

### B.3 Out-of-band emissions (conducted)

**Test limits:**

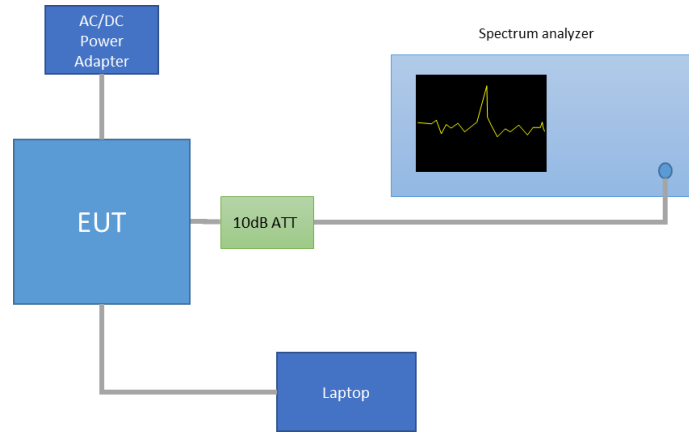
FCC part	RSS part	Limits																																
15.247 (d)	RSS-247 Clause 5.5	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall 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, provided the transmitter demonstrates compliance with the peak conducted power limits.																																
15.209	RSS-247 Clause 6.2.2 (2)	<p>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):</p> <table border="1"> <thead> <tr> <th>Freq Range (MHz)</th> <th>Field Strength (μV/m)</th> <th>Field Strength (dBμV/m)</th> <th>Meas. Distance (m)</th> </tr> </thead> <tbody> <tr> <td>0.009-0.490</td> <td>2400/f(kHz)</td> <td>-</td> <td>300</td> </tr> <tr> <td>0.490-1.705</td> <td>24000/f(kHz)</td> <td>-</td> <td>300</td> </tr> <tr> <td>1.705-30.0</td> <td>30</td> <td>-</td> <td>30</td> </tr> <tr> <td>30-88</td> <td>100</td> <td>40</td> <td>3</td> </tr> <tr> <td>88-216</td> <td>150</td> <td>43.5</td> <td>3</td> </tr> <tr> <td>216-960</td> <td>200</td> <td>46</td> <td>3</td> </tr> <tr> <td>Above 960</td> <td>500</td> <td>54</td> <td>3</td> </tr> </tbody> </table> <p>The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> <p>For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</p>	Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)	0.009-0.490	2400/f(kHz)	-	300	0.490-1.705	24000/f(kHz)	-	300	1.705-30.0	30	-	30	30-88	100	40	3	88-216	150	43.5	3	216-960	200	46	3	Above 960	500	54	3
Freq Range (MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Meas. Distance (m)																															
0.009-0.490	2400/f(kHz)	-	300																															
0.490-1.705	24000/f(kHz)	-	300																															
1.705-30.0	30	-	30																															
30-88	100	40	3																															
88-216	150	43.5	3																															
216-960	200	46	3																															
Above 960	500	54	3																															

**Test procedure:**

The setup below was used to measure the out-of-band emissions. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

The Band Edge High, was measured using the method according to point 13.3 (Integration Method) of KDB 558074 D01 DTS Meas Guidance v03r04.

In case of Band Edge measurements falling in restricted bands, the declared Antenna Gain is also compensated in the graph. The declared maximum antenna gain is 3dBi.



For Band Edge measurements falling in restricted bands, the following limits in dBm were applied for the average detector after the conversion from the limits detailed above in dB $\mu$ V/m, according to FCC 47 CFR part 15 - Subpart C – §15.209(a). The limits in dBm for peak detector are 20dB above the indicated values in the table.

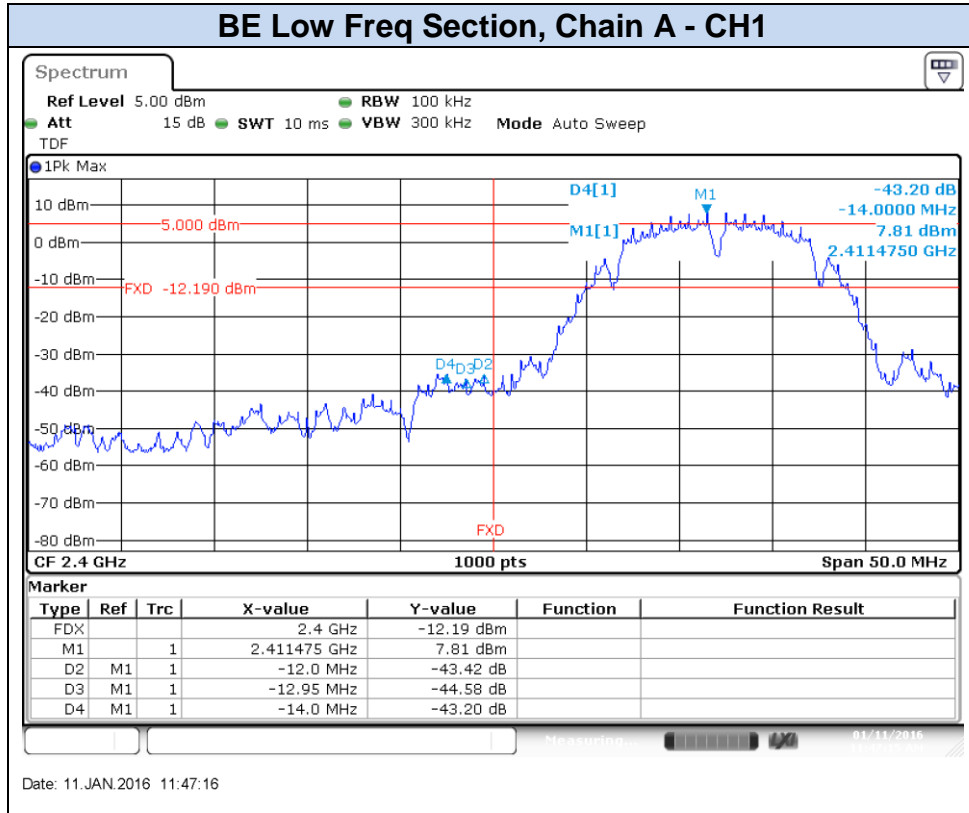
§15.209(a)			Converted values	
Freq Range (MHz)	Distance (m)	Field strength (microvolts/meter)	Field strength (dB microvolts/meter)	Power (dBm)
Above 960	3	500	54.0	41.2

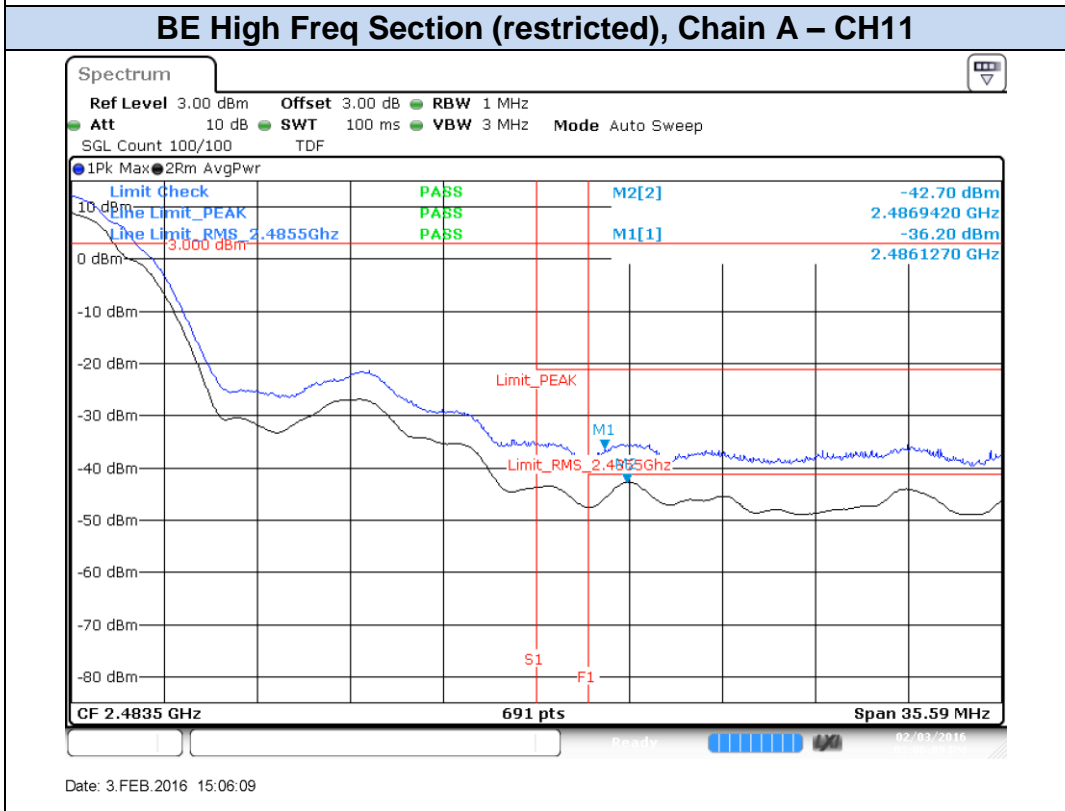
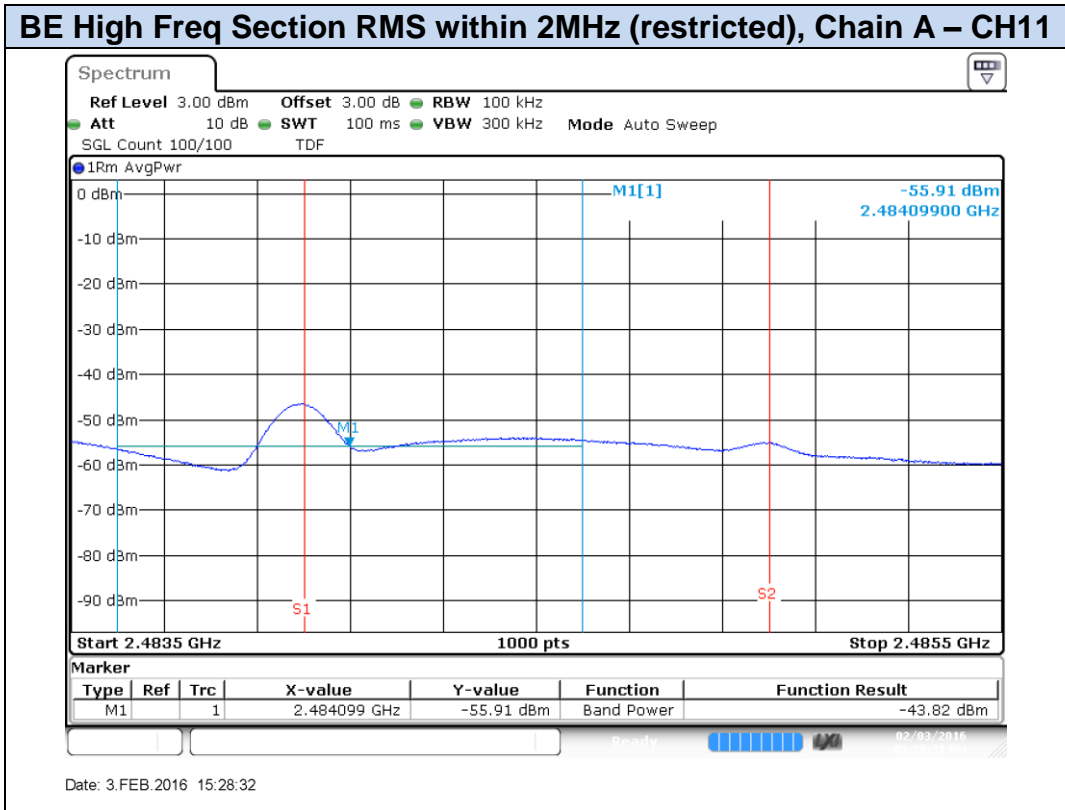
Note: these PSD<sub>Peak</sub> values are shown just as a reference for the compliance of the Out-of-band Measurements. The RBW used for these measurements was 100kHz.

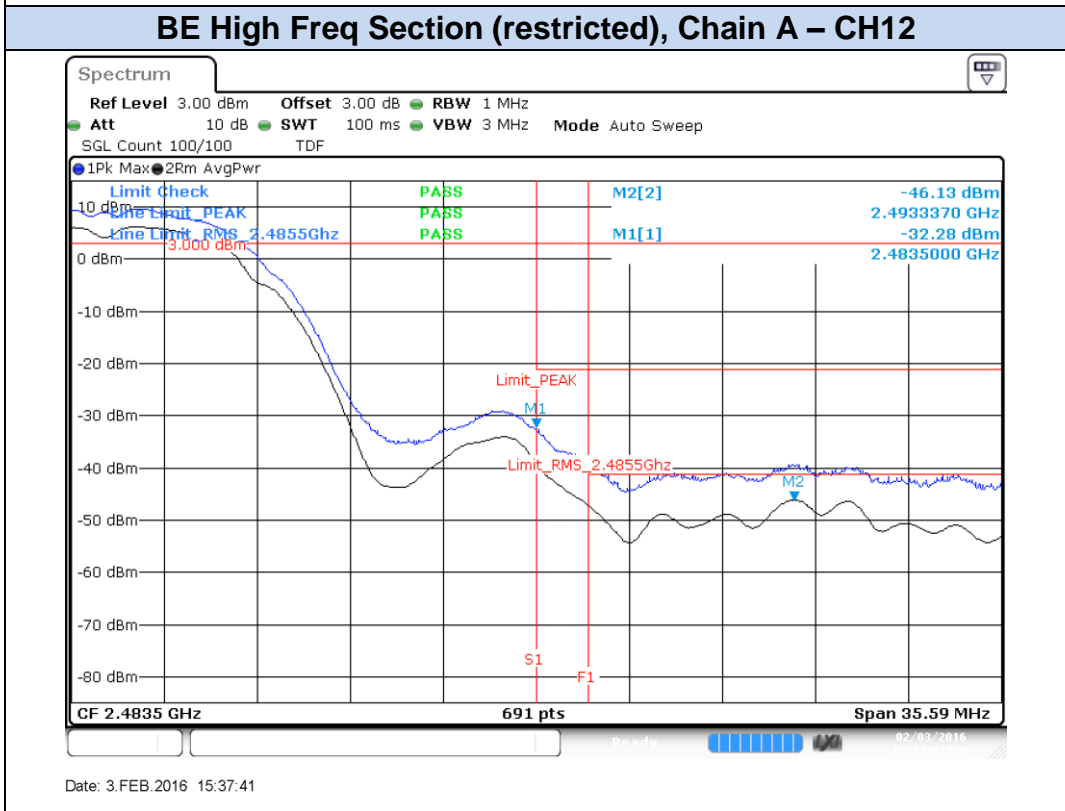
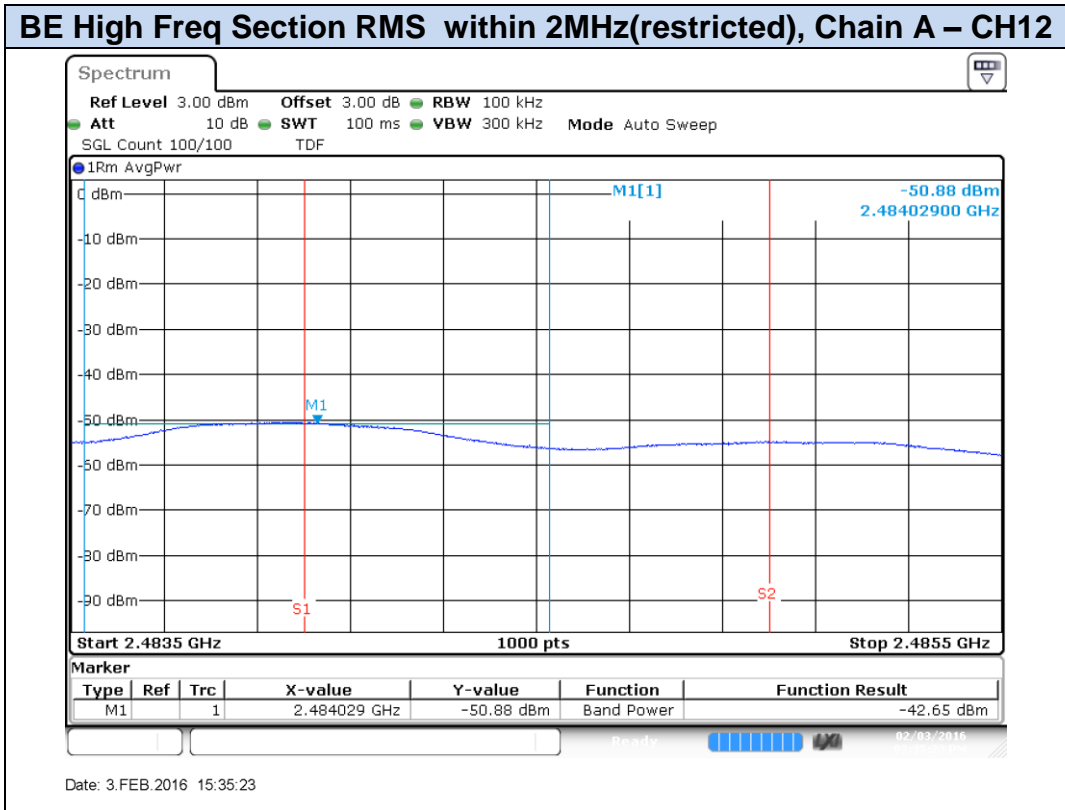
Mode	Rate	Channel	Frequency [MHz]	Antenna	PSD Peak [dBm]
802.11b	1Mbps	1	2412	SISO CHAIN A	7.81
		7	2442	SISO CHAIN A	9.64
		11	2462	SISO CHAIN A	8.01
		12	2467	SISO CHAIN A	2.79
		13	2472	SISO CHAIN A	0.04
802.11g	6Mbps	1	2412	SISO CHAIN A	4.26
		7	2442	SISO CHAIN A	6.46
		11	2462	SISO CHAIN A	3.94
		12	2467	SISO CHAIN A	-1.85
		13	2472	SISO CHAIN A	-13.16
802.11n20	HT0	1	2412	SISO CHAIN A	4.73
		7	2442	SISO CHAIN A	6.72
		11	2462	SISO CHAIN A	2.95
		12	2467	SISO CHAIN A	-2.31
		13	2472	SISO CHAIN A	-13.27
802.11n40	HT0	3F	2422	SISO CHAIN A	-1.28
		7F	2442	SISO CHAIN A	1.27
		9F	2452	SISO CHAIN A	-0.43
		10F	2457	SISO CHAIN A	-5.27
		11F	2462	SISO CHAIN A	-13.42

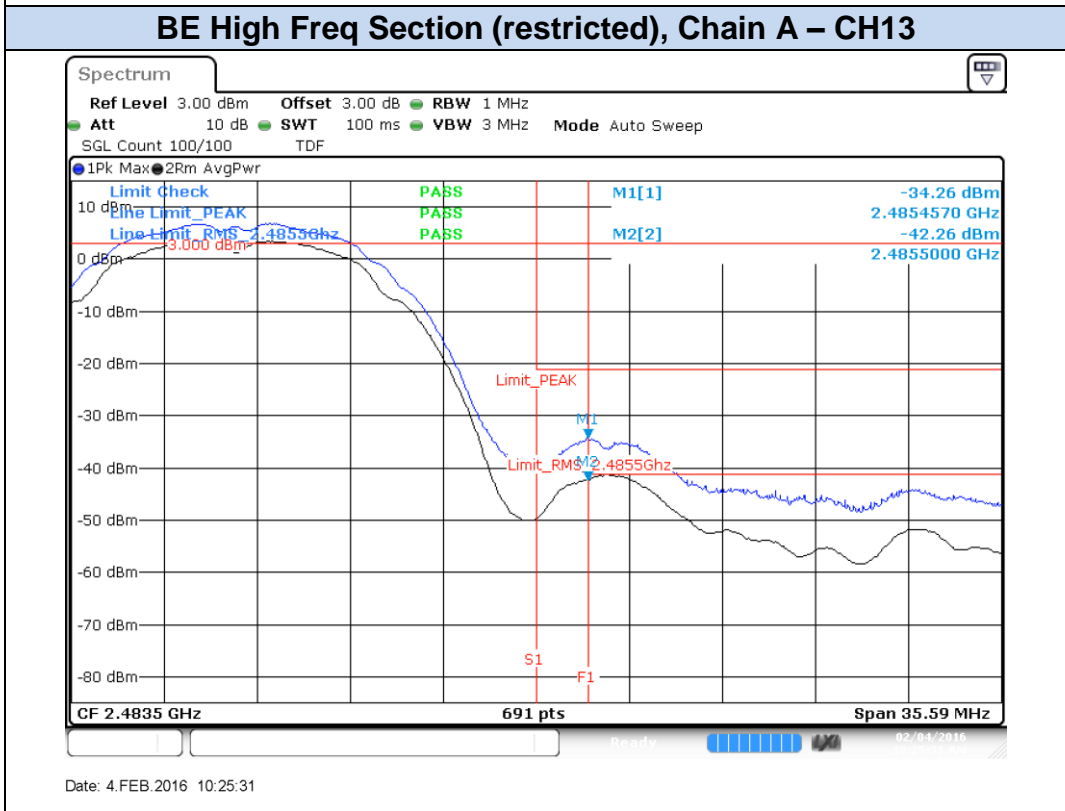
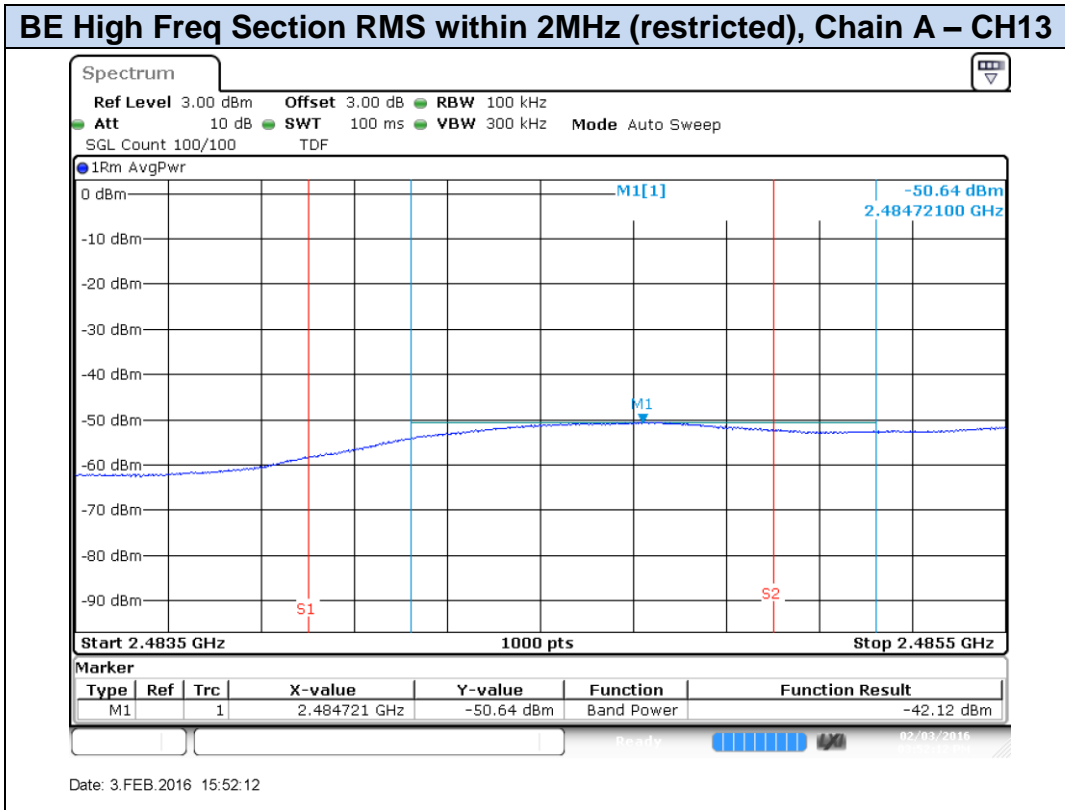
**Band Edge results Screenshot:**

**802.11b, 1Mbps**



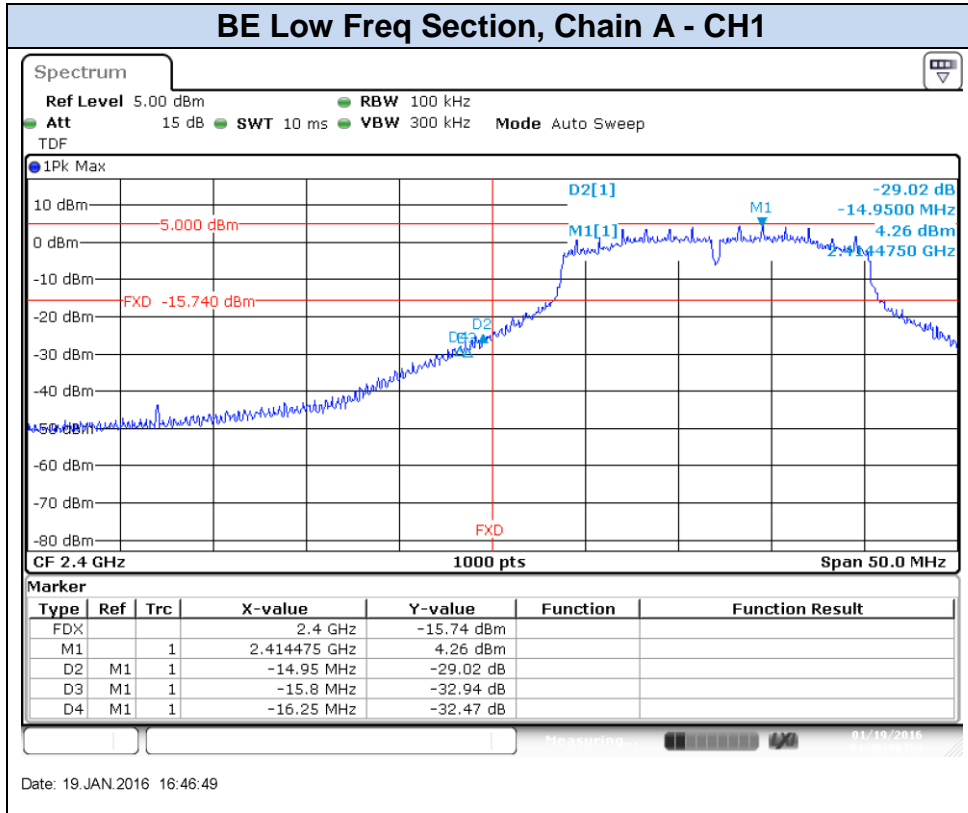


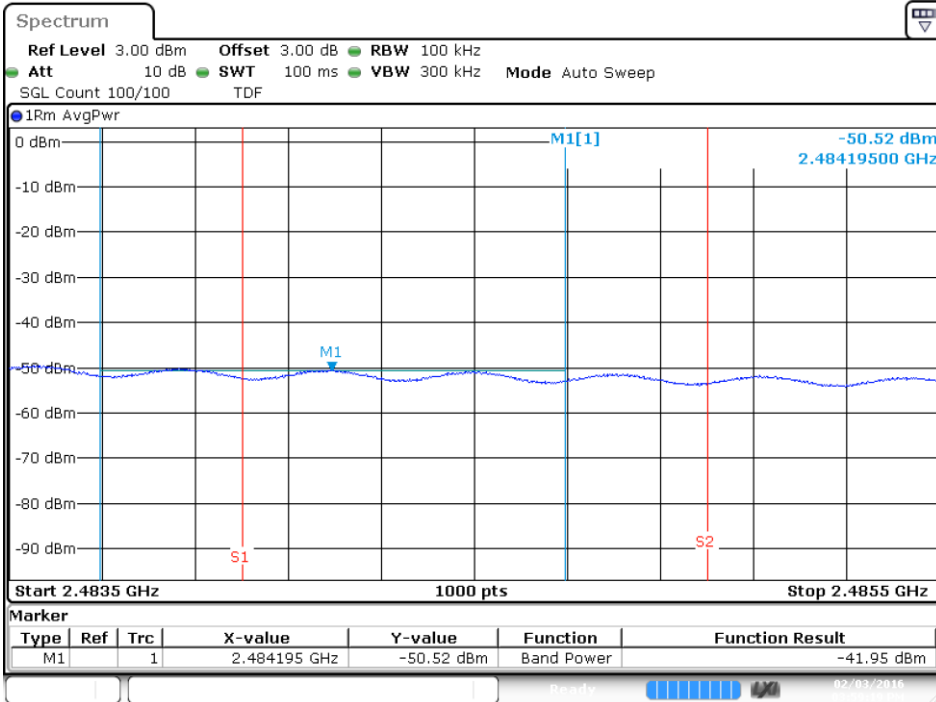




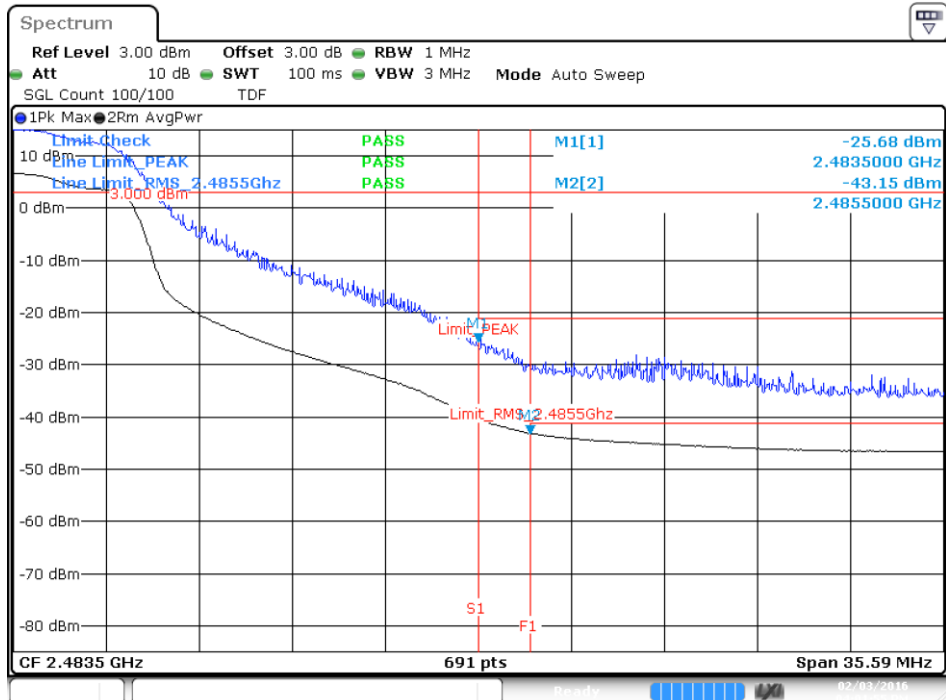


## 802.11g, 6Mbps

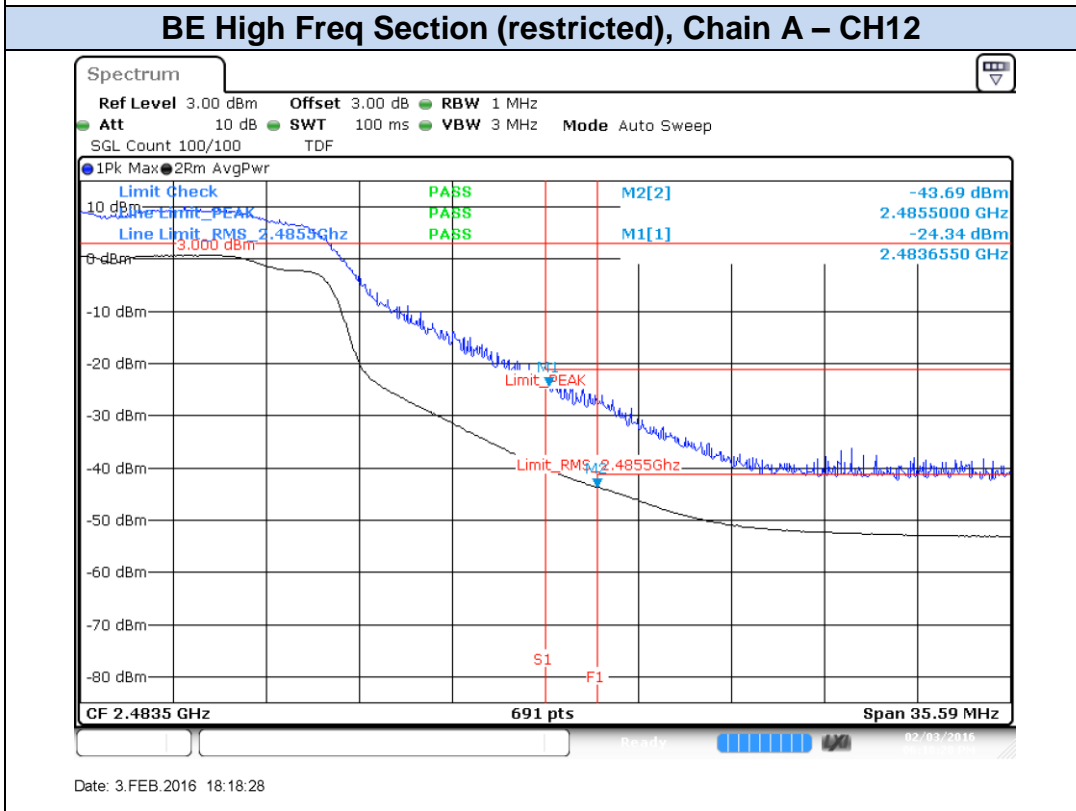
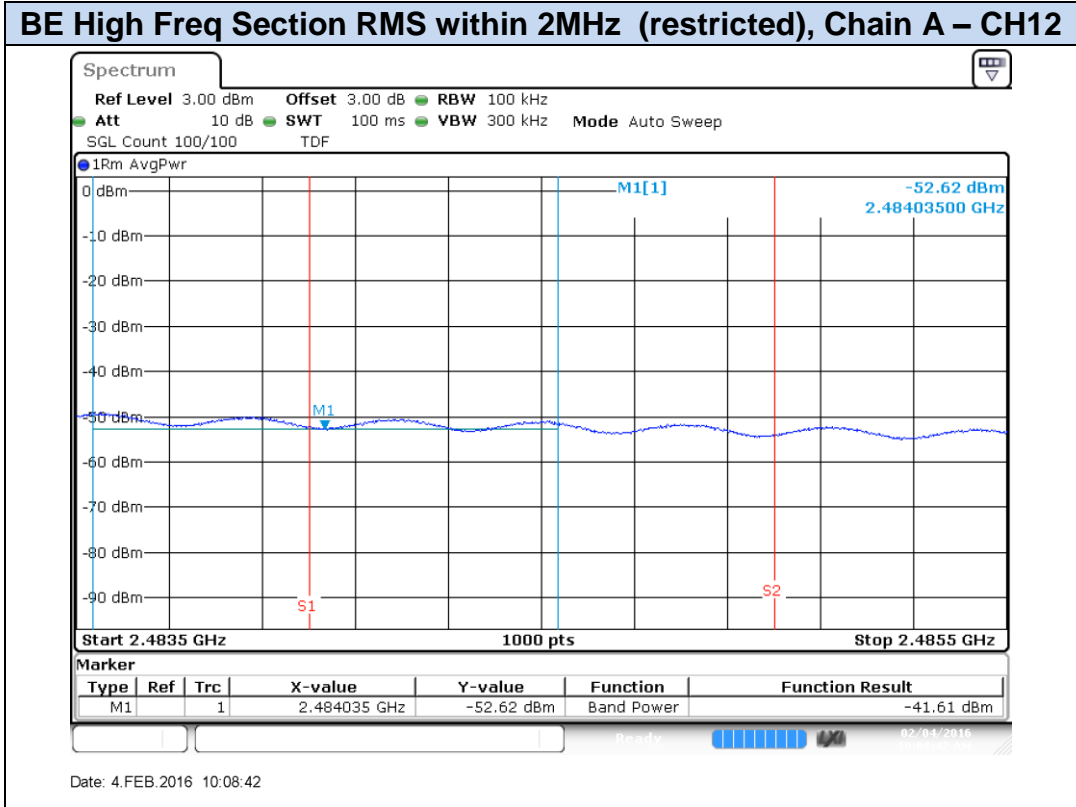


**BE High Freq Section RMS within 2MHz (restricted), Chain A – CH11**


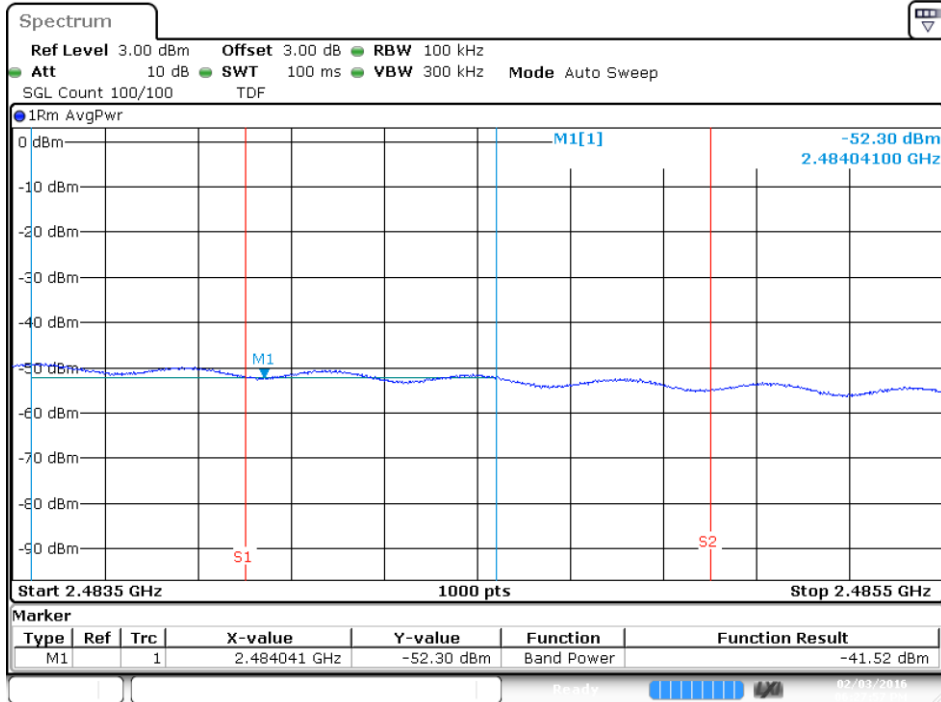
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**BE High Freq Section (restricted), Chain A – CH11**


Date: 3.FEB.2016 16:01:55

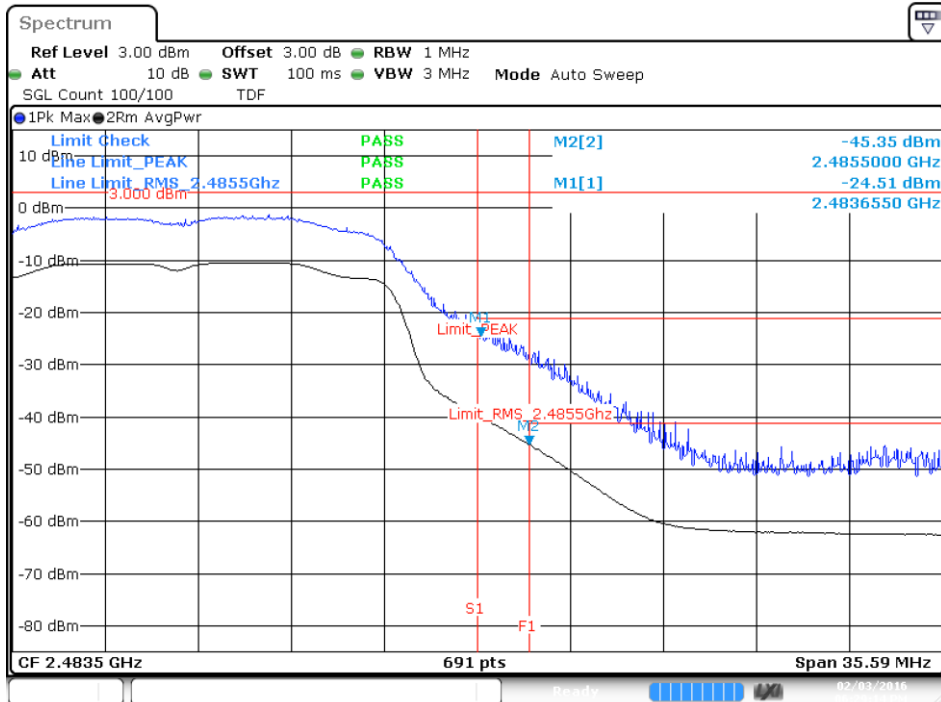


### BE High Freq Section RMS within 2MHz (restricted), Chain A – CH13



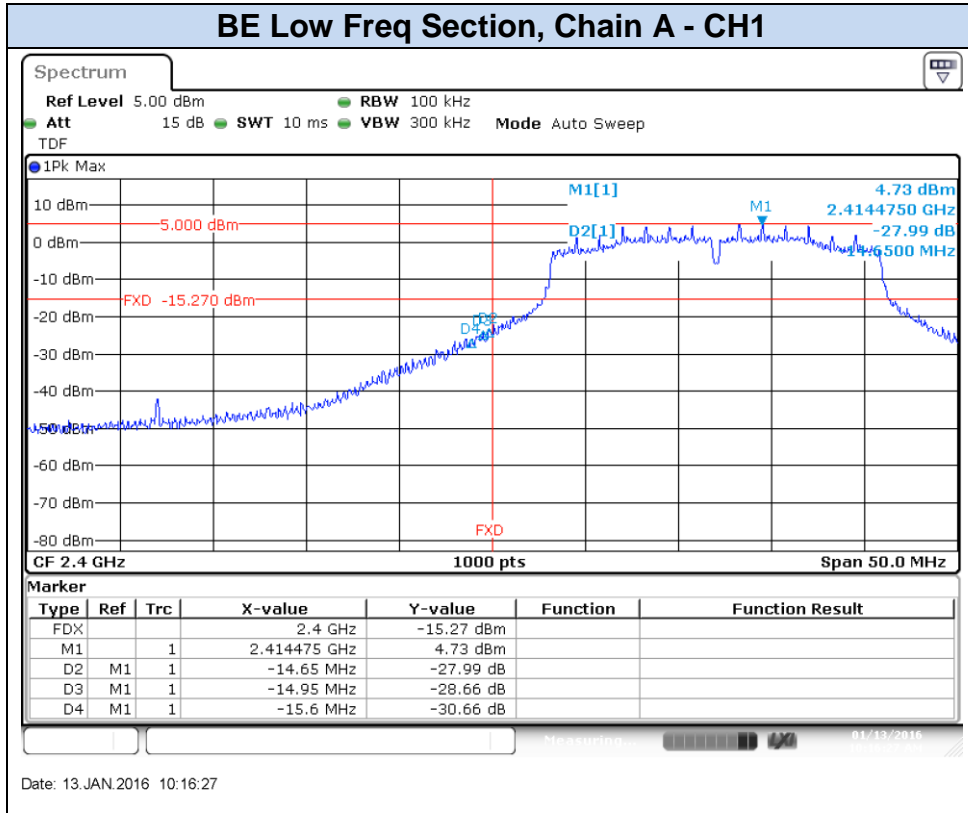
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### BE High Freq Section (restricted), Chain A – CH13

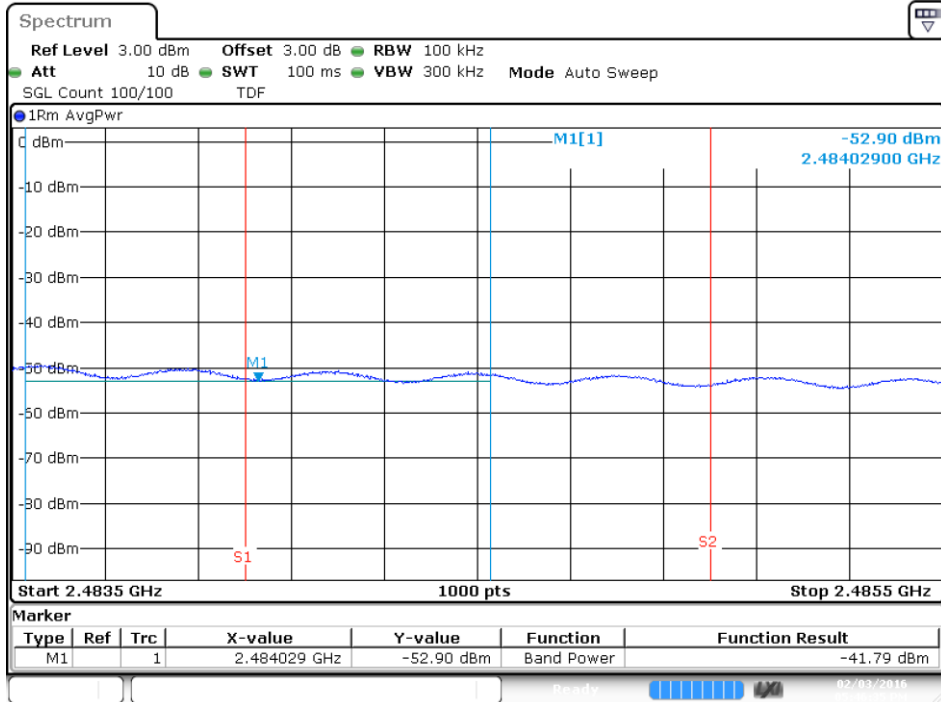


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**802.11n20, HT0**

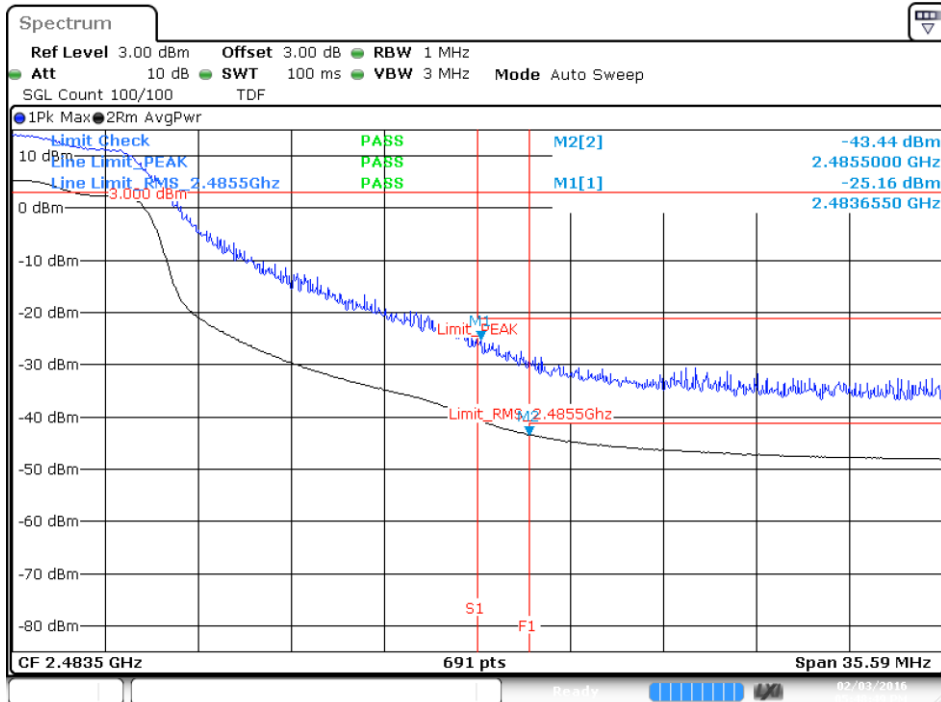


### BE High Freq Section RMS WITHIN 2 MHz (restricted), Chain A – CH11

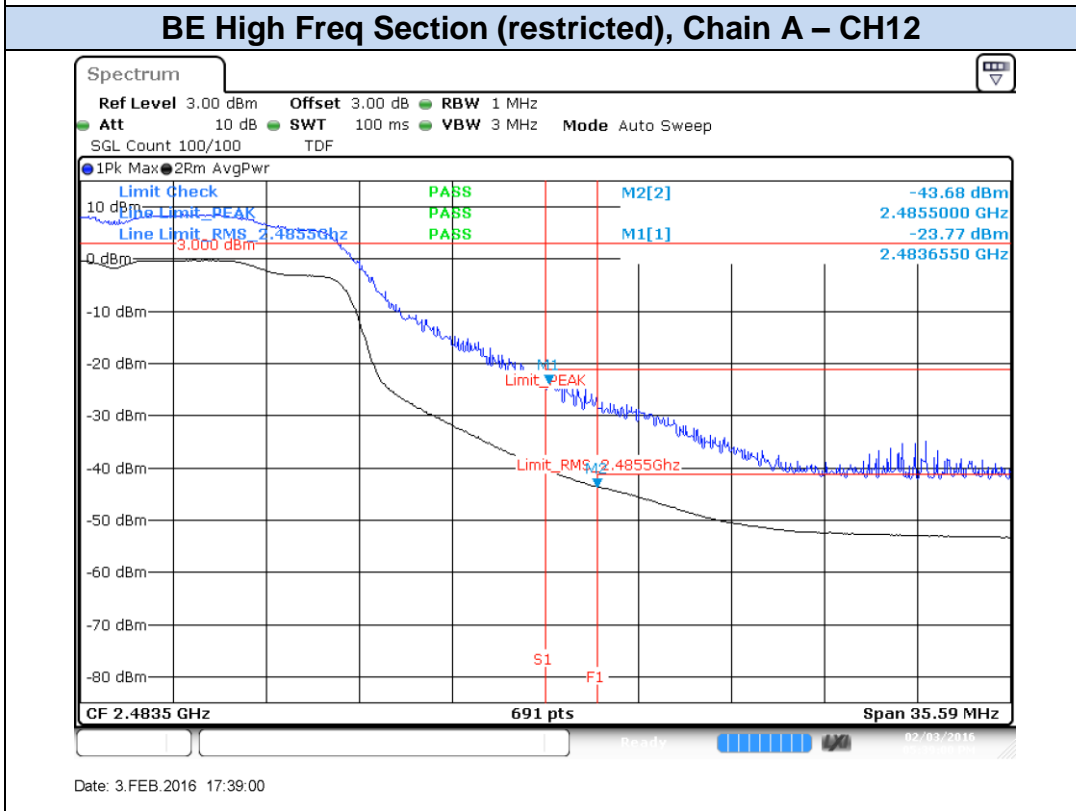
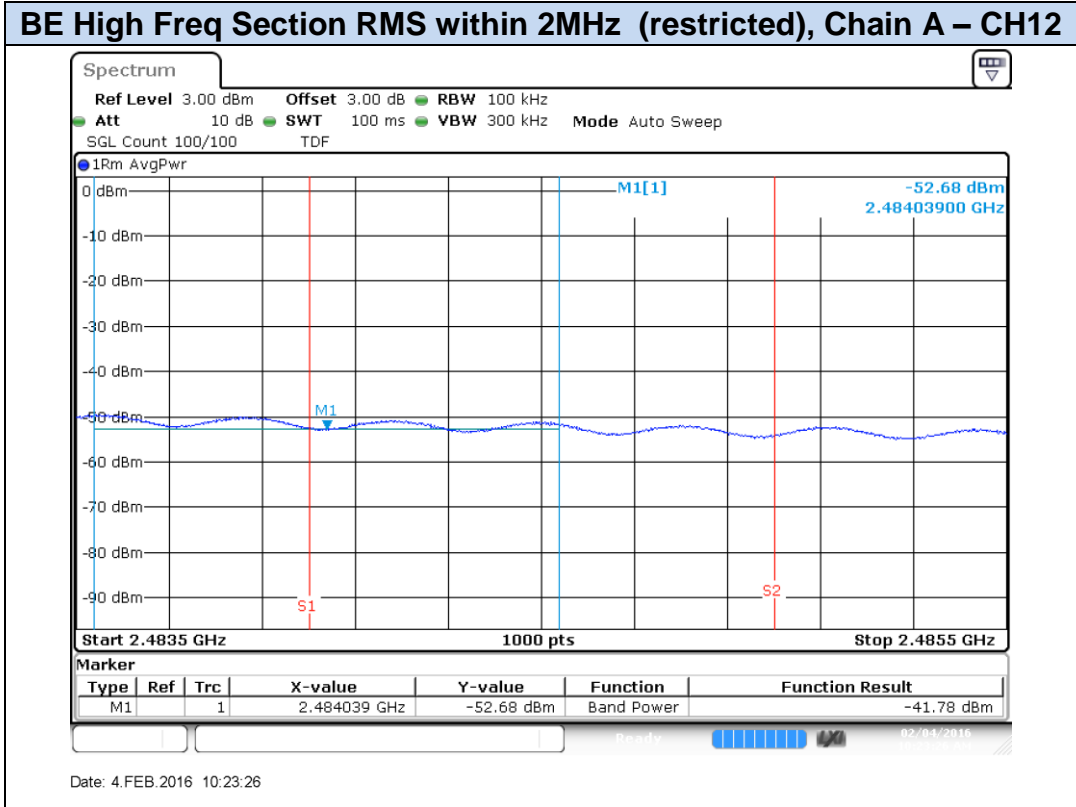


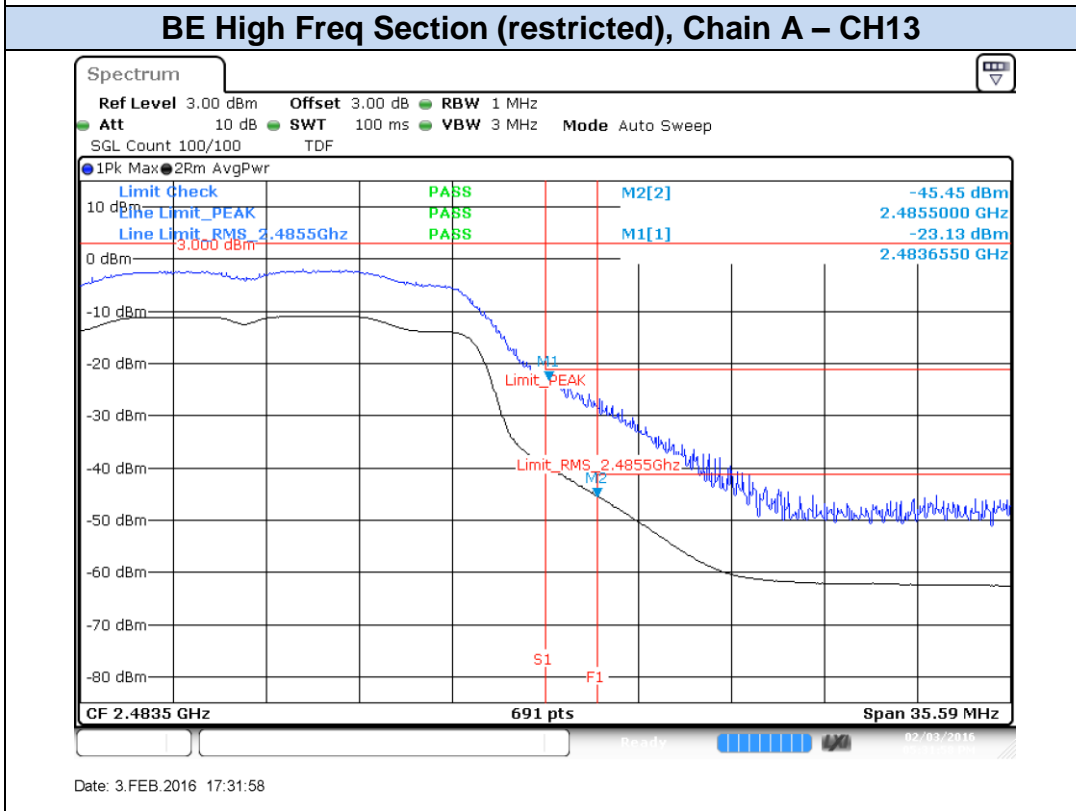
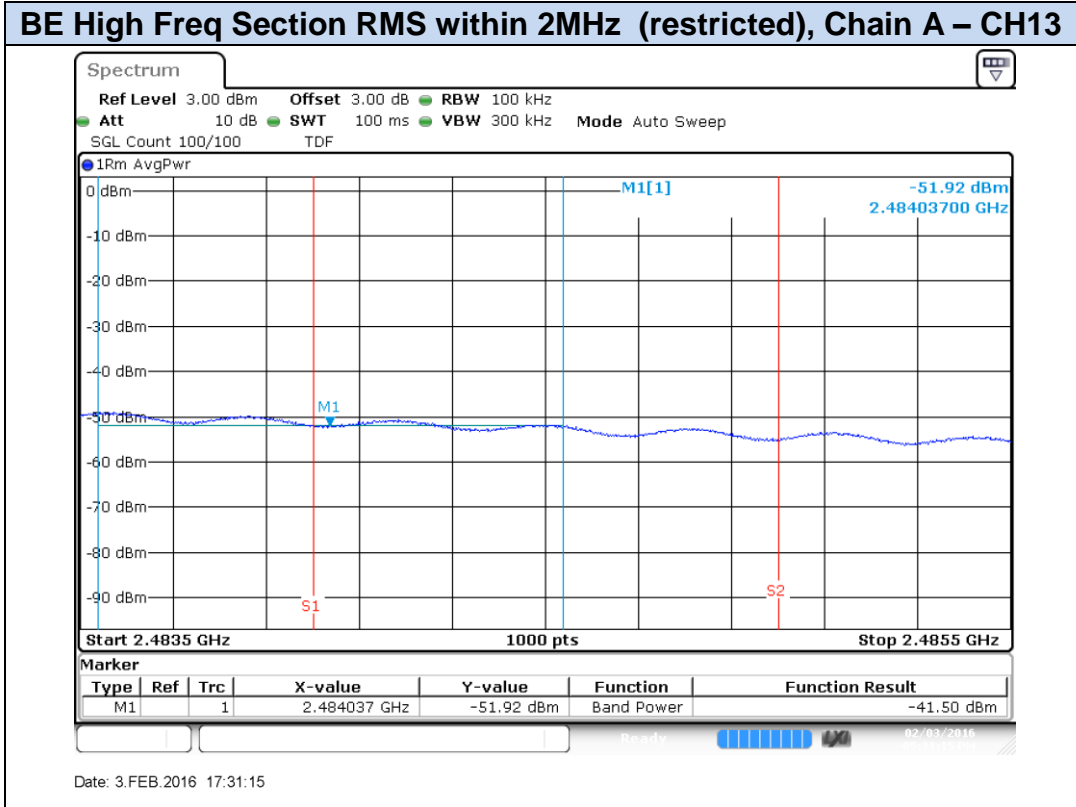
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### BE High Freq Section (restricted), Chain A – CH11



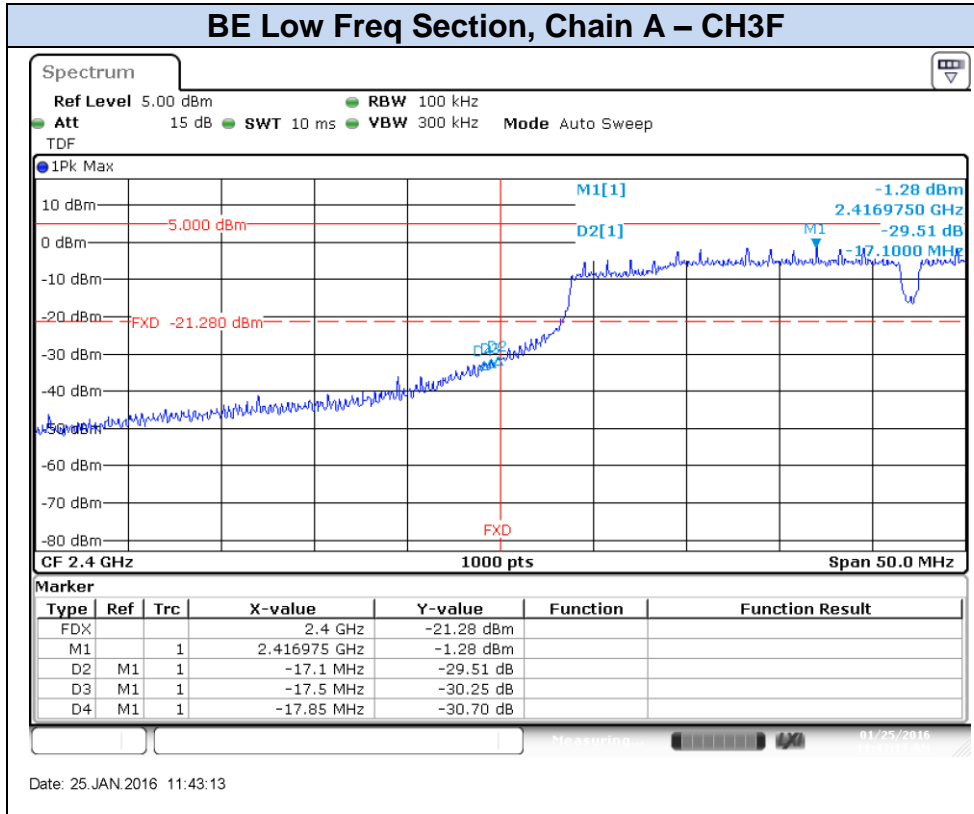
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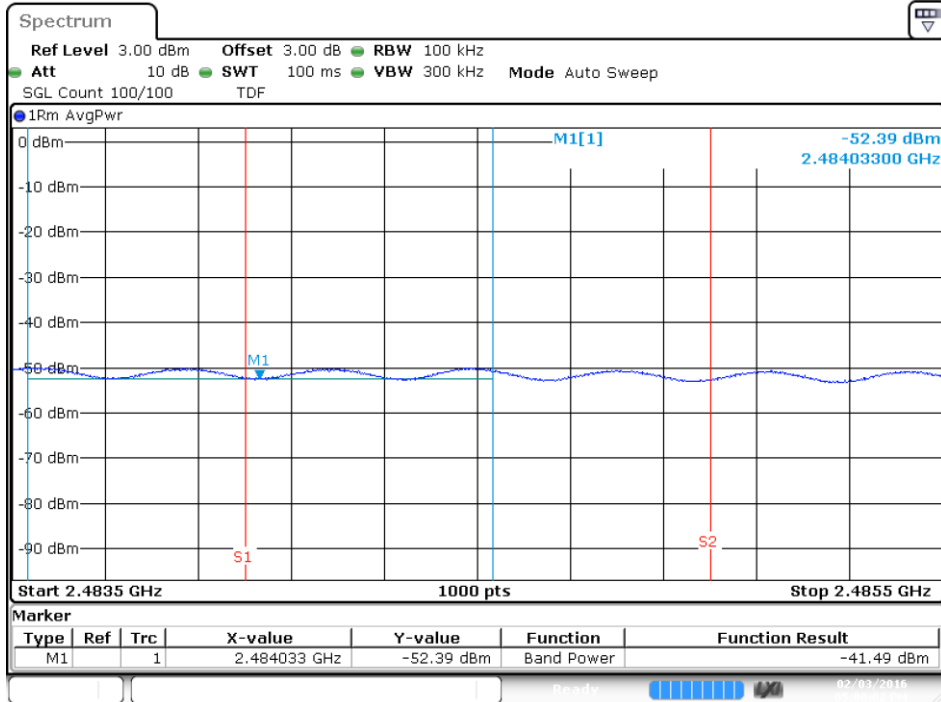




**802.11n40, HT0**

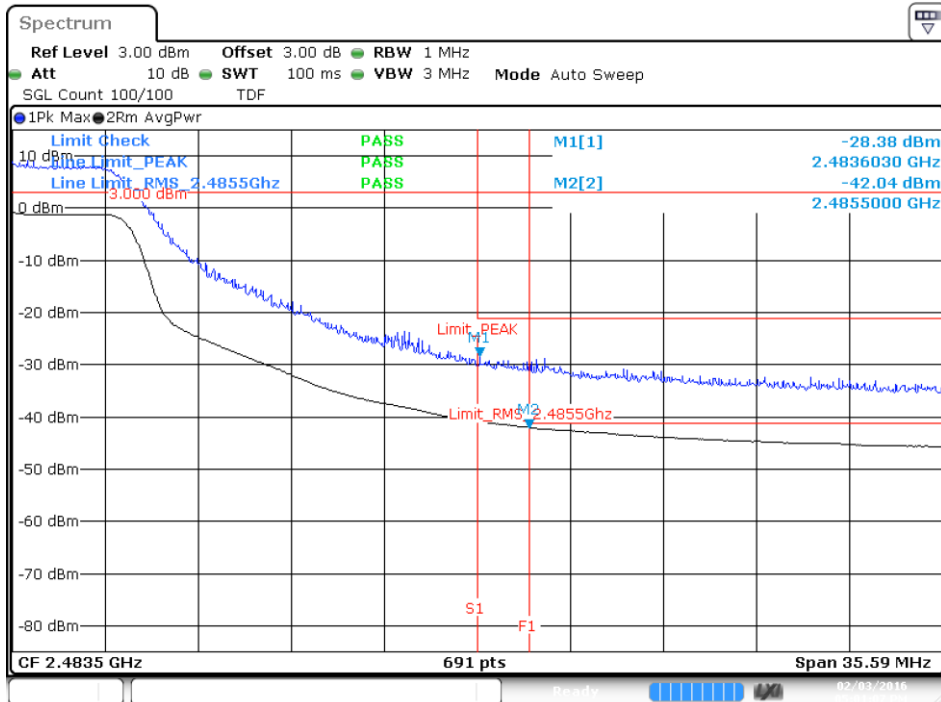


### BE High Freq Section RMS within 2MHz (restricted), Chain A – CH9



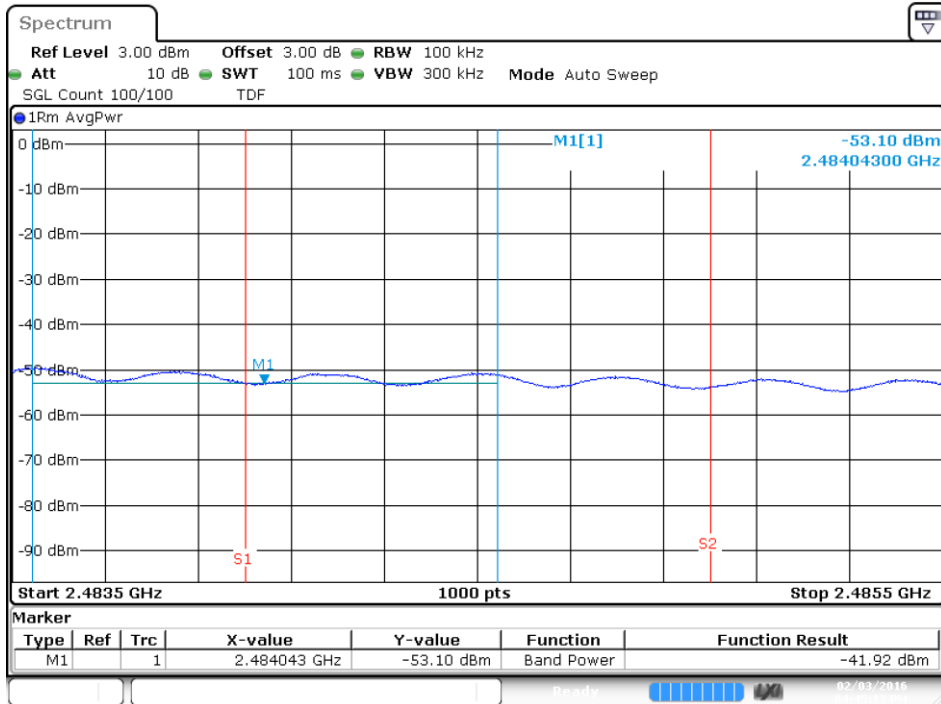
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### BE High Freq Section (restricted), Chain A – CH9



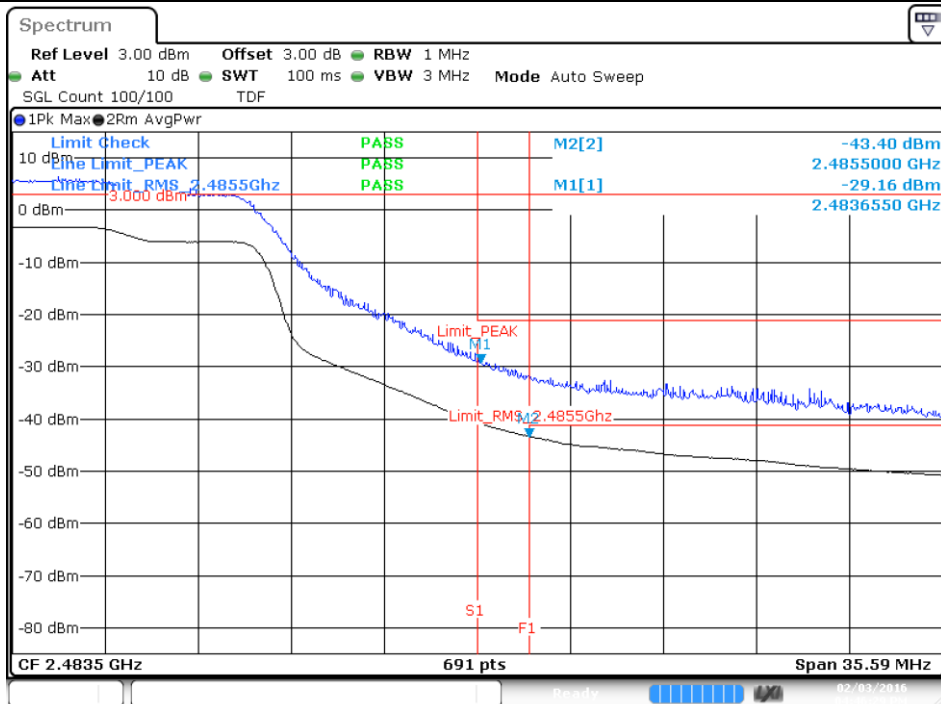
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### BE High Freq Section RMS within 2MHz (restricted), Chain A – CH10

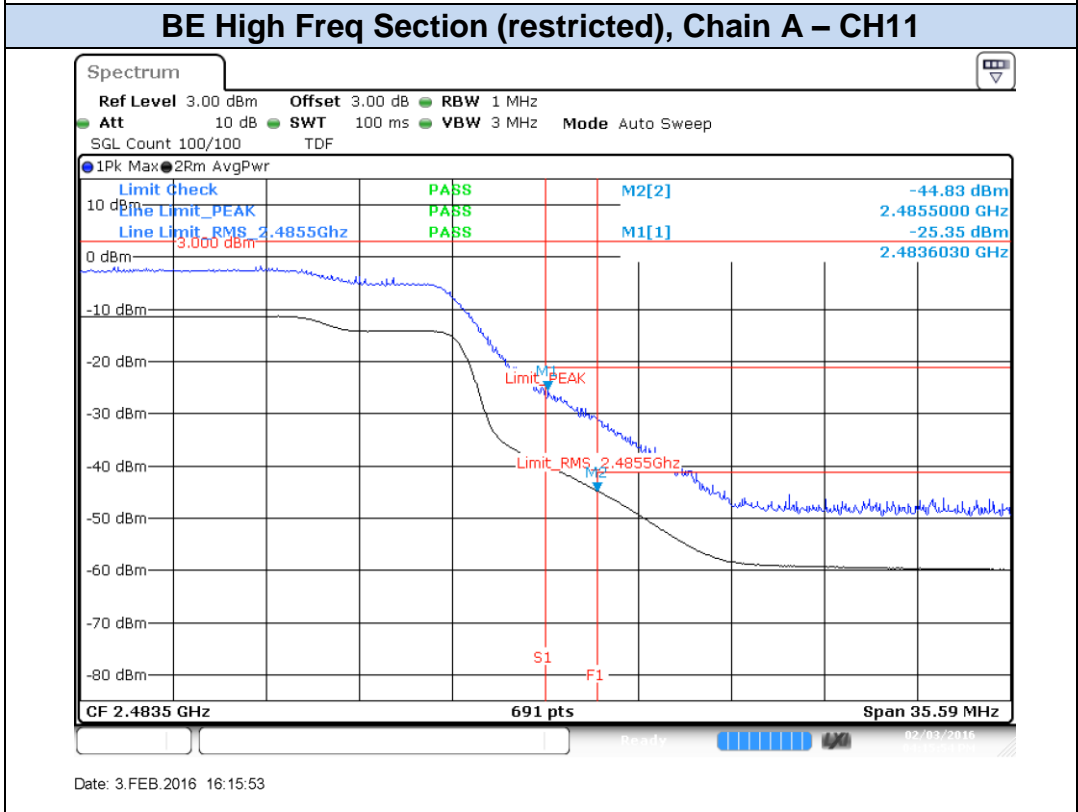
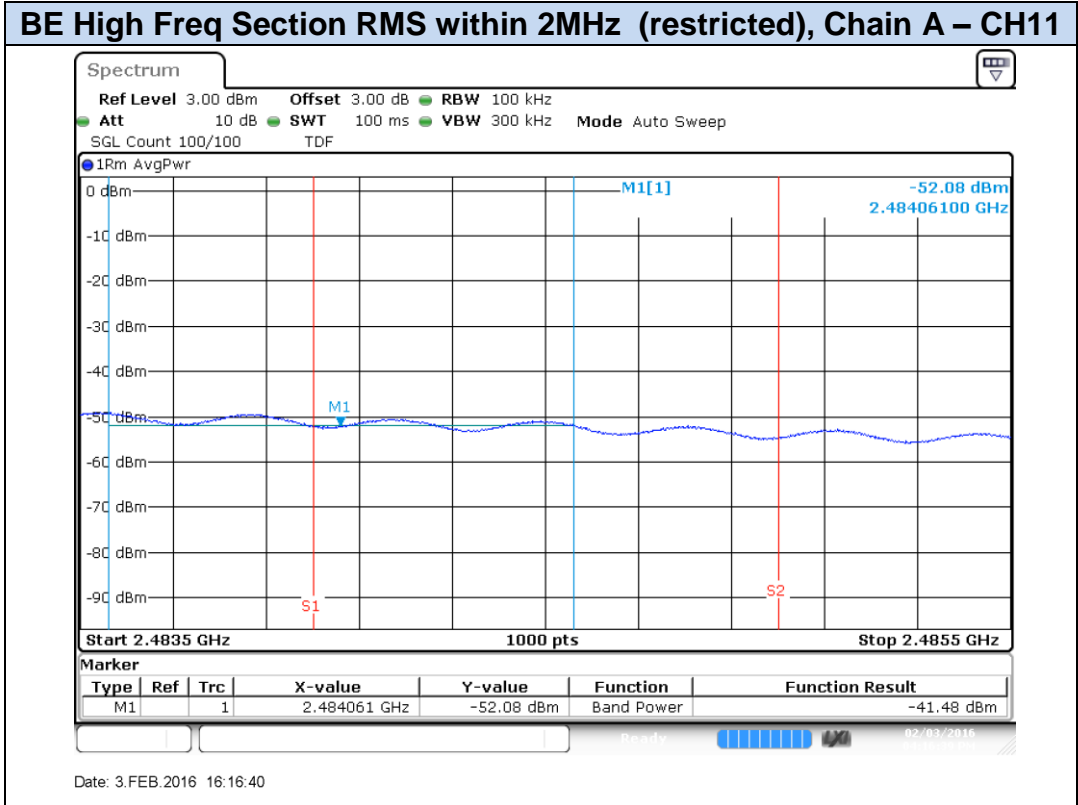


Date: 3.FEB.2016 16:45:13

### BE High Freq Section (restricted), Chain A – CH10

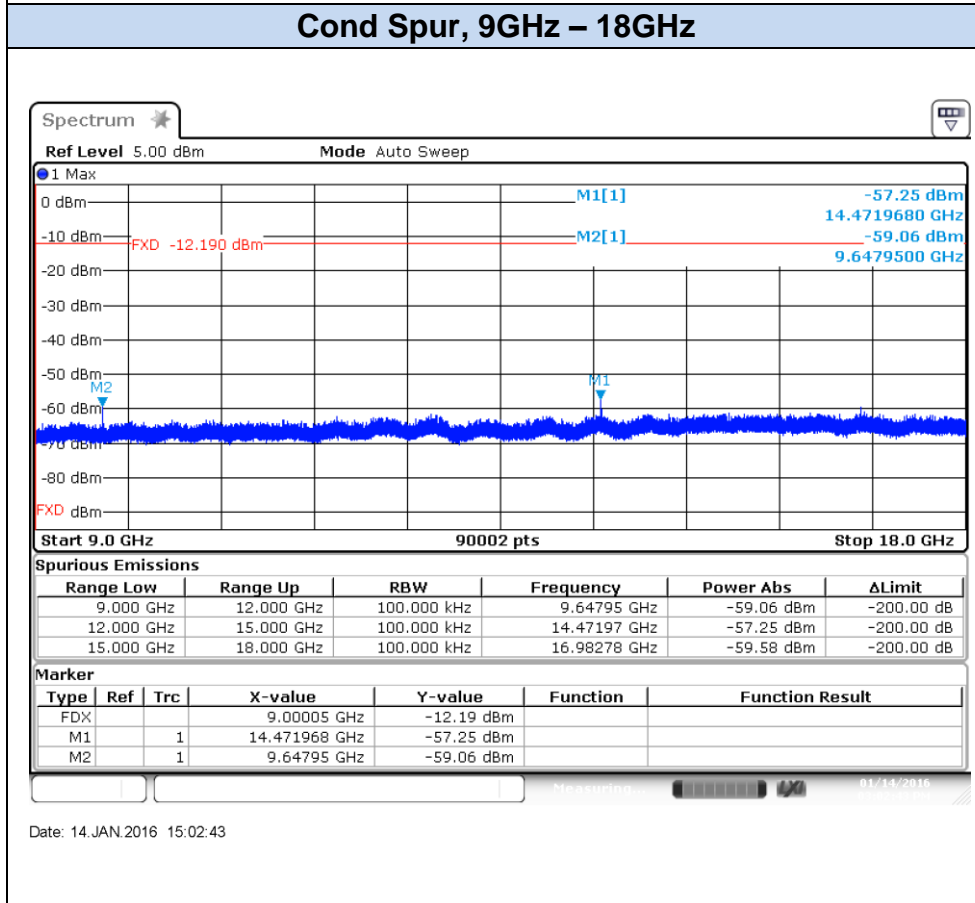
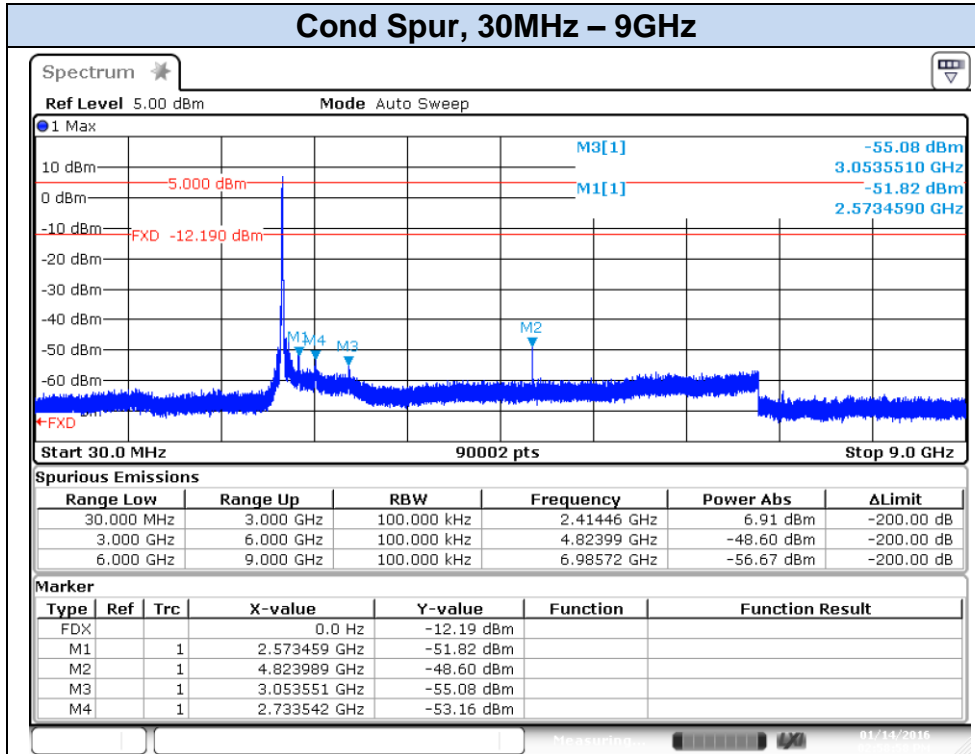


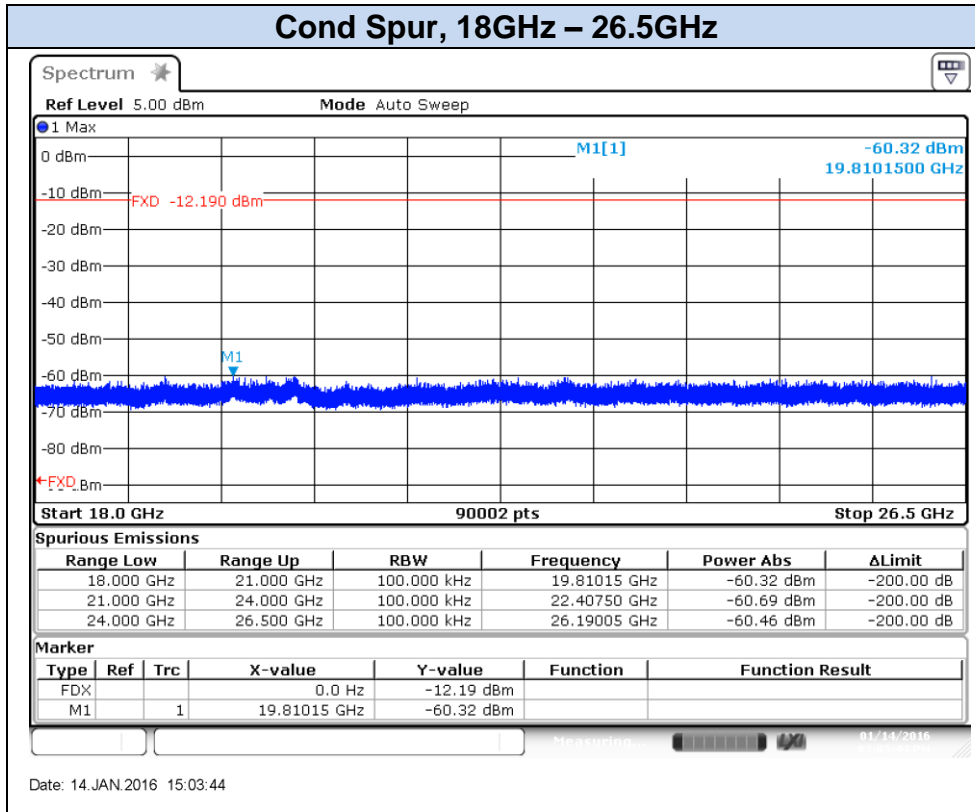
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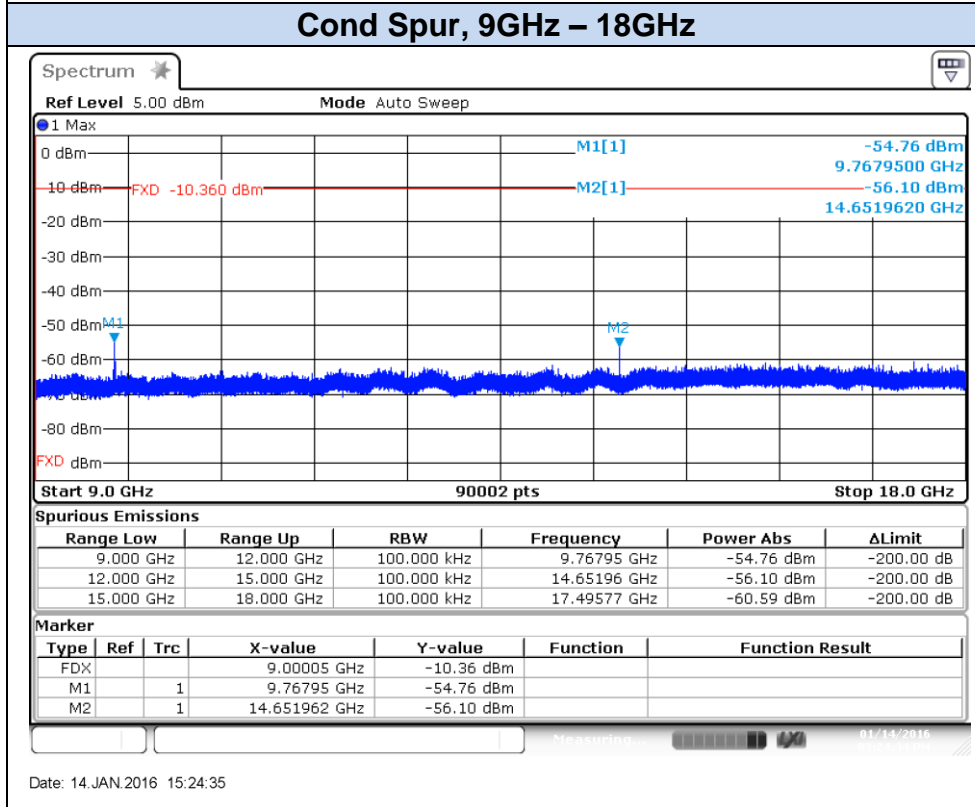
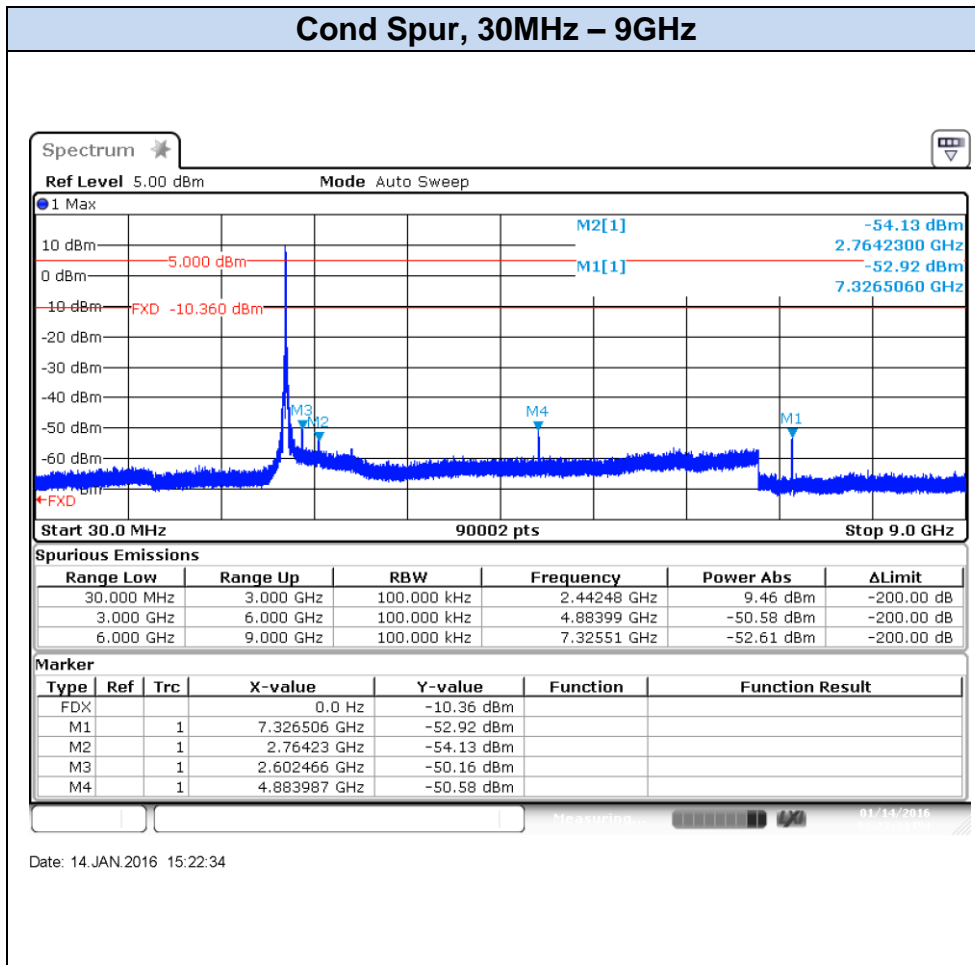
**Conducted Spurious results Screenshot:**

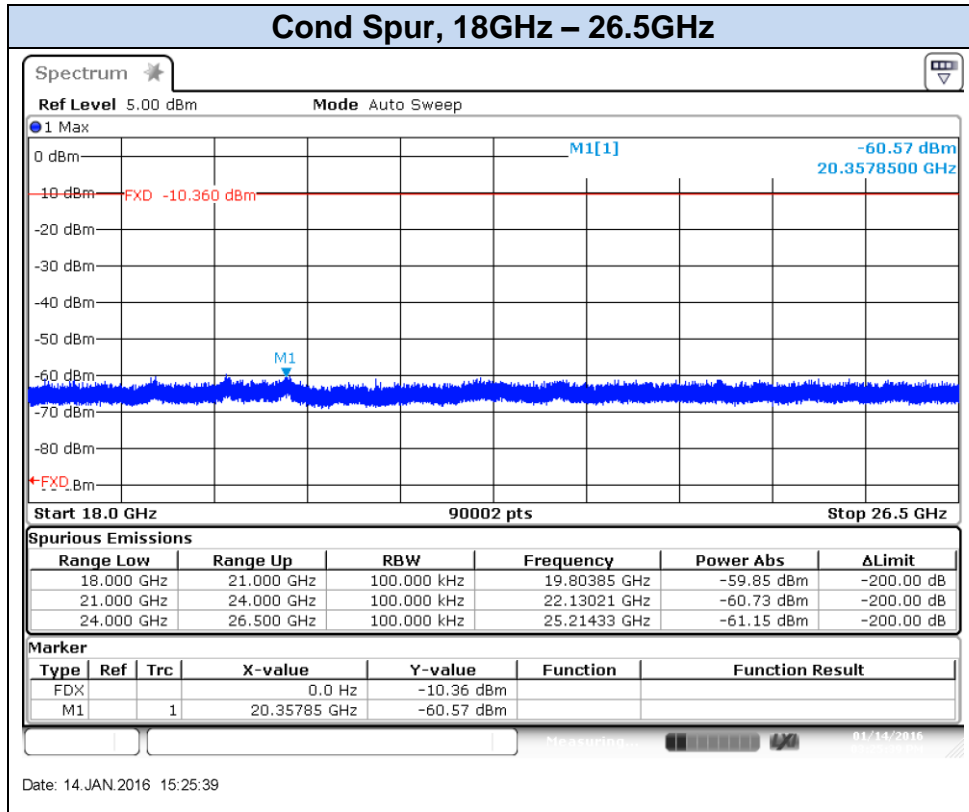
**802.11b, 1Mbps – Chain A, CH1**





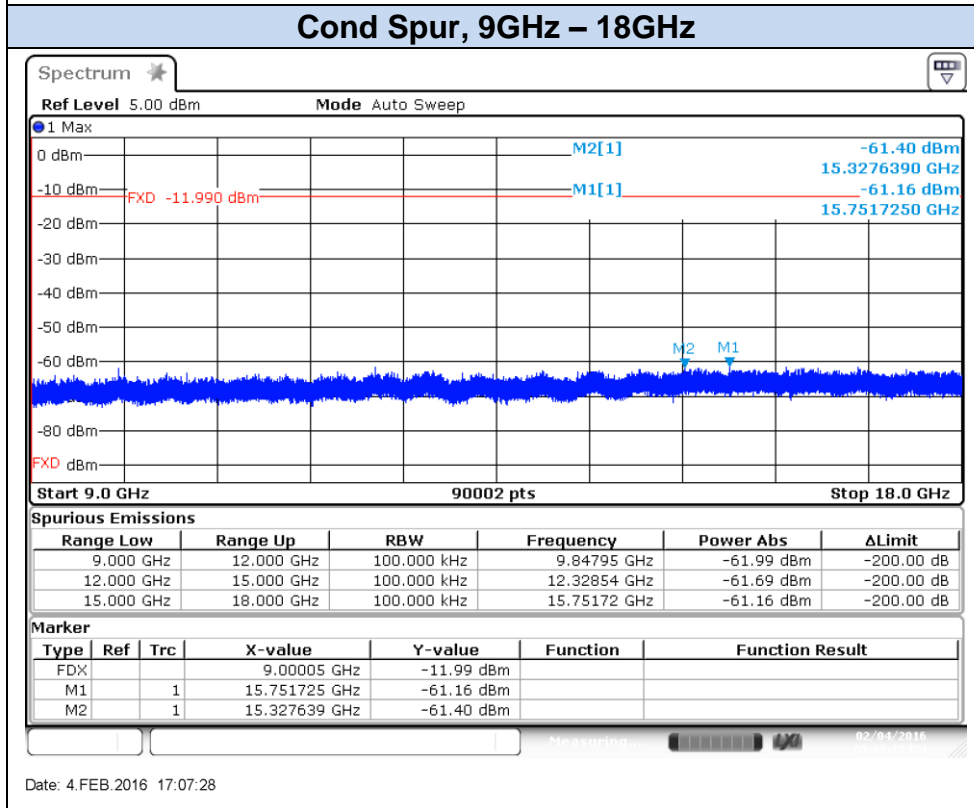
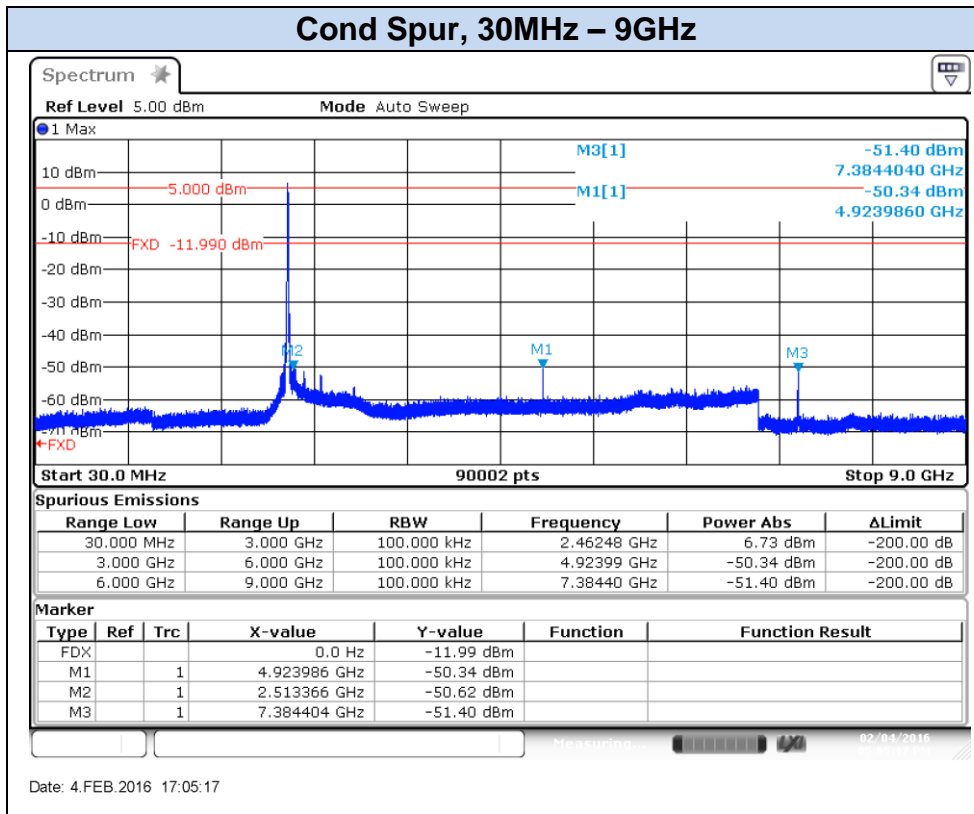
## 802.11b, 1Mbps – Chain A, CH7

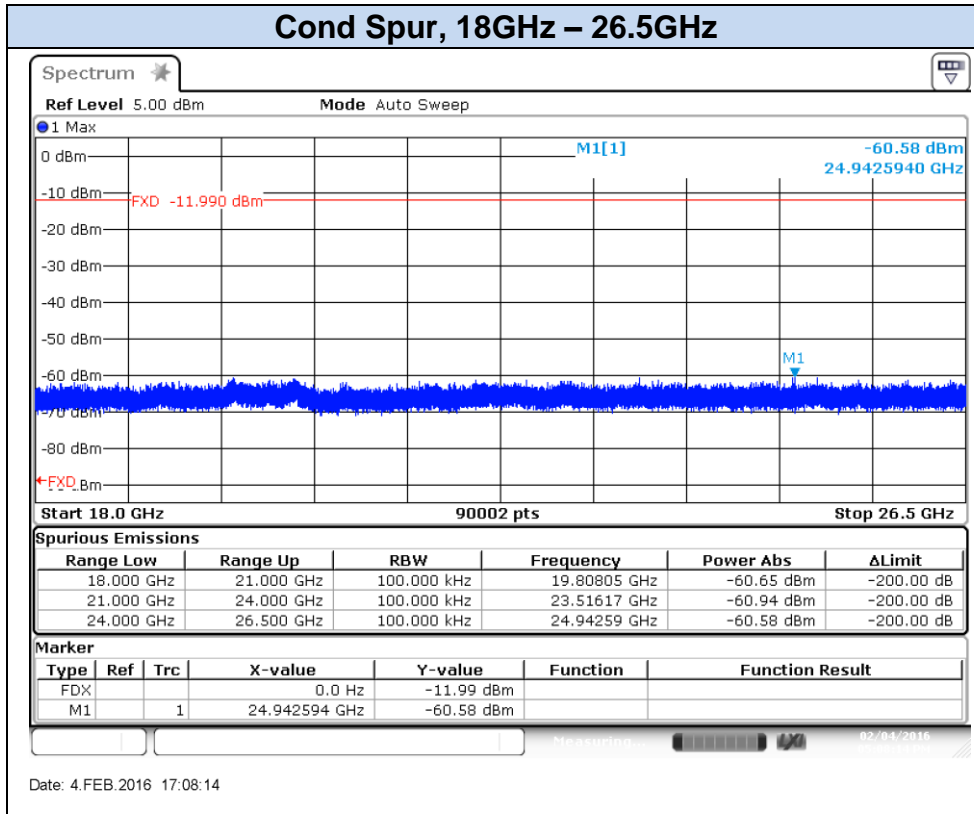




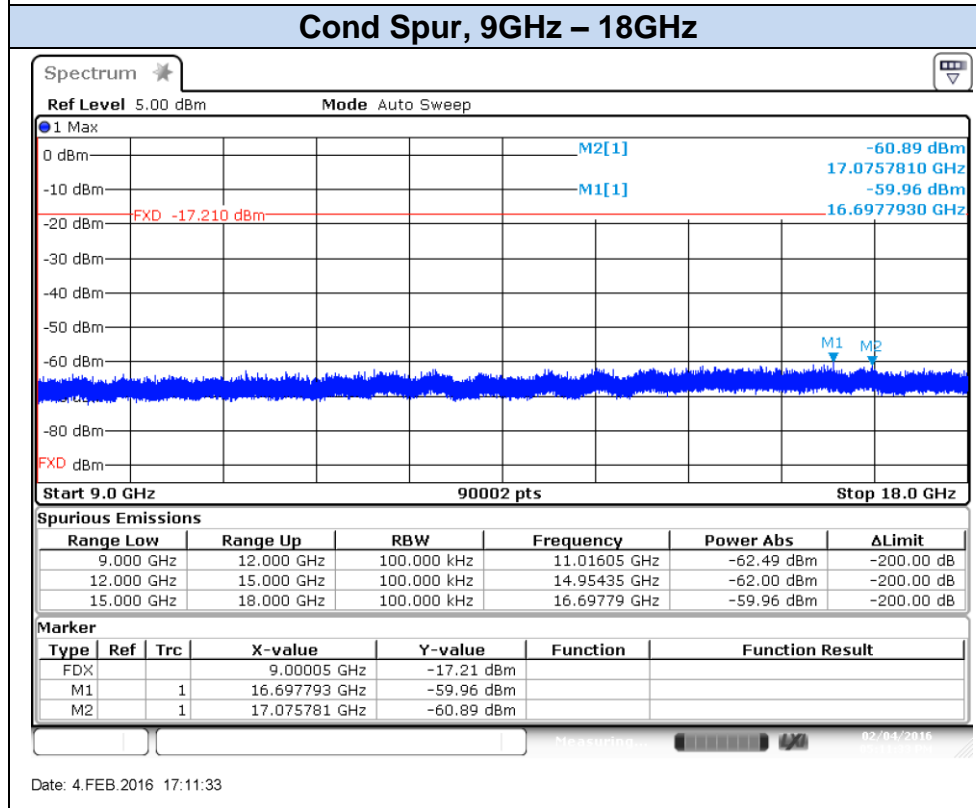
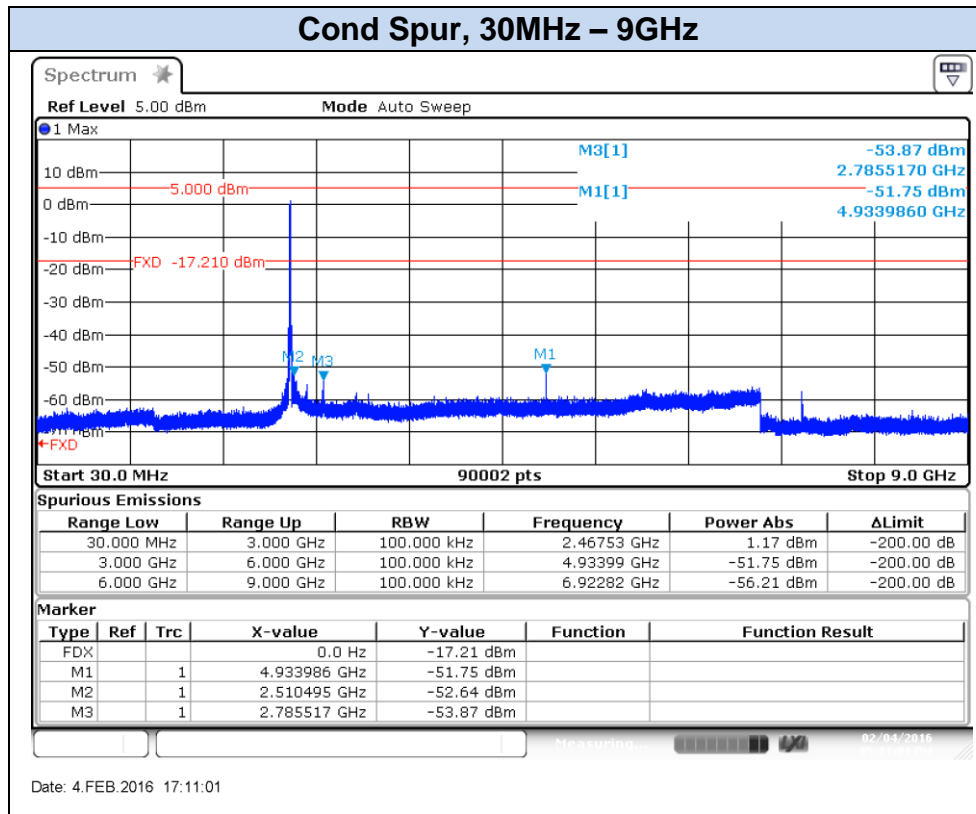


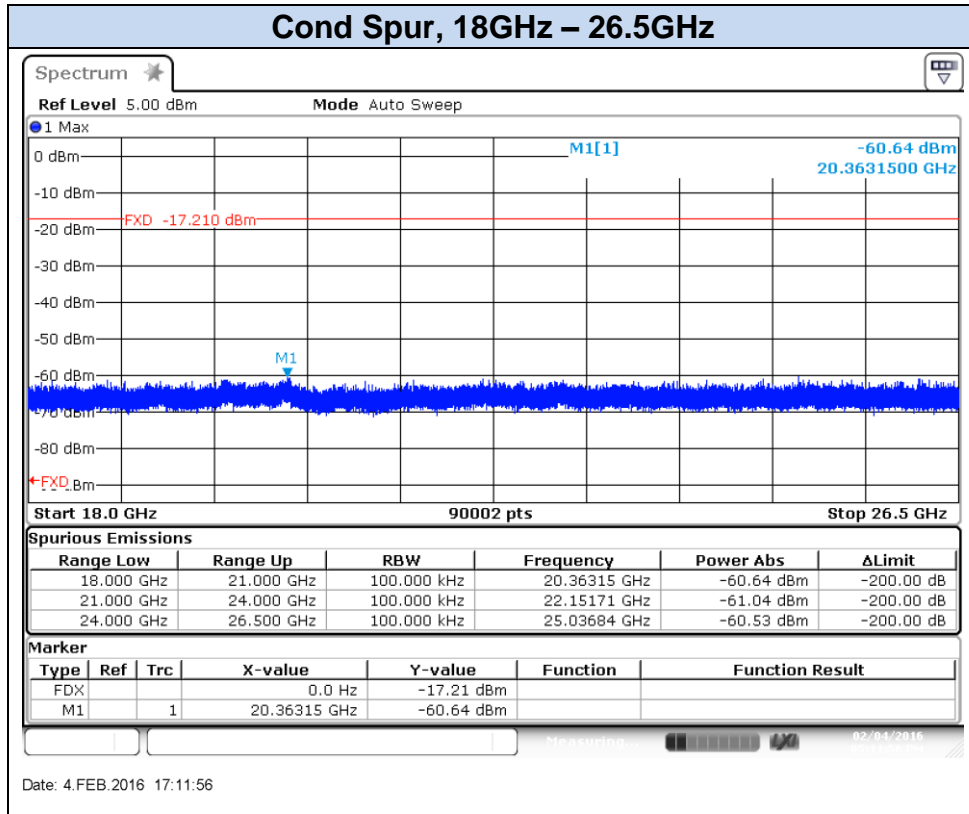
## 802.11b, 1Mbps – Chain A, CH11



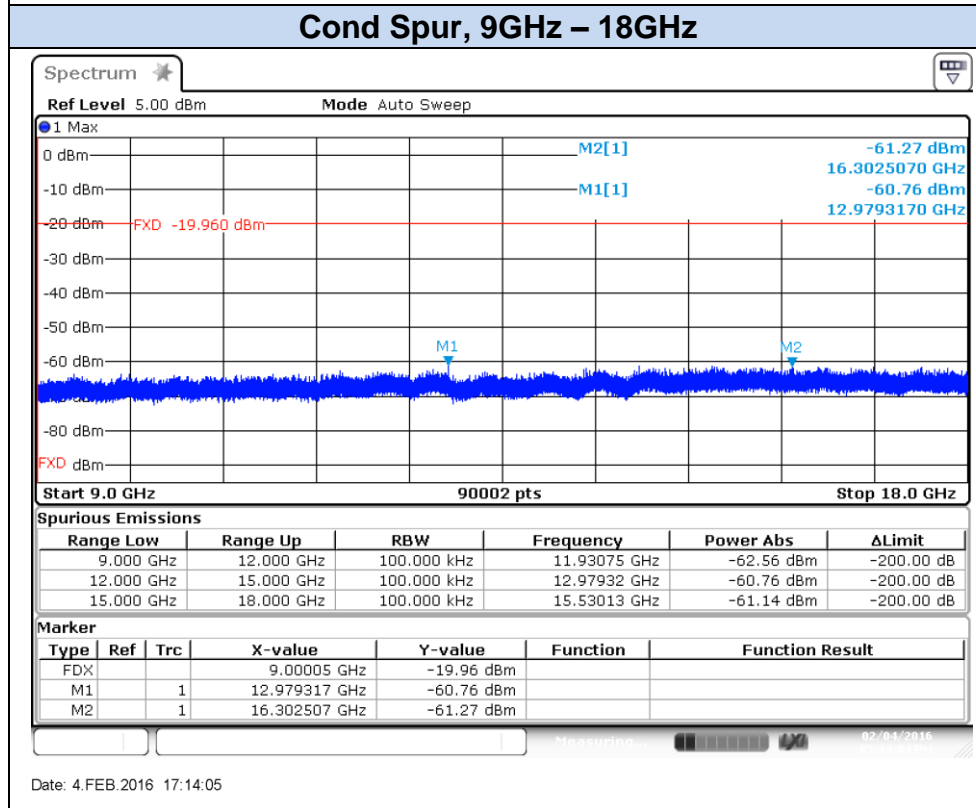
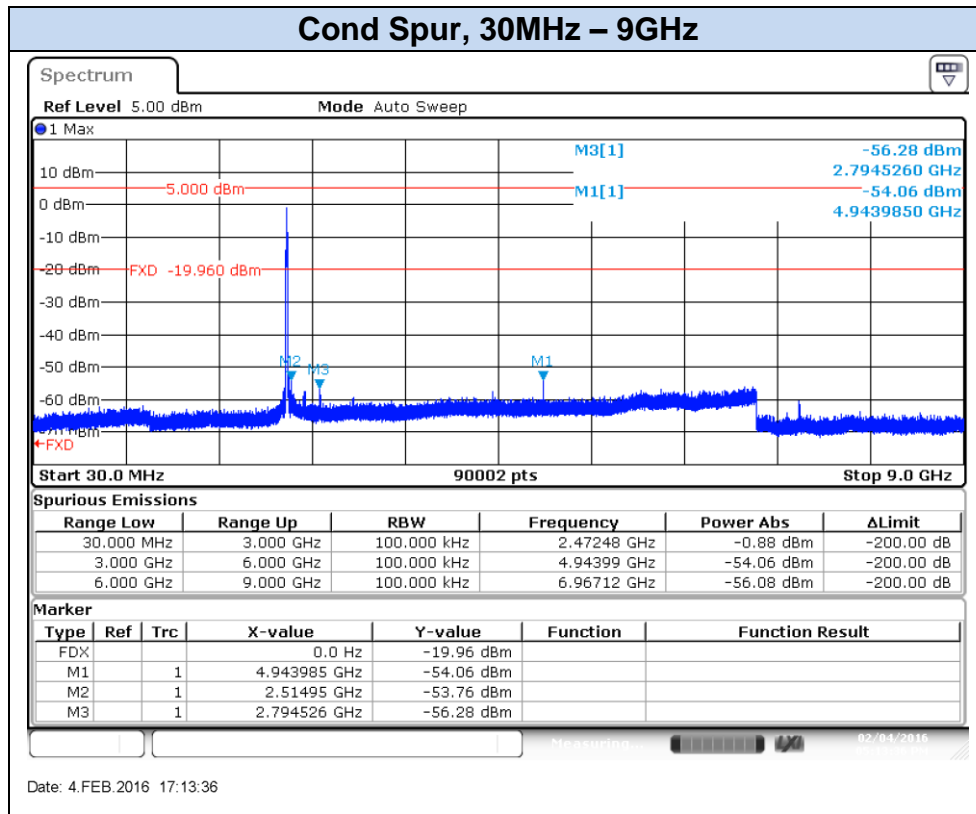


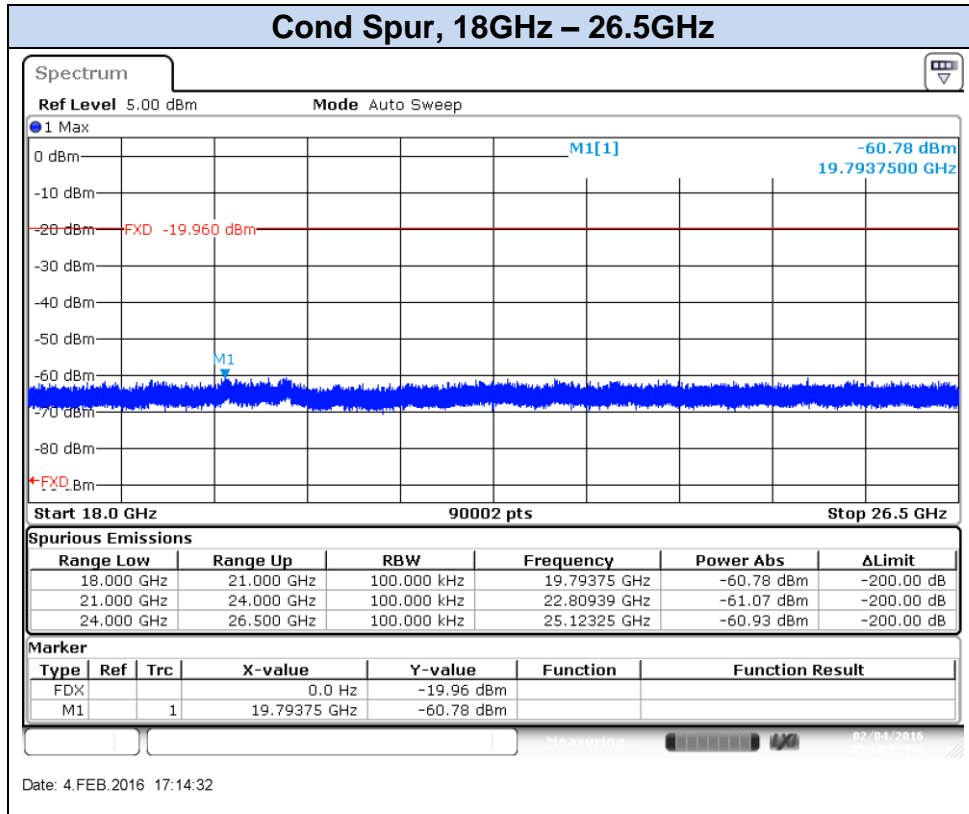
## 802.11b, 1Mbps – Chain A, CH12



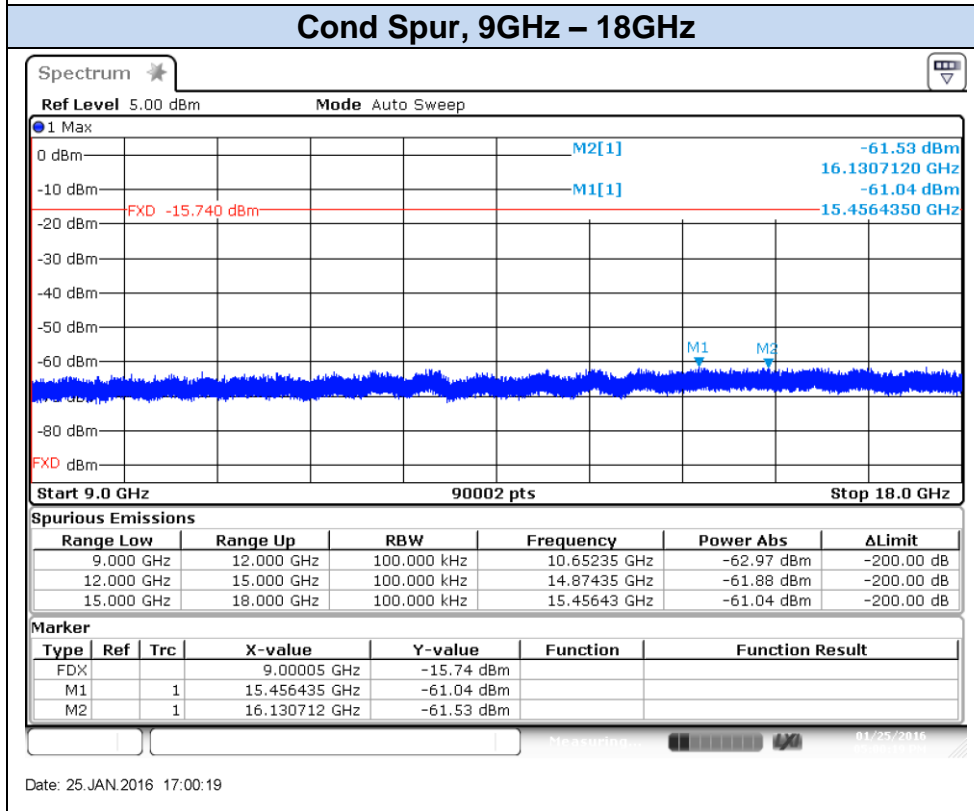
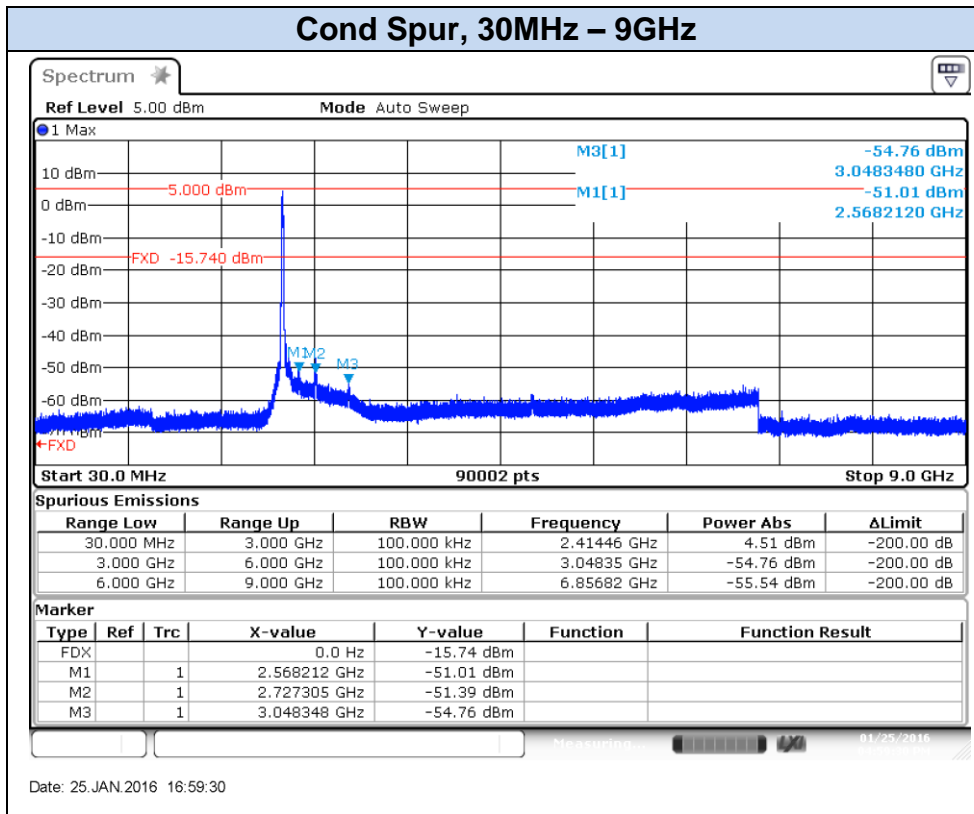


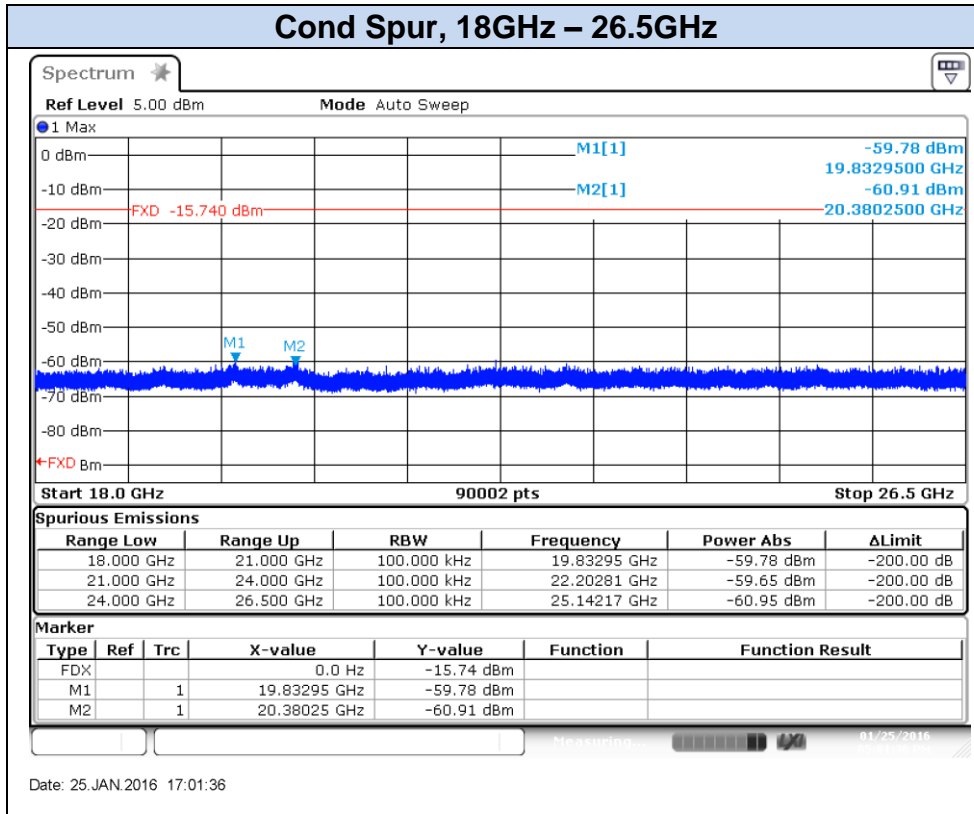
### 802.11b, 1Mbps – Chain A, CH13





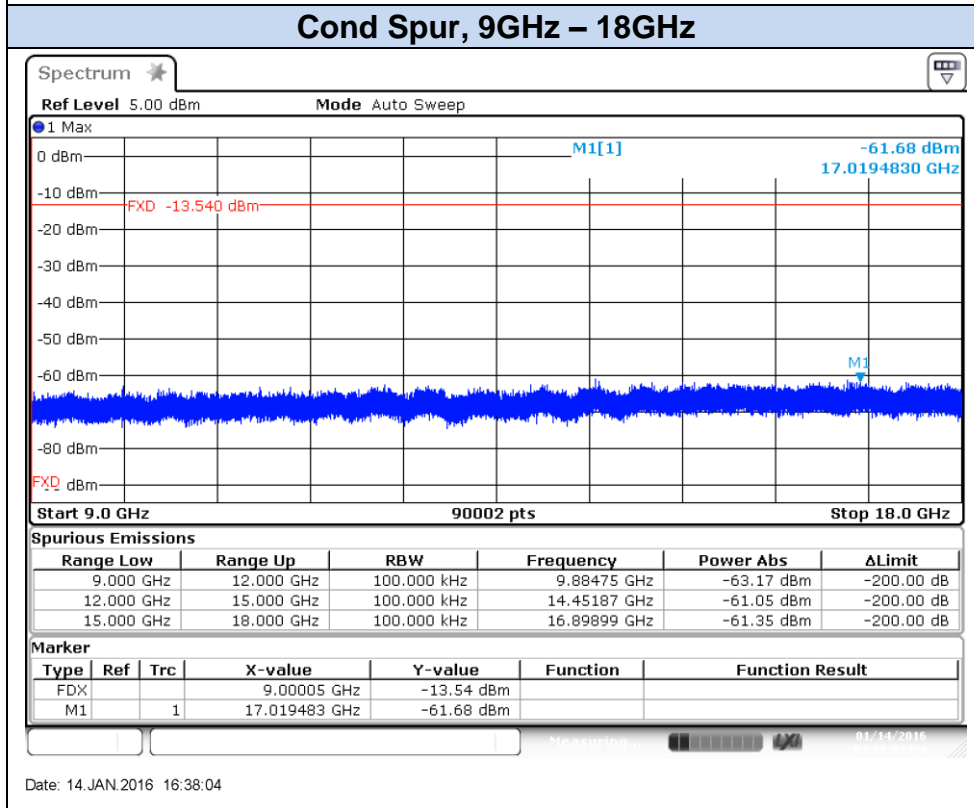
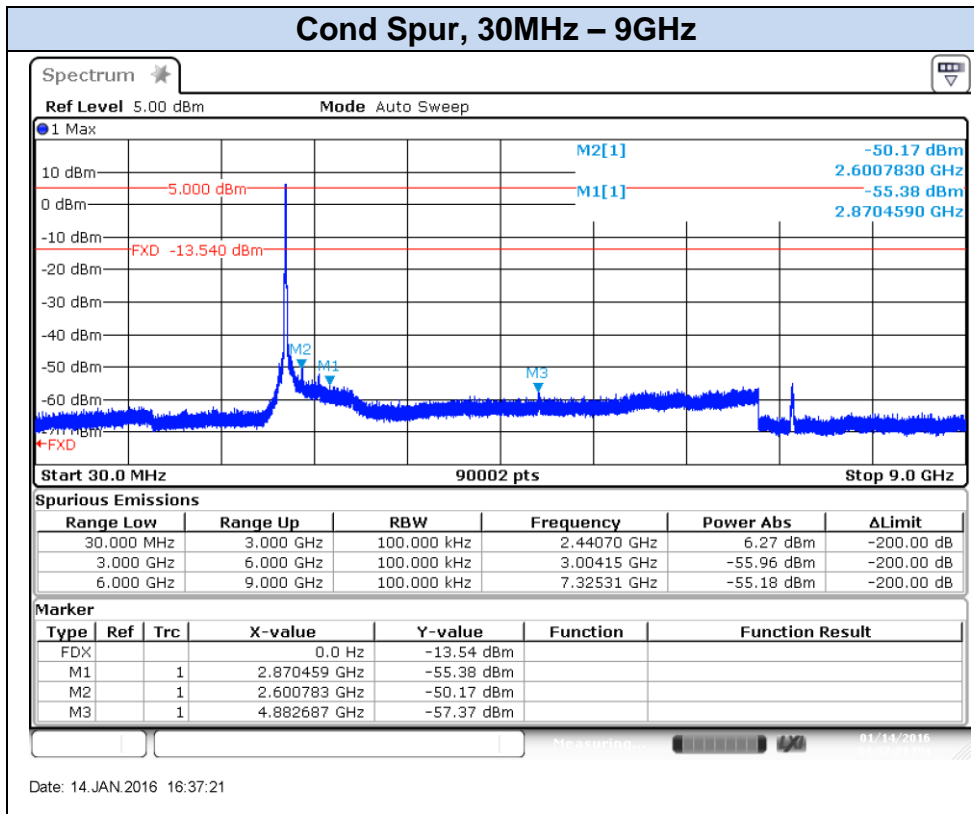
## 802.11g, 6Mbps – Chain A, CH1

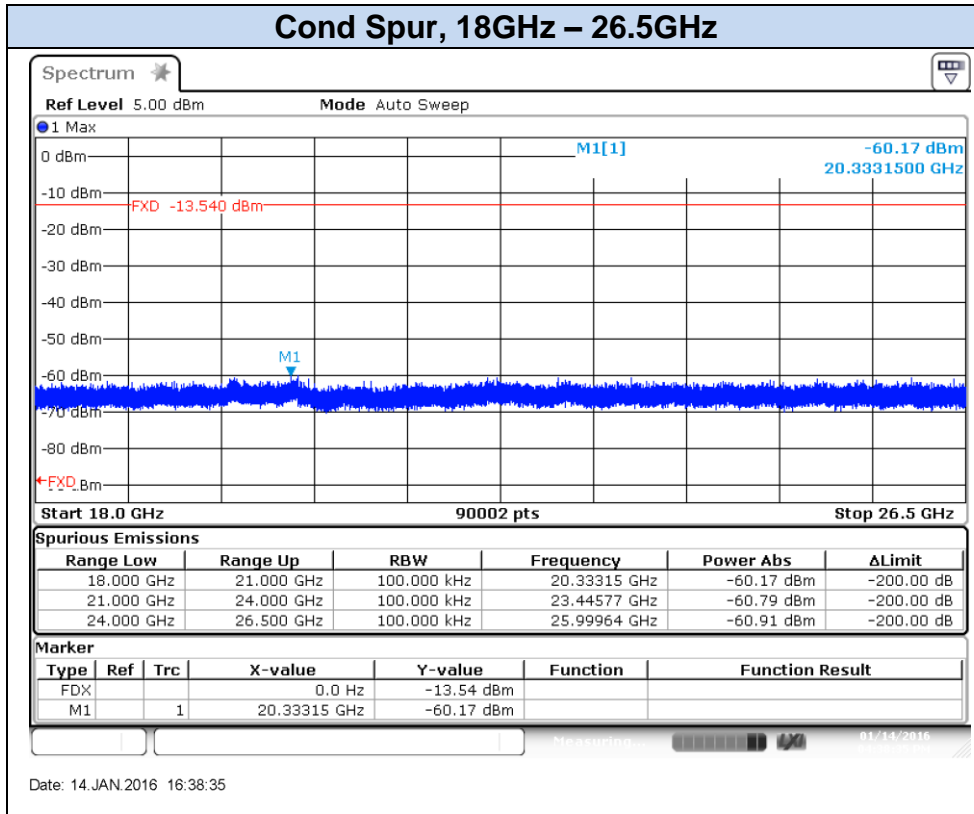






**802.11g, 6Mbps – Chain A, CH7**





### 802.11g, 6Mbps – Chain A, CH11

