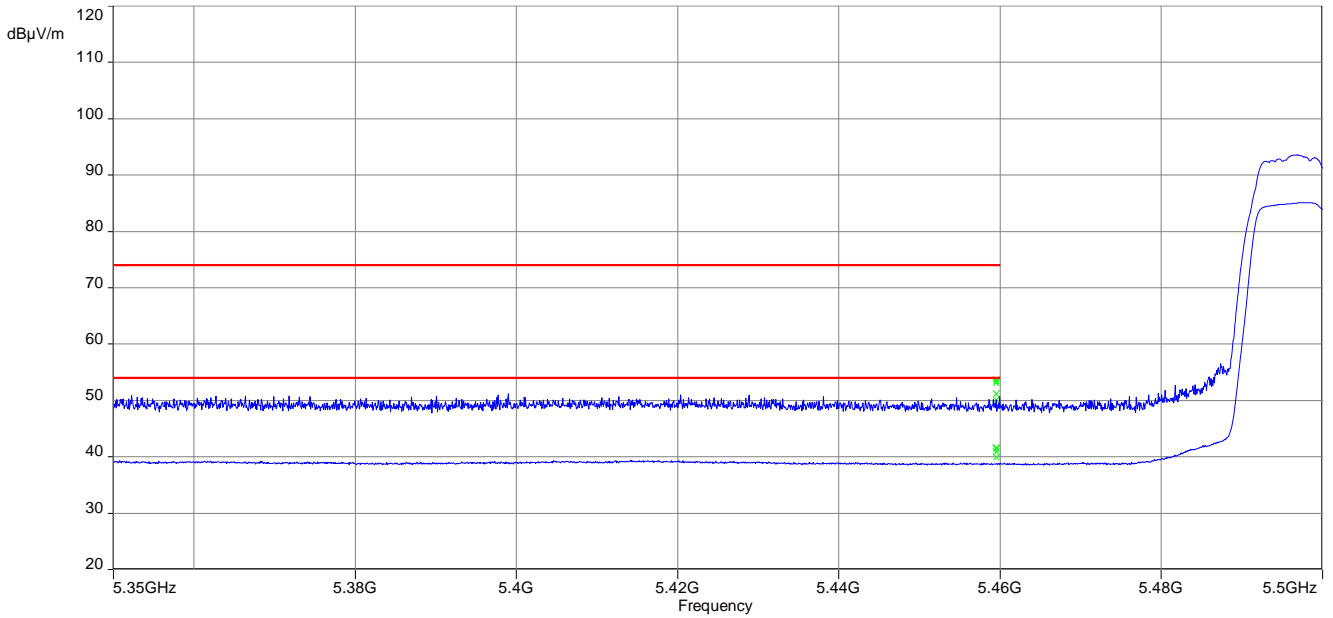
**Plot 1:** lower band edge, vertical & horizontal polarization – OFDM 20 MHz, 5180 MHz



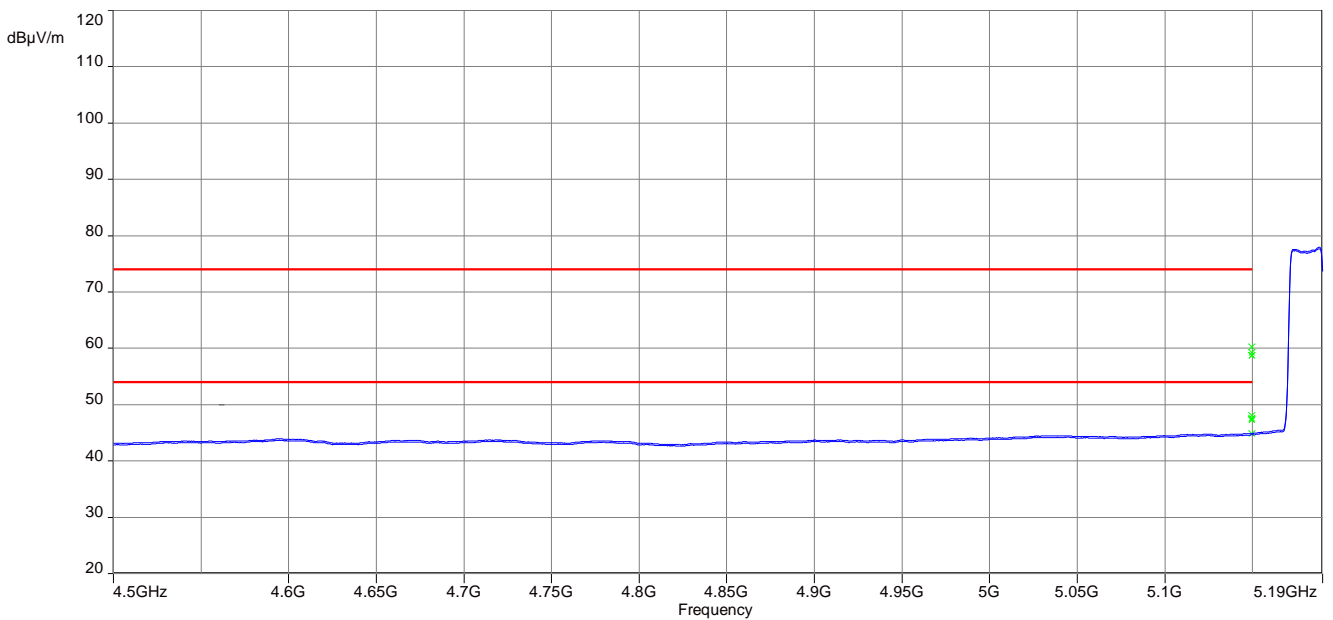
**Plot 2:** upper band edge, vertical & horizontal polarization – OFDM 20 MHz, 5320 MHz



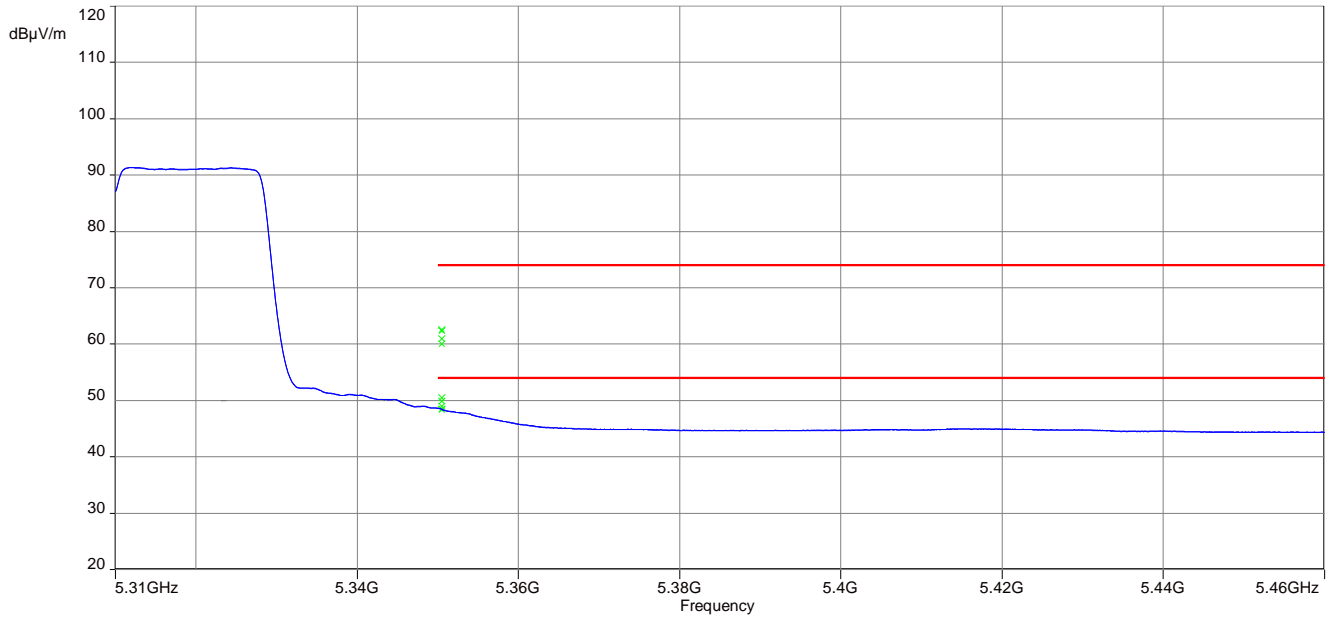
**Plot 3:** lower band edge, vertical & horizontal polarization – OFDM 20 MHz, 5500 MHz



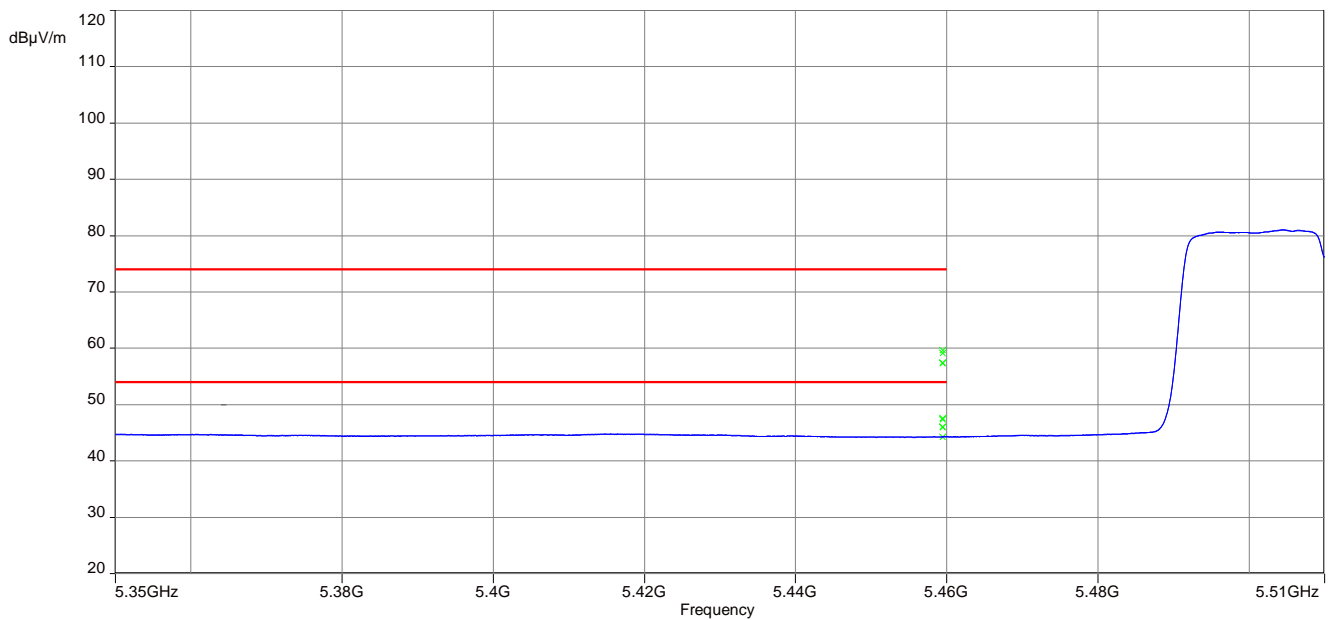
**Plot 4:** lower band edge, vertical & horizontal polarization – OFDM 40 MHz, 5190 MHz



**Plot 5:** upper band edge, vertical & horizontal polarization – OFDM 40 MHz, 5310 MHz



**Plot 6:** lower band edge, vertical & horizontal polarization – OFDM 40 MHz, 5510 MHz





## 11.9 TX spurious emissions radiated

### Description:

Measurement of the radiated spurious emissions in transmit mode. The measurement is performed at lowest, middle and highest channel.

### Measurement:

Measurement parameter	
Detector:	Quasi Peak below 1 GHz (alternative Peak) Peak above 1 GHz / RMS
Sweep time:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Video bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: ≥ 3 MHz / 1 MHz
Span:	30 MHz to 40 GHz
Trace – mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %
Test setup:	See sub clause 6.1 – A See sub clause 6.2 – B See sub clause 6.3 – A
Measurement uncertainty:	See chapter 8

### Limits:

TX Spurious Emissions Radiated		
§15.209		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3
§15.407		
Outside the restricted bands!	-27 dBm / MHz	

**Results:** OFDM (20 MHz bandwidth)

TX Spurious Emissions Radiated [dBµV/m] / dBm								
Lowest channel 5180 MHz			Middle channel 5260 MHz			Highest channel 5320 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz refer to the result table below plots.								
All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz		

TX Spurious Emissions Radiated [dBµV/m] / dBm								
Lowest 5500 MHz			Middle 5600 MHz			Highest 5700 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz please refer to the result table below plots.								
7333.3	Peak	47.9	11198.8	Peak	54.1	All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz		
	AVG	38.9		AVG	43.9			
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
Lowest channel 5745 MHz			Middle channel 5785 MHz			Highest channel 5825 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz refer to the result table below plots.								
All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz		

**Results:** OFDM (40 MHz bandwidth)

TX Spurious Emissions Radiated [dBµV/m] / dBm								
Lowest channel 5190 MHz			Middle channel 5270 MHz			Highest channel 5310 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz refer to the result table below plots.								
All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz		

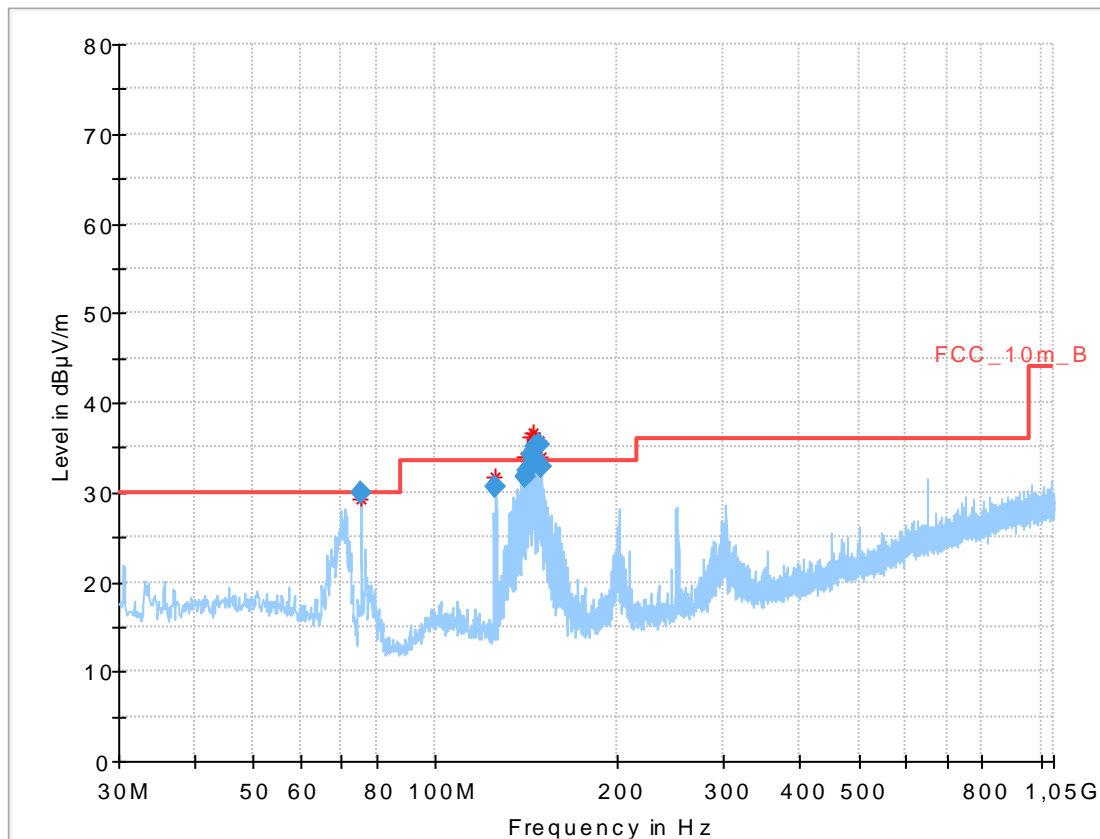
TX Spurious Emissions Radiated [dBµV/m] / dBm								
Lowest 5510 MHz			Middle 5550 MHz			Highest 5590 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz refer to the result table below plots.								
7346.5	Peak	48.9	All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz		
	AVG	40.7						
For emissions above 18 GHz please take look at the plots.								

TX Spurious Emissions Radiated [dBµV/m] / dBm								
Lowest 5630 MHz			Middle channel 5670 MHz			Highest 5755 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz refer to the result table below plots.								
All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz		

TX Spurious Emissions Radiated [dBµV/m] / dBm								
Lowest channel 5795 MHz			-/-			-/-		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz refer to the result table below plots.			-/-			-/-		
All Peak emissions > 10 dB below Average limit in the range 1 to 40 GHz			-/-			-/-		

**Note:** Emissions exceeding the given limit in the sub-range 30 MHz to 1 GHz are not caused by the evaluated radio module. To indicate that these emissions are caused by the peripherals the measurement was repeated with the radio module shut off.

**Plot:** W-LAN Module shut off.

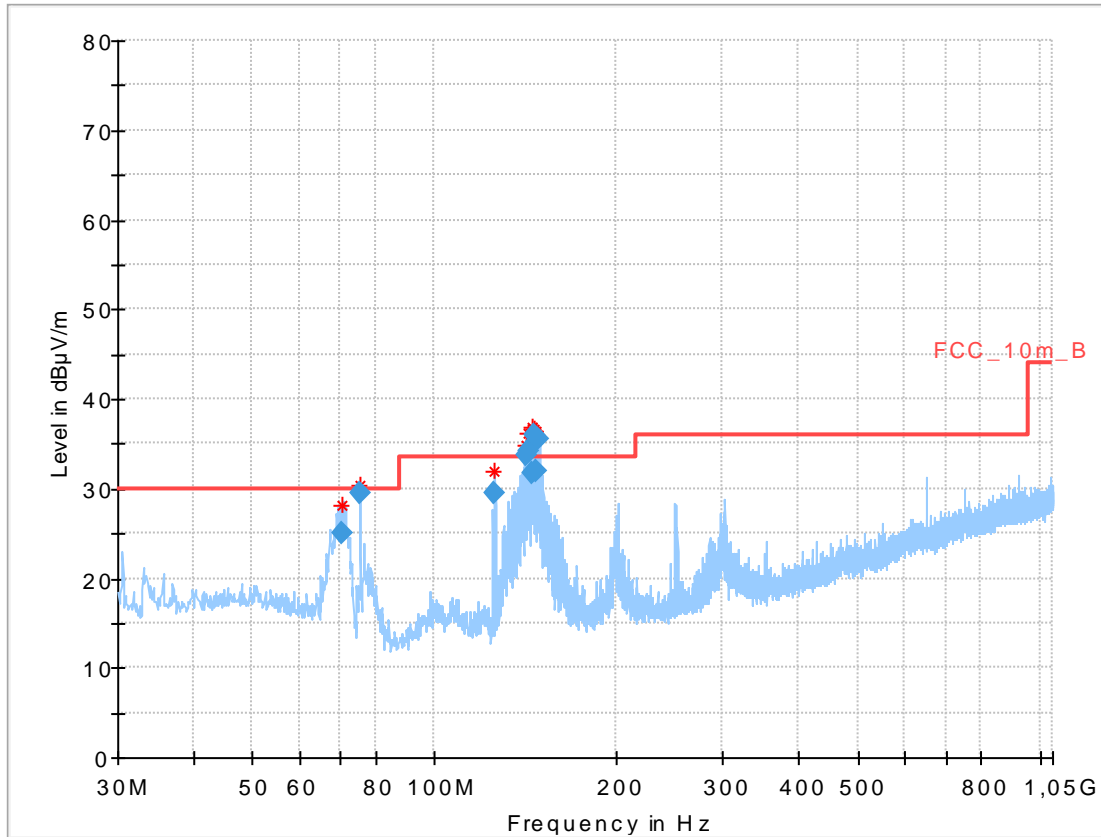


Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
75.565	29.85	30.0	0.15	1000	120	170.0	V	9.0	8.8
125.932	30.68	33.5	2.82	1000	120	101.0	V	351.0	9.8
141.188*	31.77	33.5	1.73	1000	120	98.0	V	62.0	8.9
142.316*	32.49	33.5	1.01	1000	120	101.0	V	40.0	9.0
143.430*	34.19	33.5	-0.69	1000	120	98.0	V	-9.0	9.0
144.557*	33.80	33.5	-0.30	1000	120	98.0	V	111.0	9.1
145.618*	34.98	33.5	-1.48	1000	120	98.0	V	0.0	9.1
146.704*	33.66	33.5	-0.16	1000	120	98.0	V	143.0	9.1
147.878*	35.33	33.5	-1.83	1000	120	98.0	V	72.0	9.2
149.027*	32.84	33.5	0.66	1000	120	98.0	V	102.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

**Plots:** OFDM / 20 MHz bandwidth

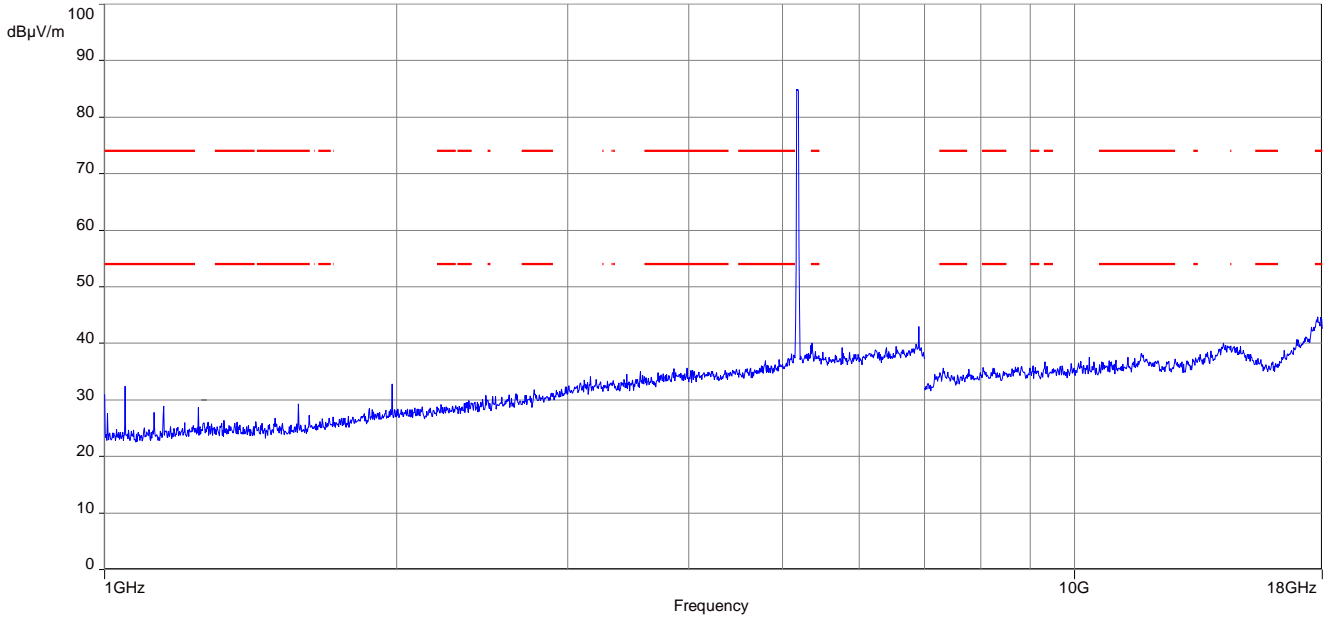
**Plot 1:** 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization



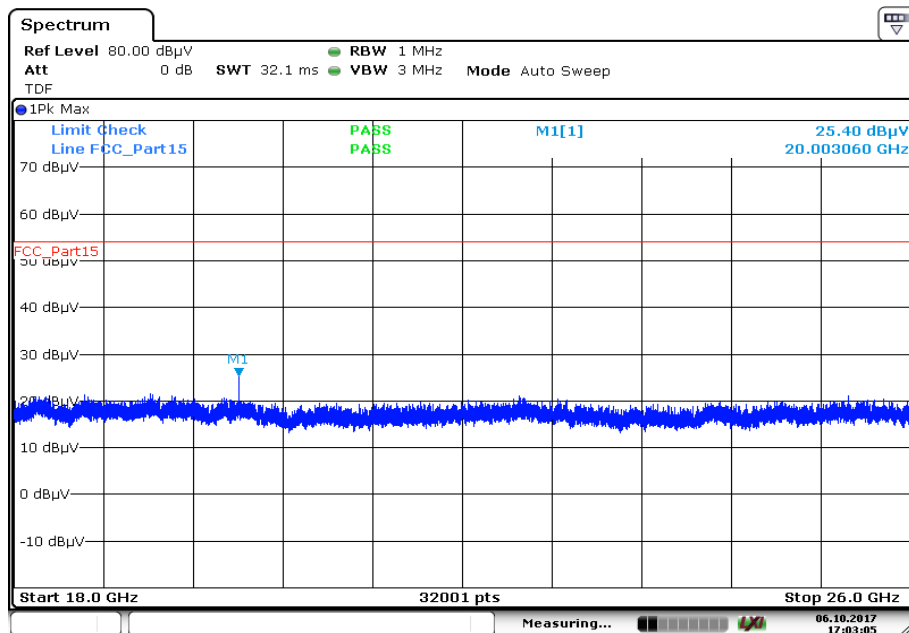
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
70.232	25.07	30.0	4.93	1000	120	170.0	V	52.0	9.7
75.570	29.49	30.0	0.51	1000	120	170.0	V	210.0	8.8
125.956	29.48	33.5	4.02	1000	120	98.0	V	0.0	9.8
142.288*	33.81	33.5	-0.31	1000	120	98.0	V	10.0	9.0
143.366*	34.13	33.5	-0.63	1000	120	98.0	V	282.0	9.0
144.631*	31.66	33.5	1.84	1000	120	98.0	V	73.0	9.1
145.638*	35.93	33.5	-2.43	1000	120	98.0	V	45.0	9.1
146.870*	31.94	33.5	1.56	1000	120	98.0	V	36.0	9.1
147.875*	35.48	33.5	-1.98	1000	120	98.0	V	73.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 2:** 1 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization

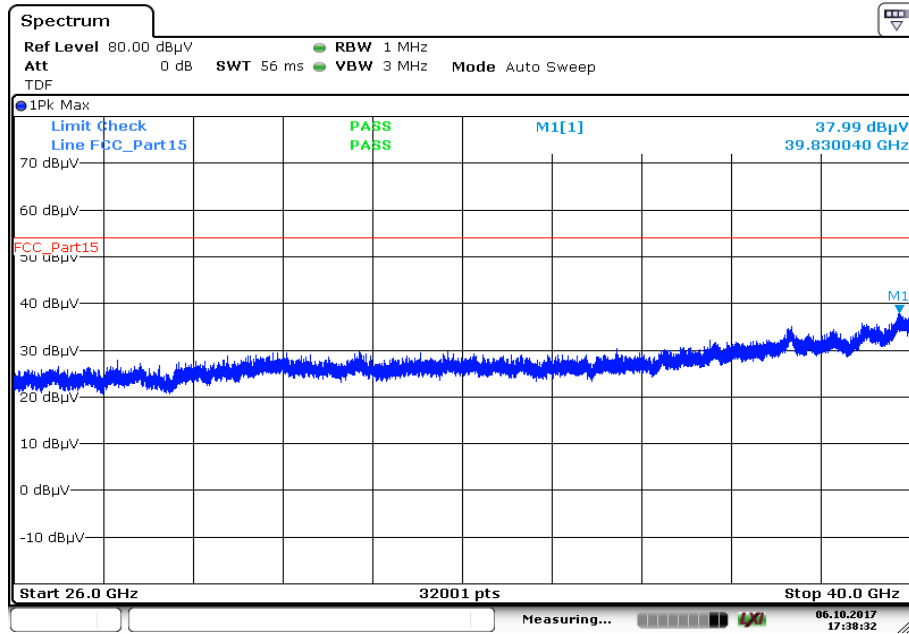


**Plot 3:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization



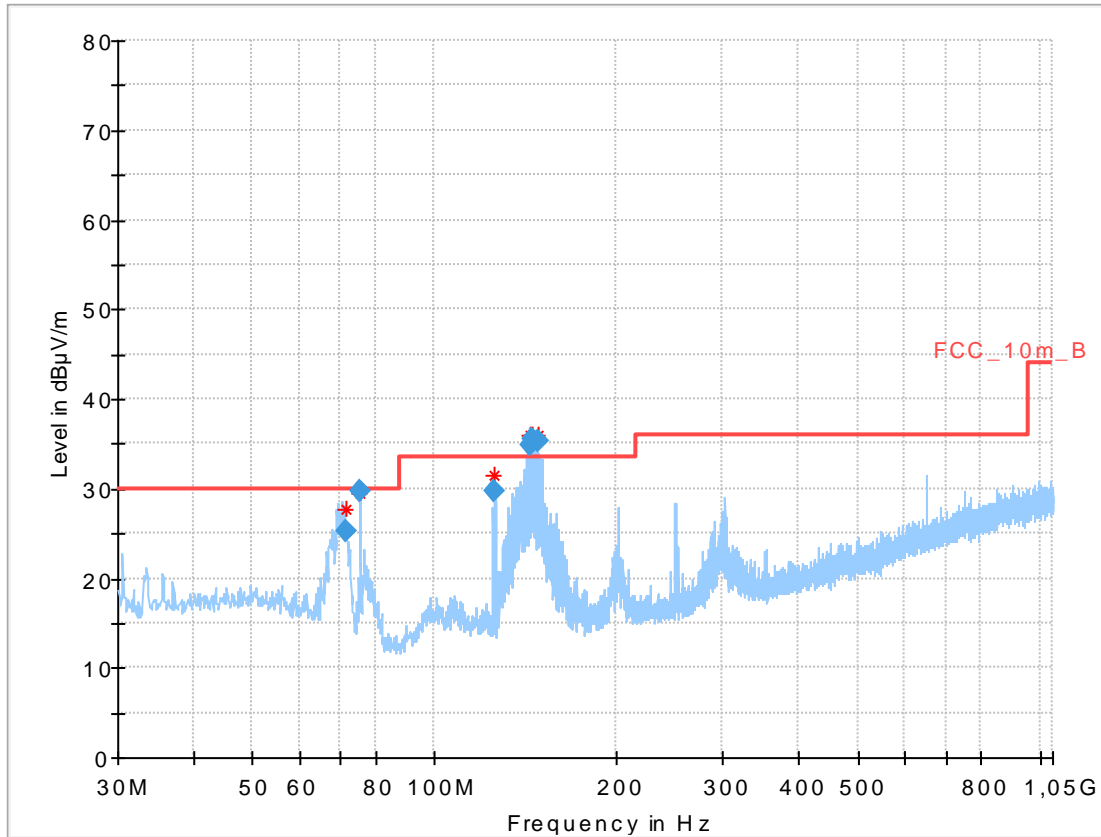
Date: 6.OCT.2017 17:03:05

**Plot 4:** 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:38:33

**Plot 5:** 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization

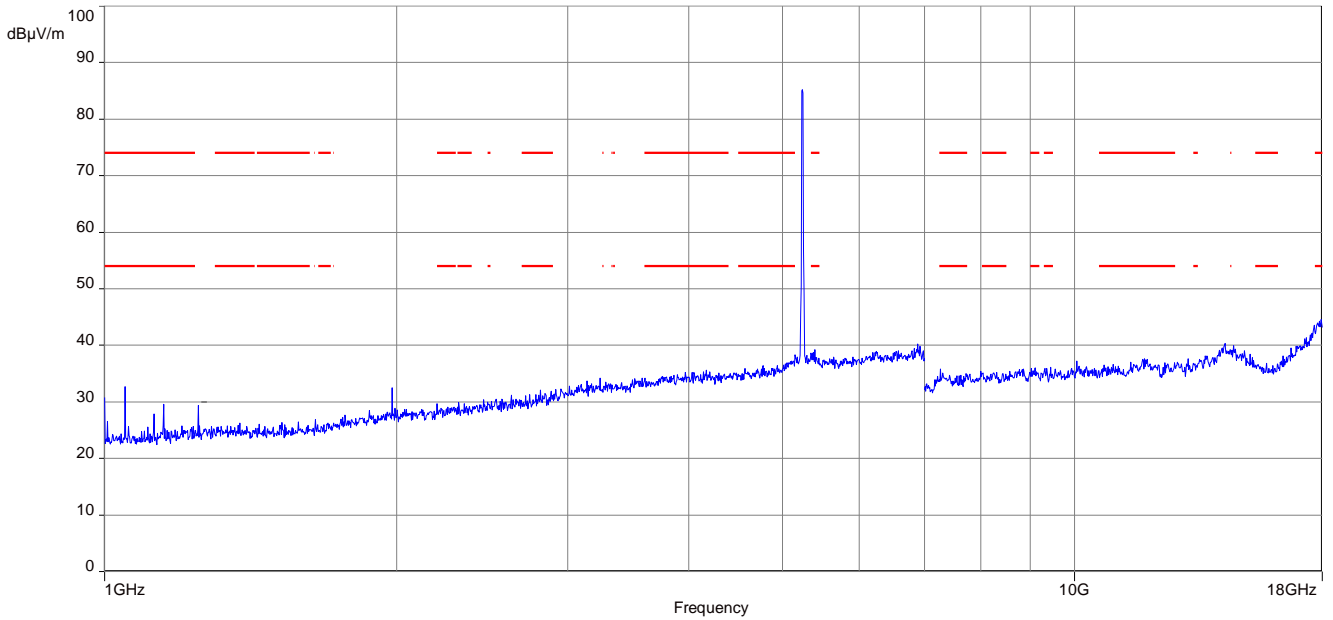


Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
71.281	25.14	30.0	4.86	1000	120	170.0	V	67.0	9.5
75.570	29.78	30.0	0.22	1000	120	170.0	V	14.0	8.8
125.941	29.67	33.5	3.83	1000	120	98.0	V	0.0	9.8
144.464*	34.91	33.5	-1.41	1000	120	98.0	V	79.0	9.0
145.594*	35.47	33.5	-1.97	1000	120	98.0	V	67.0	9.1
147.856*	35.33	33.5	-1.83	1000	120	98.0	V	89.0	9.2

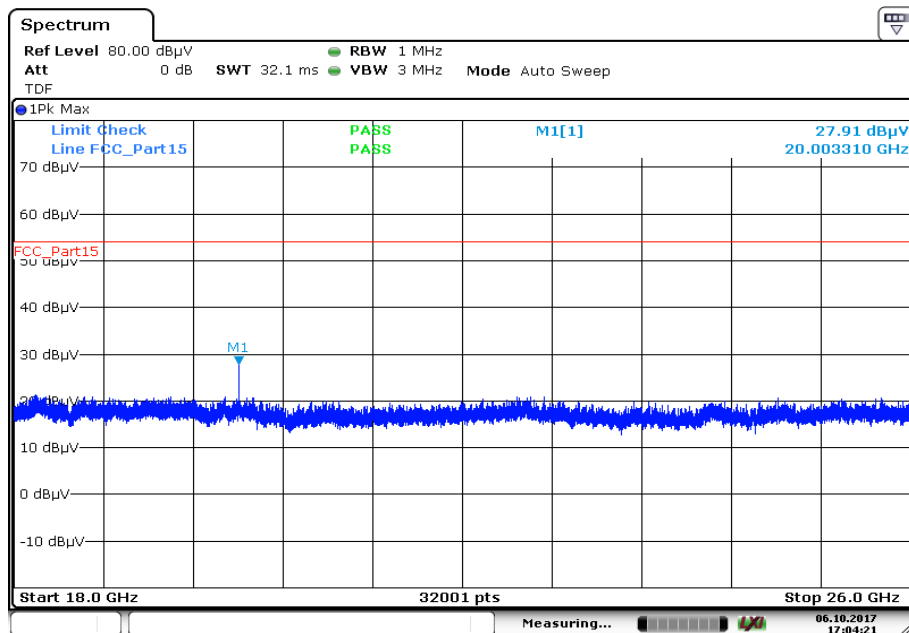
\* Frequency is outside the restricted bands and therefore not rated.



**Plot 6:** 1 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

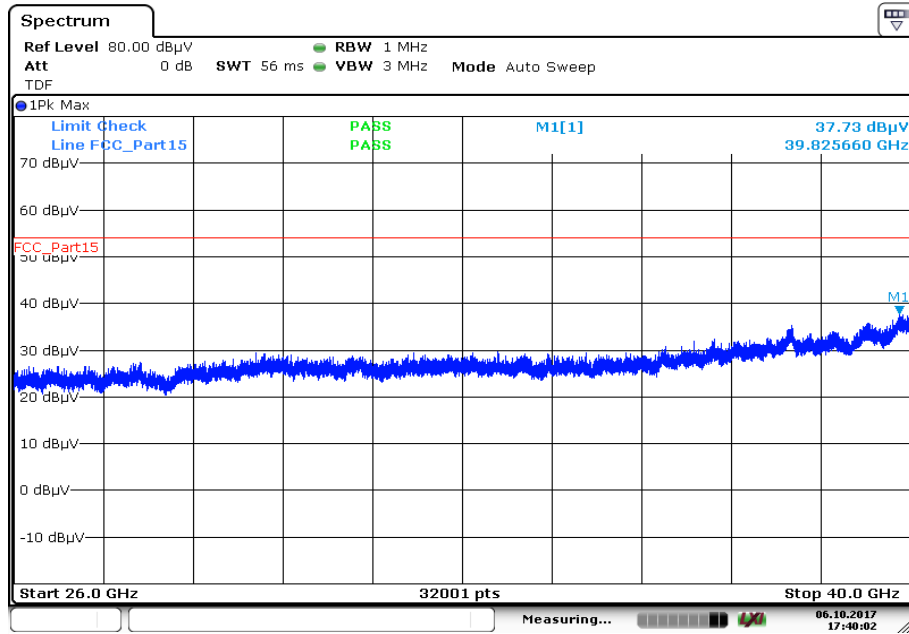


**Plot 7:** 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



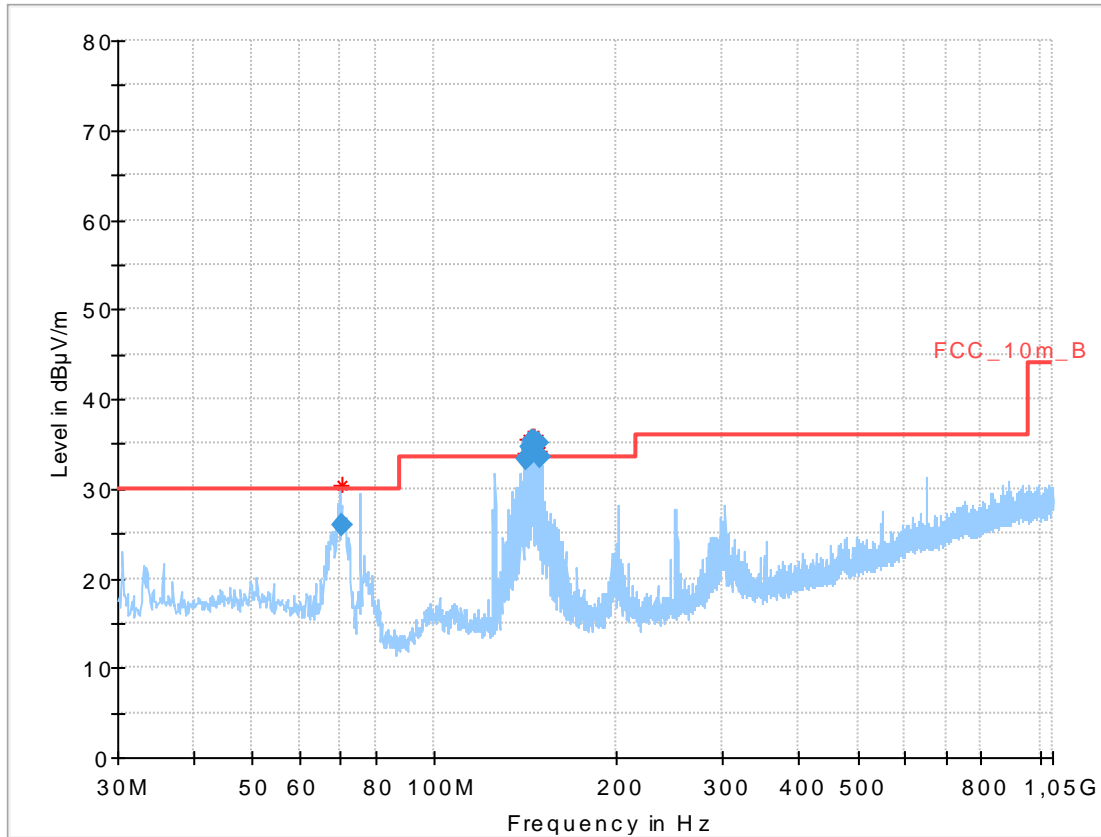
Date: 6.OCT.2017 17:04:22

**Plot 8:** 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:40:02

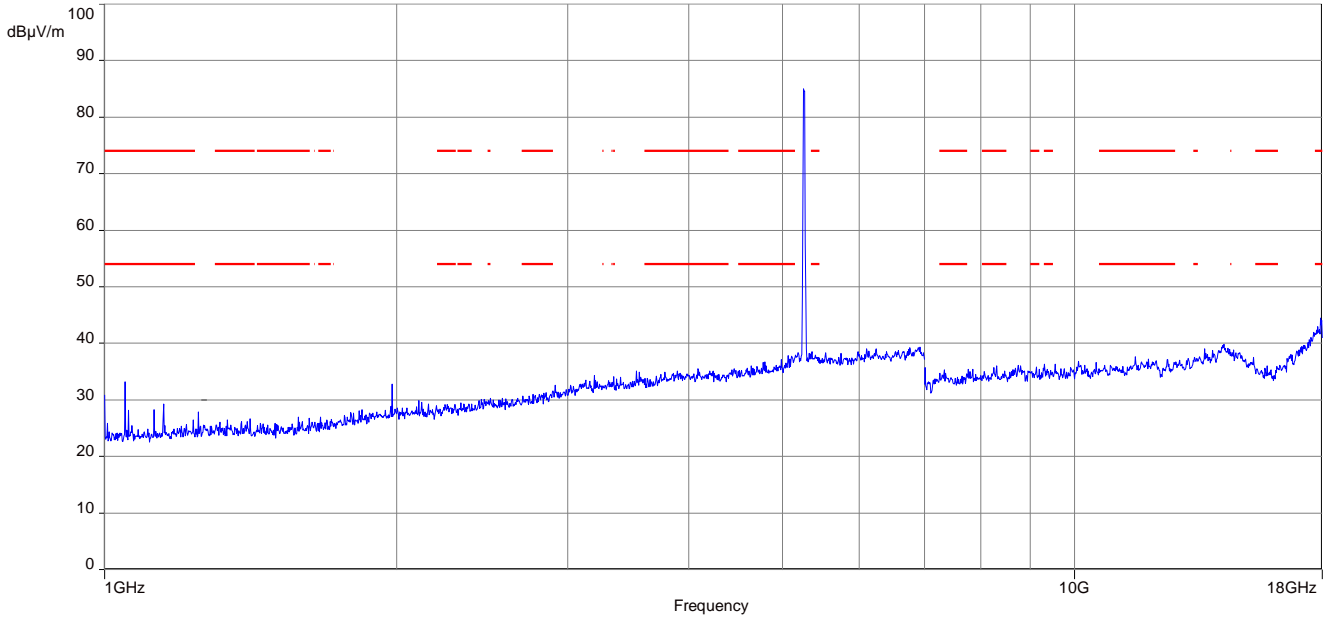
**Plot 9:** 30 MHz to 1 GHz, 5260 MHz, vertical & horizontal polarization



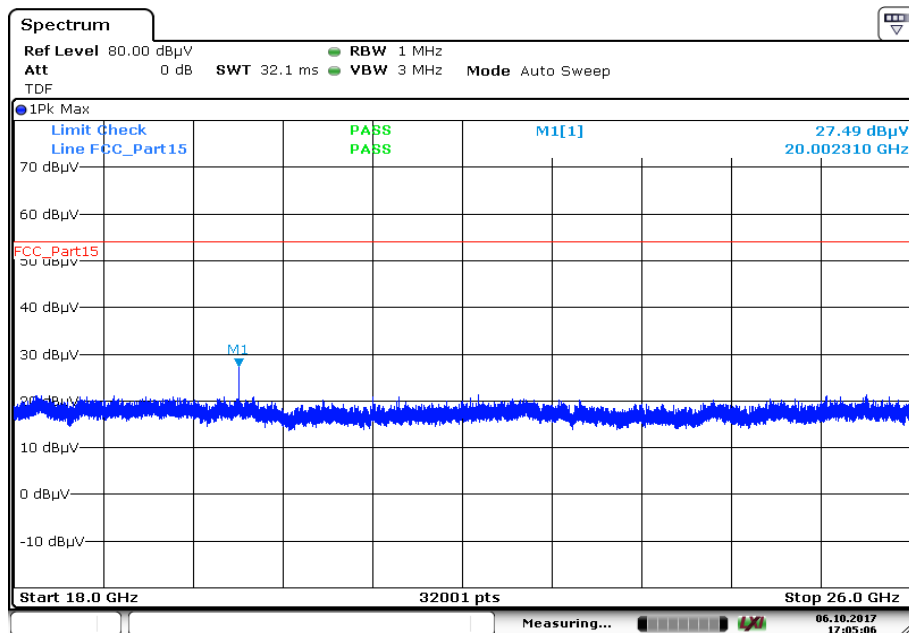
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
70.288	25.88	30.0	4.12	1000	120	170.0	V	-9.0	9.7
142.254*	33.30	33.5	0.20	1000	120	98.0	V	96.0	9.0
143.306*	33.60	33.5	-0.10	1000	120	98.0	V	351.0	9.0
144.472*	34.54	33.5	-1.04	1000	120	98.0	V	310.0	9.0
145.581*	35.24	33.5	-1.74	1000	120	98.0	V	107.0	9.1
146.714*	35.29	33.5	-1.79	1000	120	98.0	V	72.0	9.1
147.855*	35.06	33.5	-1.56	1000	120	98.0	V	10.0	9.2
148.991*	33.47	33.5	0.03	1000	120	98.0	V	29.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

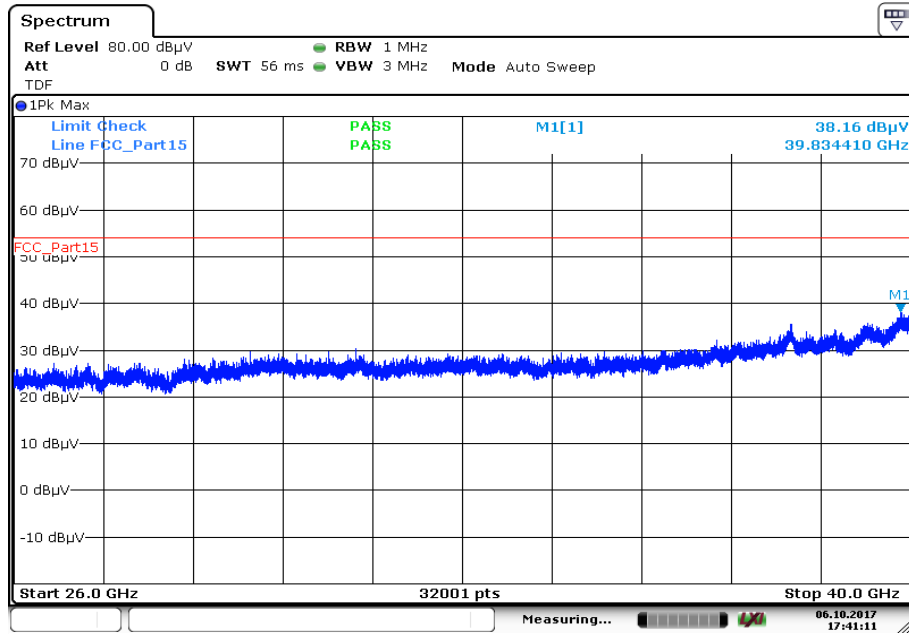
**Plot 10:** 1 GHz to 18 GHz, 5260 MHz, vertical & horizontal polarization



**Plot 11:** 18 GHz to 26 GHz, 5260 MHz, vertical & horizontal polarization

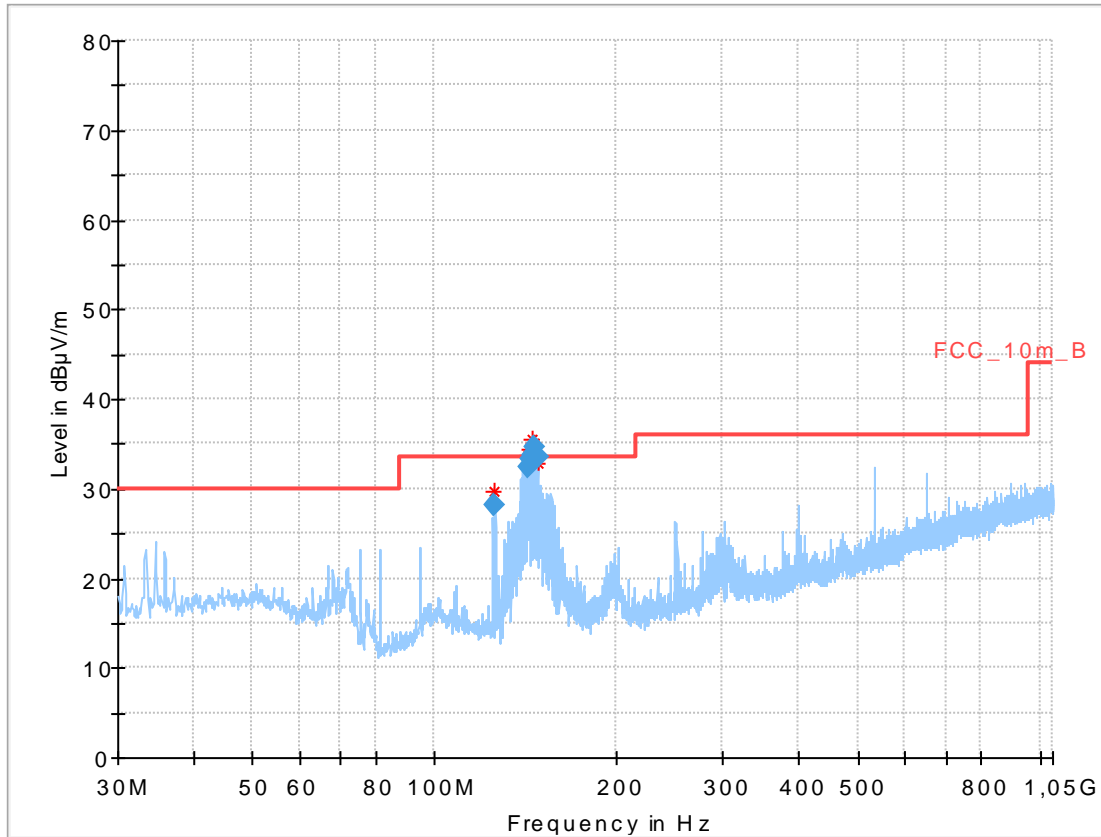


**Plot 12:** 26 GHz to 40 GHz, 5260 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:41:11

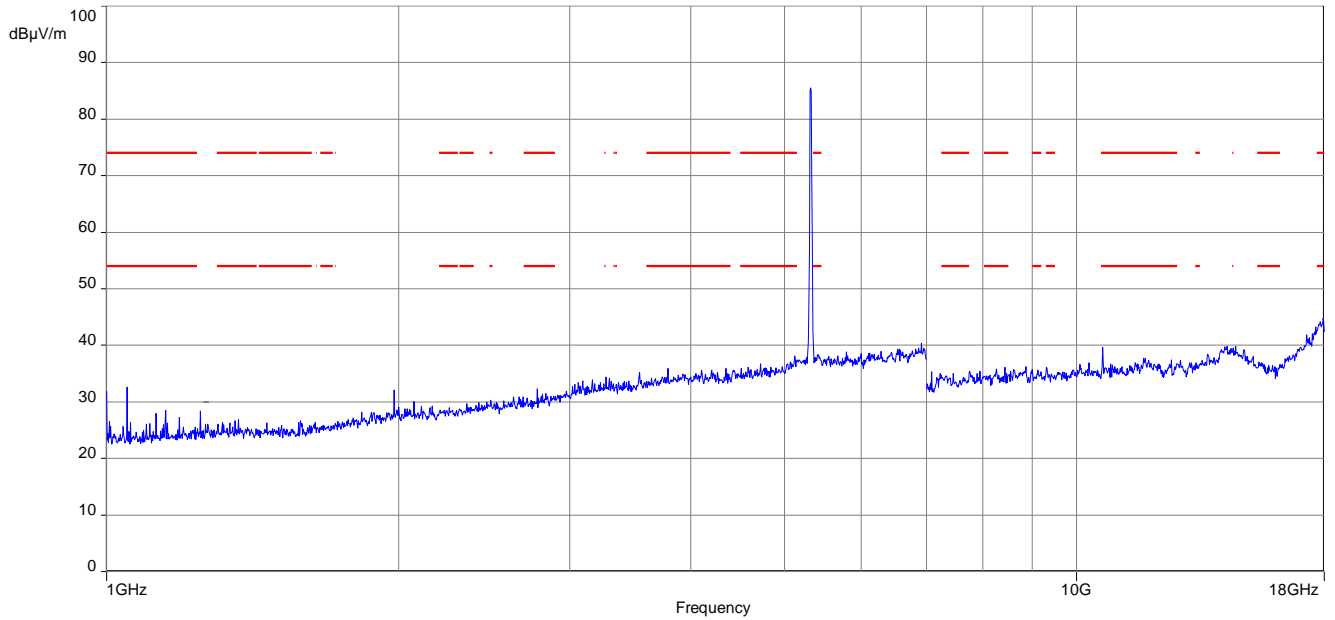
**Plot 13:** 30 MHz to 1 GHz, 5320 MHz, vertical & horizontal polarization



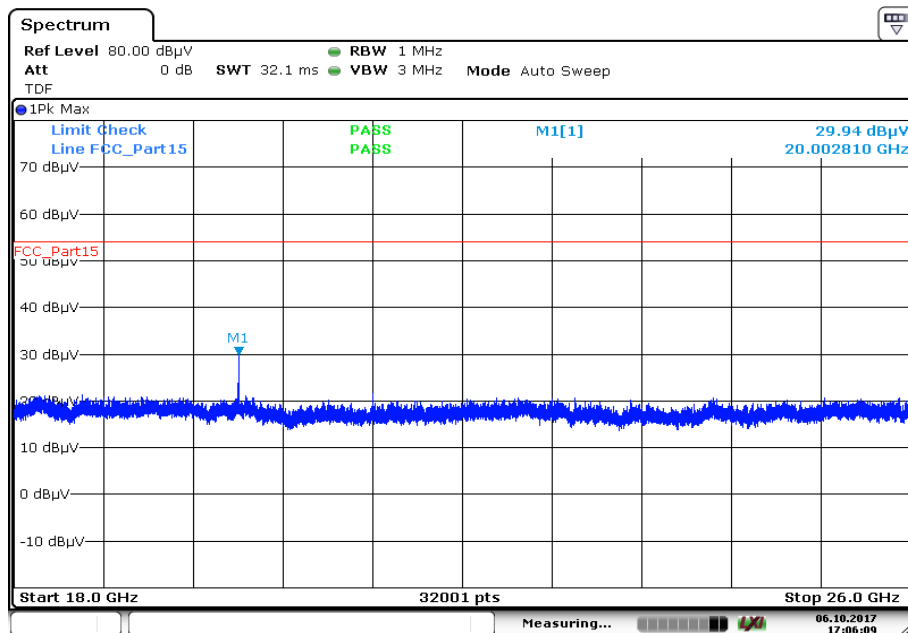
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
125.930	28.17	33.5	5.33	1000	120	98.0	V	0.0	9.8
142.409*	32.41	33.5	1.09	1000	120	98.0	V	134.0	9.0
143.538*	33.24	33.5	0.26	1000	120	98.0	V	108.0	9.0
144.724*	33.70	33.5	-0.20	1000	120	98.0	V	112.0	9.1
145.789*	34.63	33.5	-1.13	1000	120	98.0	V	113.0	9.1
148.077*	33.49	33.5	0.01	1000	120	98.0	V	65.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 14:** 1 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization

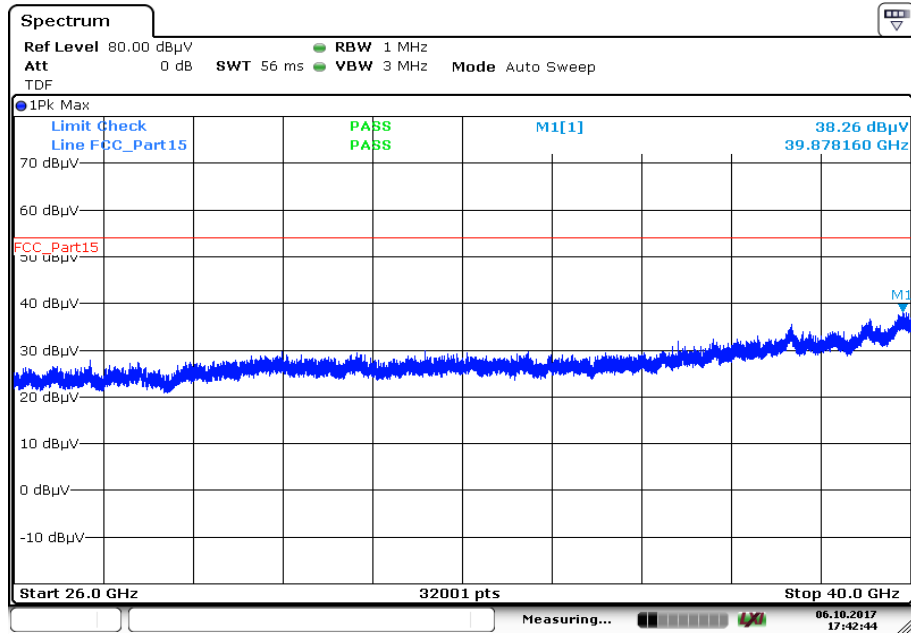


**Plot 15:** 18 GHz to 26 GHz, 5320 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:06:09

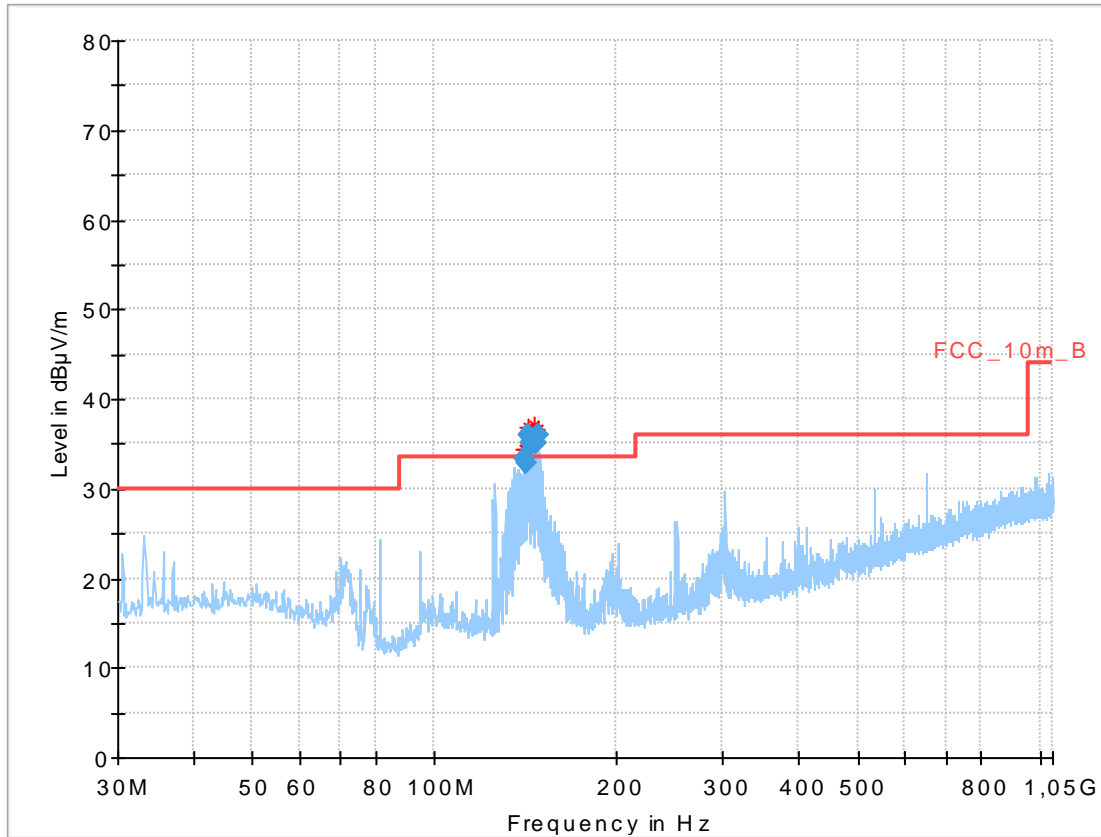
**Plot 16:** 26 GHz to 40 GHz, 5320 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:42:44



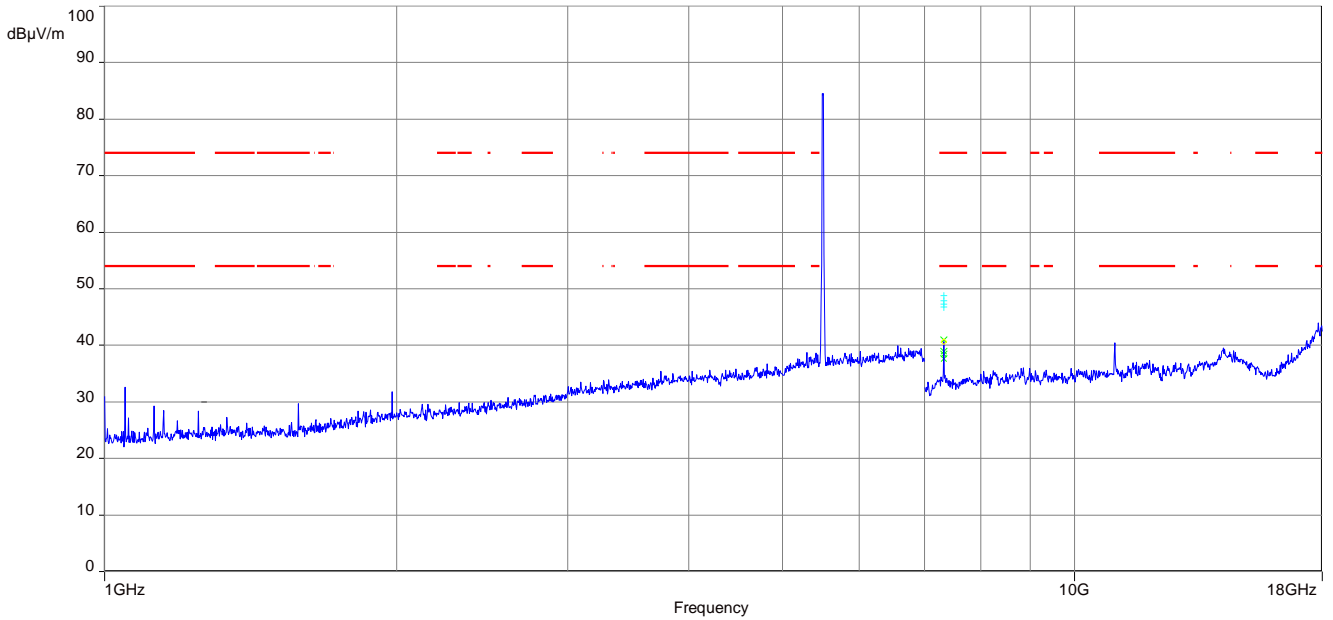
**Plot 17:** 30 MHz to 1 GHz, 5500 MHz, vertical & horizontal polarization



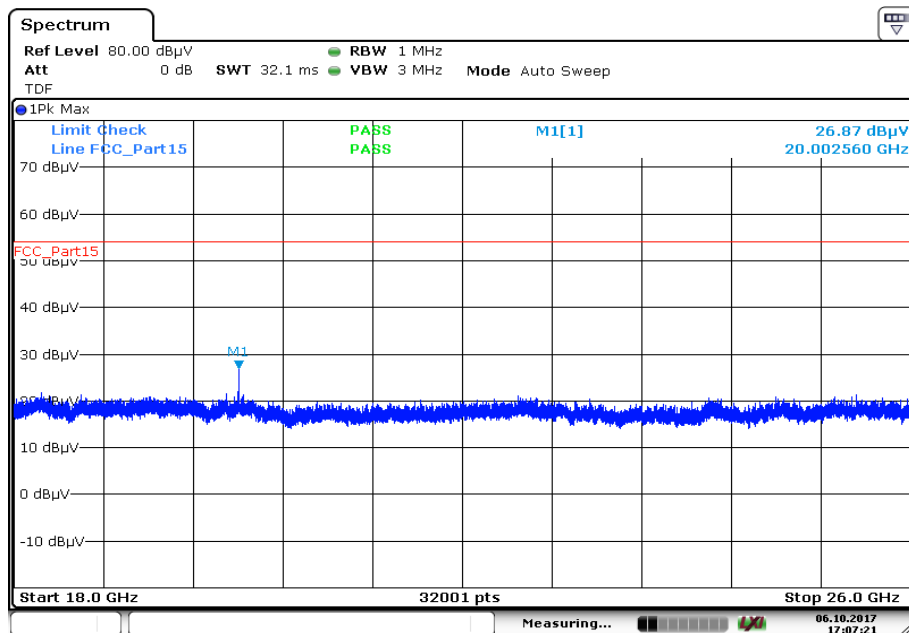
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
141.136*	33.23	33.5	0.27	1000	120	98.0	V	61.0	8.9
142.312*	32.96	33.5	0.54	1000	120	98.0	V	97.0	9.0
143.365*	36.00	33.5	-2.50	1000	120	98.0	V	80.0	9.0
144.482*	35.15	33.5	-1.65	1000	120	98.0	V	173.0	9.0
145.678*	35.11	33.5	-1.61	1000	120	98.0	V	77.0	9.1
146.780*	34.99	33.5	-1.49	1000	120	98.0	V	169.0	9.1
147.876*	35.87	33.5	-2.37	1000	120	98.0	V	67.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 18:** 1 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization

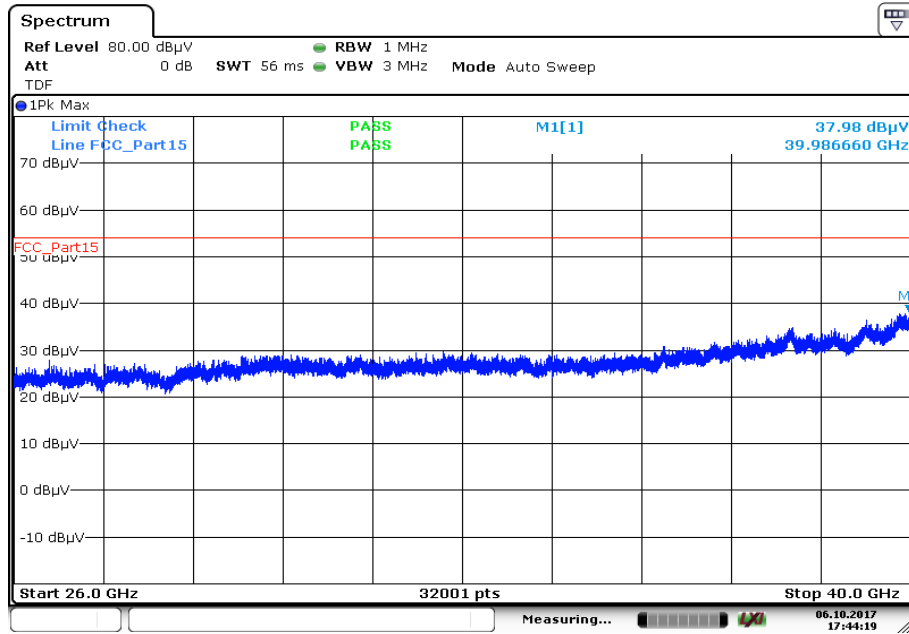


**Plot 19:** 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



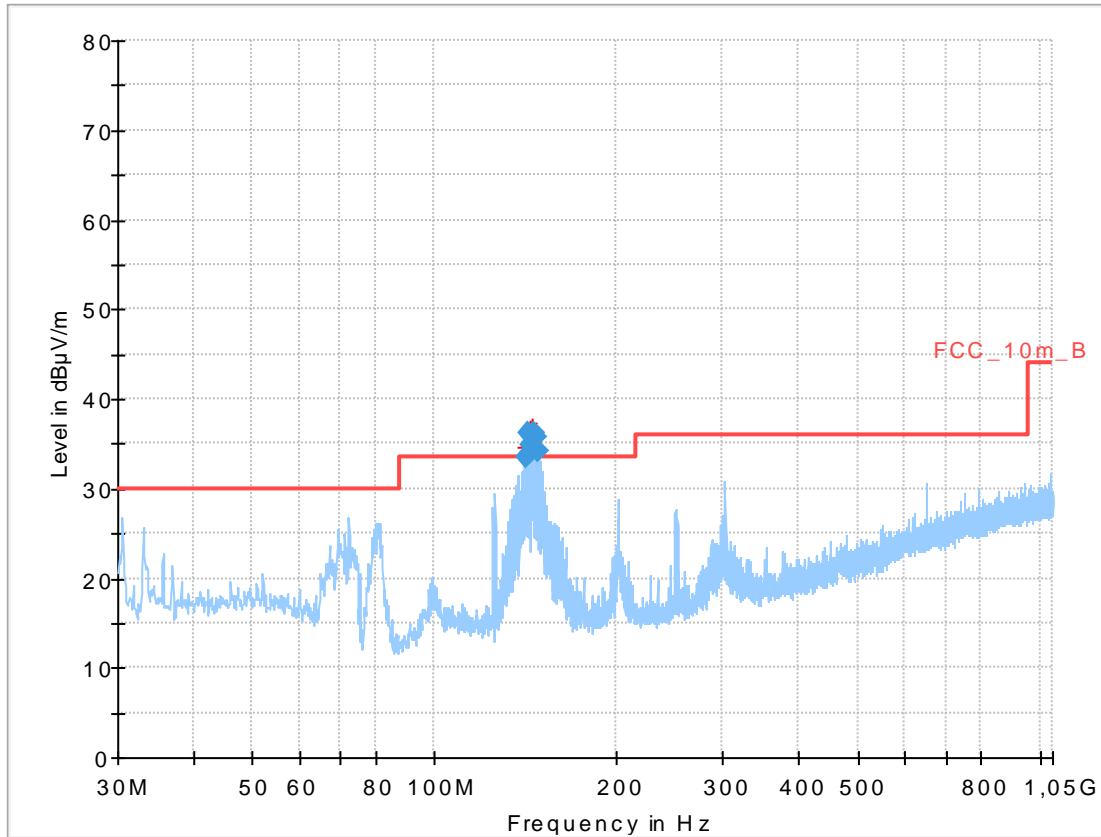
Date: 6.OCT.2017 17:07:21

**Plot 20:** 26 GHz to 40 GHz, 5500 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:44:19

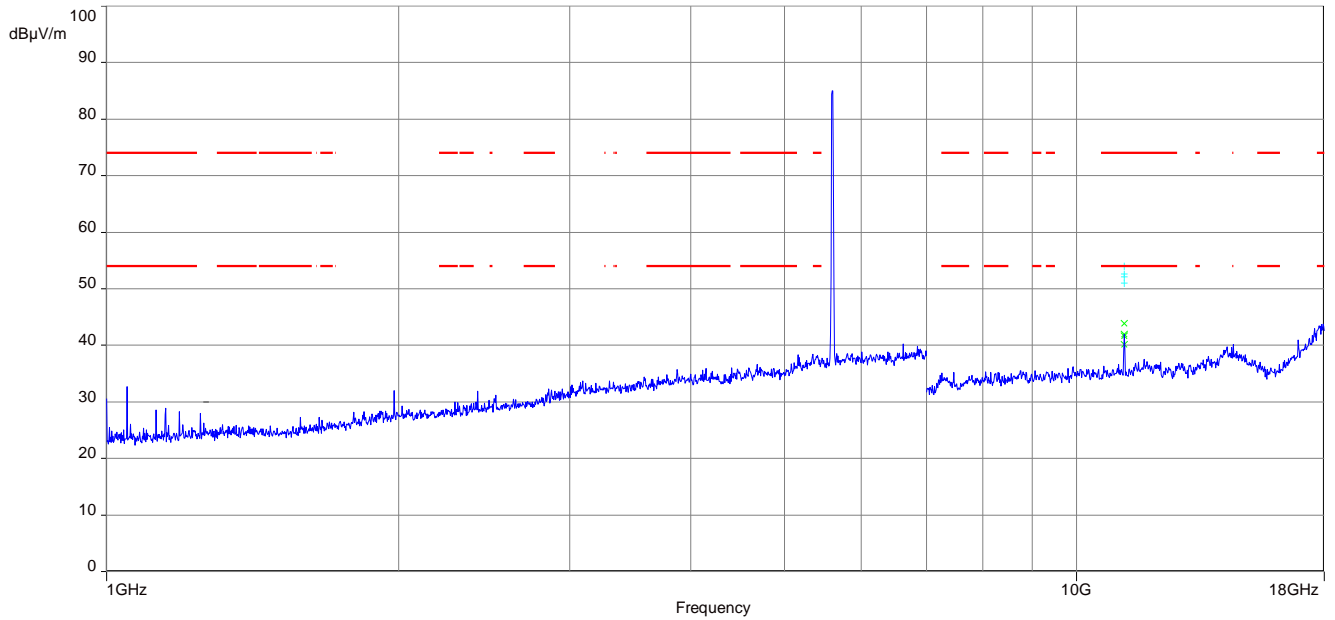
**Plot 21:** 30 MHz to 1 GHz, 5600 MHz, vertical & horizontal polarization



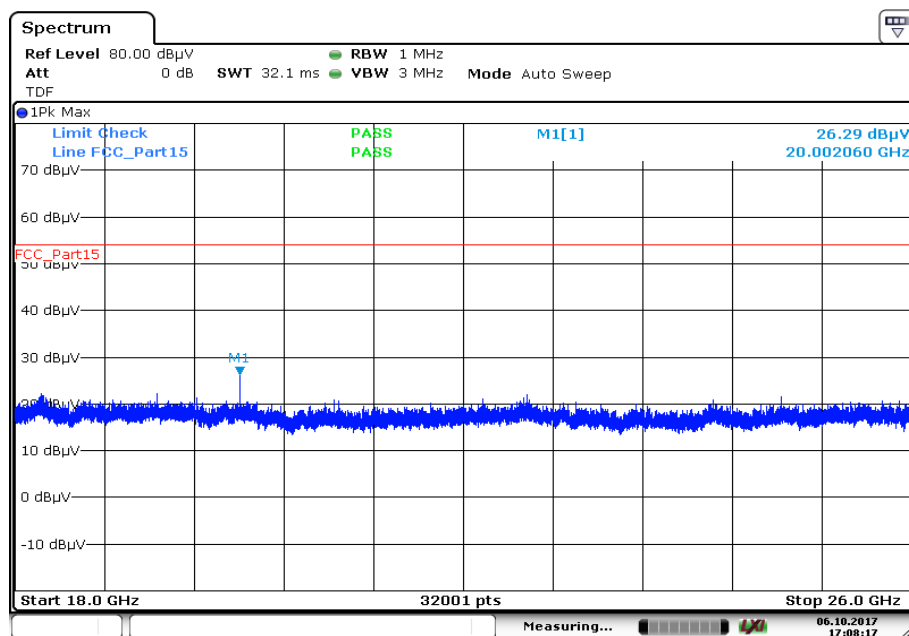
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
142.237*	33.57	33.5	-0.07	1000	120	98.0	V	138.0	9.0
143.329*	36.11	33.5	-2.61	1000	120	98.0	V	126.0	9.0
144.453*	34.84	33.5	-1.34	1000	120	98.0	V	0.0	9.0
145.592*	35.69	33.5	-2.19	1000	120	98.0	V	35.0	9.1
146.684*	36.18	33.5	-2.68	1000	120	98.0	V	56.0	9.1
147.819*	35.73	33.5	-2.23	1000	120	98.0	V	50.0	9.2
148.935*	34.22	33.5	-0.72	1000	120	98.0	V	126.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 22:** 1 GHz to 18 GHz, 5600 MHz, vertical & horizontal polarization

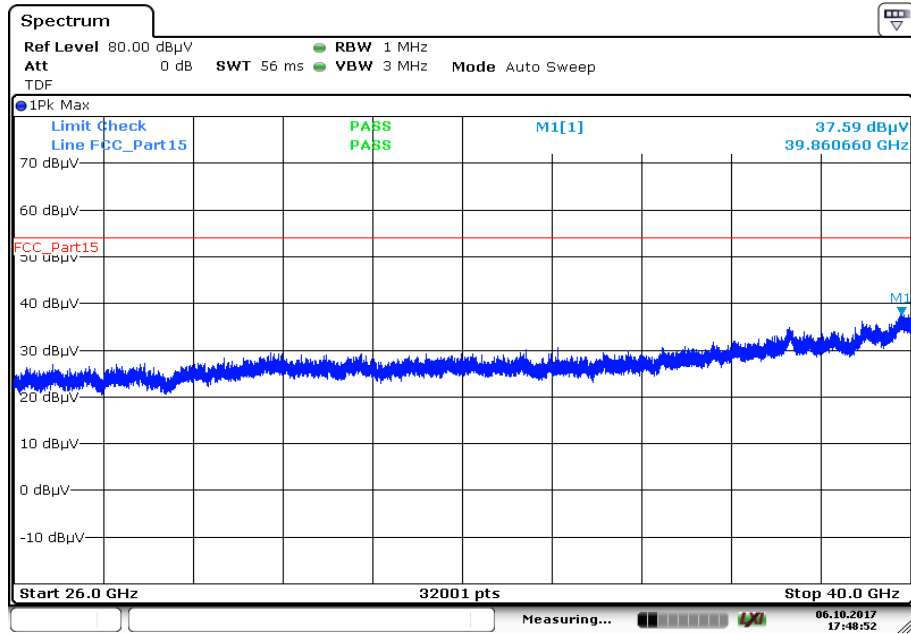


**Plot 23:** 18 GHz to 26 GHz, 5600 MHz, vertical & horizontal polarization



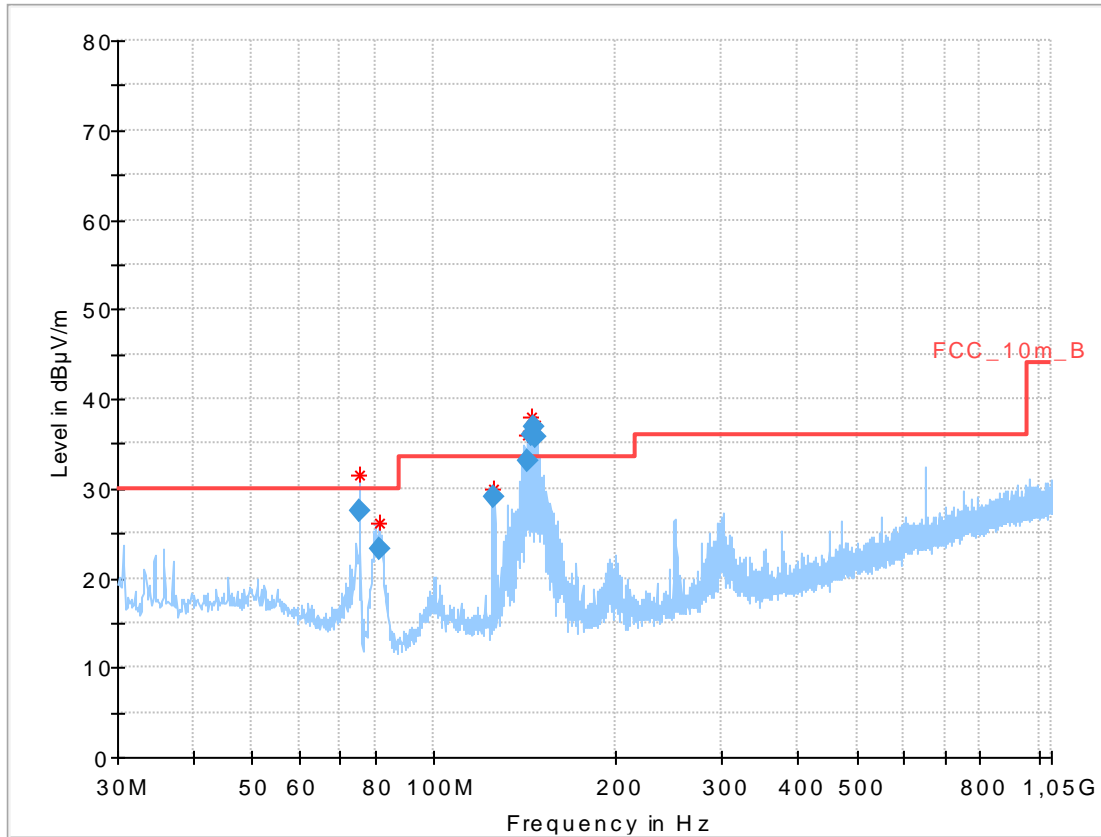
Date: 6.OCT.2017 17:08:17

**Plot 24:** 26 GHz to 40 GHz, 5600 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:48:52

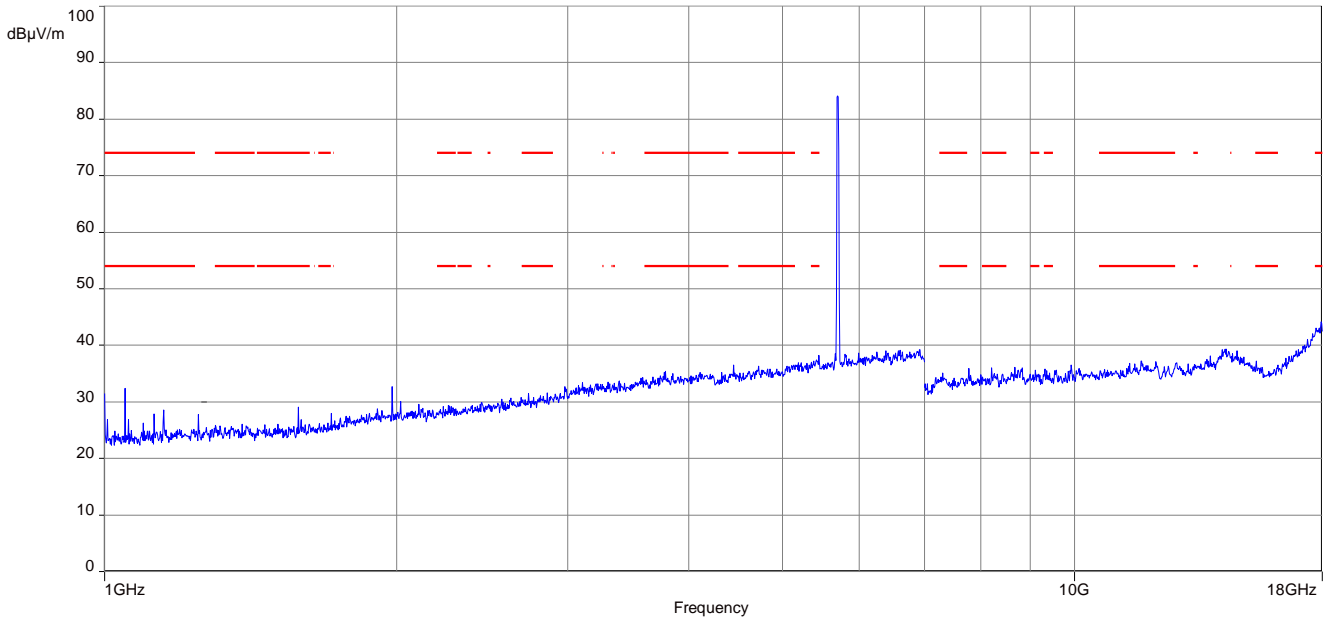
**Plot 25:** 30 MHz to 1 GHz, 5700 MHz, vertical & horizontal polarization



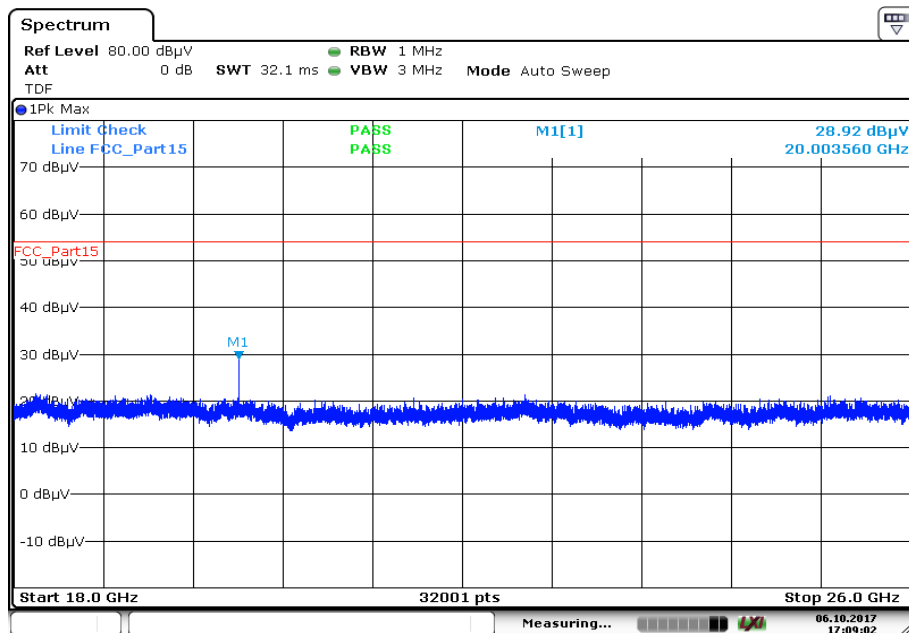
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
75.560	27.55	30.0	2.45	1000	120	101.0	V	145.0	8.8
81.101	23.30	30.0	6.70	1000	120	101.0	V	41.0	8.2
125.942	29.04	33.5	4.46	1000	120	101.0	V	16.0	9.8
142.343*	33.05	33.5	0.45	1000	120	98.0	V	173.0	9.0
144.568*	36.08	33.5	-2.58	1000	120	98.0	V	79.0	9.1
145.667*	36.91	33.5	-3.41	1000	120	98.0	V	96.0	9.1
146.801*	35.85	33.5	-2.35	1000	120	98.0	V	53.0	9.1

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 26:** 1 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization



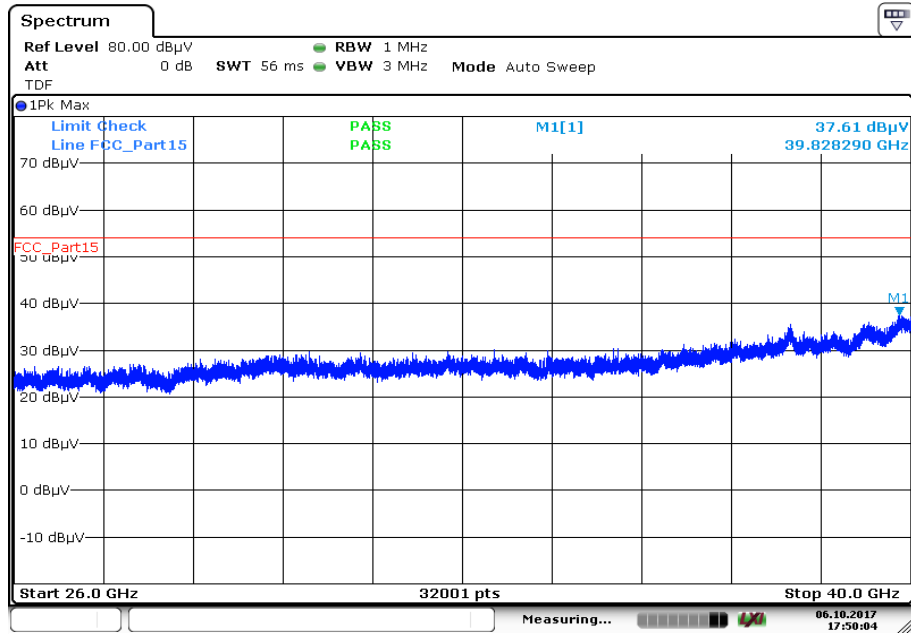
**Plot 27:** 18 GHz to 26 GHz, 5700 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:09:02

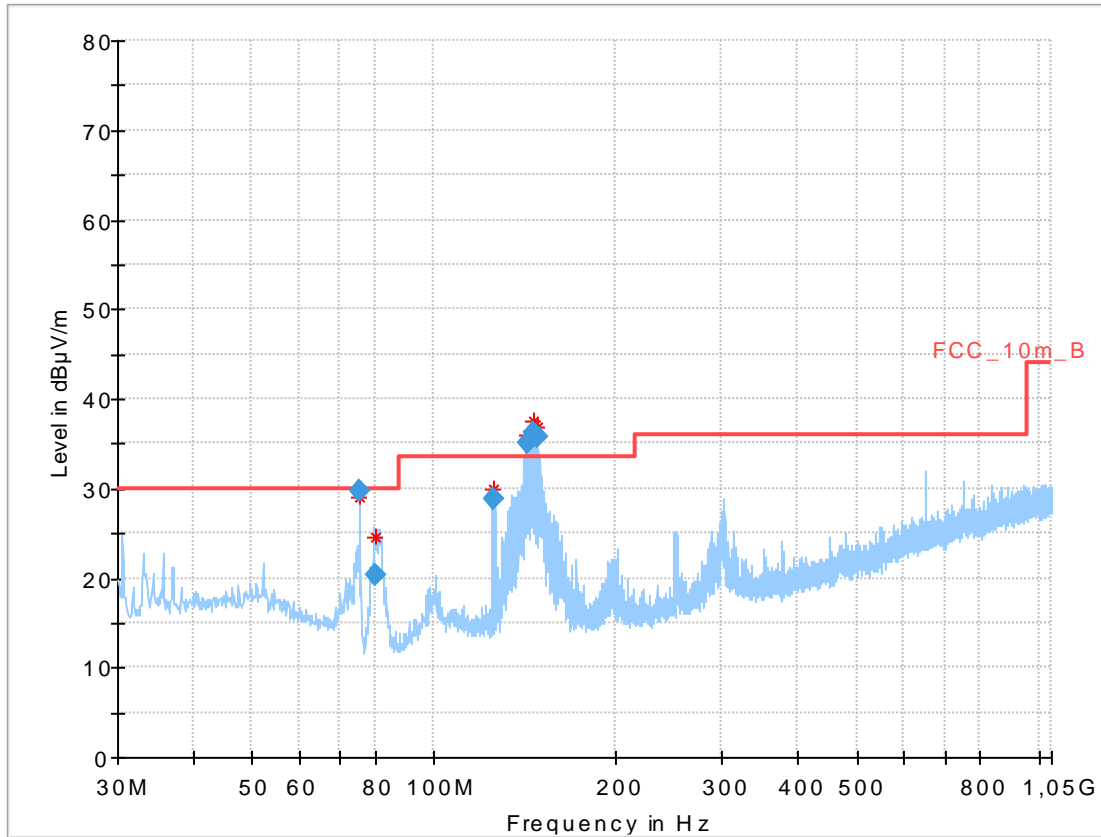


**Plot 28:** 26 GHz to 40 GHz, 5700 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:50:04

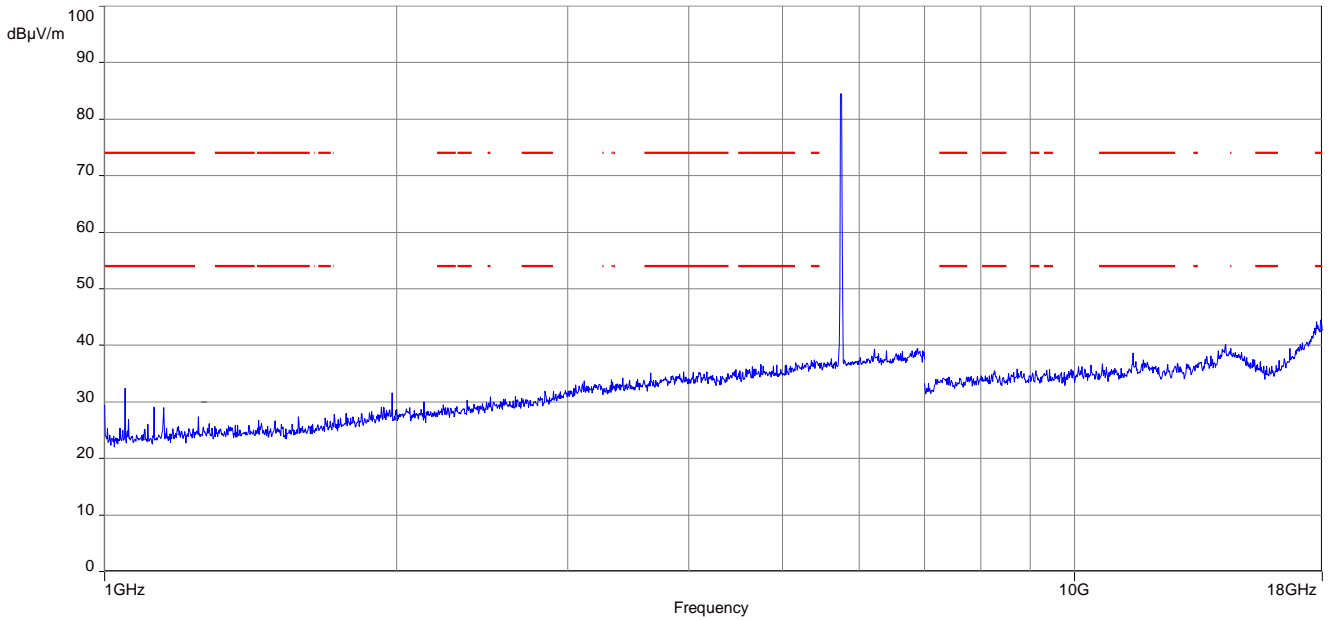
**Plot 29:** 30 MHz to 1 GHz, 5745 MHz, vertical & horizontal polarization



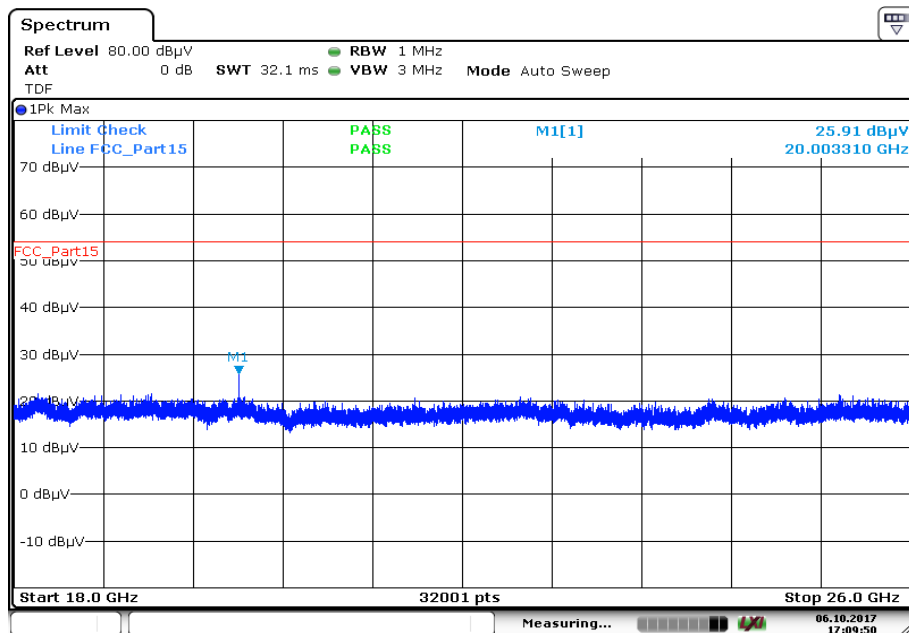
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
75.561	29.66	30.0	0.34	1000	120	170.0	V	102.0	8.8
80.132	20.26	30.0	9.74	1000	120	170.0	V	71.0	8.1
125.956	28.91	33.5	4.59	1000	120	98.0	V	30.0	9.8
143.345*	34.99	33.5	-1.49	1000	120	98.0	V	344.0	9.0
145.612*	36.15	33.5	-2.65	1000	120	98.0	V	232.0	9.1
147.851*	35.77	33.5	-2.27	1000	120	98.0	V	200.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 30:** 1 GHz to 18 GHz, 5745 MHz, vertical & horizontal polarization

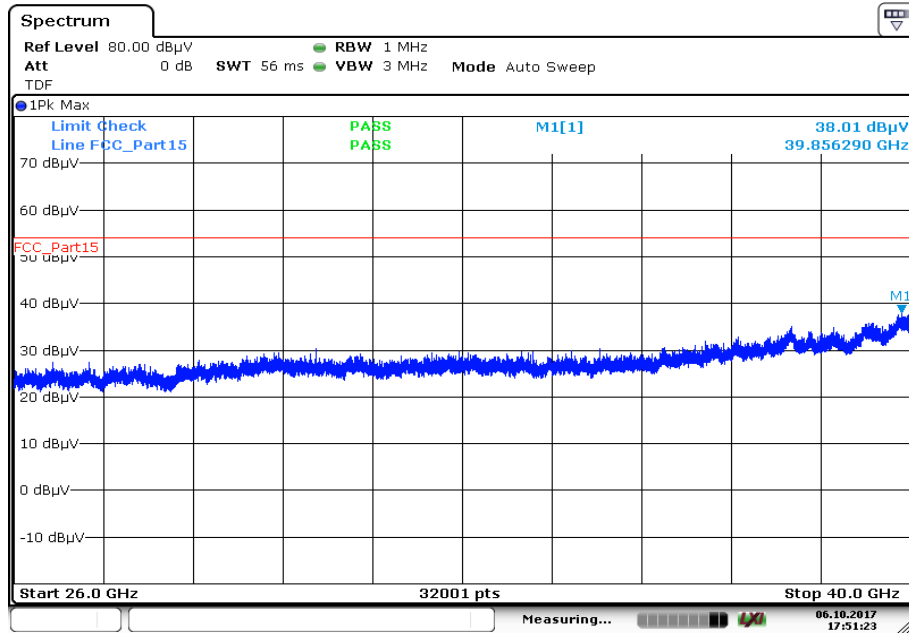


**Plot 31:** 18 GHz to 26 GHz, 5745 MHz, vertical & horizontal polarization



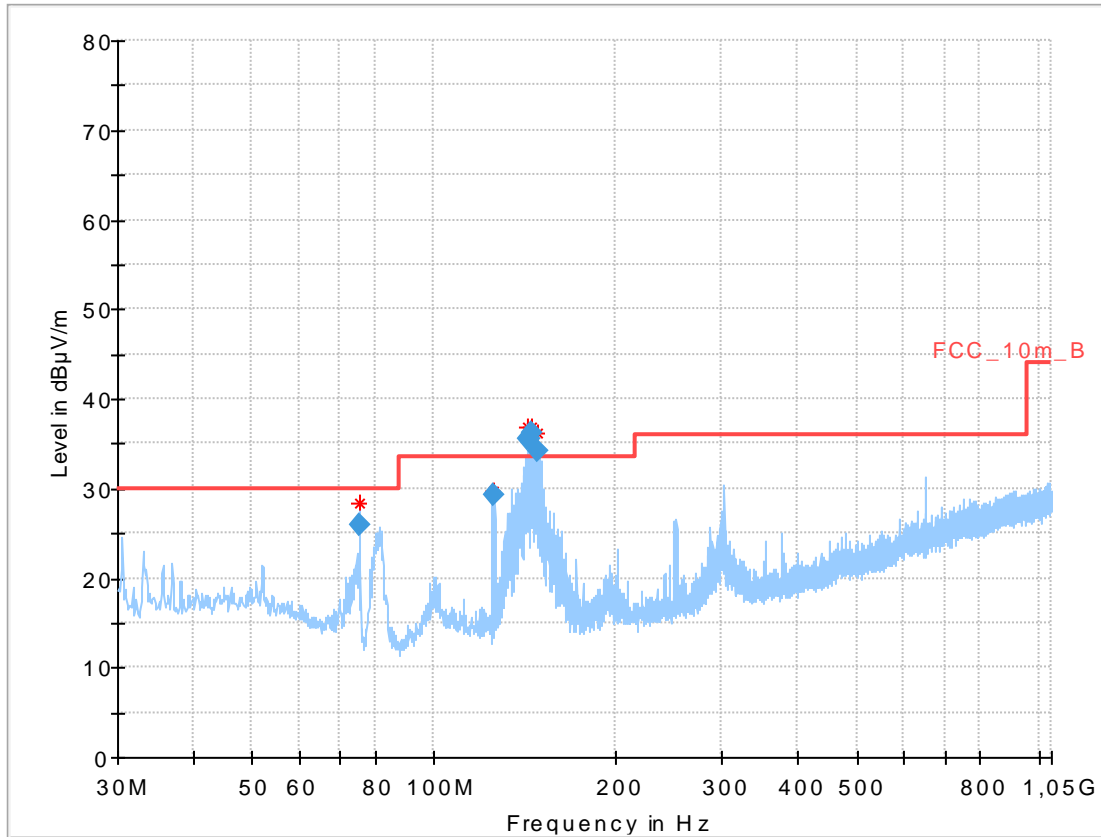
Date: 6.OCT.2017 17:09:50

**Plot 32:** 26 GHz to 40 GHz, 5745 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:51:23

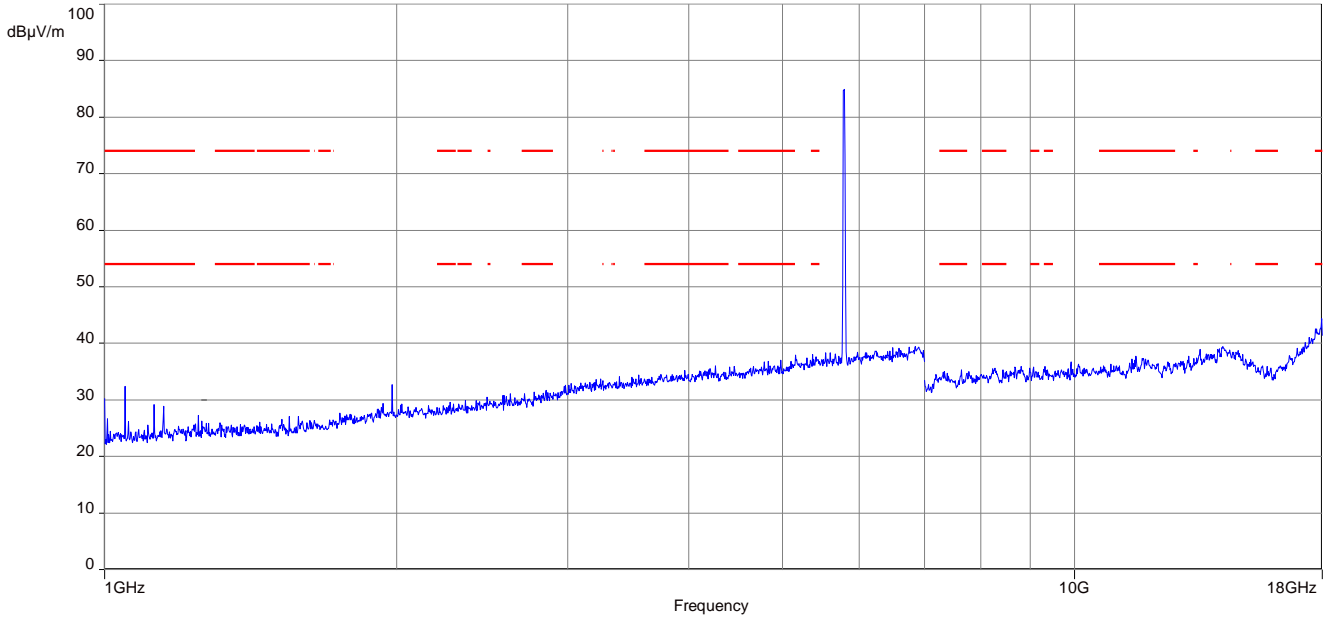
**Plot 33:** 30 MHz to 1 GHz, 5785 MHz, vertical & horizontal polarization



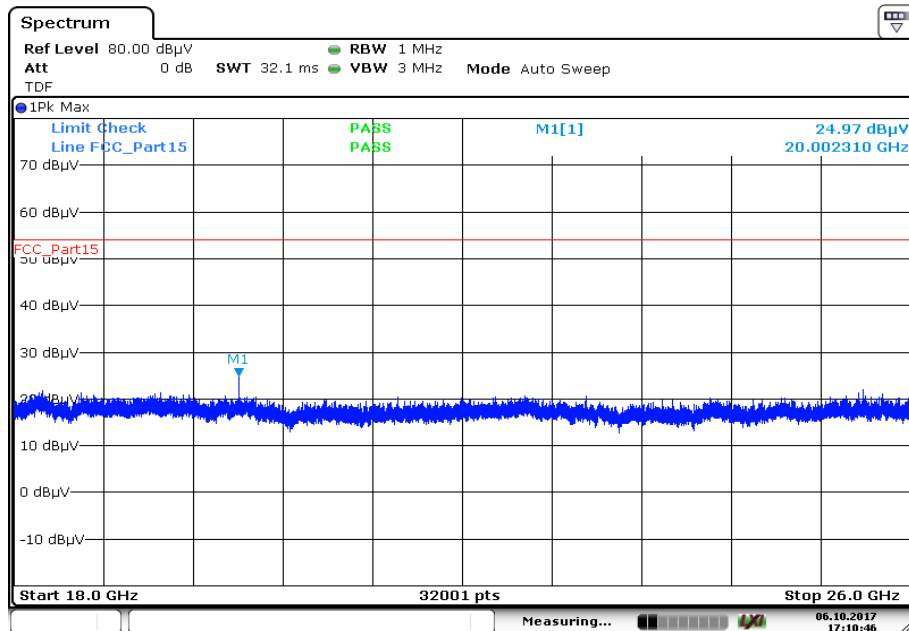
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
75.551	26.00	30.0	4.00	1000	120	101.0	V	23.0	8.8
125.938	29.23	33.5	4.27	1000	120	98.0	V	83.0	9.8
143.305*	35.57	33.5	-2.07	1000	120	98.0	V	173.0	9.0
144.452*	35.60	33.5	-2.10	1000	120	98.0	V	175.0	9.0
145.581*	36.30	33.5	-2.80	1000	120	98.0	V	203.0	9.1
147.869*	34.26	33.5	-0.76	1000	120	98.0	V	73.0	9.2

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 34:** 1 GHz to 18 GHz, 5785 MHz, vertical & horizontal polarization

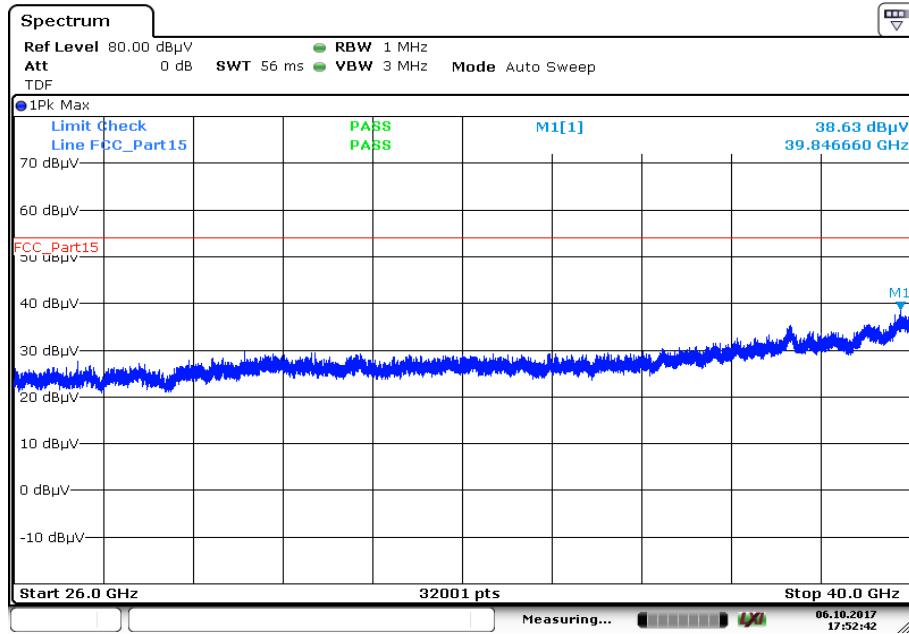


**Plot 35:** 18 GHz to 26 GHz, 5785 MHz, vertical & horizontal polarization



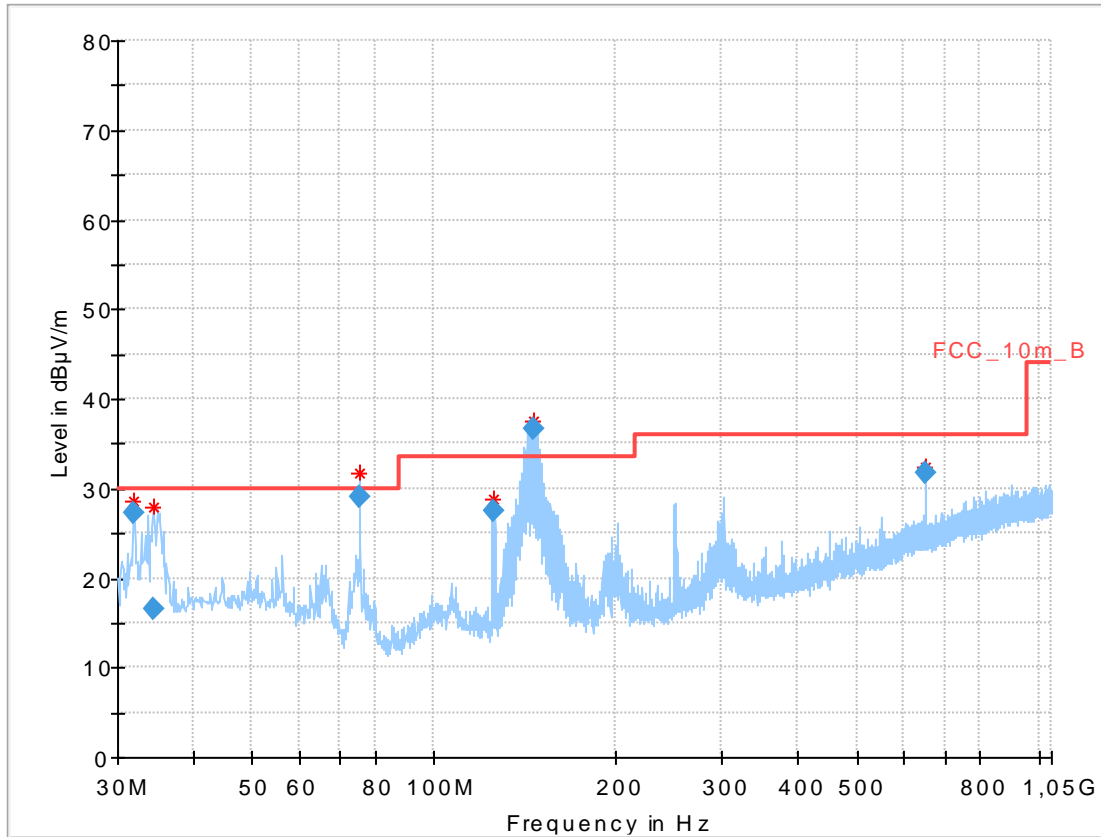
Date: 6.OCT.2017 17:10:46

**Plot 36:** 26 GHz to 40 GHz, 5785 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:52:42

**Plot 37:** 30 MHz to 1 GHz, 5825 MHz, vertical & horizontal polarization

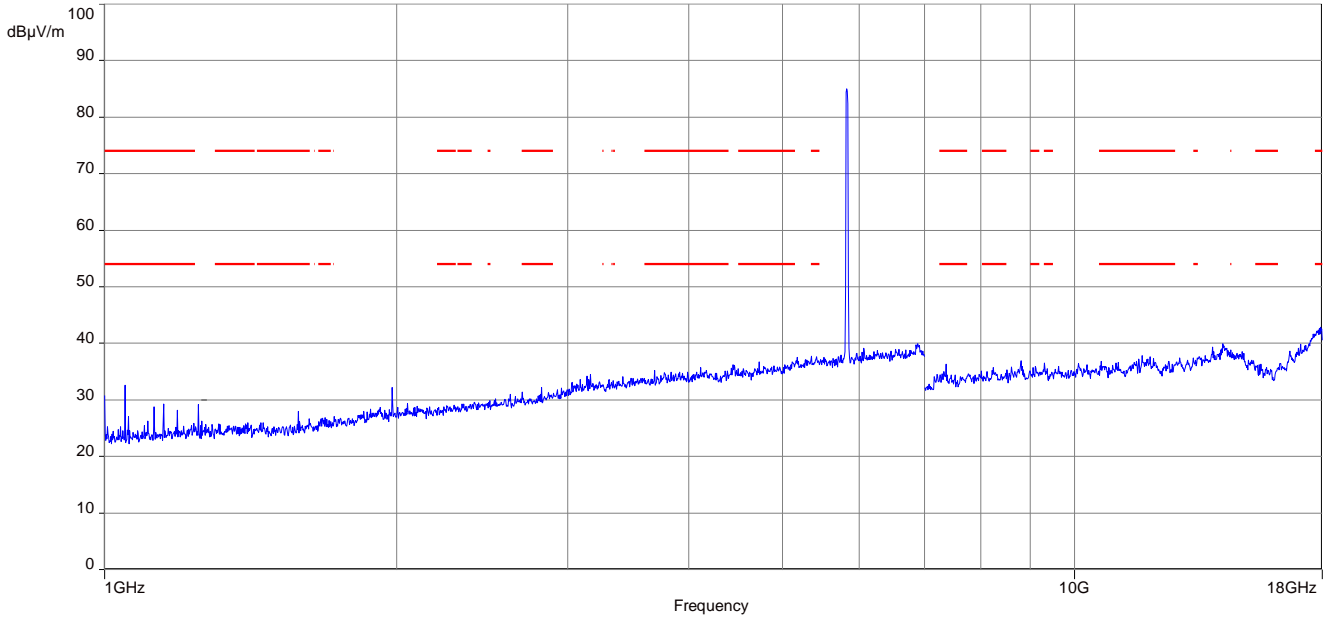


Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.826	27.34	30.0	2.66	1000	120	100.0	V	345.0	12.1
34.305	16.45	30.0	13.55	1000	120	101.0	V	193.0	12.5
75.556	29.09	30.0	0.91	1000	120	170.0	V	193.0	8.8
125.942	27.47	33.5	6.03	1000	120	98.0	V	199.0	9.8
145.751*	36.67	33.5	-3.17	1000	120	98.0	V	-10.0	9.1
650.014	31.77	36.0	4.23	1000	120	98.0	H	346.0	21.1

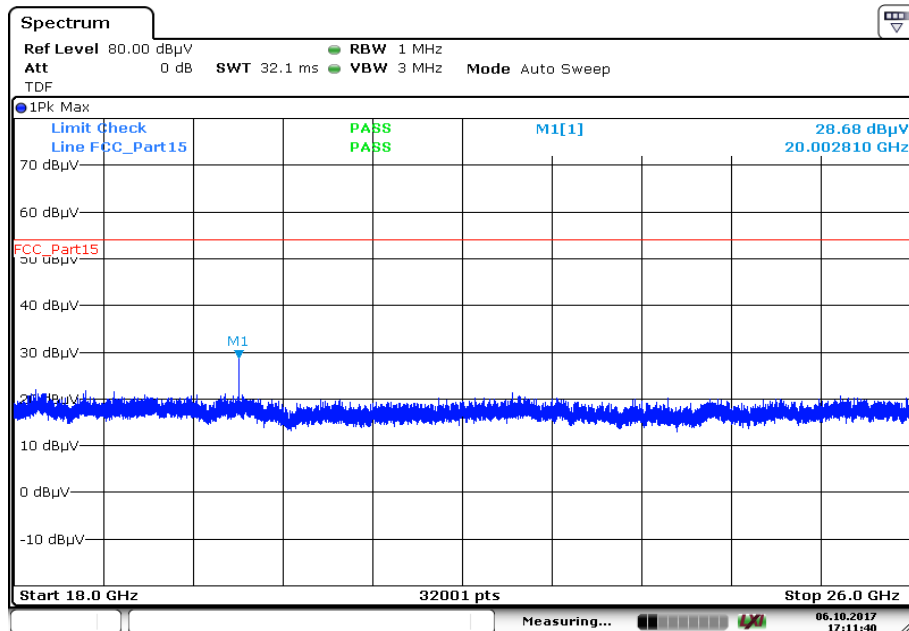
\* Frequency is outside the restricted bands and therefore not rated.



**Plot 38:** 1 GHz to 18 GHz, 5825 MHz, vertical & horizontal polarization

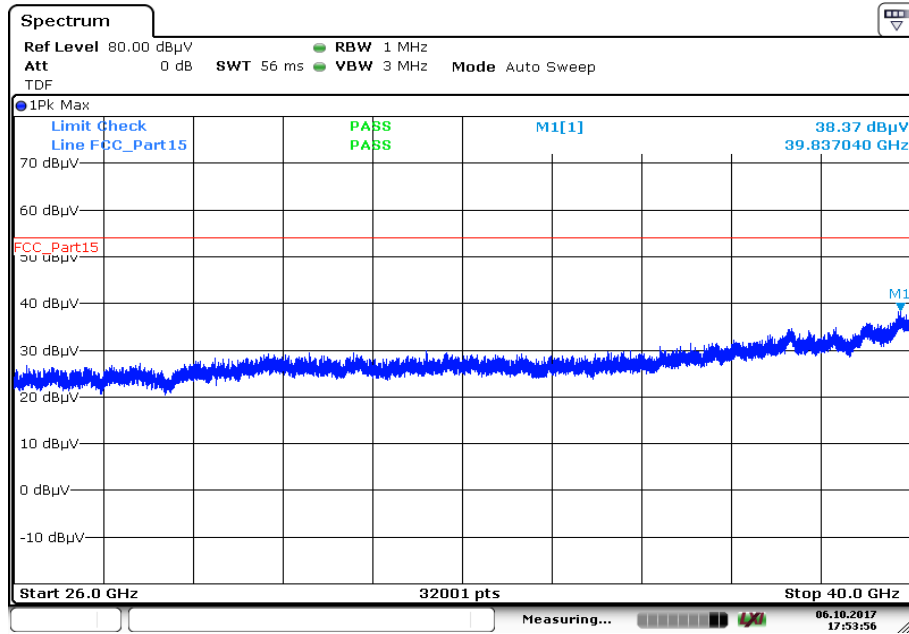


**Plot 39:** 18 GHz to 26 GHz, 5825 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:11:40

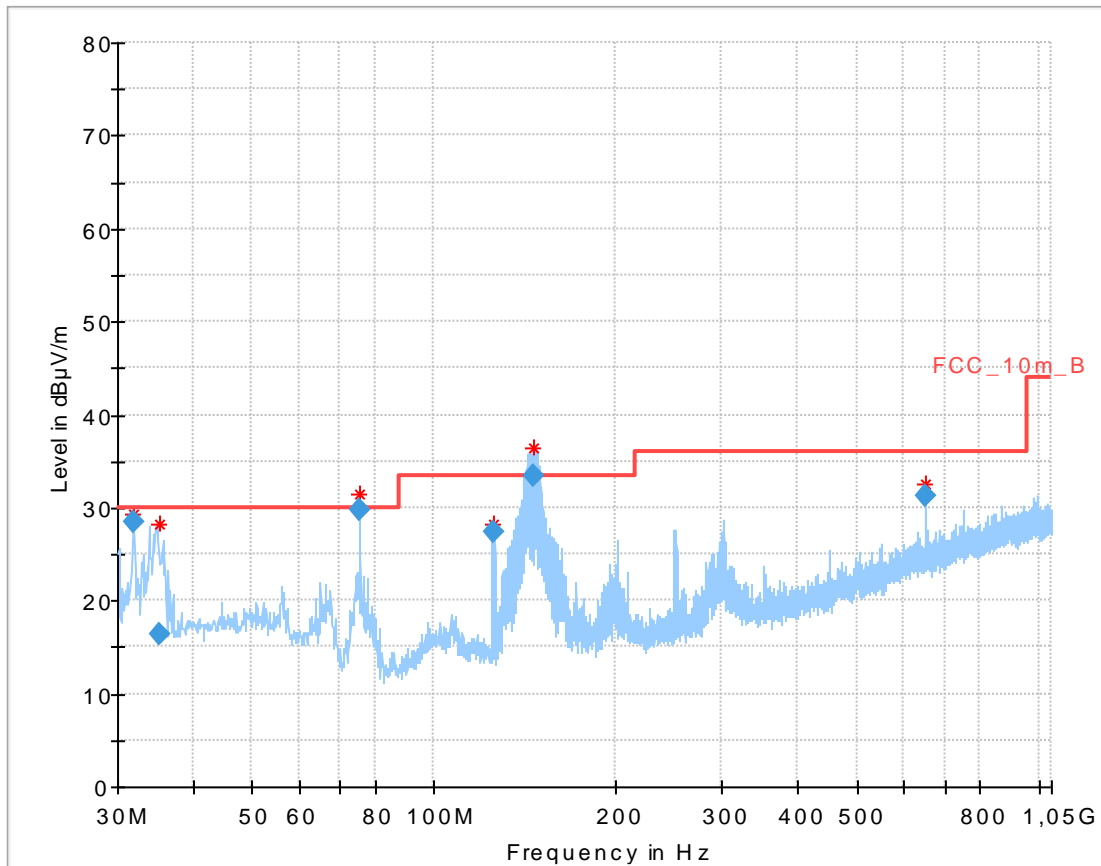
**Plot 40:** 26 GHz to 40 GHz, 5825 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:53:56

**Plots:** OFDM / n/ac HT40 – mode

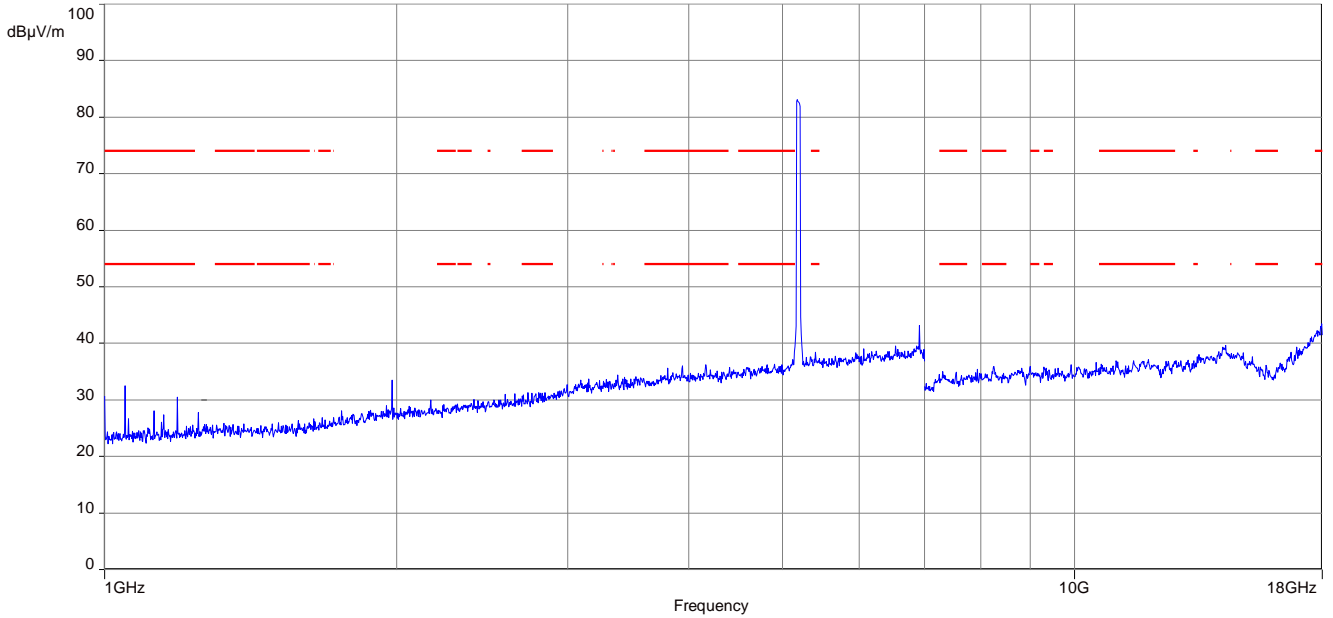
**Plot 1:** 30 MHz to 1 GHz, 5190 MHz, vertical & horizontal polarization



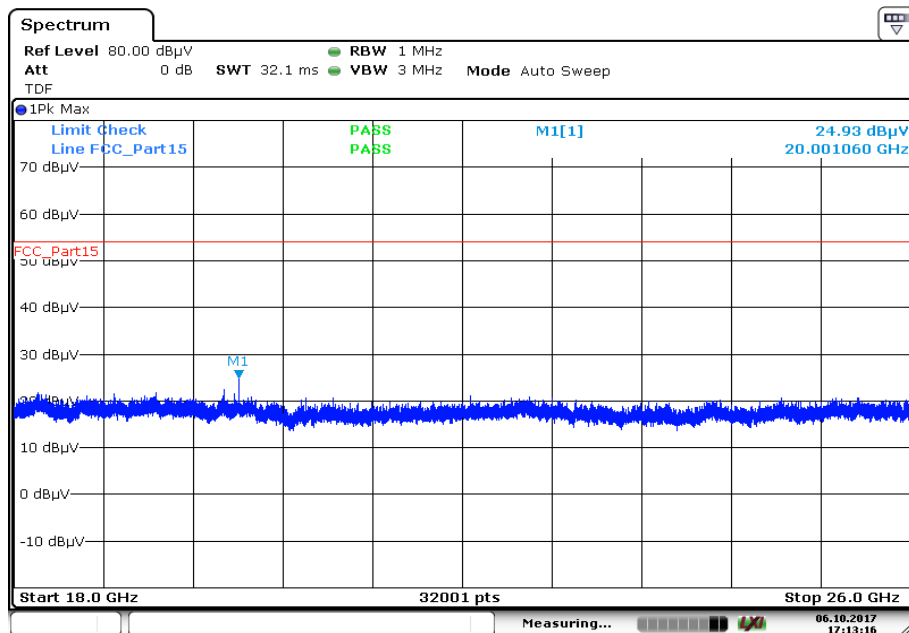
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.835	28.56	30.0	1.44	1000	120	101.0	V	88.0	12.1
35.100	16.49	30.0	13.51	1000	120	170.0	V	299.0	12.7
75.558	29.85	30.0	0.15	1000	120	170.0	V	280.0	8.8
125.949	27.45	33.5	6.05	1000	120	98.0	V	31.0	9.8
145.716*	33.53	33.5	-0.03	1000	120	98.0	V	273.0	9.1
650.016	31.37	36.0	4.63	1000	120	98.0	H	331.0	21.1

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 2:** 1 GHz to 18 GHz, 5190 MHz, vertical & horizontal polarization

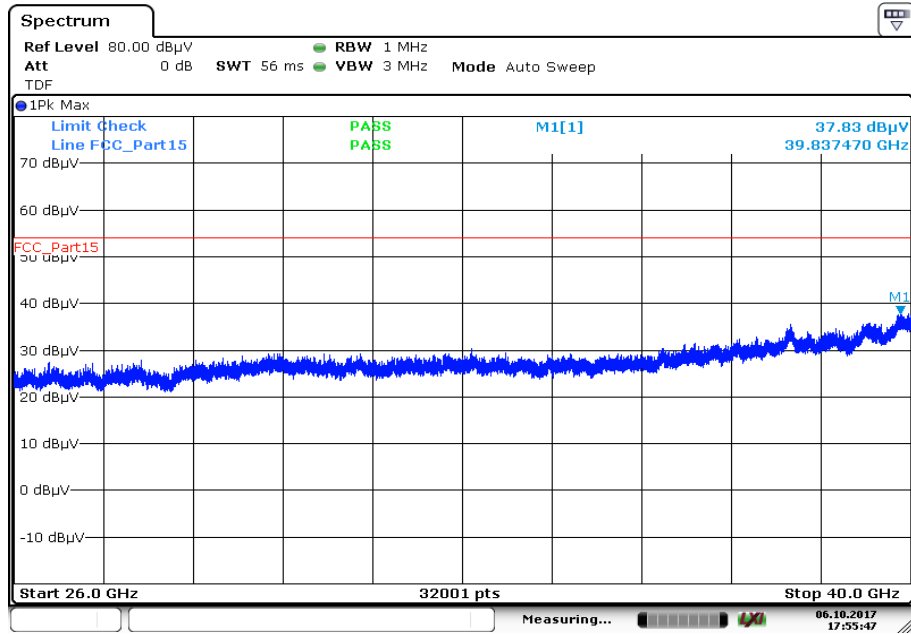


**Plot 3:** 18 GHz to 26 GHz, 5190 MHz, vertical & horizontal polarization



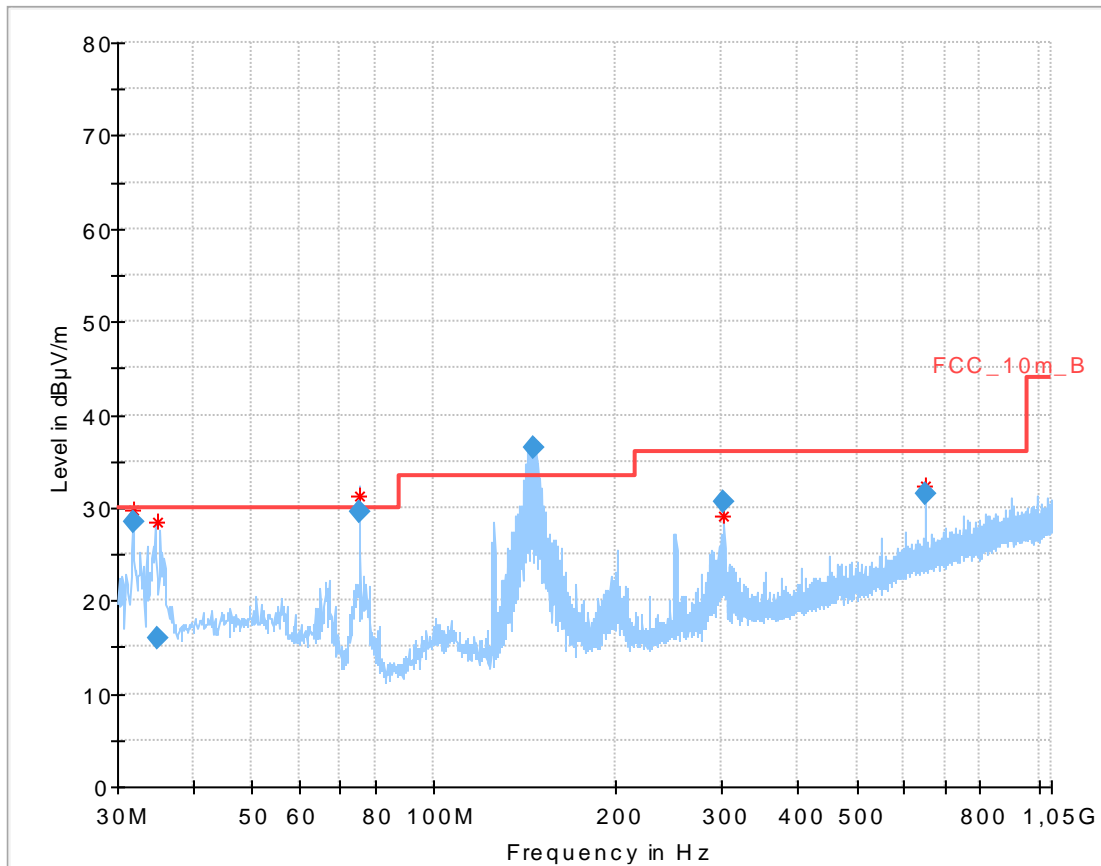
Date: 6.OCT.2017 17:13:16

**Plot 4:** 26 GHz to 40 GHz, 5190 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:55:47

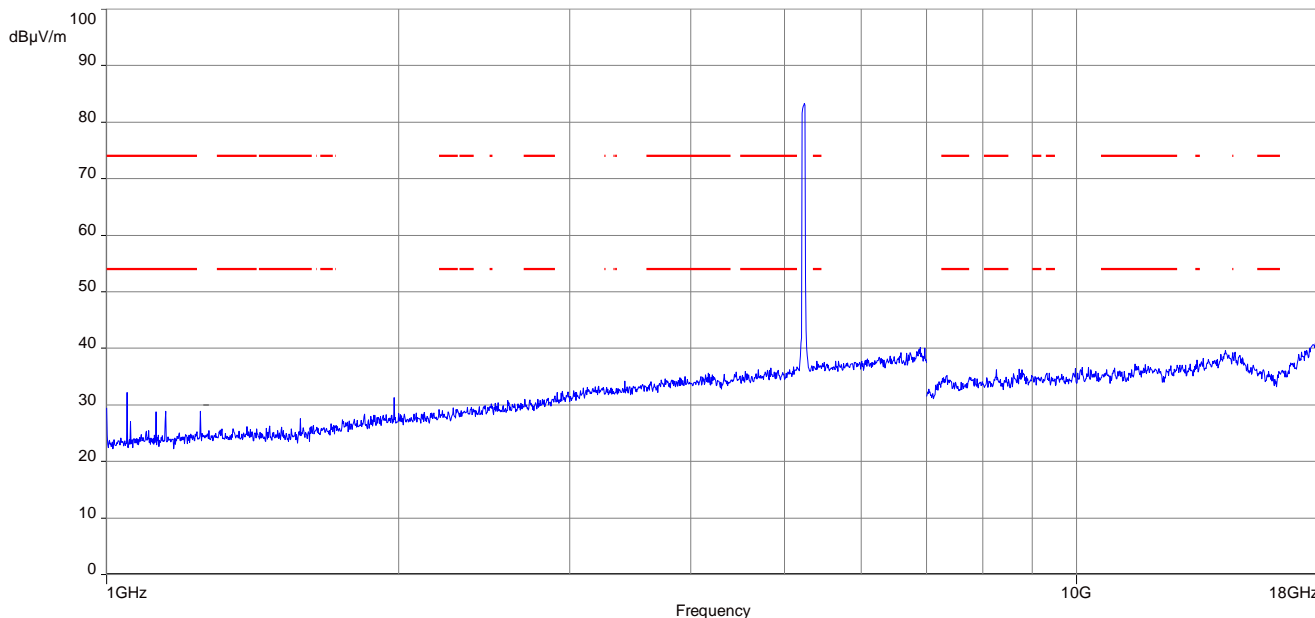
**Plot 5:** 30 MHz to 1 GHz, 5230 MHz, vertical & horizontal polarization



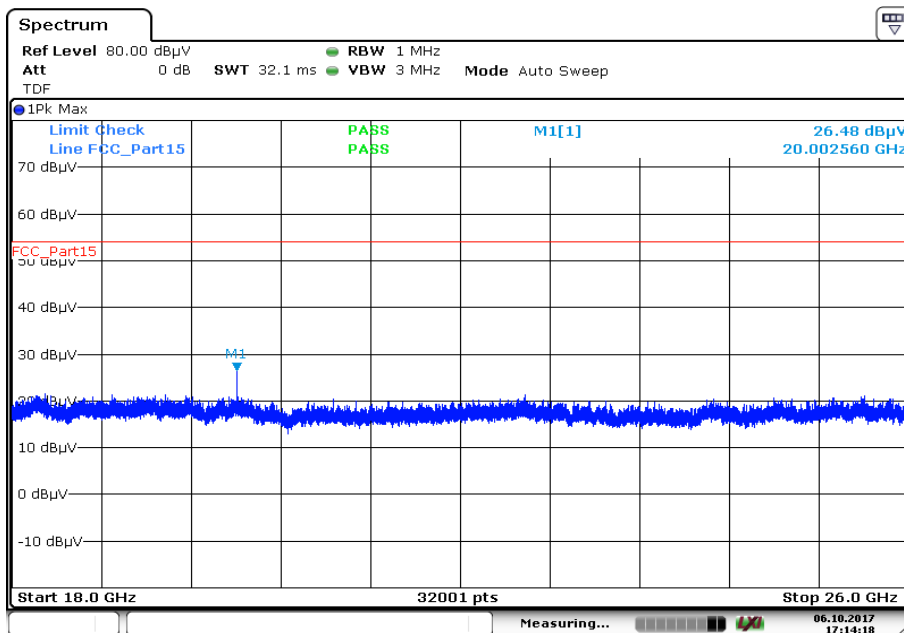
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.839	28.51	30.0	1.49	1000	120	101.0	V	91.0	12.1
34.923	15.94	30.0	14.06	1000	120	170.0	V	205.0	12.6
75.566	29.51	30.0	0.49	1000	120	170.0	V	279.0	8.8
145.614*	36.51	33.5	-3.01	1000	120	100.0	V	11.0	9.1
302.270	30.58	36.0	5.42	1000	120	170.0	H	91.0	14.5
650.004	31.57	36.0	4.43	1000	120	98.0	H	341.0	21.1

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 6:** 1 GHz to 18 GHz, 5230 MHz, vertical & horizontal polarization

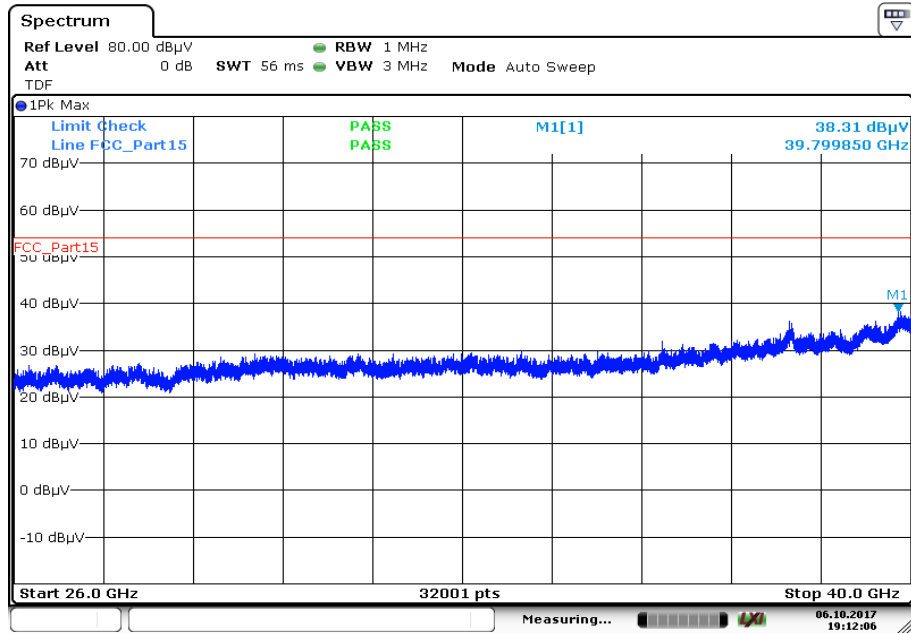


**Plot 7:** 18 GHz to 26 GHz, 5230 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:14:18

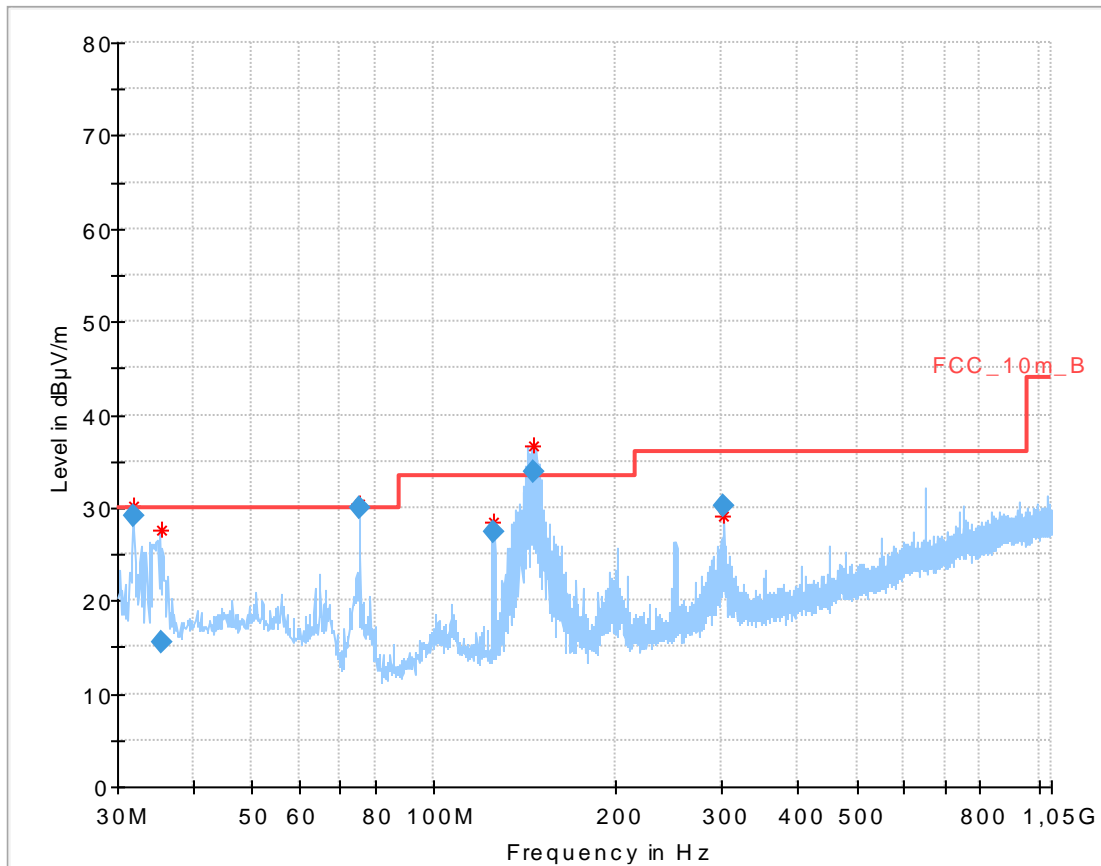
**Plot 8:** 26 GHz to 40 GHz, 5230 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:12:06



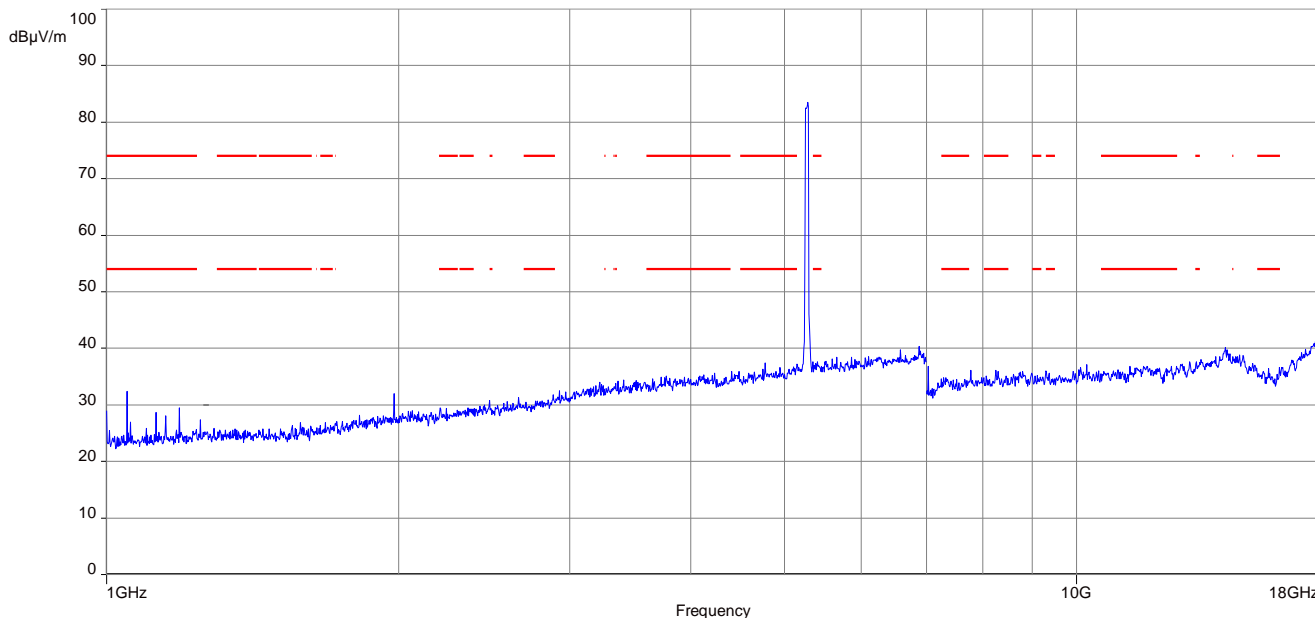
**Plot 9:** 30 MHz to 1 GHz, 5270 MHz, vertical & horizontal polarization



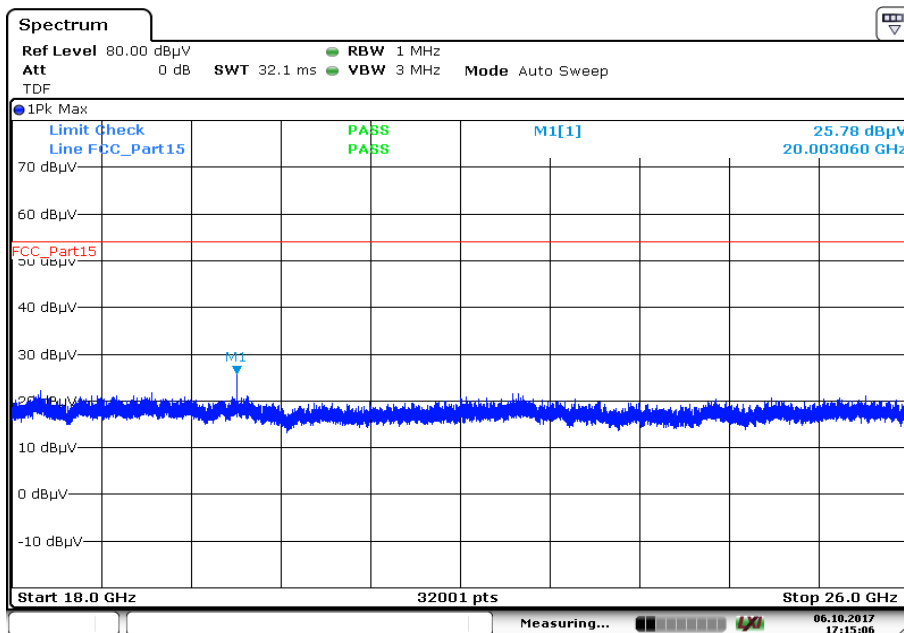
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.835	29.03	30.0	0.97	1000	120	101.0	V	164.0	12.1
35.348	15.54	30.0	14.46	1000	120	98.0	V	258.0	12.7
75.570	29.88	30.0	0.12	1000	120	170.0	V	244.0	8.8
125.939	27.42	33.5	6.08	1000	120	98.0	V	130.0	9.8
145.673*	33.76	33.5	-0.26	1000	120	98.0	V	278.0	9.1
302.241	30.14	36.0	5.86	1000	120	170.0	H	80.0	14.5

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 10:** 1 GHz to 18 GHz, 5270 MHz, vertical & horizontal polarization

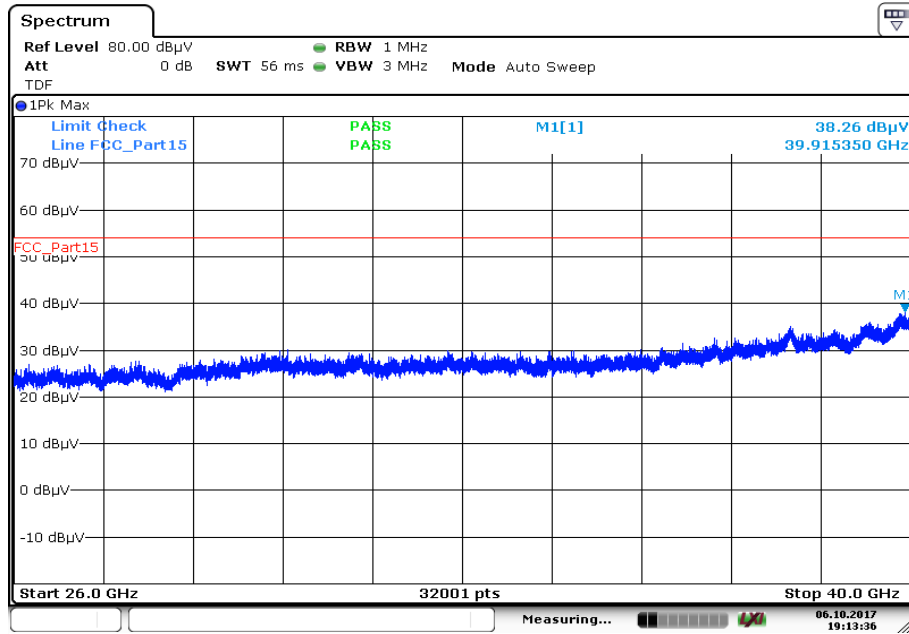


**Plot 11:** 18 GHz to 26 GHz, 5270 MHz, vertical & horizontal polarization



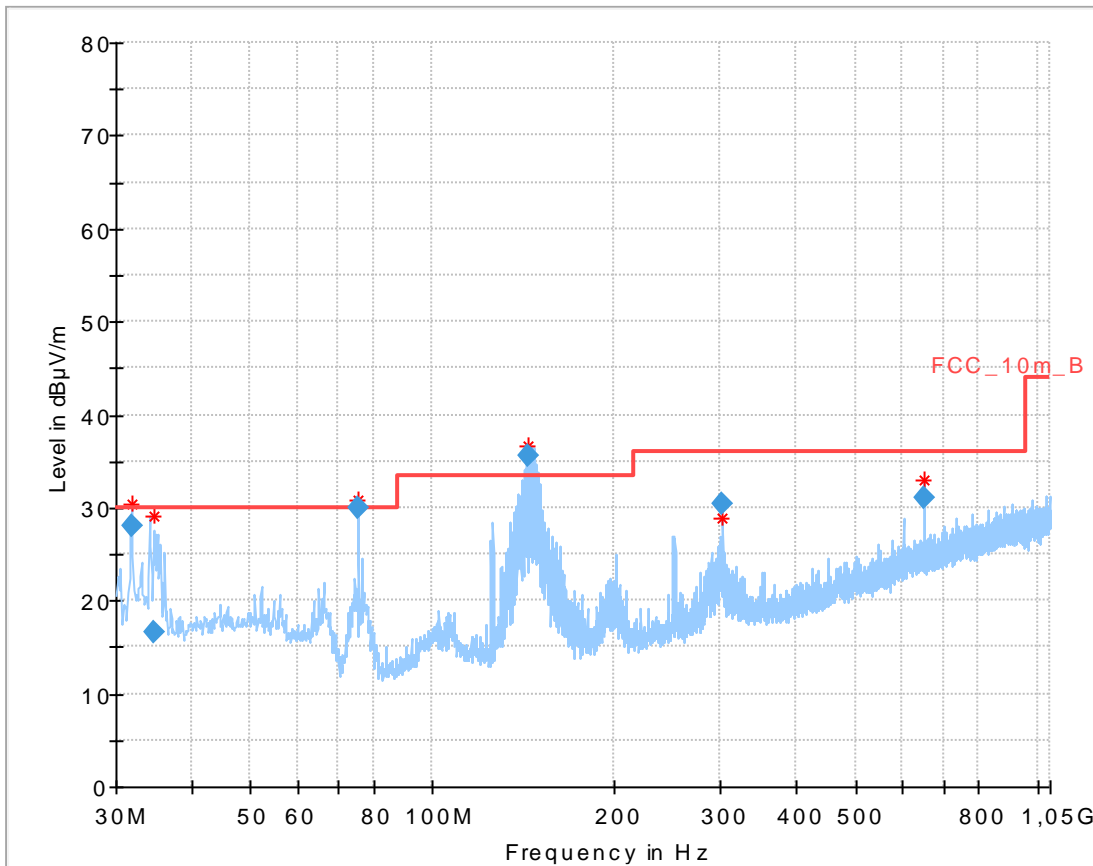
Date: 6.OCT.2017 17:15:07

Plot 12: 26 GHz to 40 GHz, 5270 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:13:36

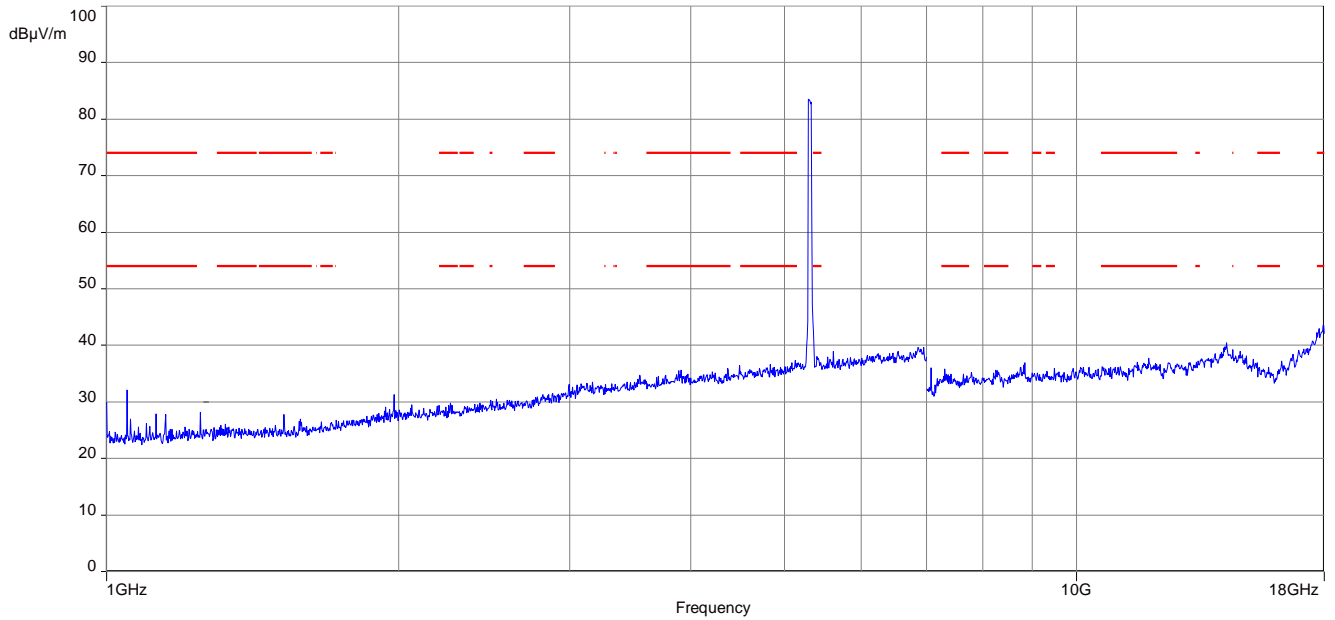
**Plot 13:** 30 MHz to 1 GHz, 5310 MHz, vertical & horizontal polarization



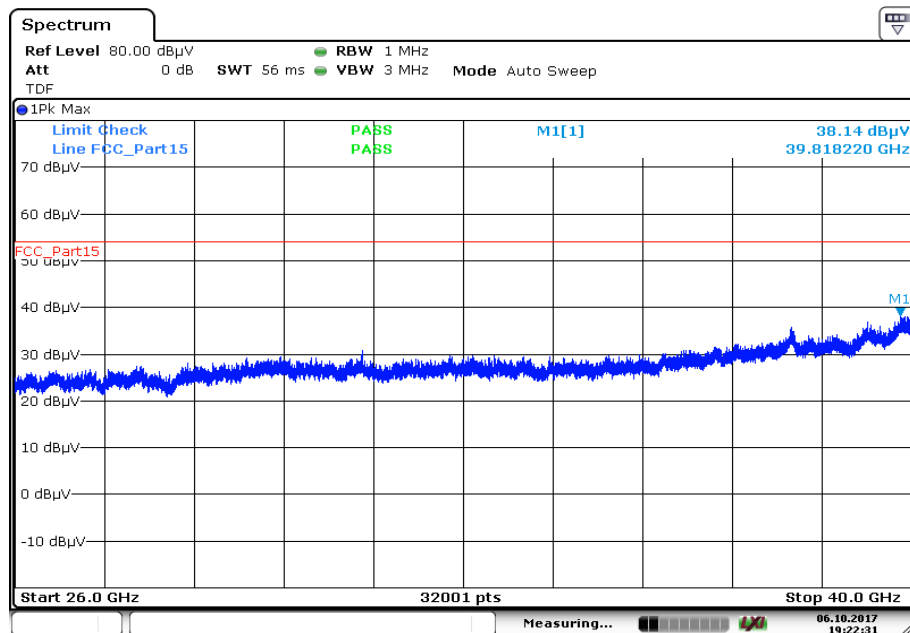
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.803	28.00	30.0	2.00	1000	120	170.0	V	330.0	12.1
34.665	16.64	30.0	13.36	1000	120	98.0	V	20.0	12.6
75.568	29.94	30.0	0.06	1000	120	170.0	V	294.0	8.8
144.470*	35.59	33.5	-2.09	1000	120	98.0	V	25.0	9.0
302.293	30.43	36.0	5.57	1000	120	170.0	H	87.0	14.5
650.030	31.07	36.0	4.93	1000	120	98.0	H	-10.0	21.1

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 14:** 1 GHz to 18 GHz, 5310 MHz, vertical & horizontal polarization

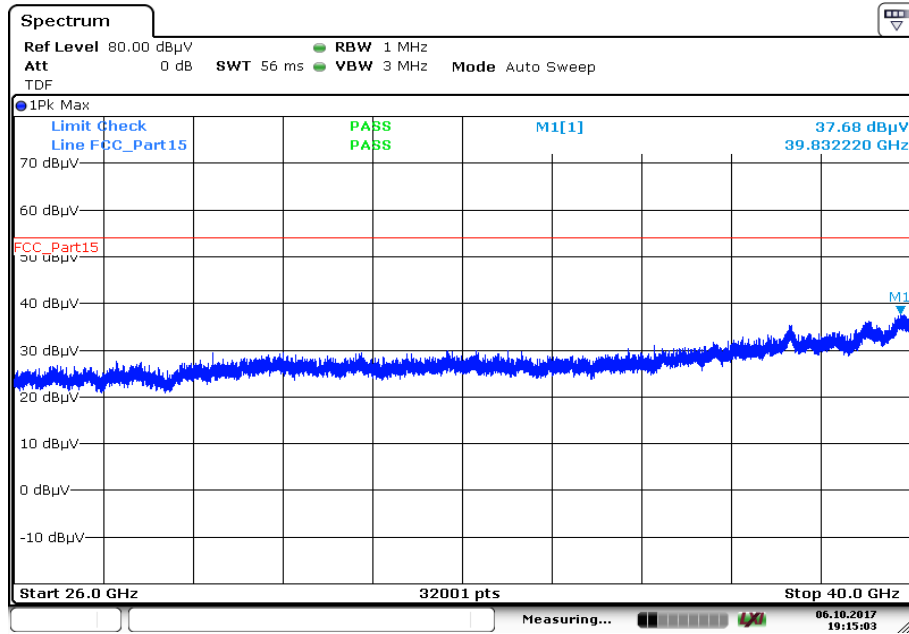


**Plot 15:** 18 GHz to 26 GHz, 5310 MHz, vertical & horizontal polarization



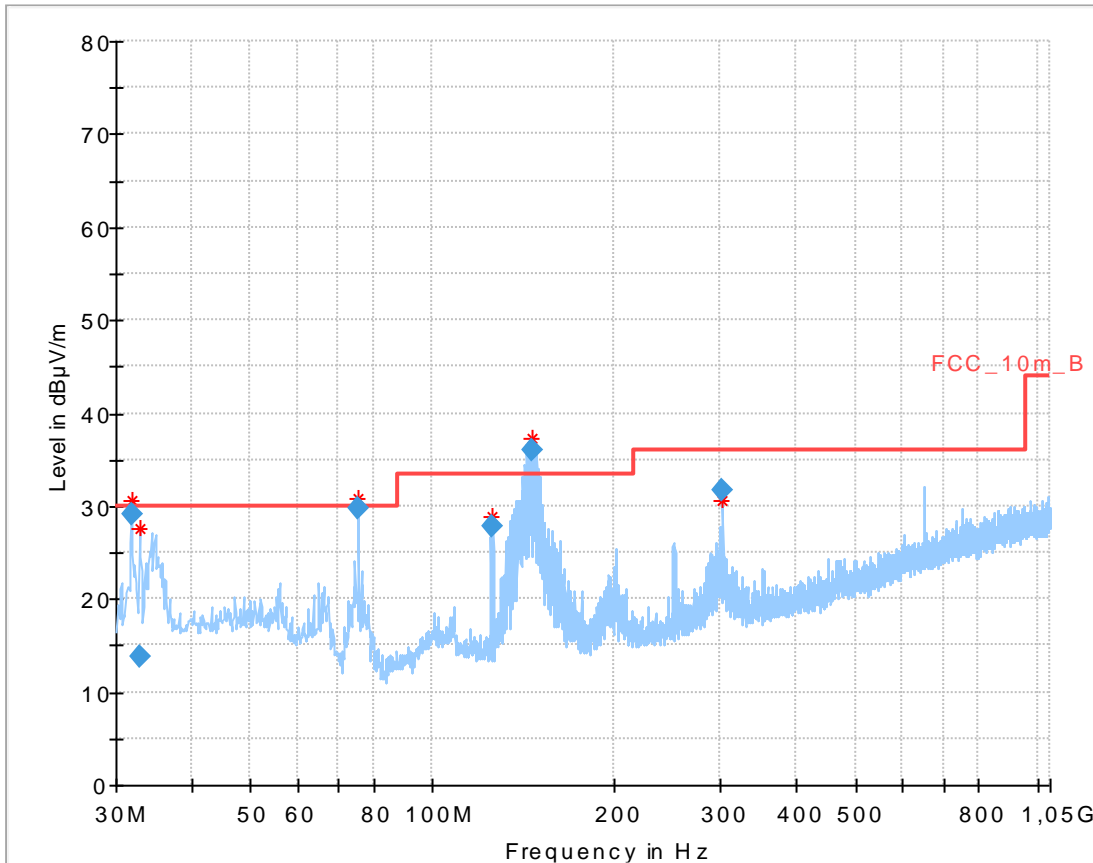
Date: 6.OCT.2017 19:22:31

**Plot 16:** 26 GHz to 40 GHz, 5310 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:15:03

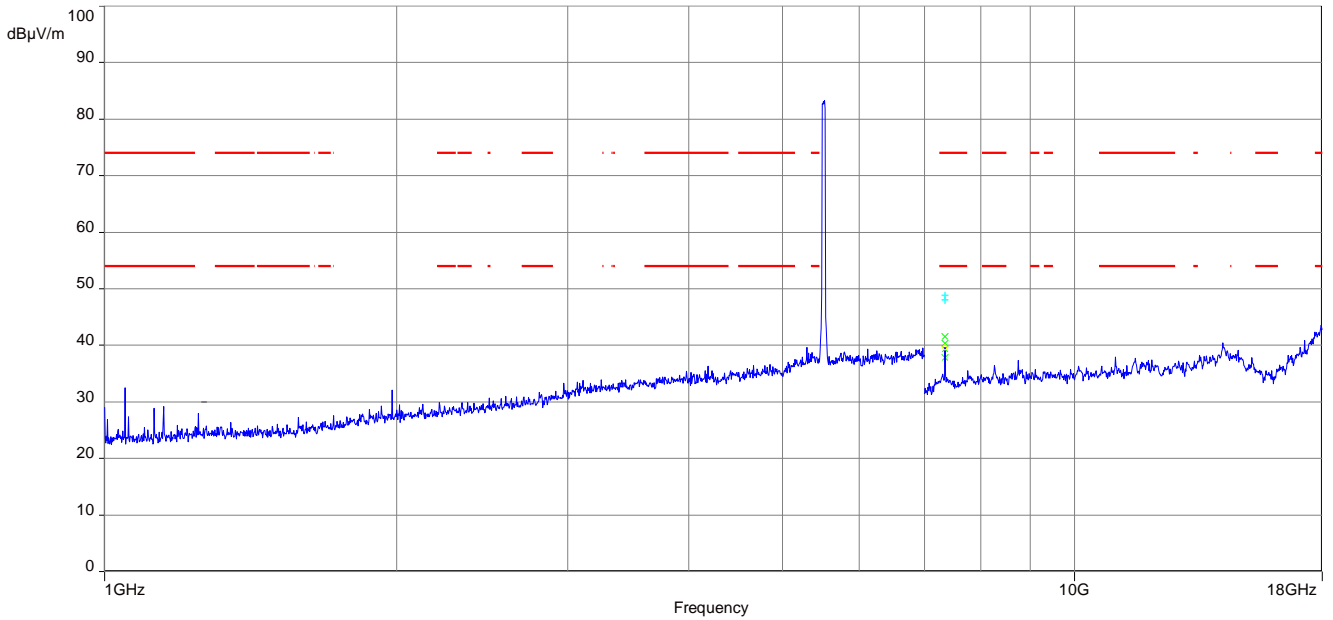
**Plot 17:** 30 MHz to 1 GHz, 5510 MHz, vertical & horizontal polarization



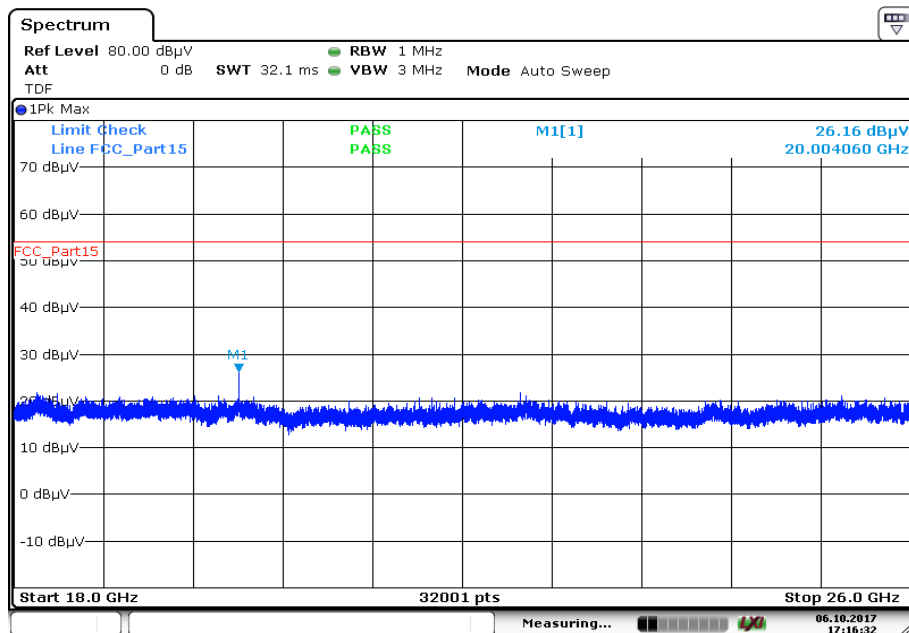
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.830	29.04	30.0	0.96	1000	120	98.0	V	162.0	12.1
32.826	13.70	30.0	16.30	1000	120	101.0	V	278.0	12.3
75.561	29.73	30.0	0.27	1000	120	170.0	V	231.0	8.8
125.944	27.91	33.5	5.59	1000	120	98.0	V	183.0	9.8
146.674*	35.92	33.5	-2.42	1000	120	98.0	V	19.0	9.1
302.265	31.64	36.0	4.36	1000	120	170.0	H	86.0	14.5

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 18:** 1 GHz to 18 GHz, 5510 MHz, vertical & horizontal polarization



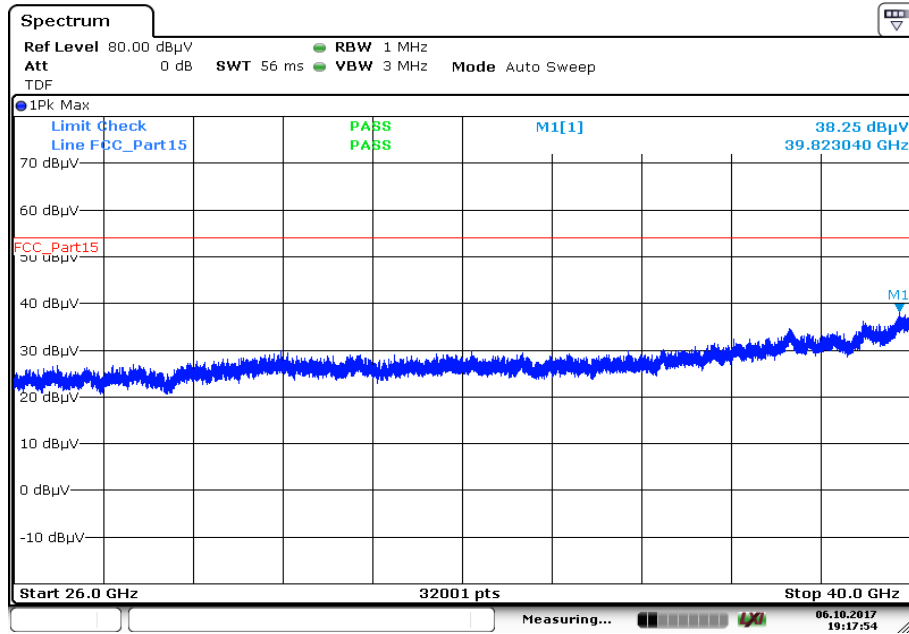
**Plot 19:** 18 GHz to 26 GHz, 5510 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:16:32

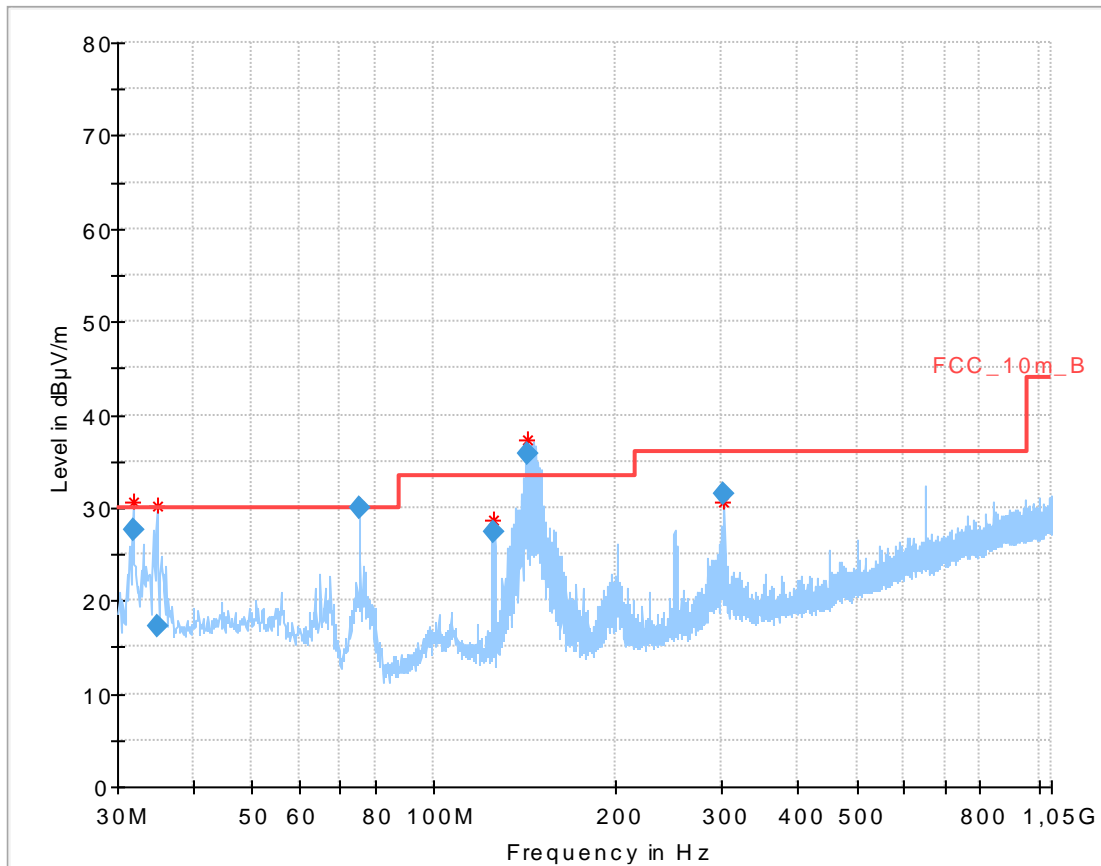


**Plot 20:** 26 GHz to 40 GHz, 5510 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:17:54

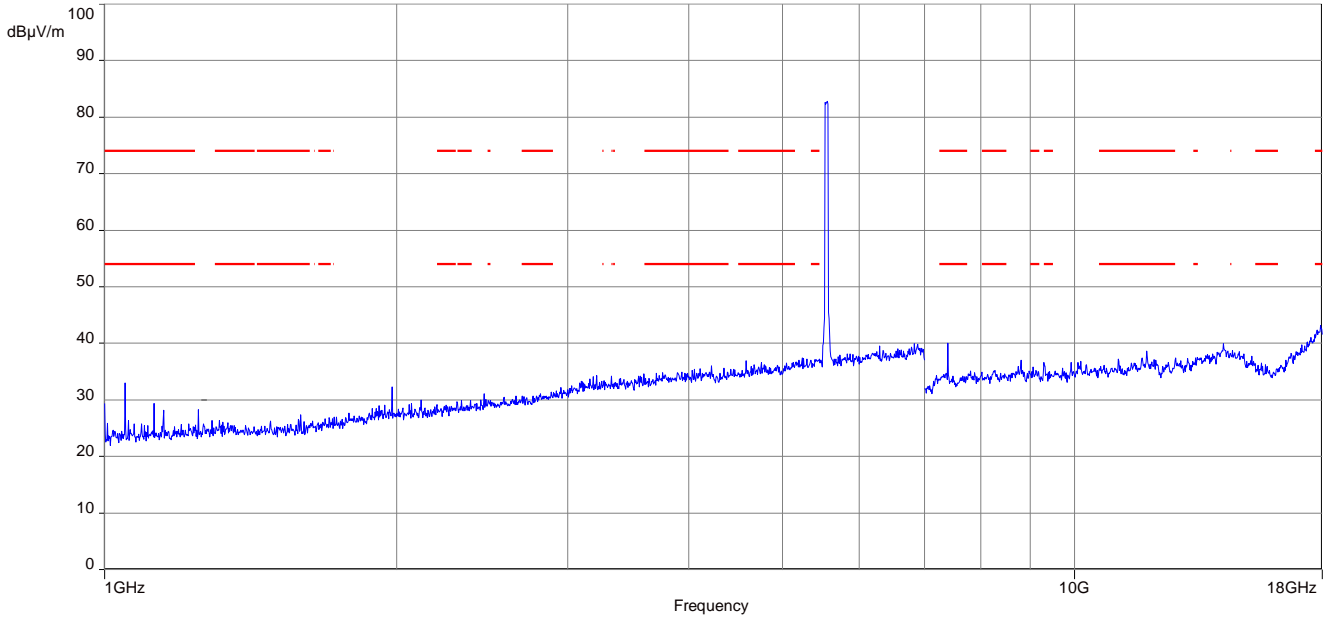
**Plot 21:** 30 MHz to 1 GHz, 5550 MHz, vertical & horizontal polarization



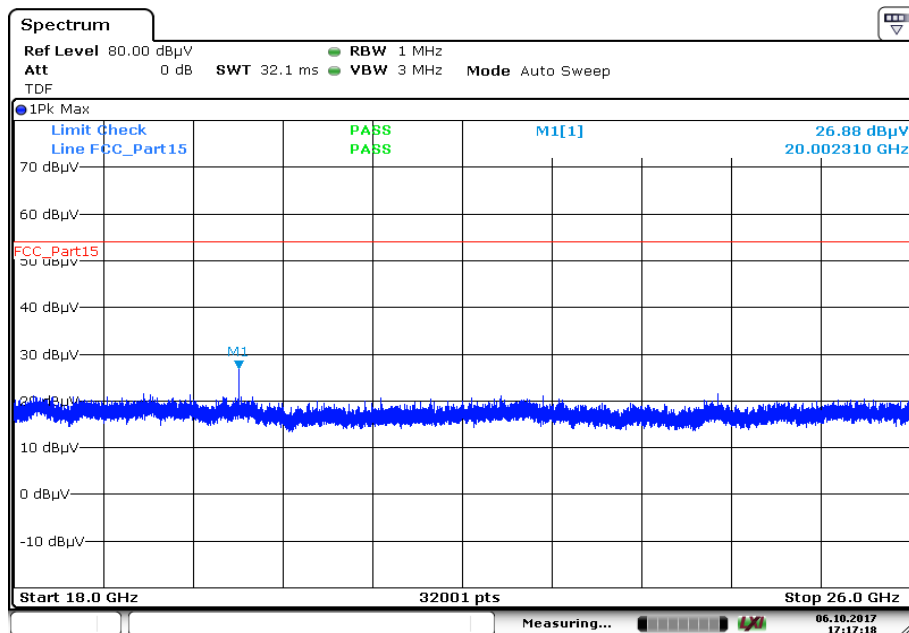
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.842	27.51	30.0	2.49	1000	120	101.0	V	133.0	12.1
34.964	17.23	30.0	12.77	1000	120	98.0	V	60.0	12.6
75.569	29.92	30.0	0.08	1000	120	170.0	V	289.0	8.8
125.954	27.40	33.5	6.10	1000	120	101.0	V	50.0	9.8
143.327*	35.82	33.5	-2.32	1000	120	101.0	V	174.0	9.0
302.278	31.57	36.0	4.43	1000	120	170.0	H	82.0	14.5

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 22:** 1 GHz to 18 GHz, 5550 MHz, vertical & horizontal polarization

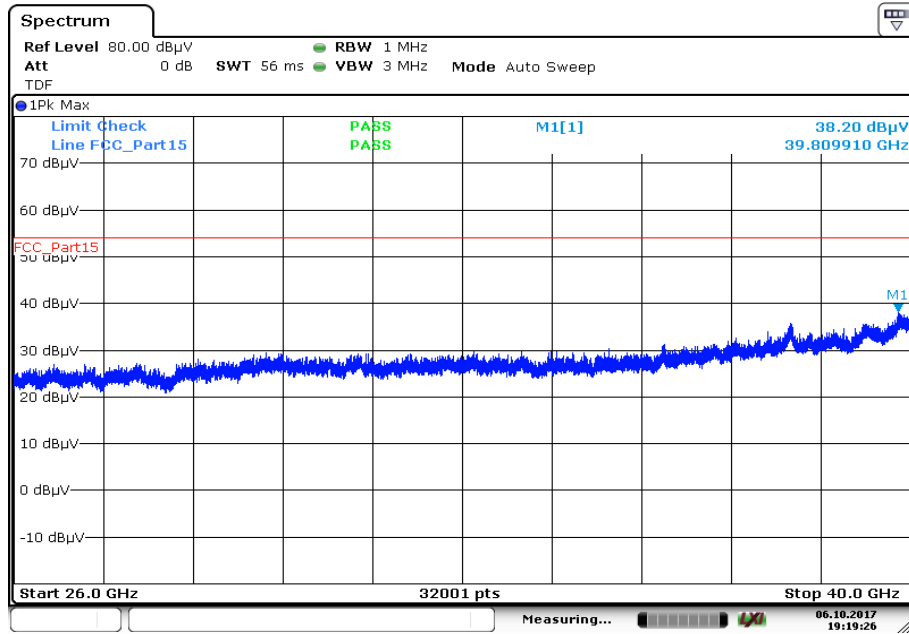


**Plot 23:** 18 GHz to 26 GHz, 5550 MHz, vertical & horizontal polarization



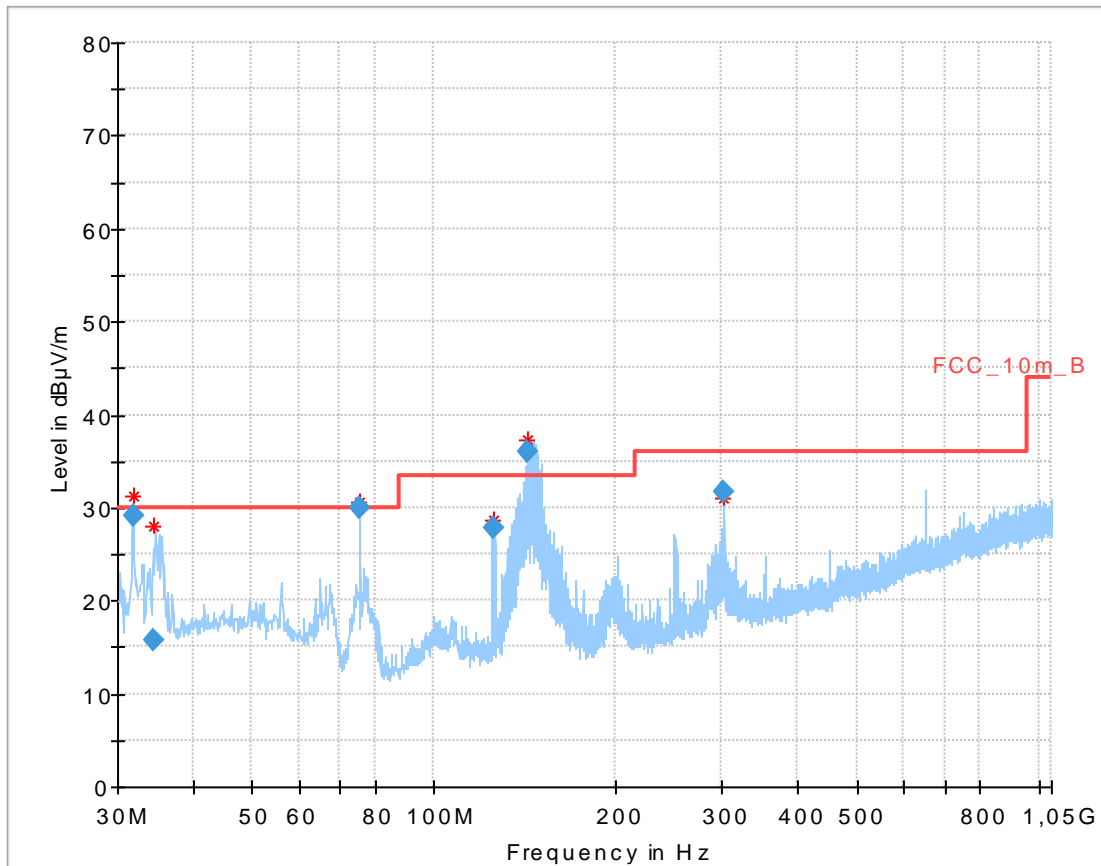
Date: 6.OCT.2017 17:17:18

**Plot 24:** 26 GHz to 40 GHz, 5550 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:19:26

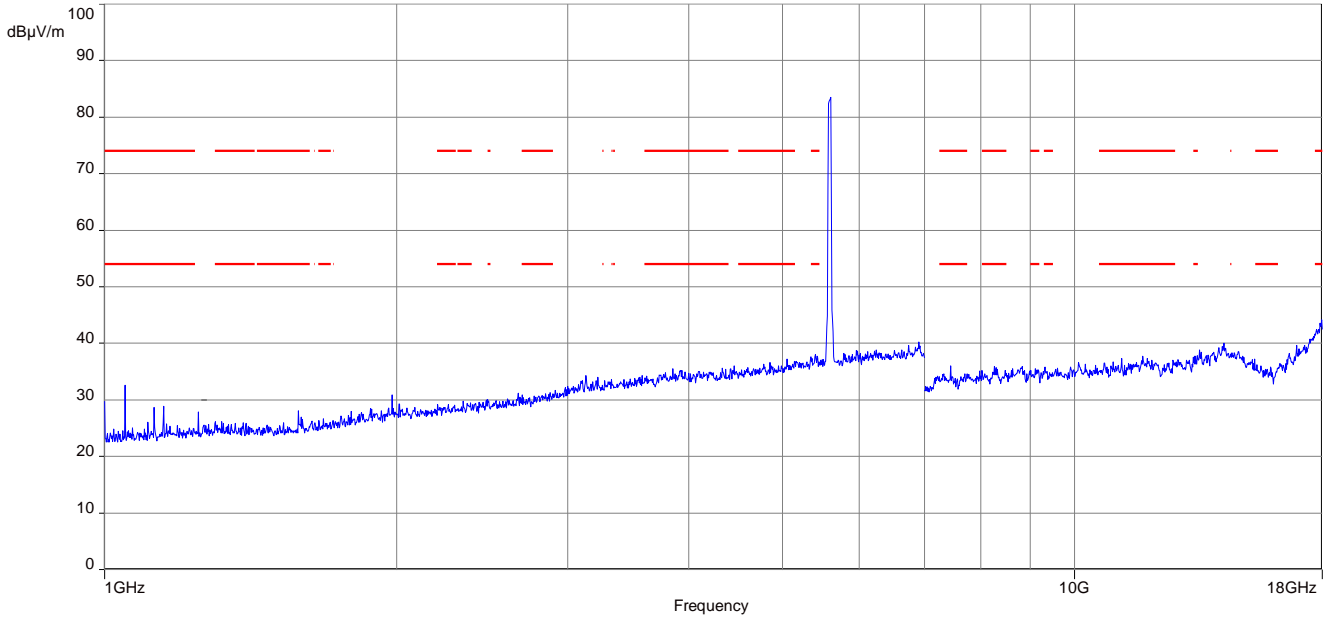
**Plot 25:** 30 MHz to 1 GHz, 5590 MHz, vertical & horizontal polarization



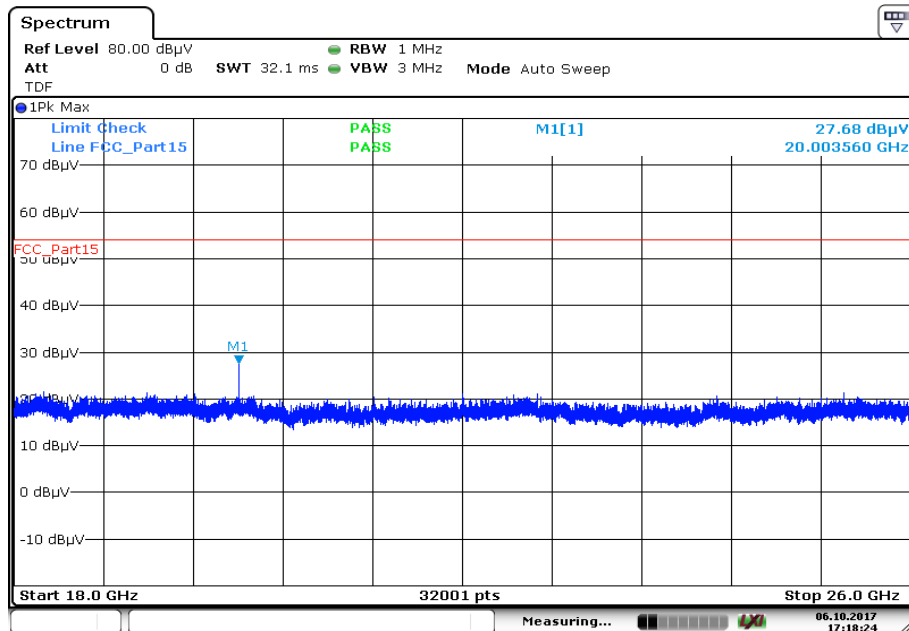
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.789	29.16	30.0	0.84	1000	120	98.0	V	341.0	12.1
34.306	15.64	30.0	14.36	1000	120	98.0	V	46.0	12.5
75.565	29.87	30.0	0.13	1000	120	170.0	V	266.0	8.8
125.950	27.79	33.5	5.71	1000	120	98.0	V	196.0	9.8
143.317*	36.01	33.5	-2.51	1000	120	98.0	V	-5.0	9.0
302.256	31.66	36.0	4.34	1000	120	170.0	H	74.0	14.5

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 26:** GHz to 18 GHz, 5590 MHz, vertical & horizontal polarization

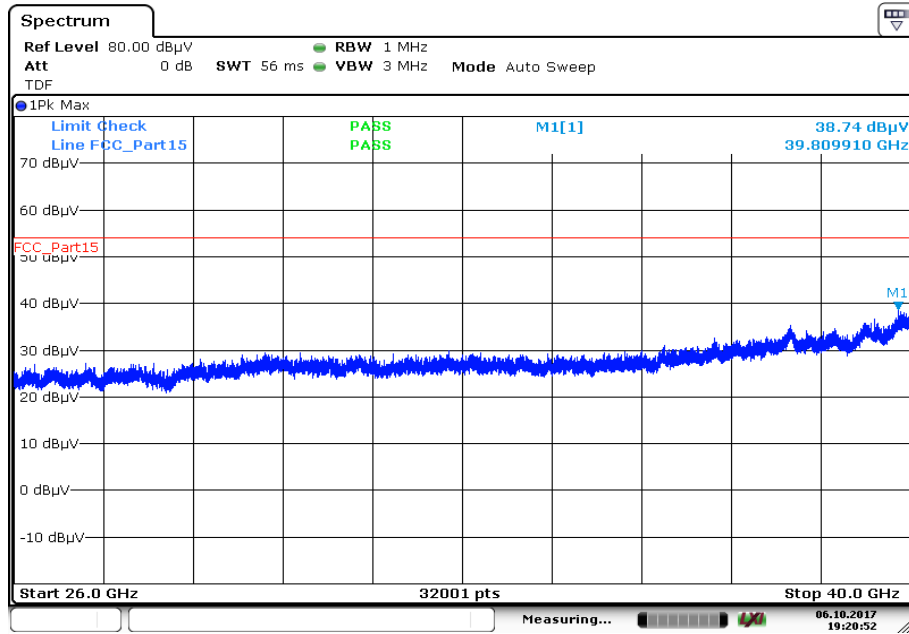


**Plot 27:** 18 GHz to 26 GHz, 5590 MHz, vertical & horizontal polarization



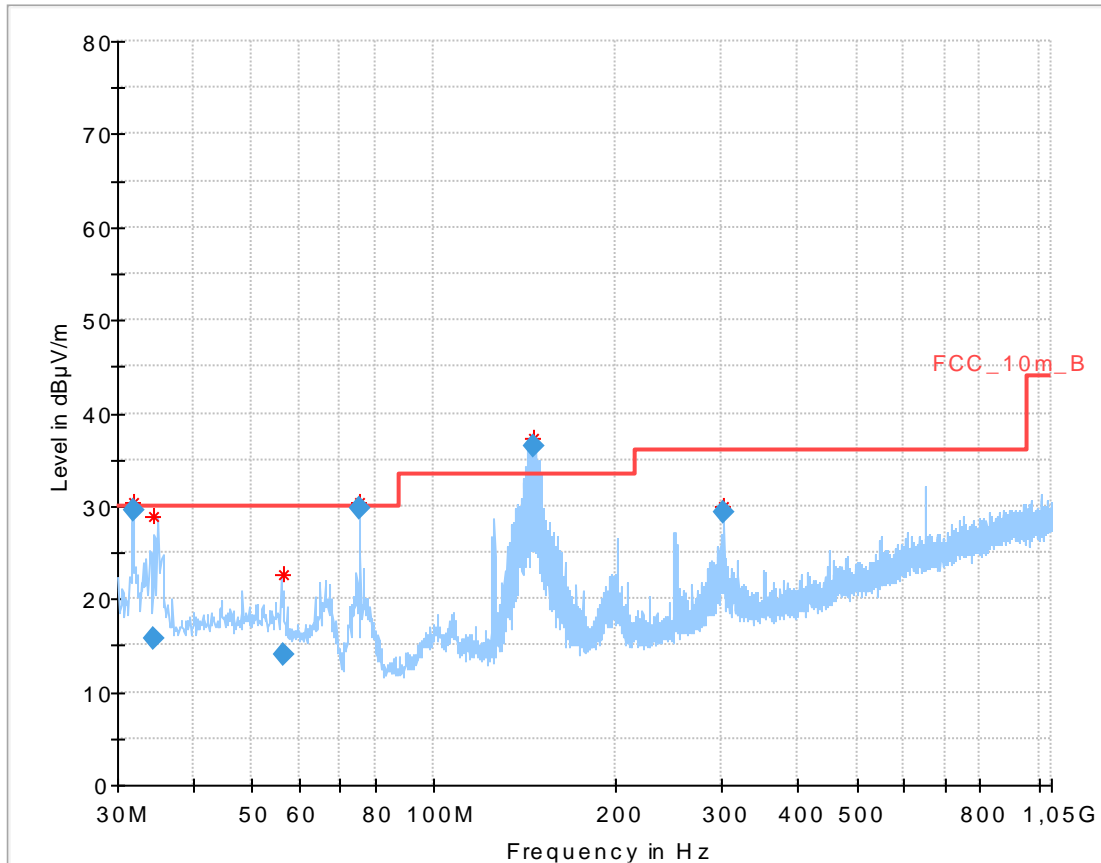
Date: 6.OCT.2017 17:18:24

**Plot 28:** 26 GHz to 40 GHz, 5590 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:20:52

**Plot 29:** 30 MHz to 1 GHz, 5630 MHz, vertical & horizontal polarization

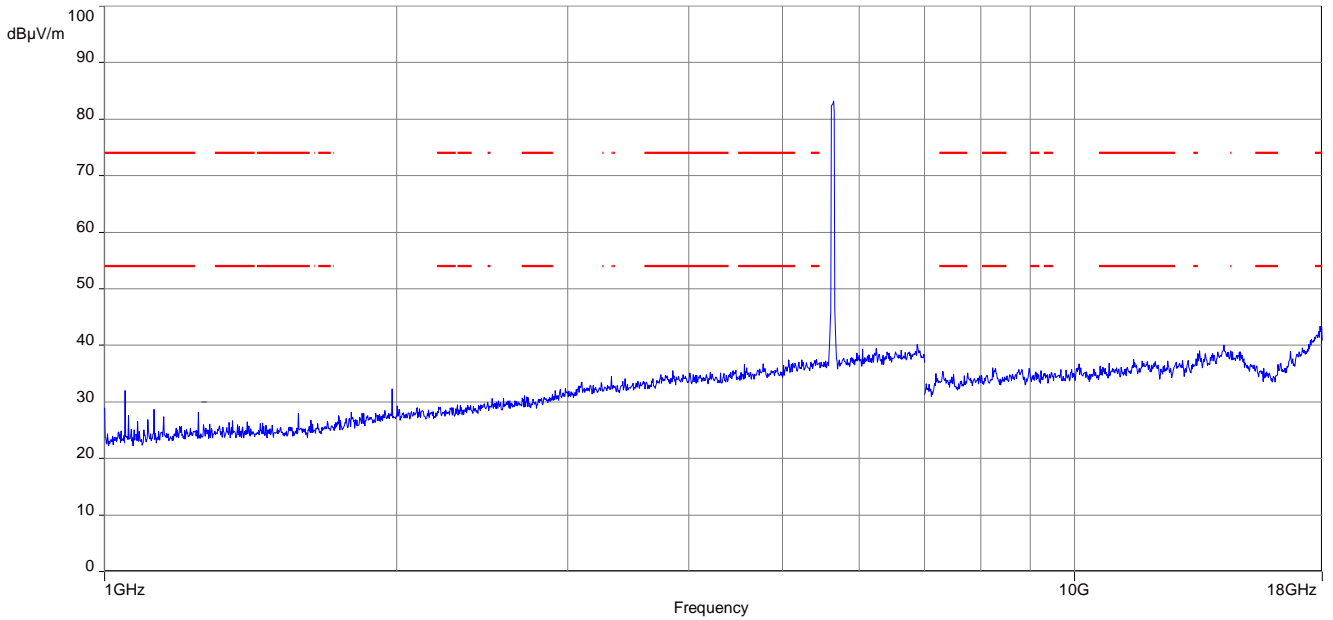


Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.810	29.48	30.0	0.52	1000	120	101.0	V	340.0	12.1
34.410	15.72	30.0	14.28	1000	120	98.0	V	275.0	12.6
56.298	13.92	30.0	16.08	1000	120	170.0	V	86.0	12.8
75.570	29.75	30.0	0.25	1000	120	170.0	V	288.0	8.8
146.691*	36.45	33.5	-2.95	1000	120	101.0	V	-6.0	9.1
302.281	29.30	36.0	6.70	1000	120	170.0	H	235.0	14.5

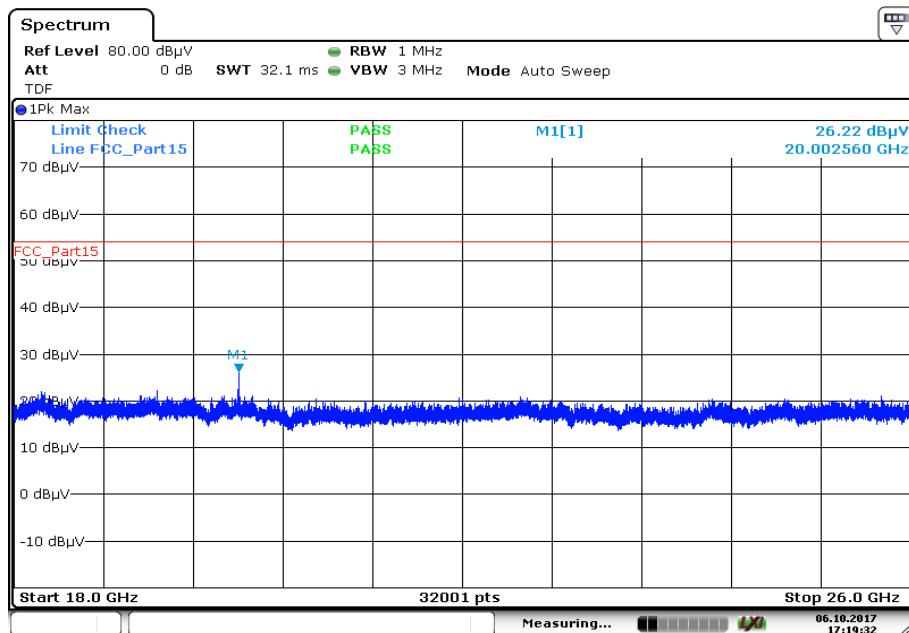
\* Frequency is outside the restricted bands and therefore not rated.



**Plot 30:** 1 GHz to 18 GHz, 5630 MHz, vertical & horizontal polarization

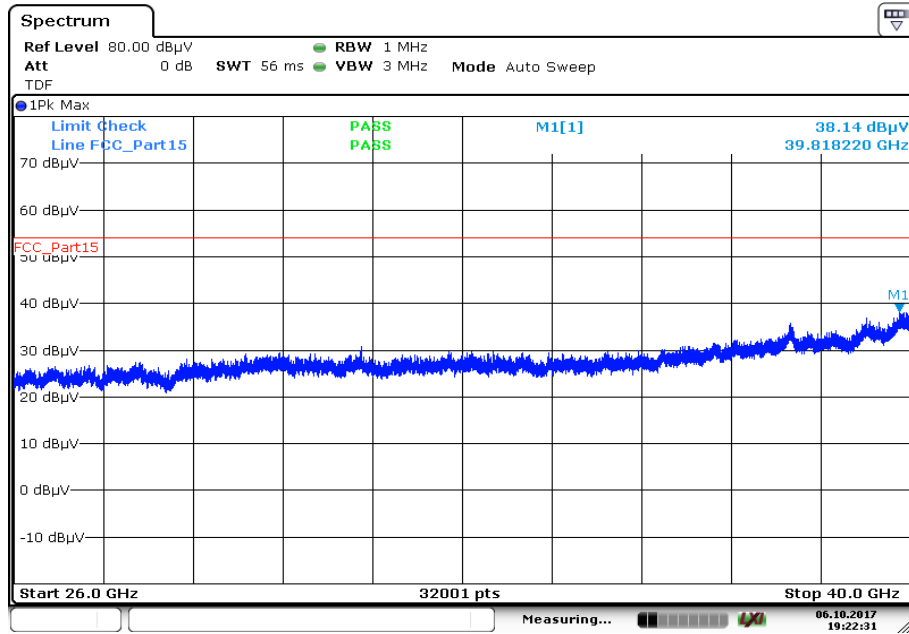


**Plot 31:** 18 GHz to 26 GHz, 5630 MHz, vertical & horizontal polarization



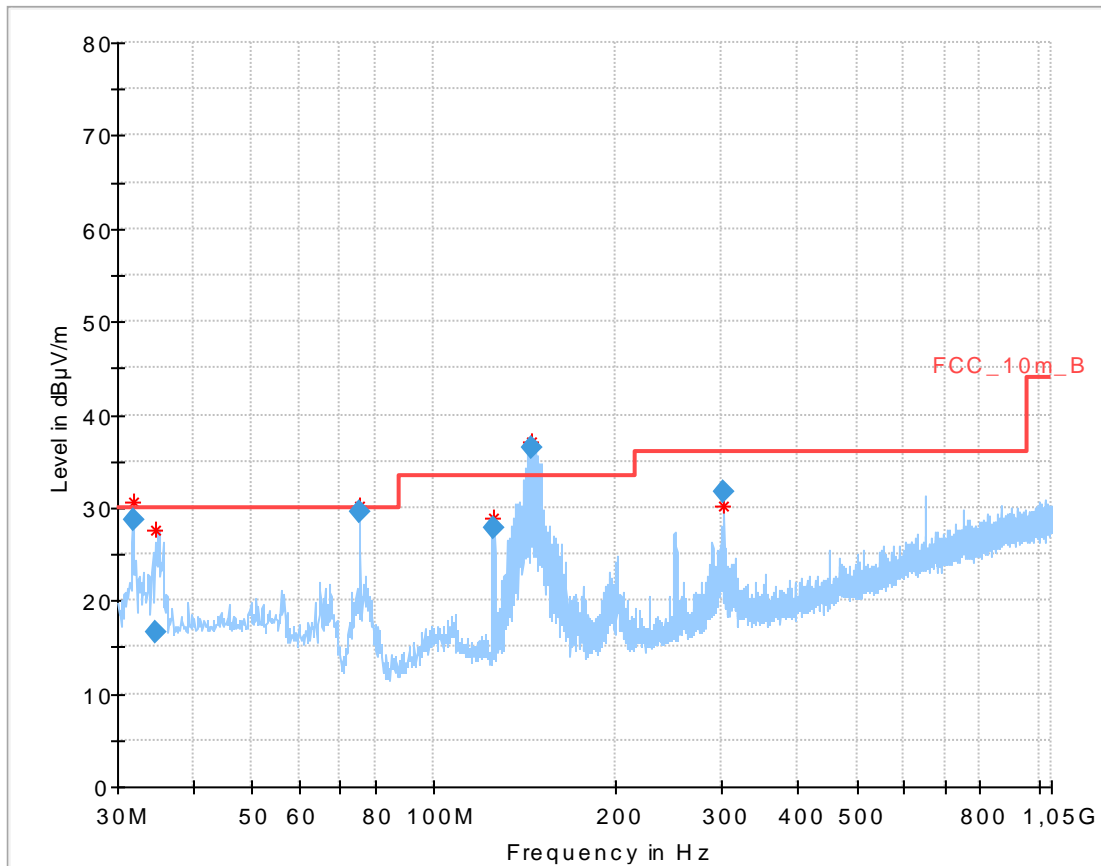
Date: 6.OCT.2017 17:19:32

**Plot 32:** 26 GHz to 40 GHz, 5630 MHz, vertical & horizontal polarization



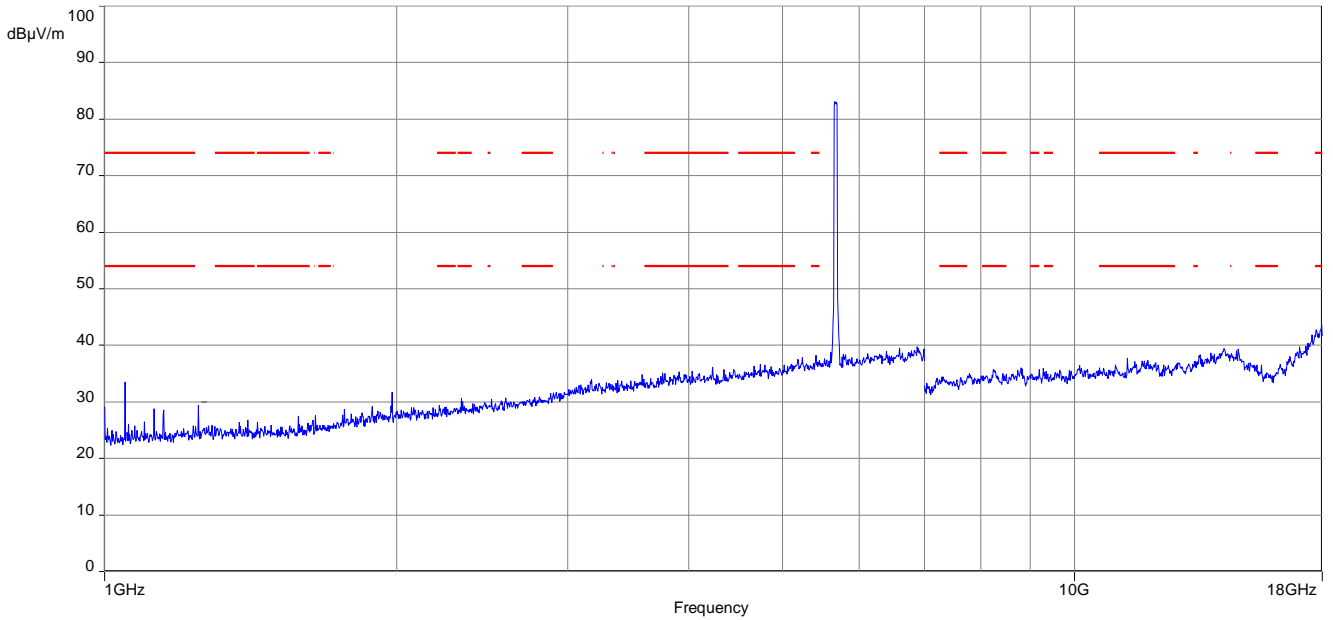
Date: 6.OCT.2017 19:22:31

**Plot 33:** 30 MHz to 1 GHz, 5670 MHz, vertical & horizontal polarization

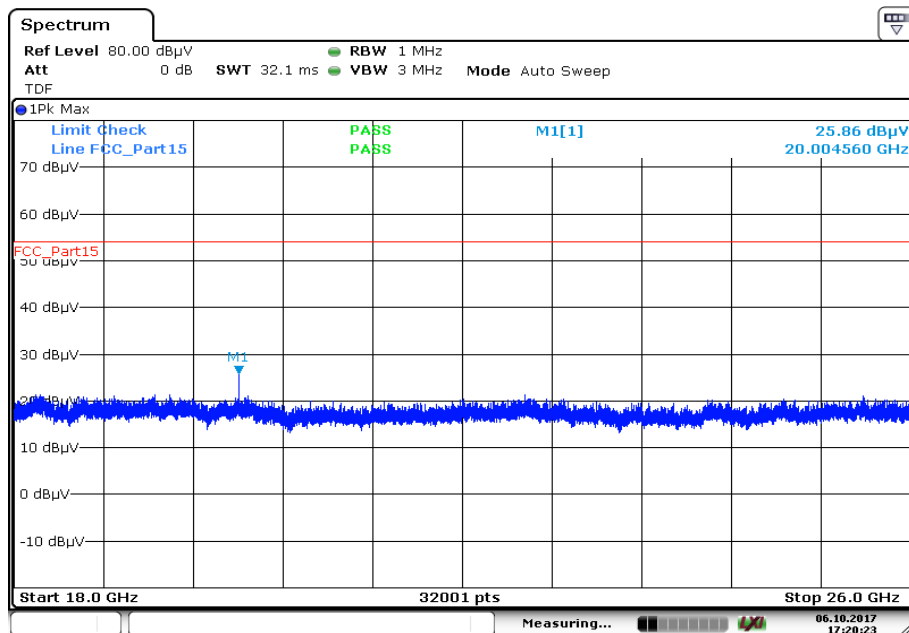


Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.826	28.73	30.0	1.27	1000	120	100.0	V	331.0	12.1
34.764	16.66	30.0	13.34	1000	120	101.0	V	75.0	12.6
75.558	29.55	30.0	0.45	1000	120	170.0	V	343.0	8.8
125.938	27.81	33.5	5.69	1000	120	98.0	V	152.0	9.8
145.586*	36.42	33.5	-2.92	1000	120	98.0	V	11.0	9.1
302.252	31.73	36.0	4.27	1000	120	170.0	H	72.0	14.5

**Plot 34:** 1 GHz to 18 GHz, 5670 MHz, vertical & horizontal polarization

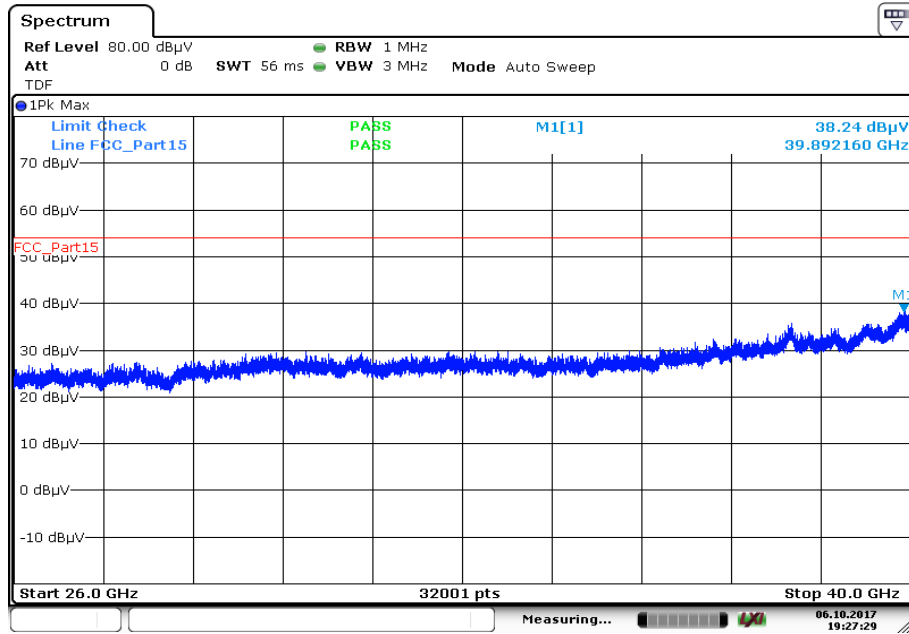


**Plot 35:** 18 GHz to 26 GHz, 5670 MHz, vertical & horizontal polarization



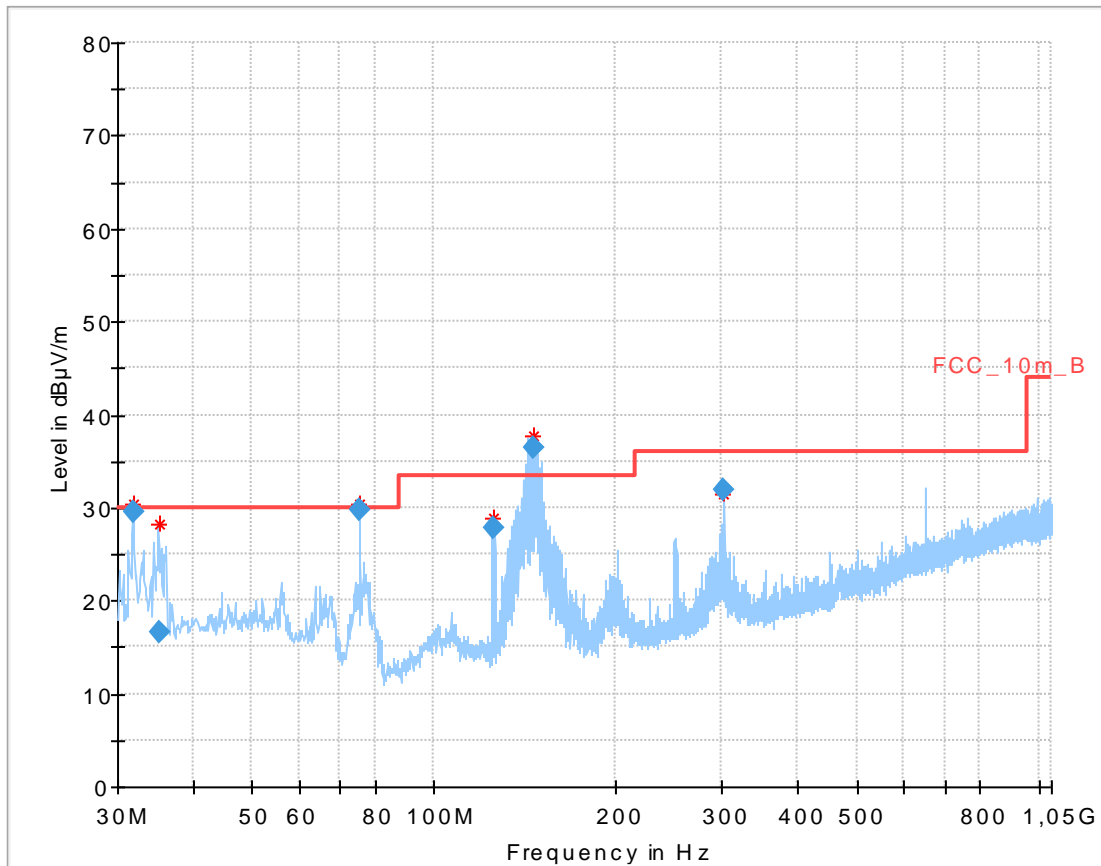
Date: 6.OCT.2017 17:20:23

**Plot 36:** 26 GHz to 40 GHz, 5670 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:27:29

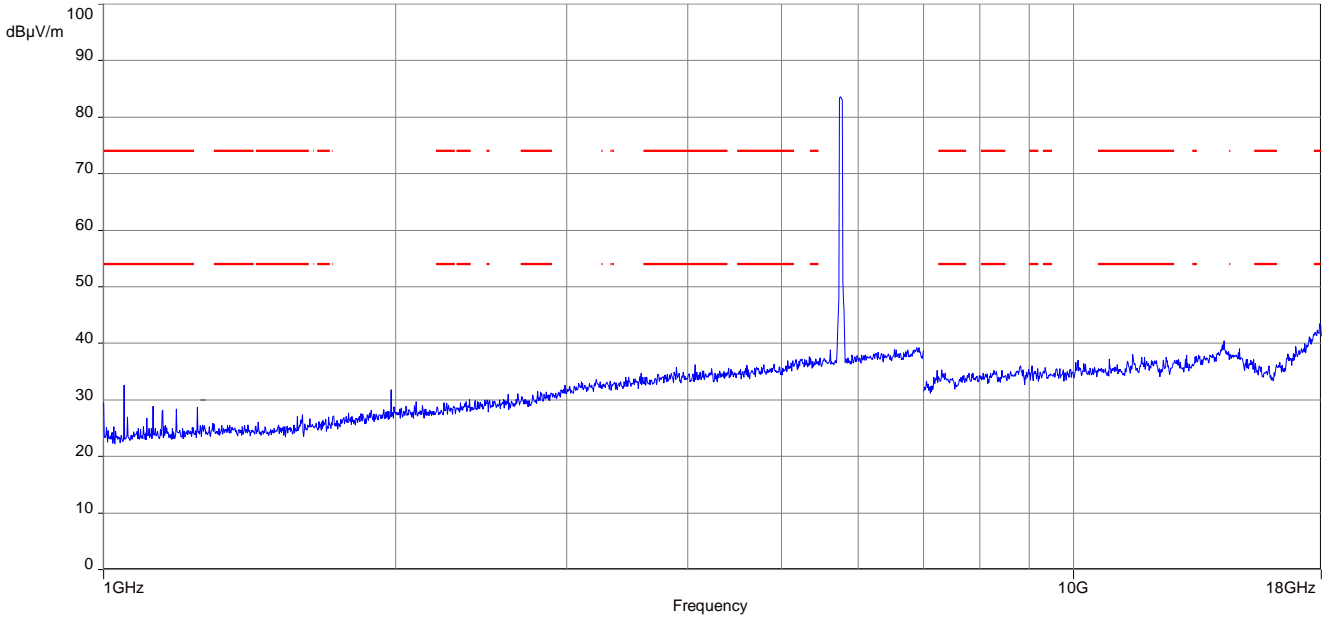
**Plot 37:** 30 MHz to 1 GHz, 5755 MHz, vertical & horizontal polarization



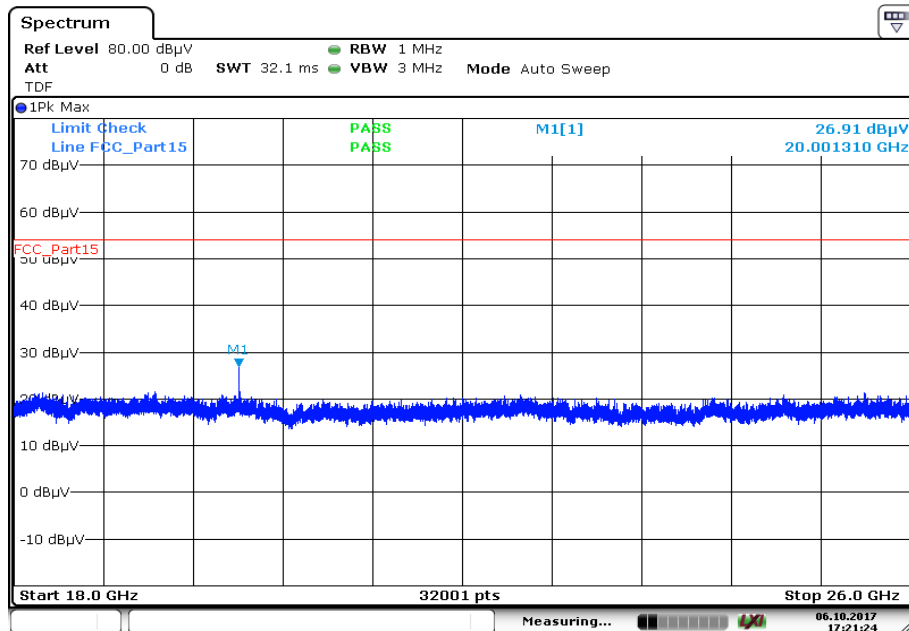
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.805	29.55	30.0	0.45	1000	120	101.0	V	73.0	12.1
35.123	16.57	30.0	13.43	1000	120	98.0	V	300.0	12.7
75.574	29.77	30.0	0.23	1000	120	170.0	V	249.0	8.8
125.933	27.92	33.5	5.58	1000	120	98.0	V	162.0	9.8
146.667*	36.40	33.5	-2.90	1000	120	98.0	V	-10.0	9.1
302.267	31.97	36.0	4.03	1000	120	170.0	H	82.0	14.5

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 38:** 1 GHz to 18 GHz, 5755 MHz, vertical & horizontal polarization

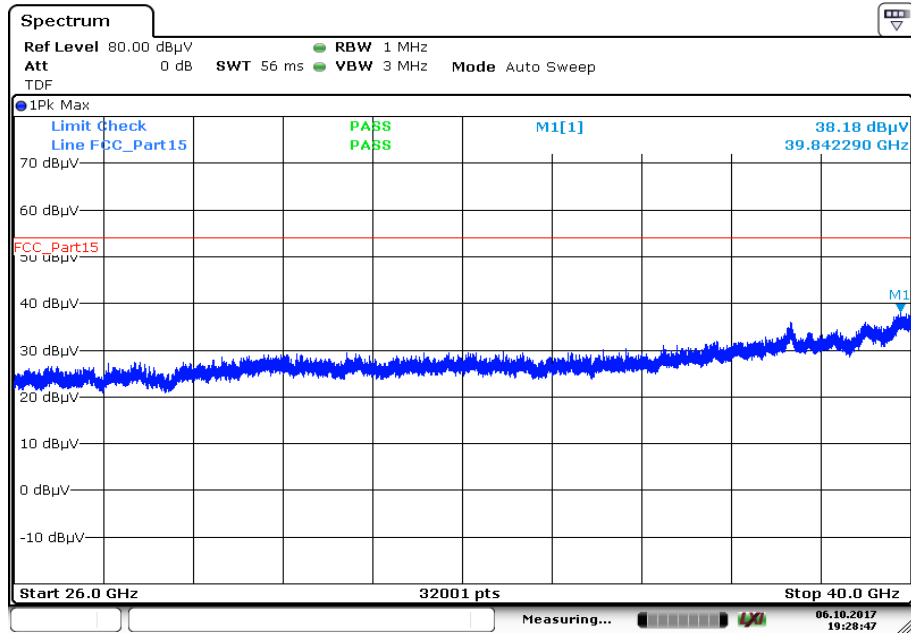


**Plot 39:** 18 GHz to 26 GHz, 5755 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:21:24

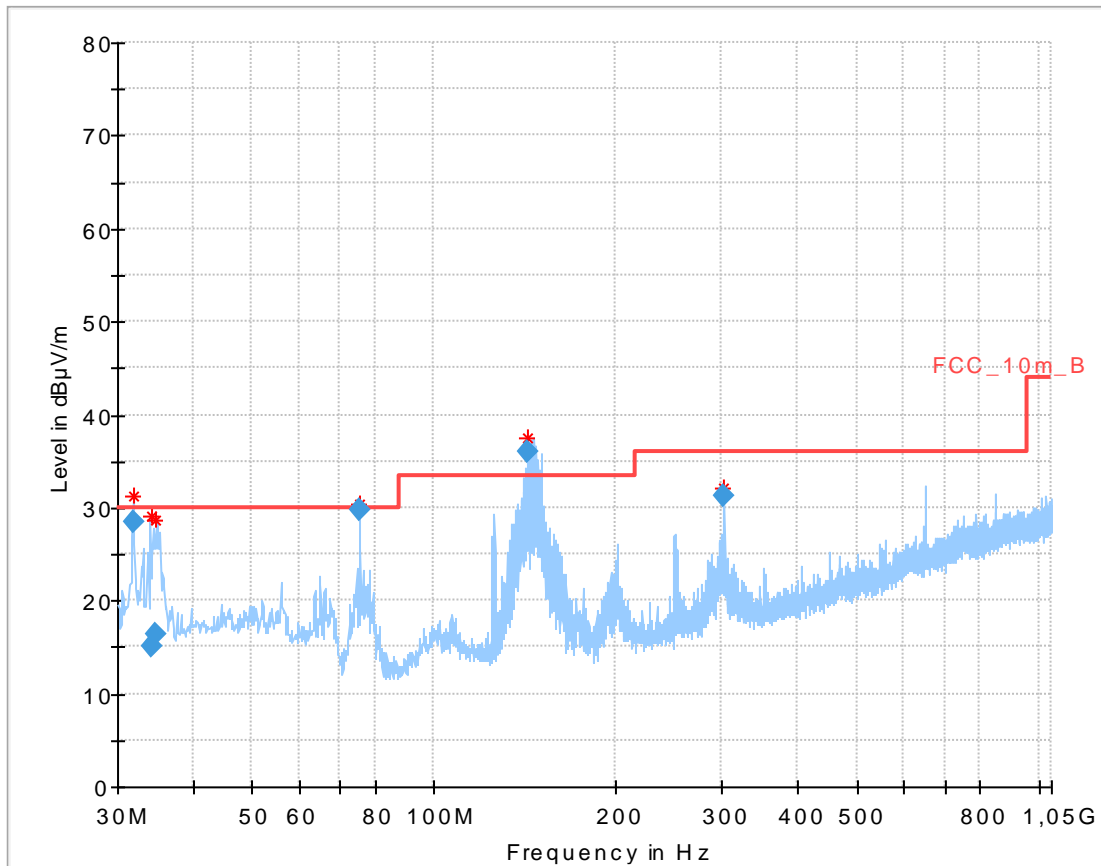
**Plot 40:** 26 GHz to 40 GHz, 5755 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:28:47



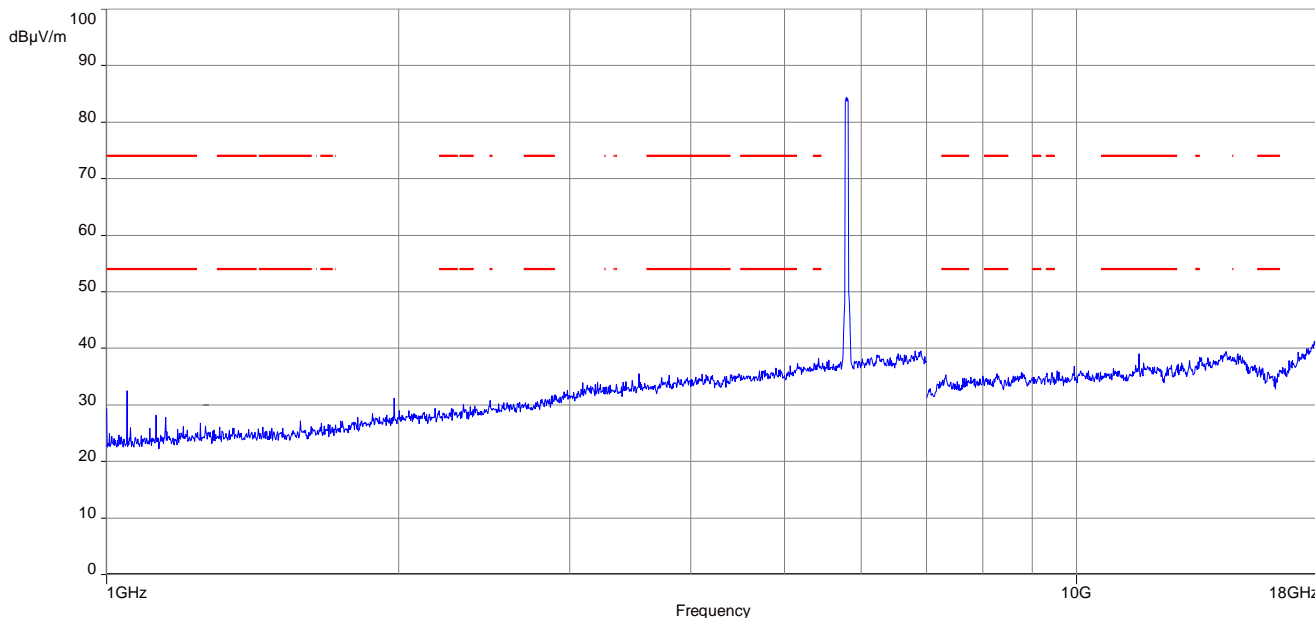
**Plot 41:** 30 MHz to 1 GHz, 5795 MHz, vertical & horizontal polarization



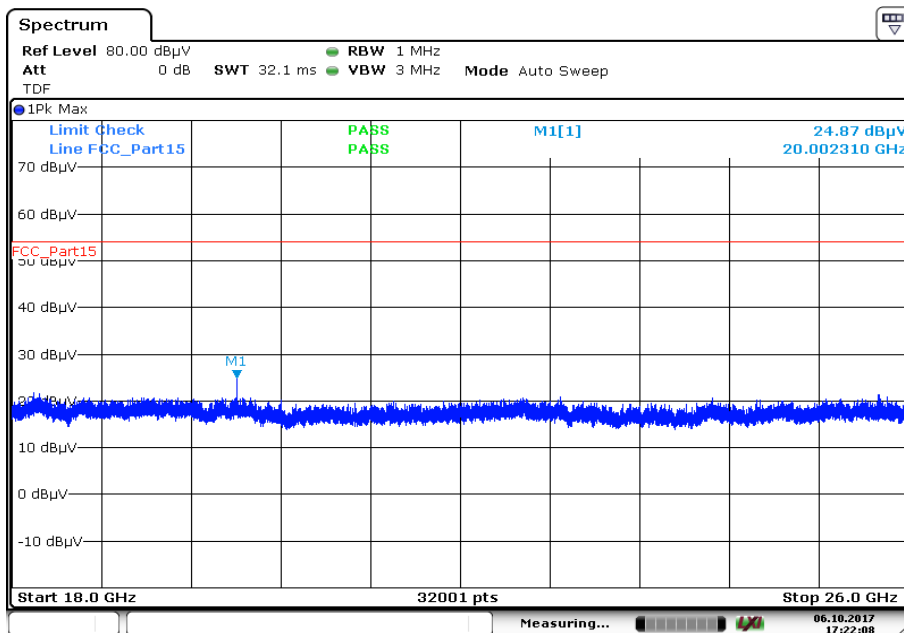
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.833	28.43	30.0	1.57	1000	120	101.0	V	92.0	12.1
34.245	15.10	30.0	14.90	1000	120	105.0	V	2.0	12.5
34.752	16.35	30.0	13.65	1000	120	98.0	V	-4.0	12.6
75.568	29.81	30.0	0.19	1000	120	170.0	V	294.0	8.8
143.310*	36.08	33.5	-2.58	1000	120	98.0	V	-9.0	9.0
302.291	31.18	36.0	4.82	1000	120	170.0	H	91.0	14.5

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 42:** 1 GHz to 18 GHz, 5795 MHz, vertical & horizontal polarization

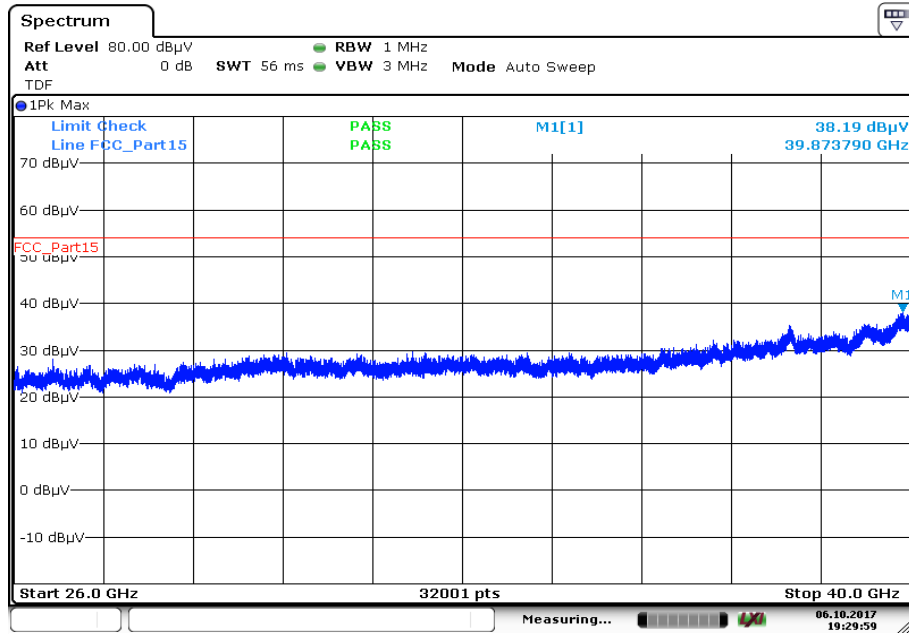


**Plot 43:** 18 GHz to 26 GHz, 5795 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:22:08

**Plot 44:** 26 GHz to 40 GHz, 5795 MHz, vertical & horizontal polarization



Date: 6.OCT.2017 19:29:59

### 11.10 RX spurious emissions radiated

**Description:**

Measurement of the radiated spurious emissions in idle/receive mode.

**Measurement:**

Measurement parameter	
Detector:	Quasi Peak below 1 GHz (alternative Peak) Peak above 1 GHz / RMS
Sweep time:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Video bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: ≥ 3 MHz
Span:	30 MHz to 40 GHz
Trace – mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %
Test setup:	See sub clause 6.2 – B
Measurement uncertainty:	See chapter 8

**Limits:**

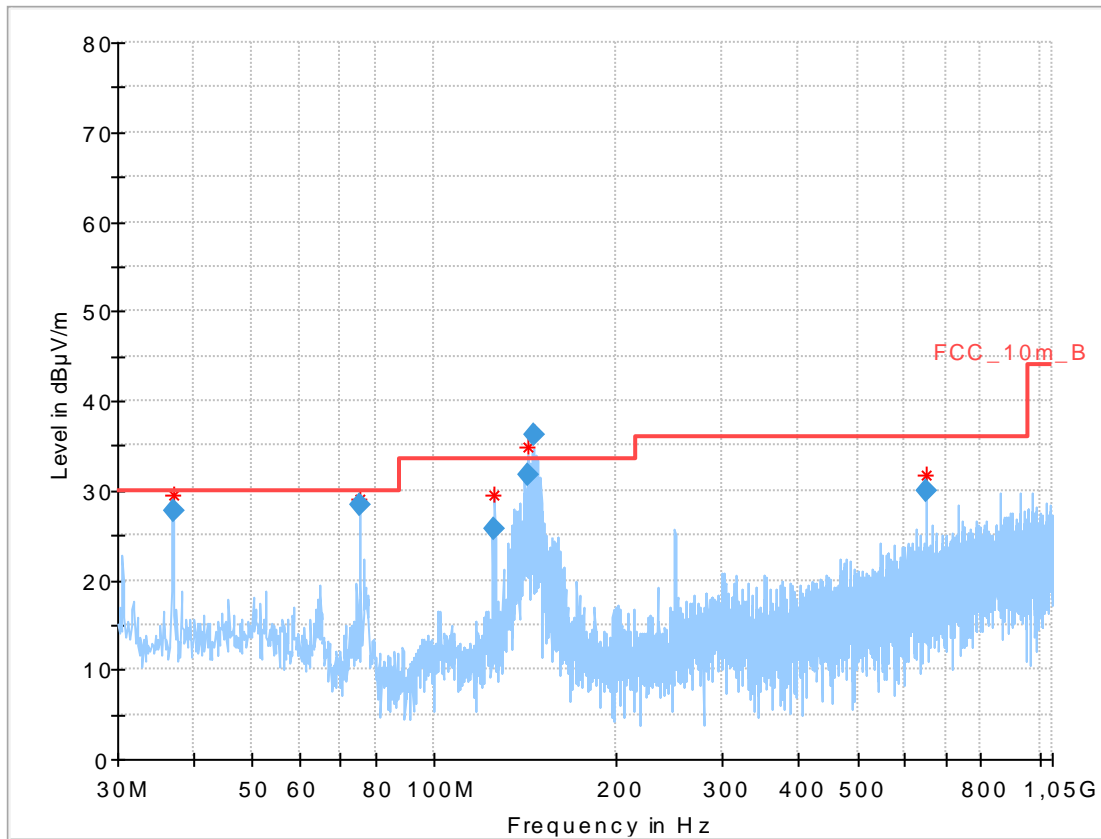
RX Spurious Emissions Radiated		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

**Results:**

RX Spurious Emissions Radiated [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz please refer to the result table below plots!		
All emissions measured above 1 GHz with peak detector > 10 dB below average limit.		

**Plots:**

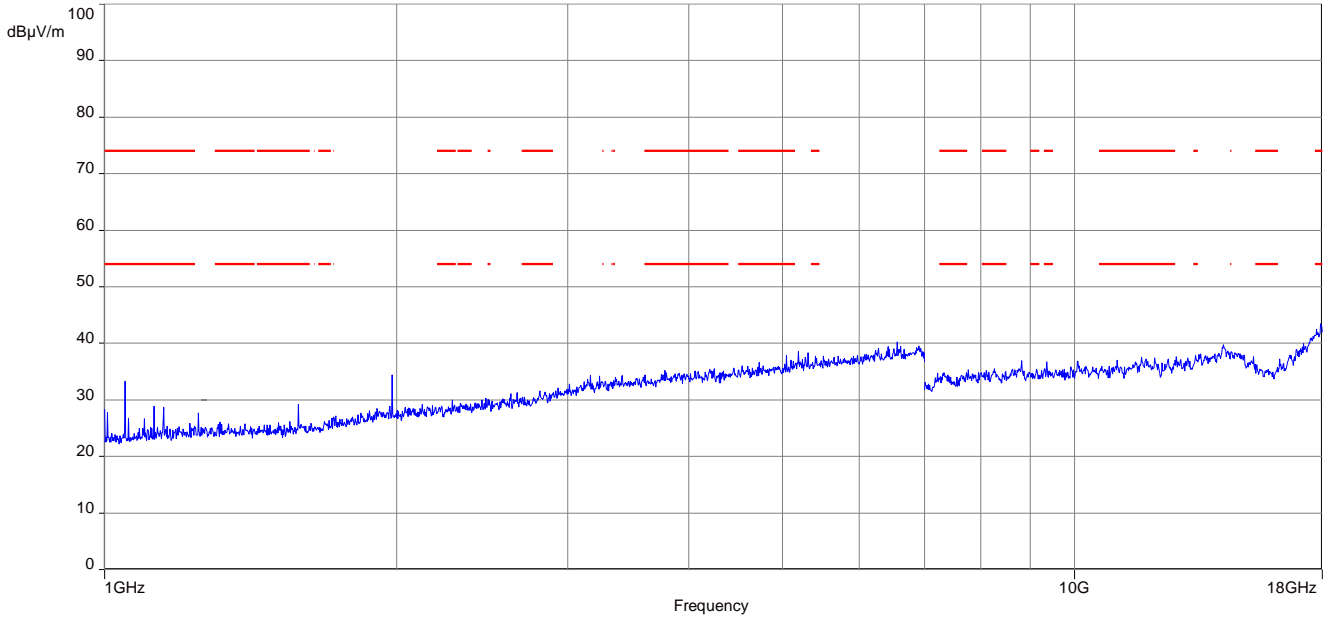
**Plot 1:** 30 MHz to 1 GHz, vertical & horizontal polarization



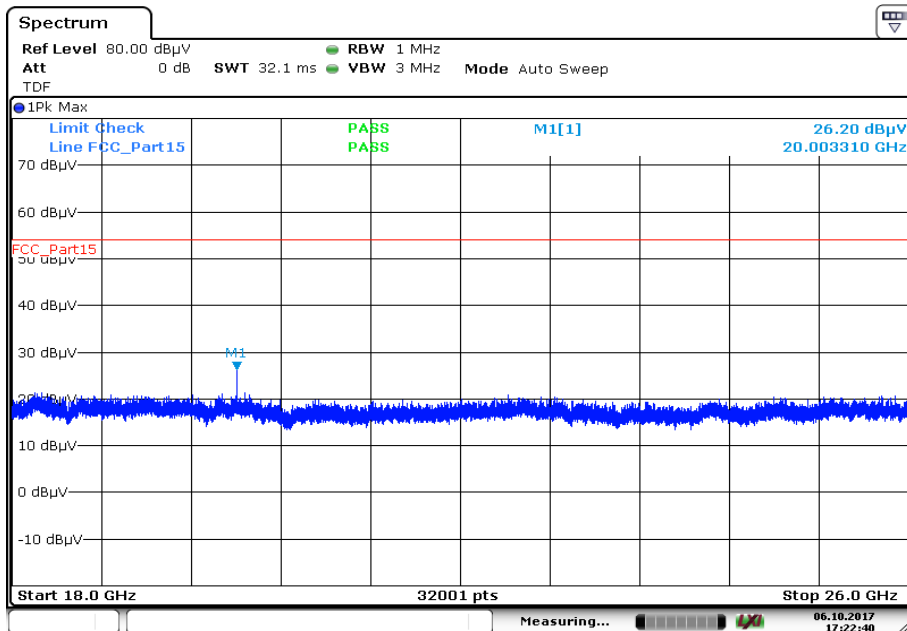
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.025	27.70	30.0	2.30	1000	120	101.0	V	300.0	12.9
75.573	28.30	30.0	1.70	1000	120	101.0	V	287.0	8.8
125.933	25.81	33.5	7.69	1000	120	98.0	V	350.0	9.8
142.421*	31.74	33.5	1.76	1000	120	98.0	V	34.0	9.0
145.678*	36.16	33.5	-2.66	1000	120	98.0	V	141.0	9.1
649.989	29.98	36.0	6.02	1000	120	98.0	H	0.0	21.1

\* Frequency is outside the restricted bands and therefore not rated.

**Plot 2:** 1 GHz to 18 GHz, vertical & horizontal polarization

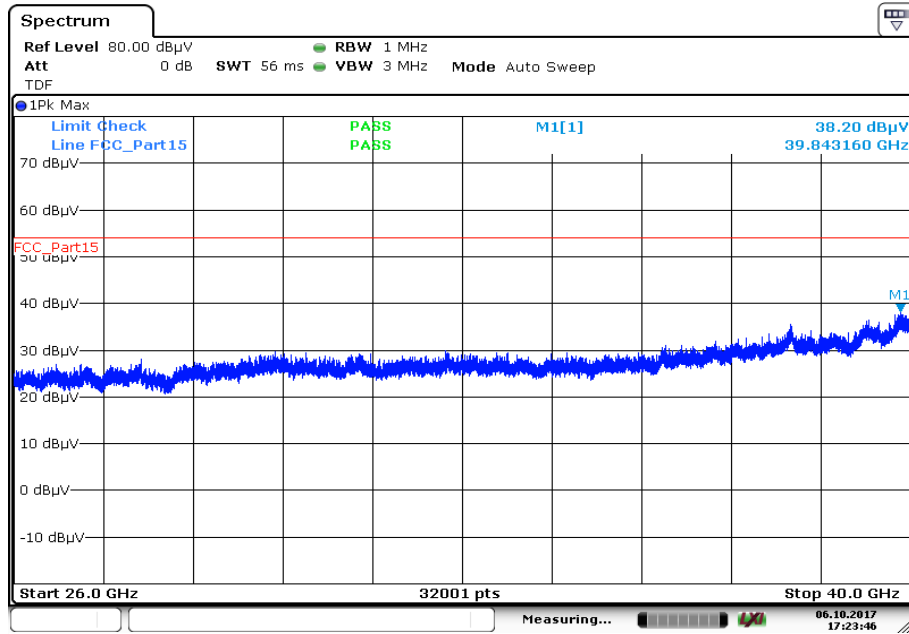


**Plot 3:** 18 GHz to 26 GHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:22:40

**Plot 4:** 26 GHz to 40 GHz, vertical & horizontal polarization



Date: 6.OCT.2017 17:23:46

### 11.11 Spurious emissions radiated < 30 MHz

**Description:**

Measurement of the radiated spurious emissions in transmit mode and receive mode below 30 MHz. The EUT is set first to middle channel. This measurement is representative for all channels and modes. If critical peaks are found the lowest channel and the highest channel will be measured too. Then the EUT is set to receive or idle mode. The limits are recalculated to a measurement distance of 3 m with 40 dB/decade according CFR Part 2.

**Measurement:**

Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace – mode:	Max Hold
Test setup:	See sub clause 6.2 – C
Measurement uncertainty:	See chapter 8

**Limits:**

Spurious Emissions Radiated < 30 MHz		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

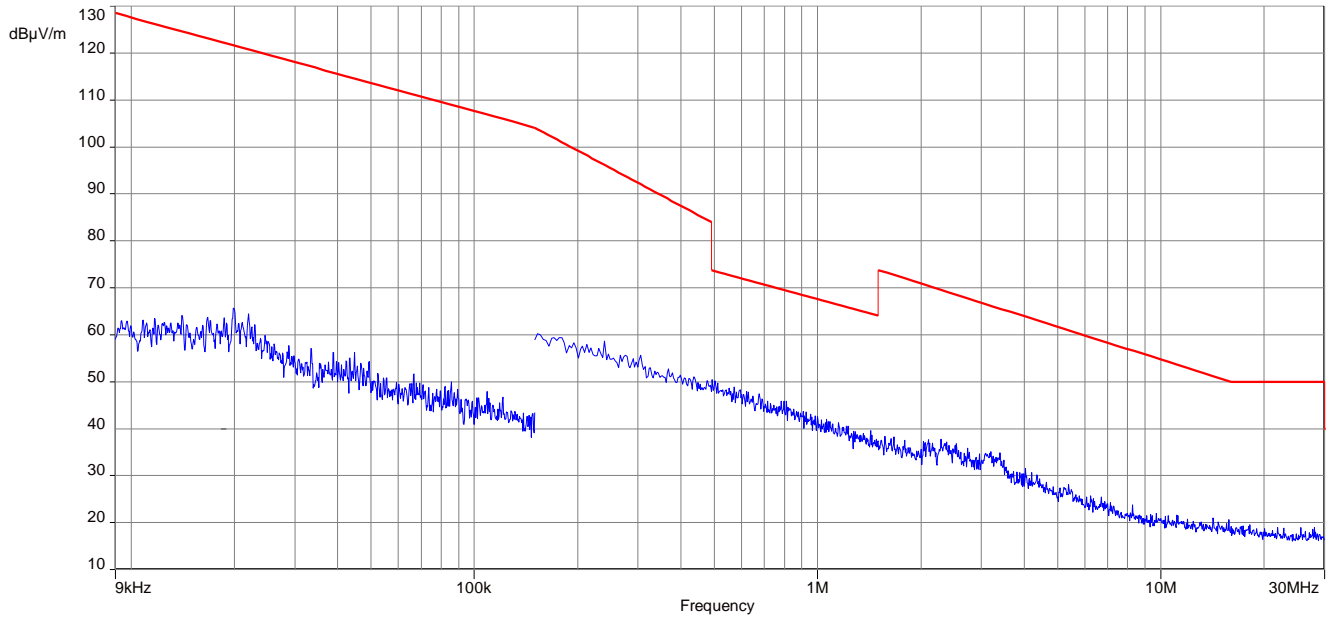
**Results:**

Spurious Emissions Radiated < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
All detected emissions are more than 20 dB below the limit.		

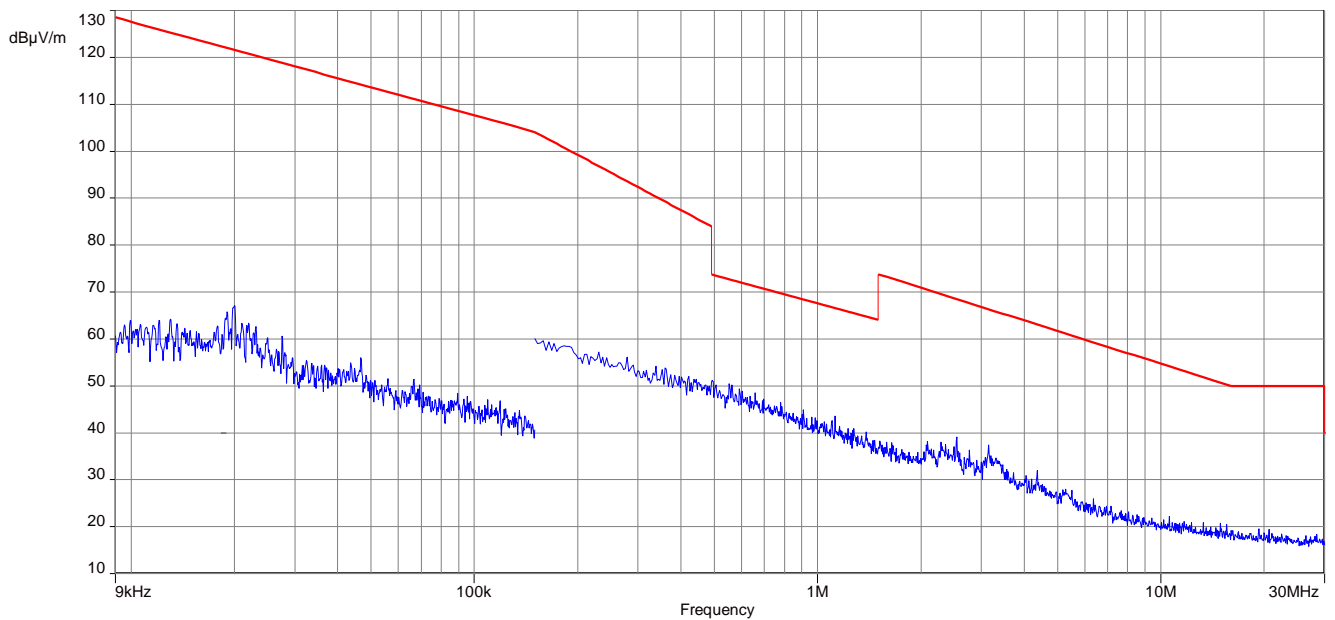


**Plots:**

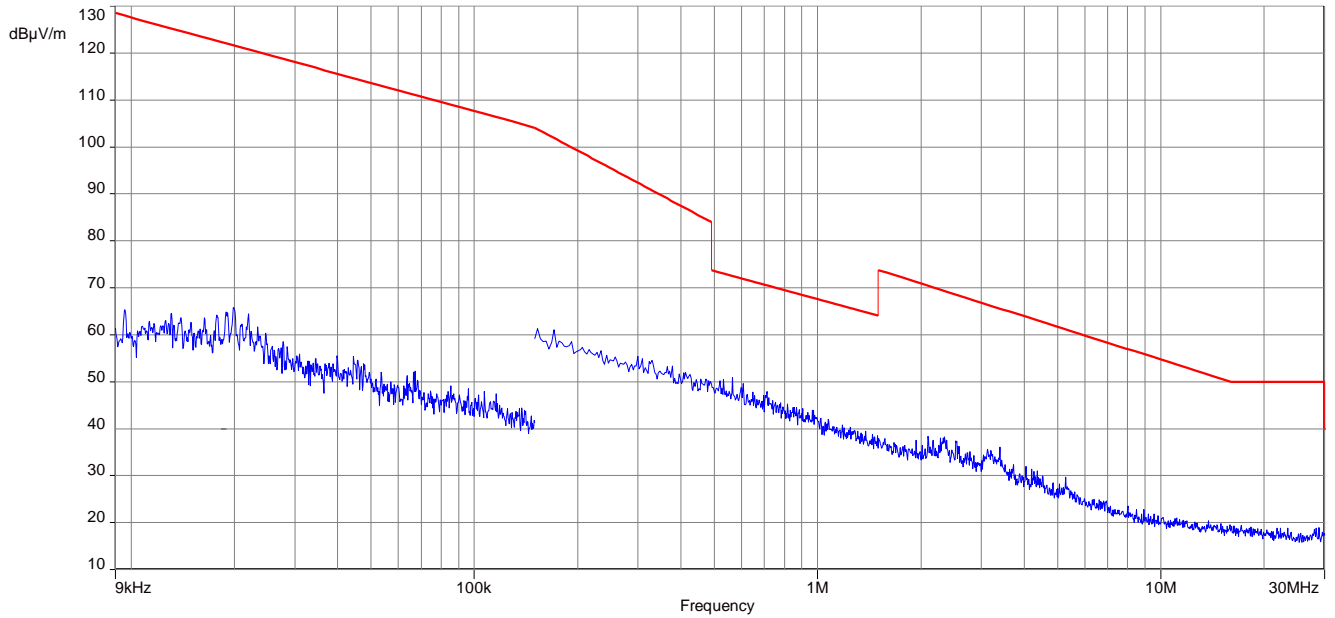
**Plot 1:** 9 kHz to 30 MHz, OFDM 20 MHz, 5180 MHz



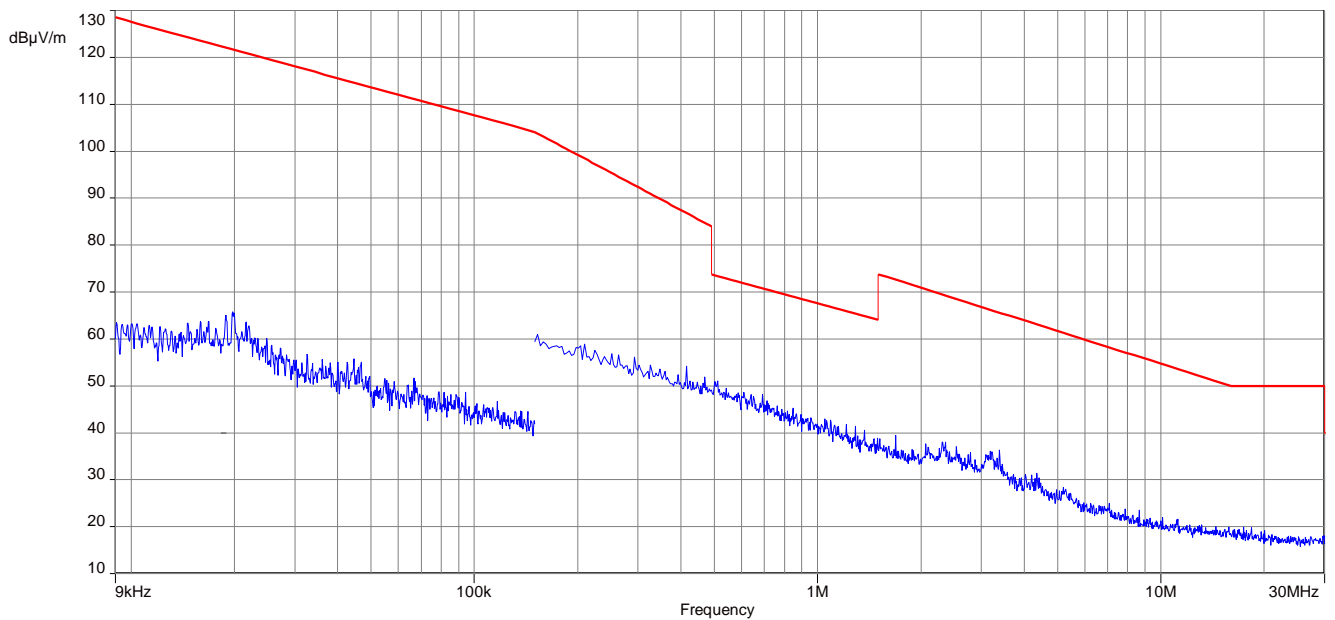
**Plot 2:** 9 kHz to 30 MHz, OFDM 20 MHz, 5240 MHz



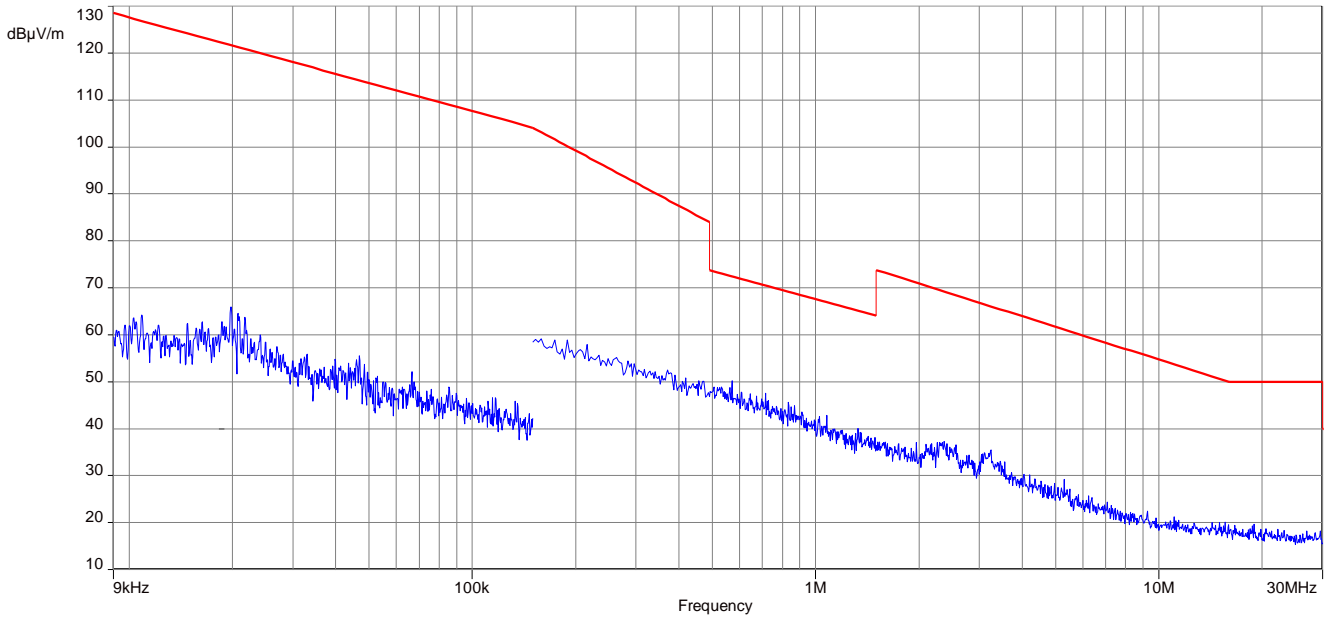
**Plot 3:** 9 kHz to 30 MHz, OFDM 20 MHz, 5260 MHz



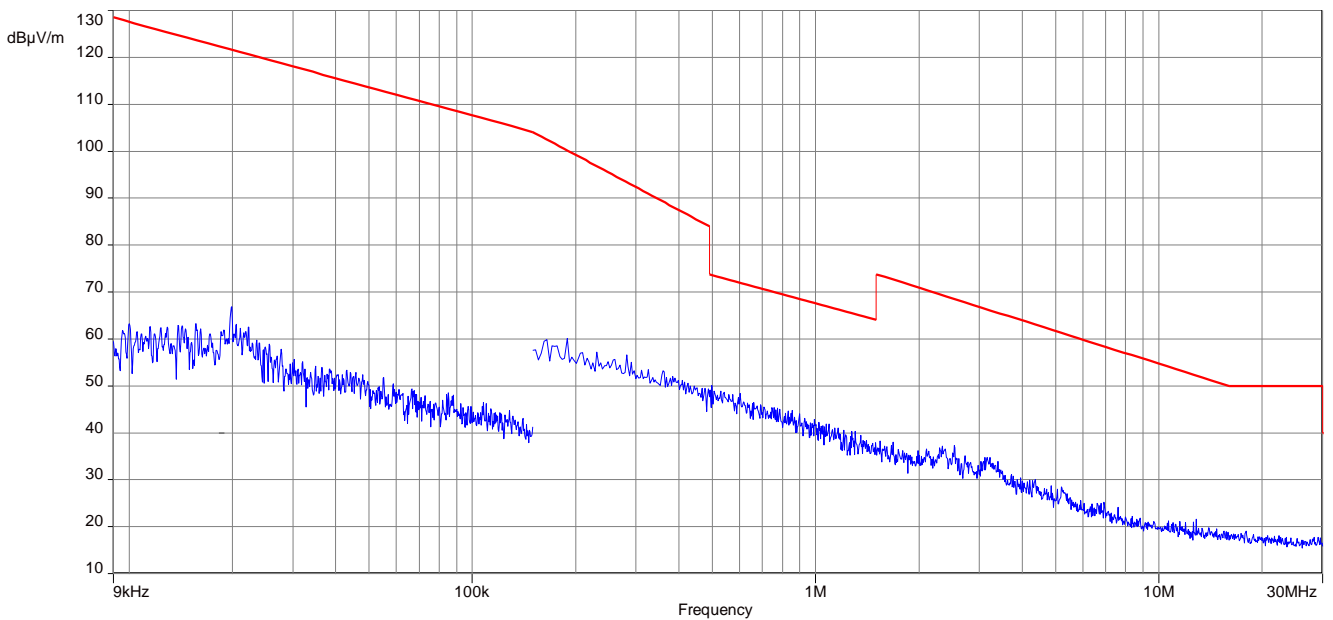
**Plot 4:** 9 kHz to 30 MHz, OFDM 20 MHz, 5320 MHz



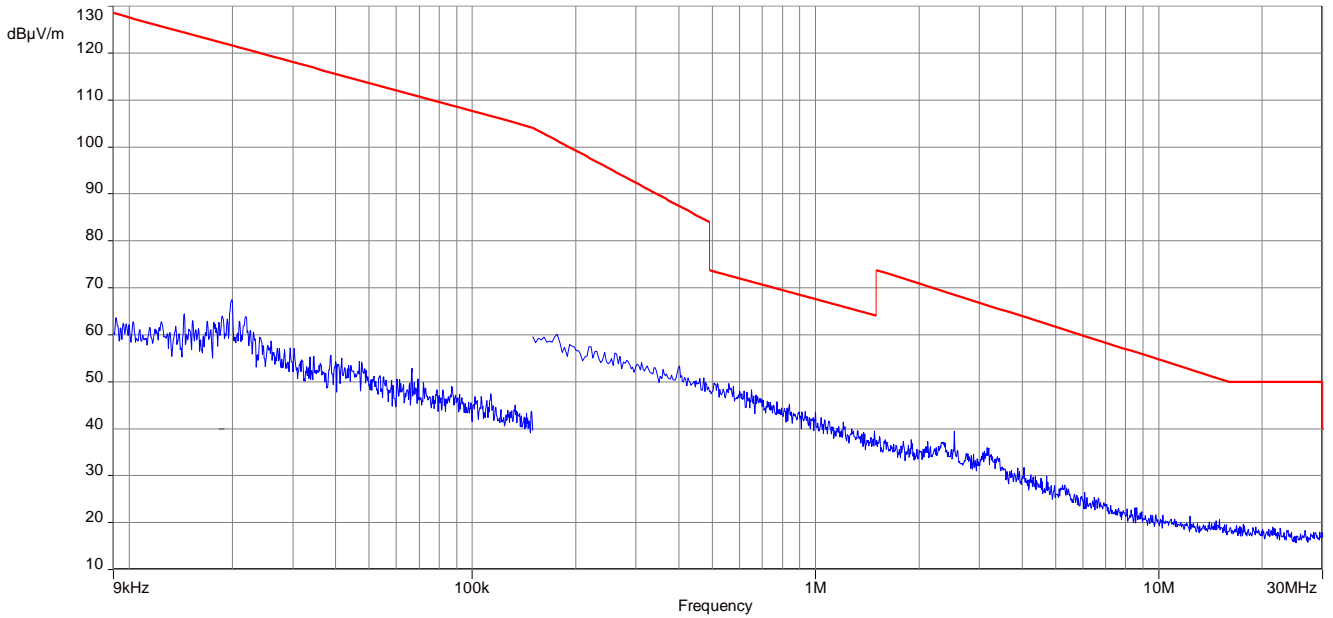
**Plot 5:** 9 kHz to 30 MHz, OFDM 20 MHz, 5500 MHz



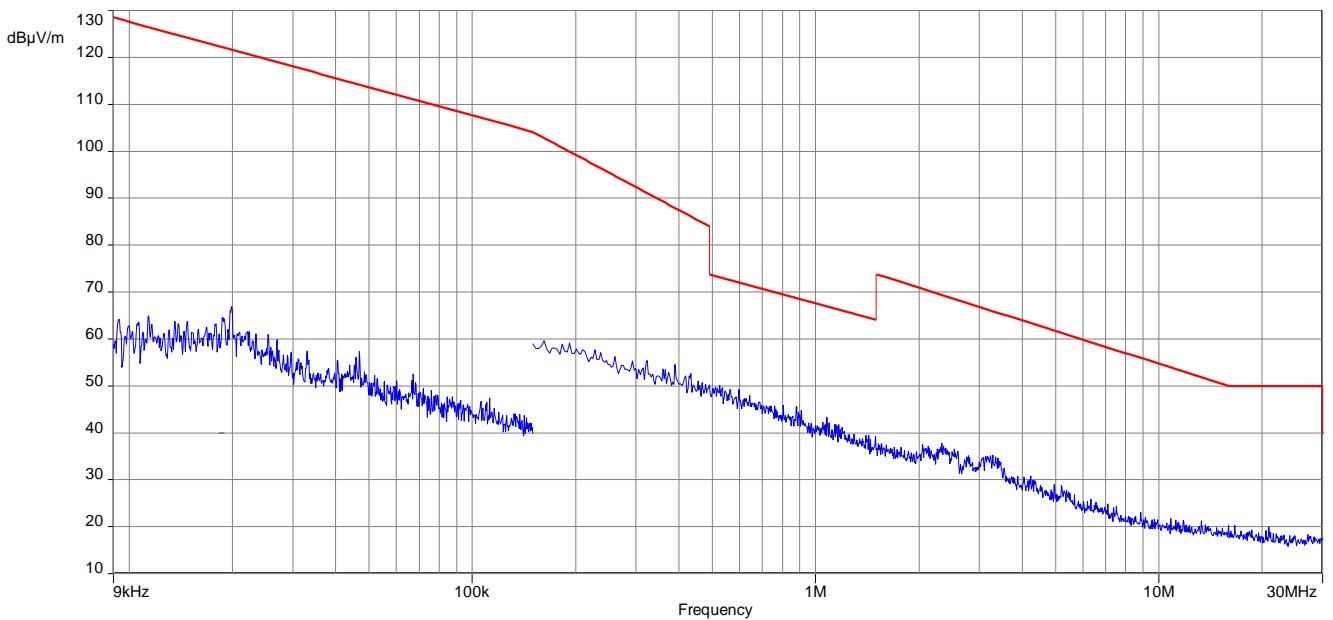
**Plot 6:** 9 kHz to 30 MHz, OFDM 20 MHz, 5580 MHz



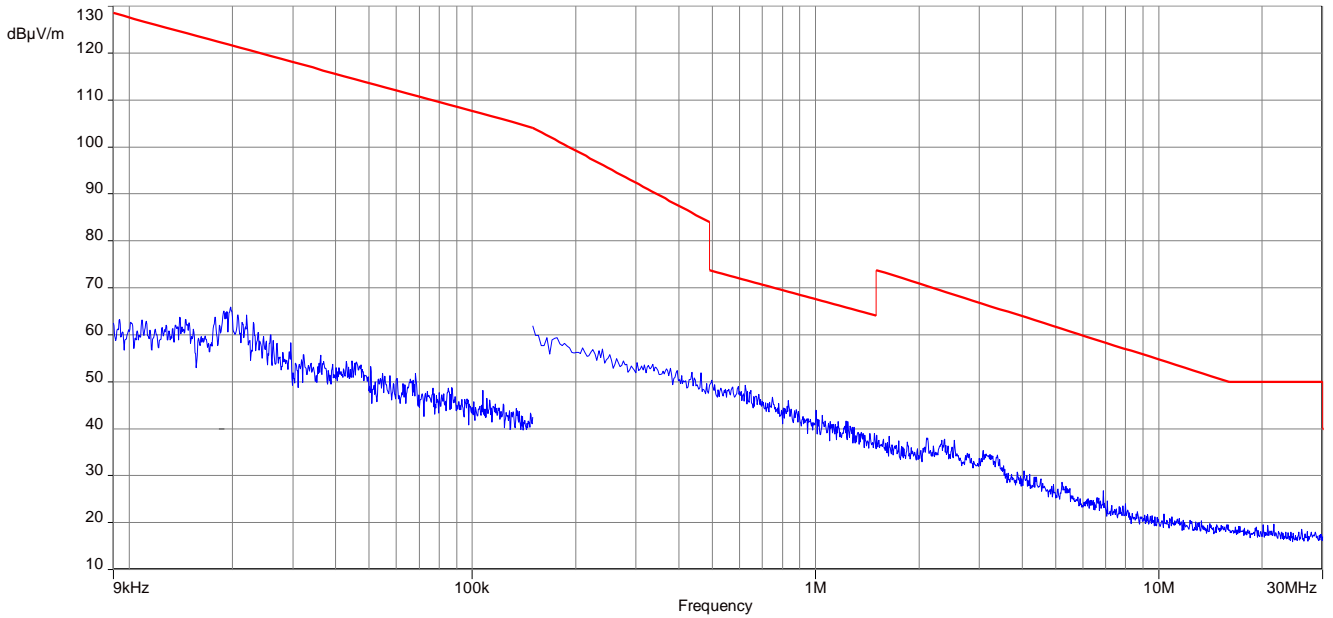
**Plot 7:** 9 kHz to 30 MHz, OFDM 20 MHz, 5700 MHz



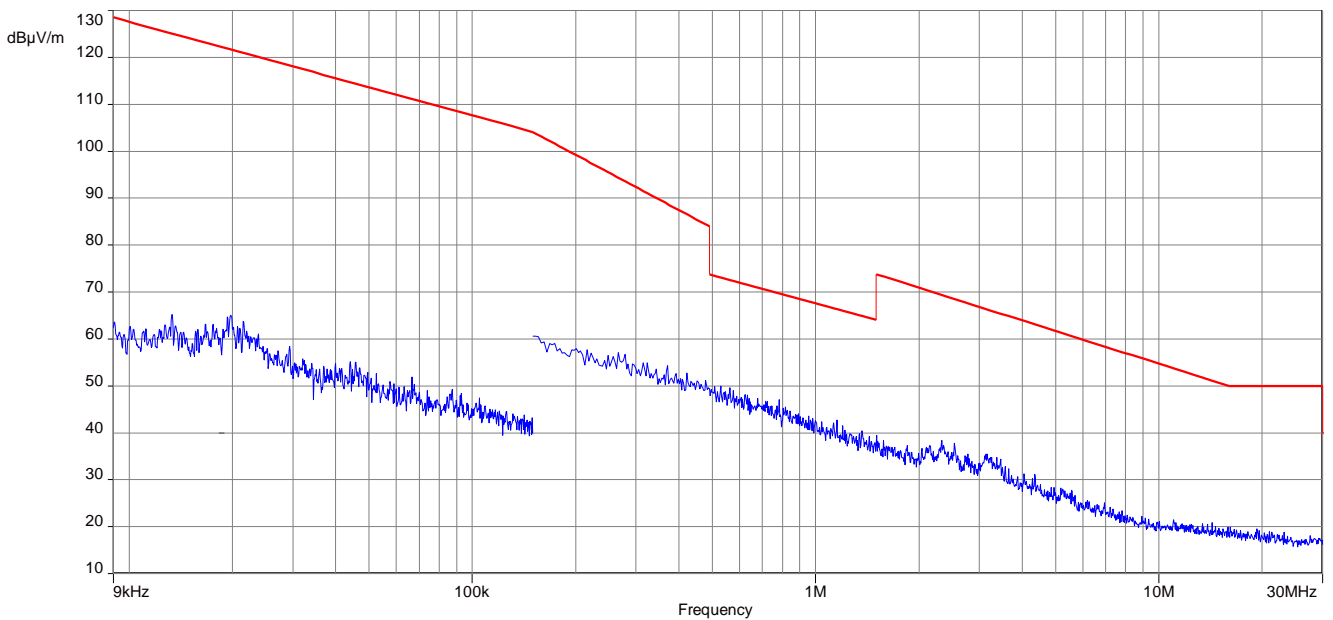
**Plot 8:** 9 kHz to 30 MHz, OFDM 20 MHz, 5745 MHz



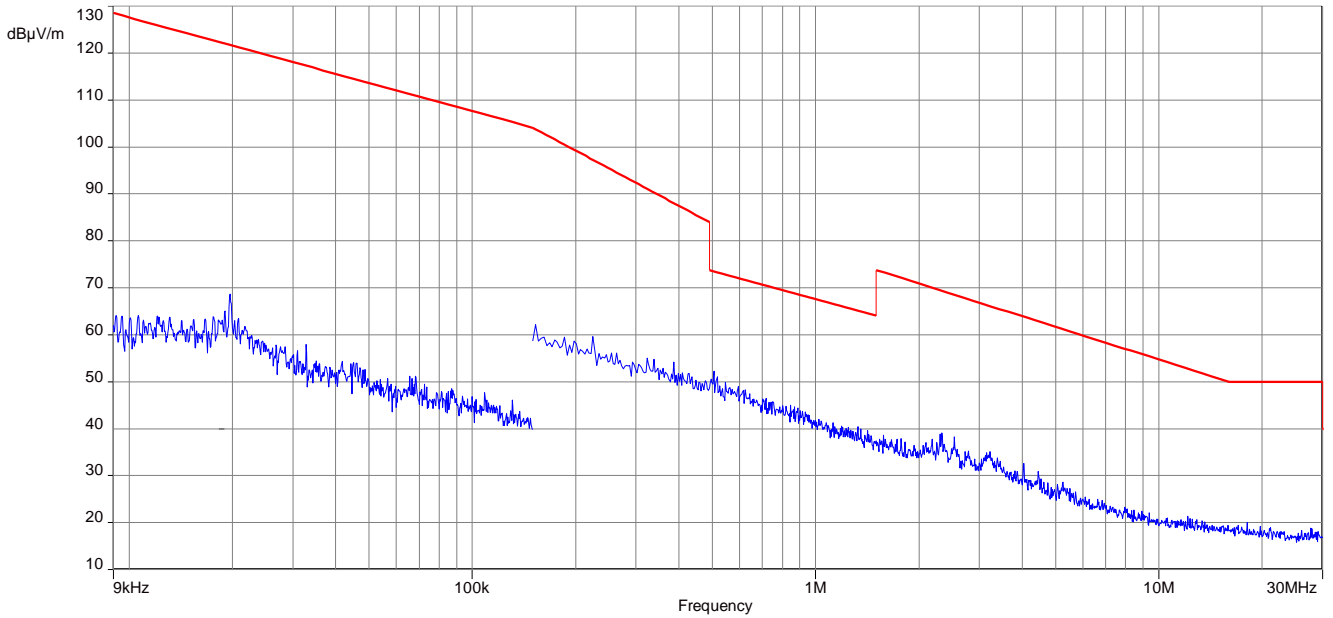
**Plot 9:** 9 kHz to 30 MHz, OFDM 20 MHz, 5785 MHz



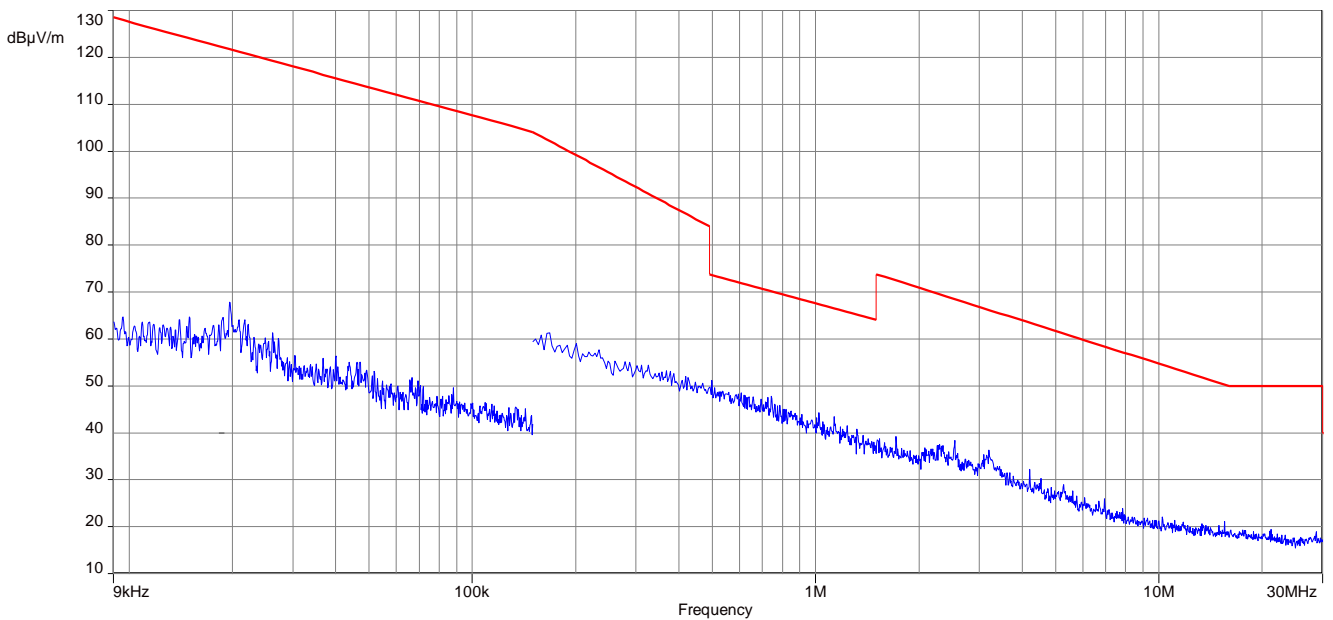
**Plot 10:** 9 kHz to 30 MHz, OFDM 20 MHz, 5825 MHz



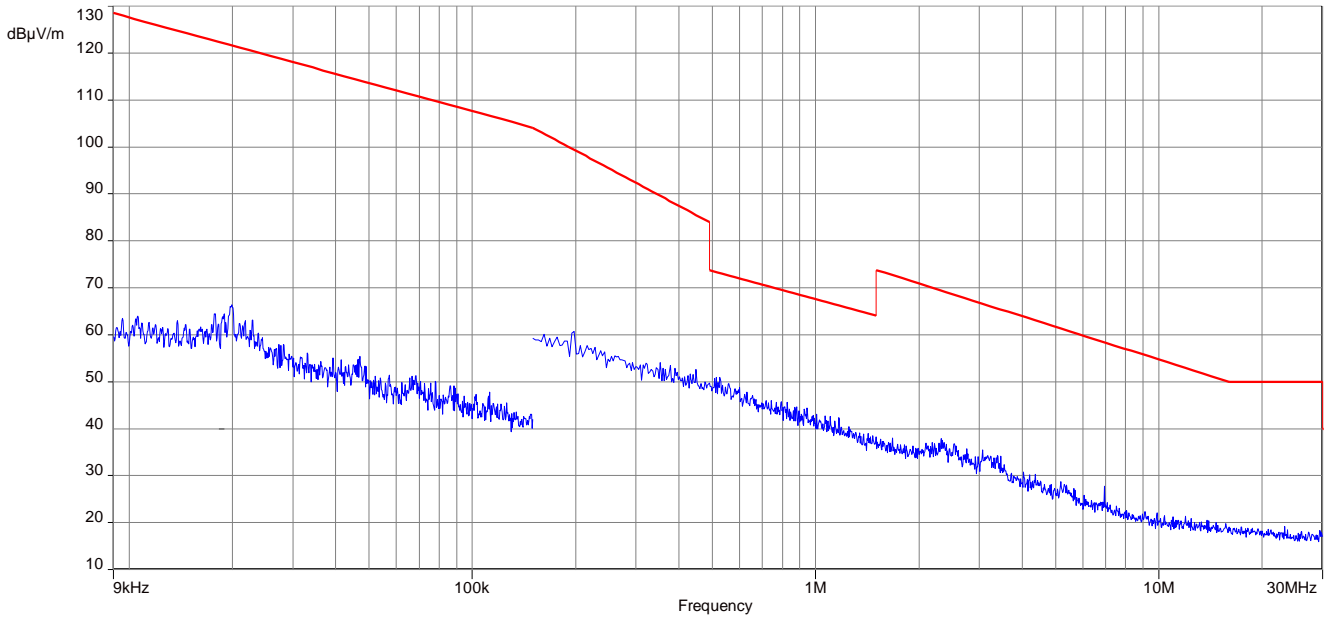
**Plot 11:** 9 kHz to 30 MHz, OFDM 40 MHz, 5190 MHz



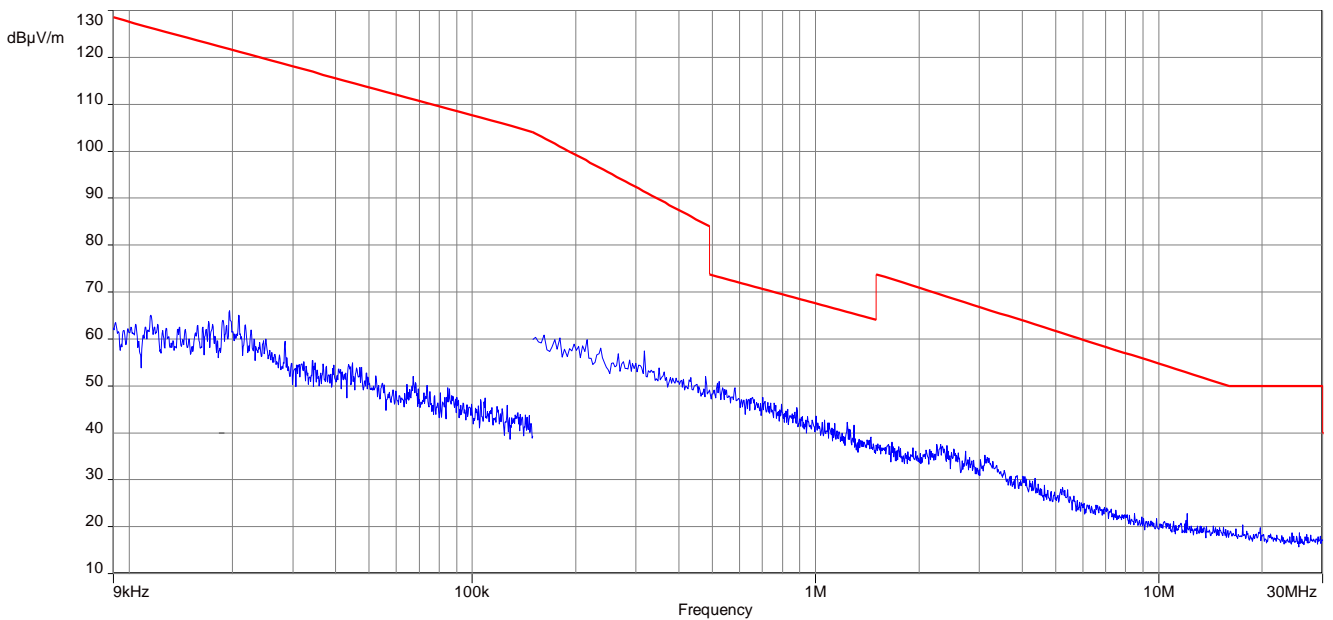
**Plot 12:** 9 kHz to 30 MHz, OFDM 40 MHz, 5230 MHz



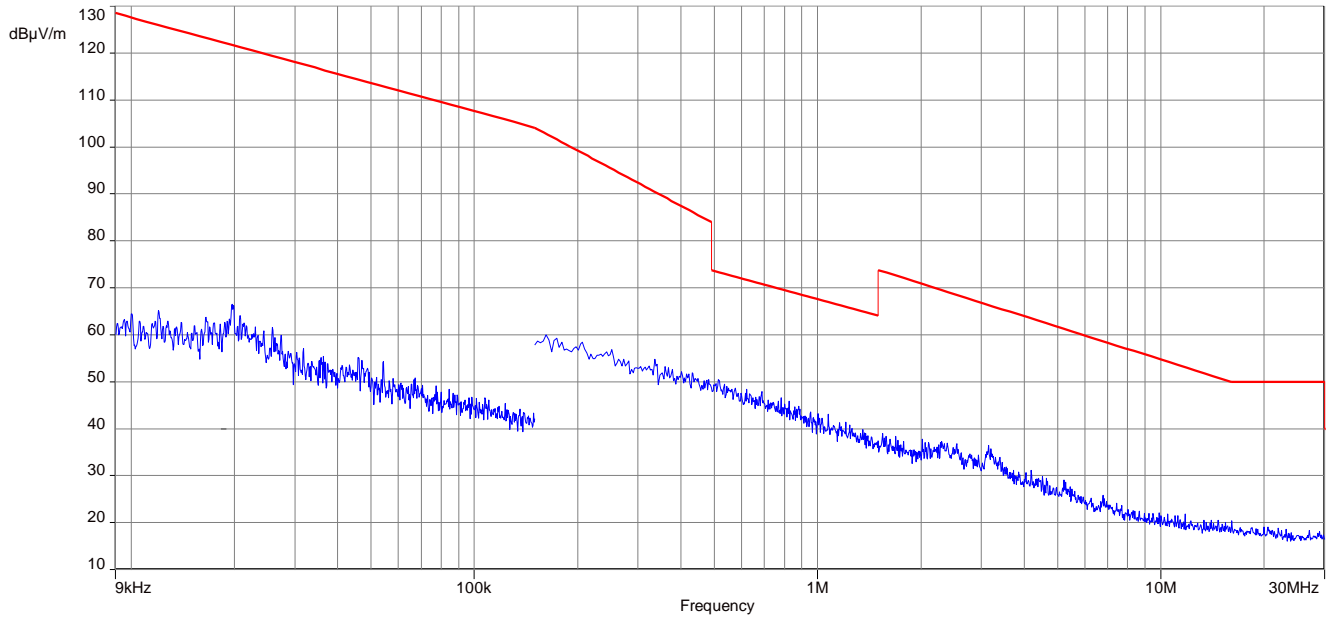
**Plot 13:** 9 kHz to 30 MHz, OFDM 40 MHz, 5270 MHz



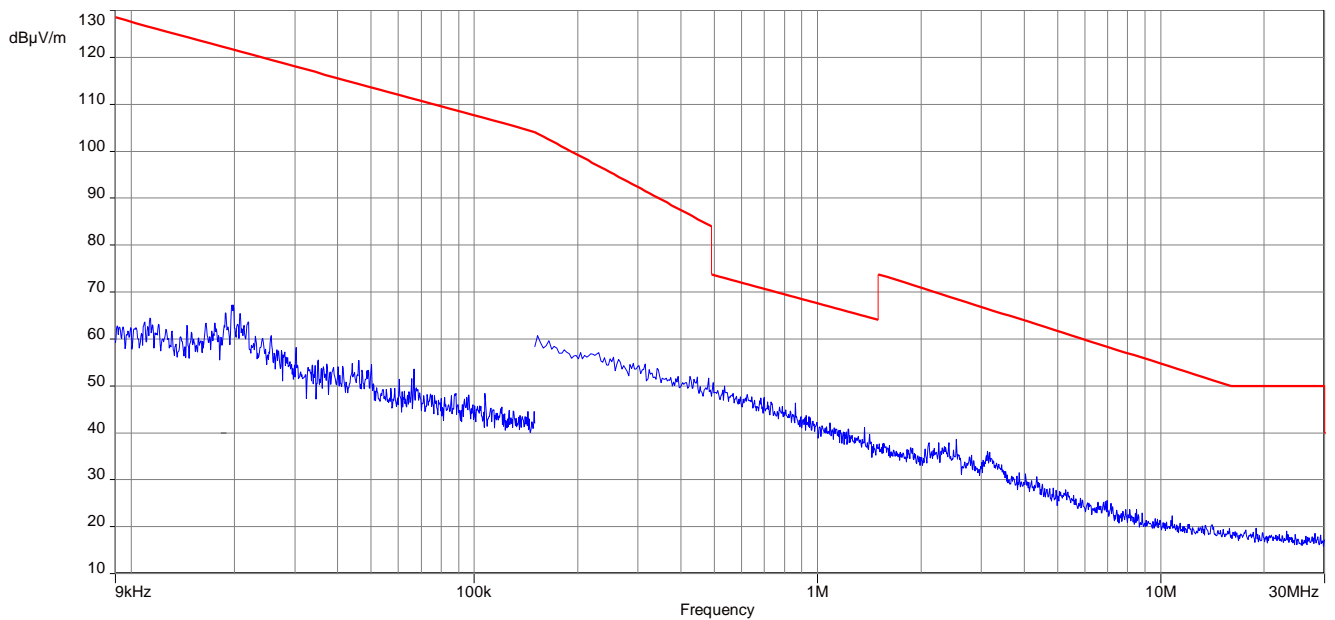
**Plot 14:** 9 kHz to 30 MHz, OFDM 40 MHz, 5310 MHz



**Plot 15:** 9 kHz to 30 MHz, OFDM 40 MHz, 5510 MHz

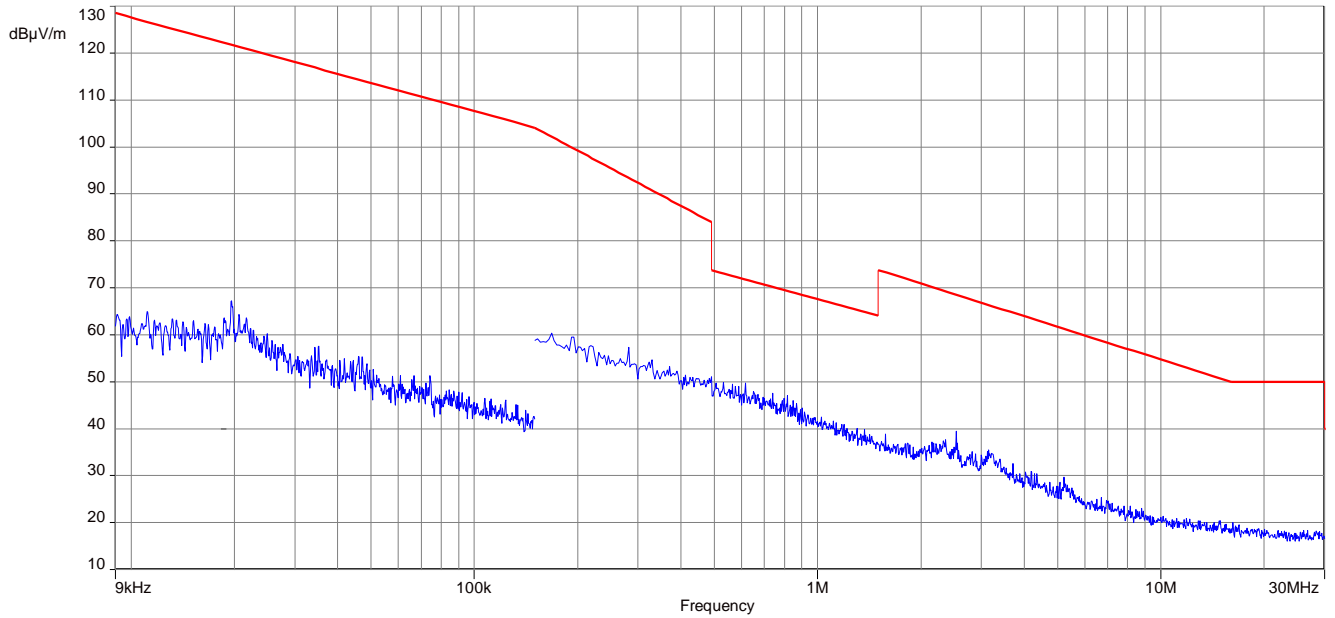


**Plot 16:** 9 kHz to 30 MHz, OFDM 40 MHz, 5550 MHz

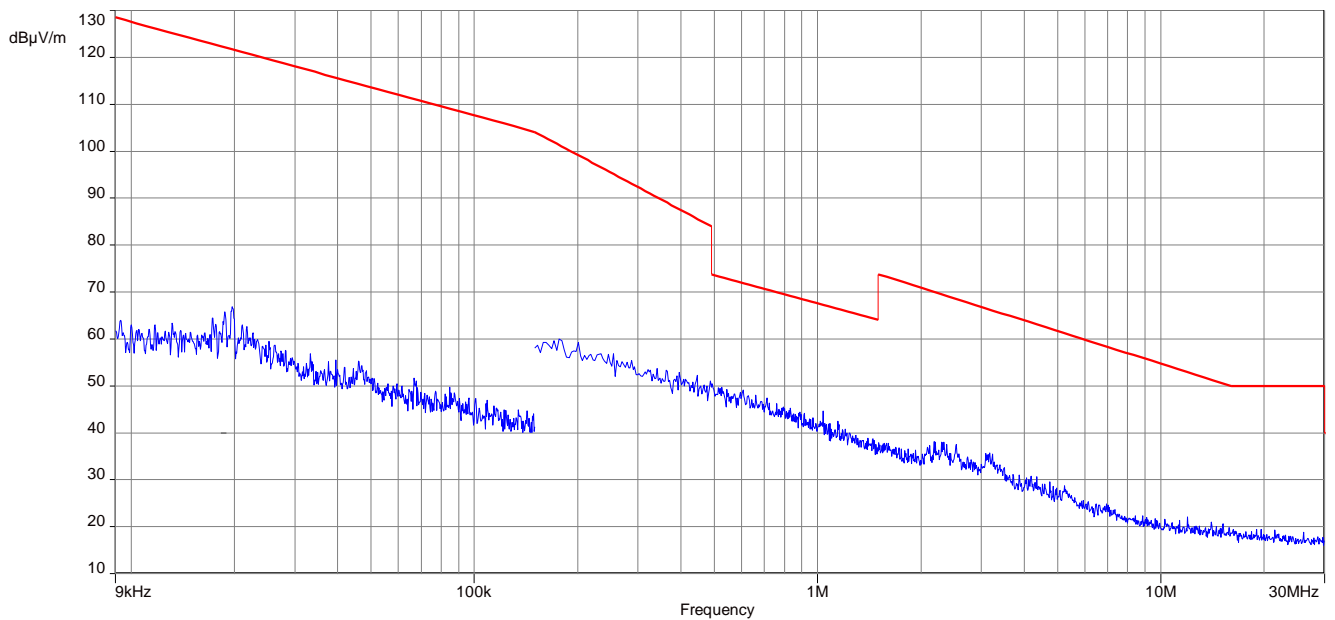




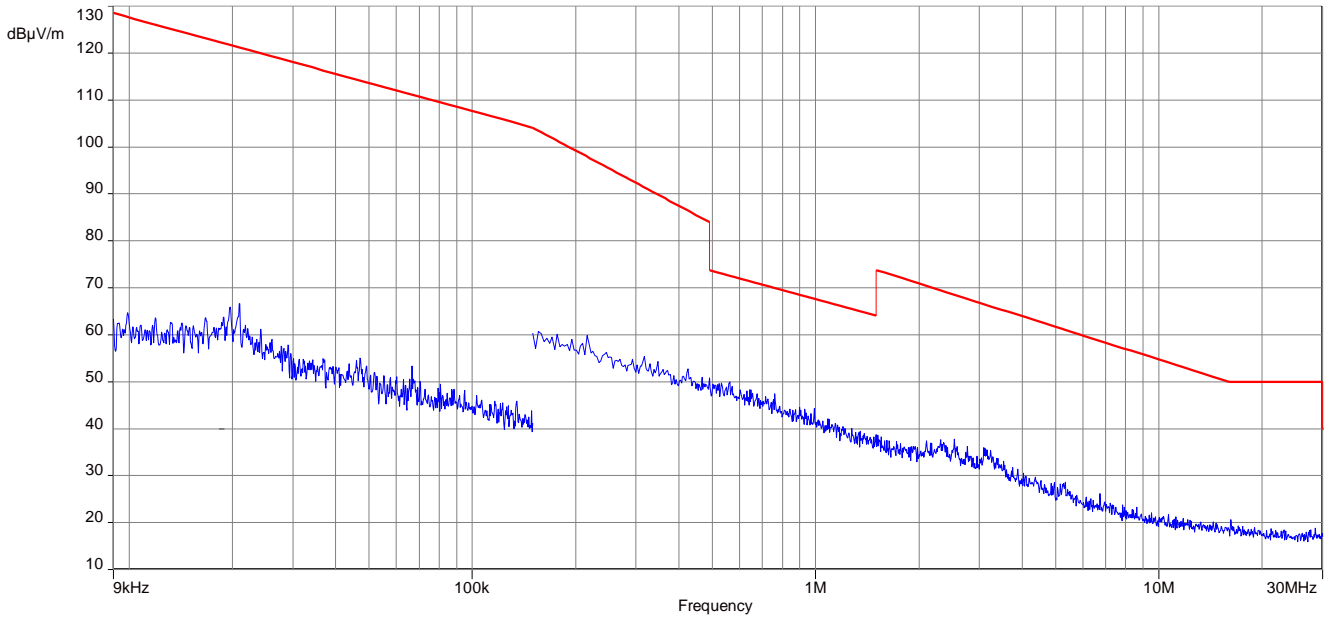
**Plot 17:** 9 kHz to 30 MHz, OFDM 40 MHz, 5590 MHz



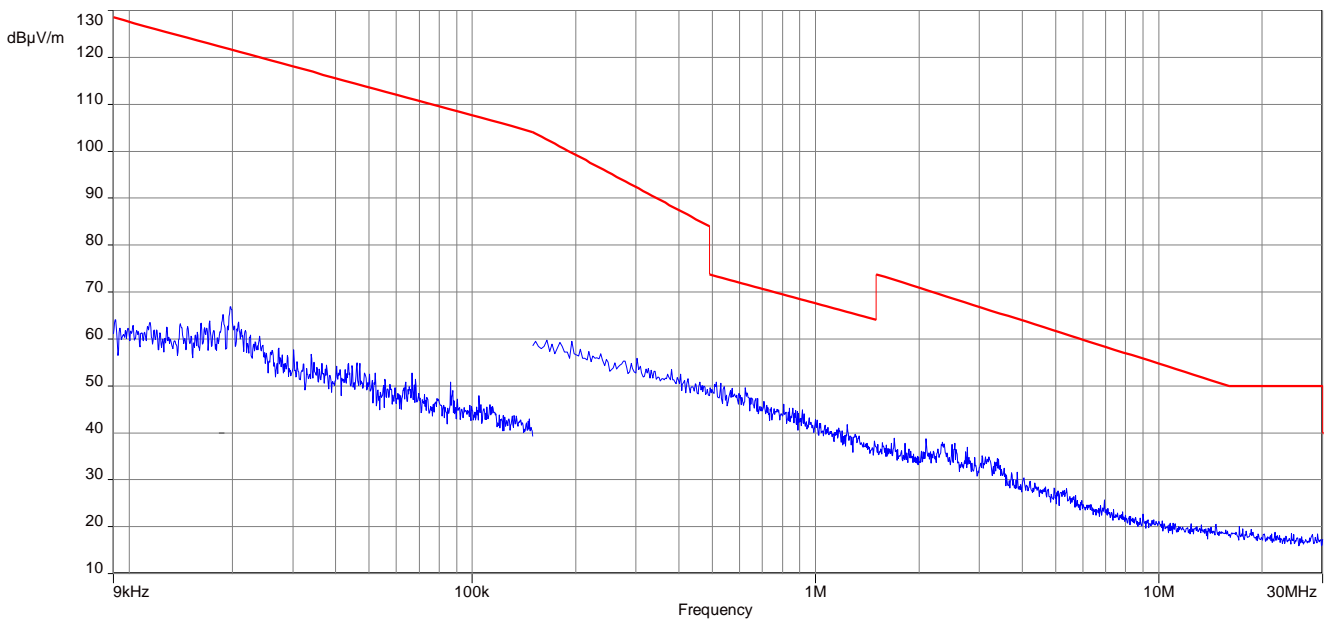
**Plot 18:** 9 kHz to 30 MHz, OFDM 40 MHz, 5630 MHz



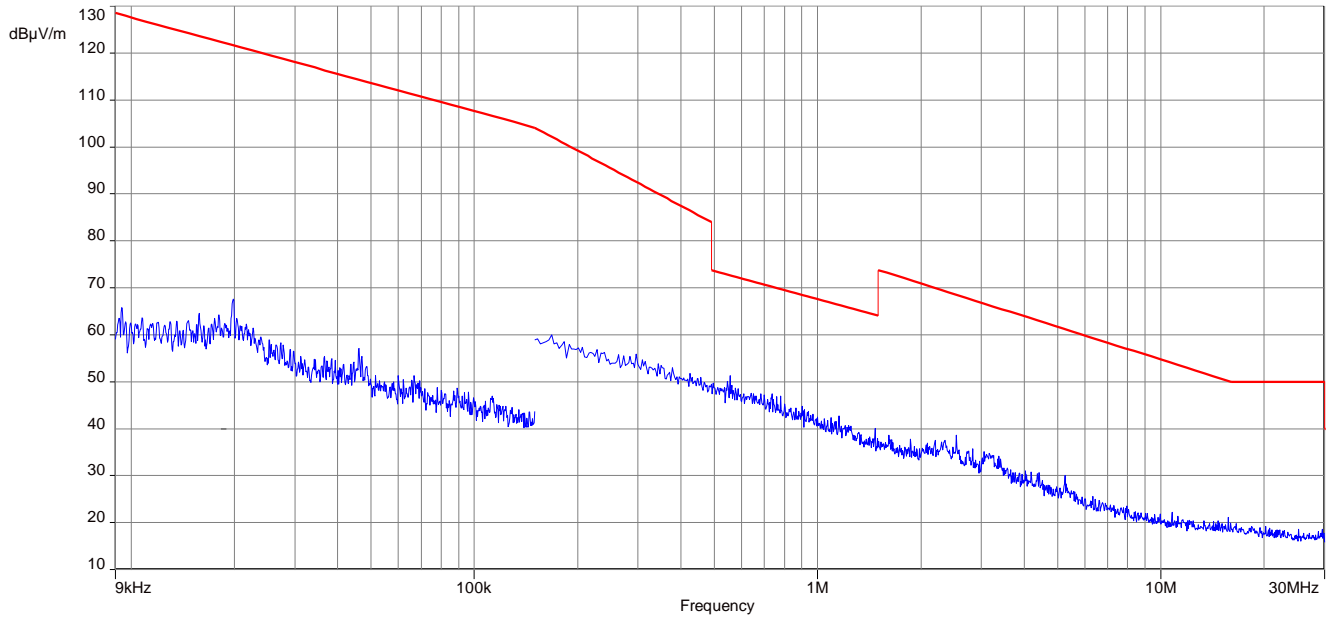
**Plot 19:** 9 kHz to 30 MHz, OFDM 40 MHz, 5670 MHz



**Plot 20:** 9 kHz to 30 MHz, OFDM 40 MHz, 5755 MHz



**Plot 21:** 9 kHz to 30 MHz, OFDM 40 MHz, 5795 MHz



## 12 Observations

No observations except those reported with the single test cases have been made.

## Annex A Glossary

<b>EUT</b>	Equipment under test
<b>DUT</b>	Device under test
<b>UUT</b>	Unit under test
<b>EN</b>	European Standard
<b>FCC</b>	Federal Communications Commission
<b>FCC ID</b>	Company Identifier at FCC
<b>IC</b>	Industry Canada
<b>PMN</b>	Product marketing name
<b>HMN</b>	Host marketing name
<b>HVIN</b>	Hardware version identification number
<b>FVIN</b>	Firmware version identification number
<b>EMC</b>	Electromagnetic Compatibility
<b>HW</b>	Hardware
<b>SW</b>	Software
<b>Inv. No.</b>	Inventory number
<b>S/N or SN</b>	Serial number
<b>C</b>	Compliant
<b>NC</b>	Not compliant
<b>NA</b>	Not applicable
<b>NP</b>	Not performed
<b>PP</b>	Positive peak
<b>QP</b>	Quasi peak
<b>AVG</b>	Average
<b>OC</b>	Operating channel
<b>OCW</b>	Operating channel bandwidth
<b>OBW</b>	Occupied bandwidth
<b>OOB</b>	Out of band
<b>CAC</b>	Channel availability check
<b>OP</b>	Occupancy period
<b>NOP</b>	Non occupancy period
<b>DC</b>	Duty cycle
<b>PER</b>	Packet error rate
<b>CW</b>	Clean wave
<b>MC</b>	Modulated carrier
<b>WLAN</b>	Wireless local area network
<b>DSSS</b>	Dynamic sequence spread spectrum
<b>OFDM</b>	Orthogonal frequency division multiplexing
<b>FHSS</b>	Frequency hopping spread spectrum

**Annex B Document history**

Version	Applied changes	Date of release
-/-	Initial release	2017-11-06
A	Editorial changes (PMN,HVIN,..)	2017-12-08

**Annex C Accreditation Certificate**

first page	last page
 <p>Deutsche Akkreditierungsstelle GmbH</p> <p>Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV Unterzeichnerin der Multilateralen Abkommen von EA, ILAC und IAF zur gegenseitigen Anerkennung</p>  <p><b>Akkreditierung</b></p> <p>Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium</p> <p><b>CTC advanced GmbH</b> Untertürkheimer Straße 6-10, 66117 Saarbrücken</p> <p>die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:</p> <ul style="list-style-type: none"> <li>Funk</li> <li>Mobilfunk (GSM / DCS) + OTA</li> <li>Elektromagnetische Verträglichkeit (EMV)</li> <li>Produktsicherheit</li> <li>SAR / EMF</li> <li>Umwelt</li> <li>Smart Card Technology</li> <li>Bluetooth®</li> <li>Automotive</li> <li>Wi-Fi-Services</li> <li>Kanadische Anforderungen</li> <li>US-Anforderungen</li> <li>Akustik</li> <li>Near Field Communication (NFC)</li> </ul> <p>Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 25.11.2016 mit der Akkreditierungsnummer D-PL-12076-01 und ist gültig bis 17.01.2018. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 63 Seiten.</p> <p>Registrierungsnummer der Urkunde: D-PL-12076-01-01</p> <p>Frankfurt, 25.11.2016</p>  <p>Im Auftrag Dipl.-Ing. Ralf Egner Abteilungsleiter</p> <p><small>Siehe Hinweise auf der Rückseite</small></p>	<p>Deutsche Akkreditierungsstelle GmbH</p> <p>Standort Berlin Spittelmarkt 10 10117 Berlin</p> <p>Standort Frankfurt am Main Europa-Allee 52 60327 Frankfurt am Main</p> <p>Standort Braunschweig Bundesallee 100 38116 Braunschweig</p> <p>Die auszugsweise Veröffentlichung der Akkreditierungsurkunde bedarf der vorherigen schriftlichen Zustimmung der Deutsche Akkreditierungsstelle GmbH (DAkKS). Ausgenommen davon ist die separate Weiterverbreitung des Deckblattes durch die umseitig genannte Konformitätsbewertungsstelle in unveränderter Form.</p> <p>Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt, die über den durch die DAkKS bestätigten Akkreditierungsbereich hinausgehen.</p> <p>Die Akkreditierung erfolgte gemäß des Gesetzes über die Akkreditierungsstelle (AkkStelleG) vom 31. Juli 2009 (BGBl. I S. 2625) sowie der Verordnung (EG) Nr. 765/2008 des Europäischen Parlaments und des Rates vom 9. Juli 2008 über die Vorschriften für die Akkreditierung und Marktüberwachung im Zusammenhang mit der Vermarktung von Produkten (Abi. L 218 vom 9. Juli 2008, S. 30). Die DAkKS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der European co-operation for Accreditation (EA), des International Accreditation Forum (IAF) und der International Laboratory Accreditation Cooperation (ILAC). Die Unterzeichner dieser Abkommen erkennen ihre Akkreditierungen gegenseitig an.</p> <p>Der aktuelle Stand der Mitgliedschaft kann folgenden Webseiten entnommen werden: EA: <a href="http://www.european-accreditation.org">www.european-accreditation.org</a> ILAC: <a href="http://www.ilac.org">www.ilac.org</a> IAF: <a href="http://www.iaf.nu">www.iaf.nu</a></p>

**Note: The current certificate annex is published on the website (link see below) of the Accreditation Body DAkKS or may be received by CTC advanced GmbH on request**

<http://www.dakks.de/as/ast/d/D-PL-12076-01-03.pdf>