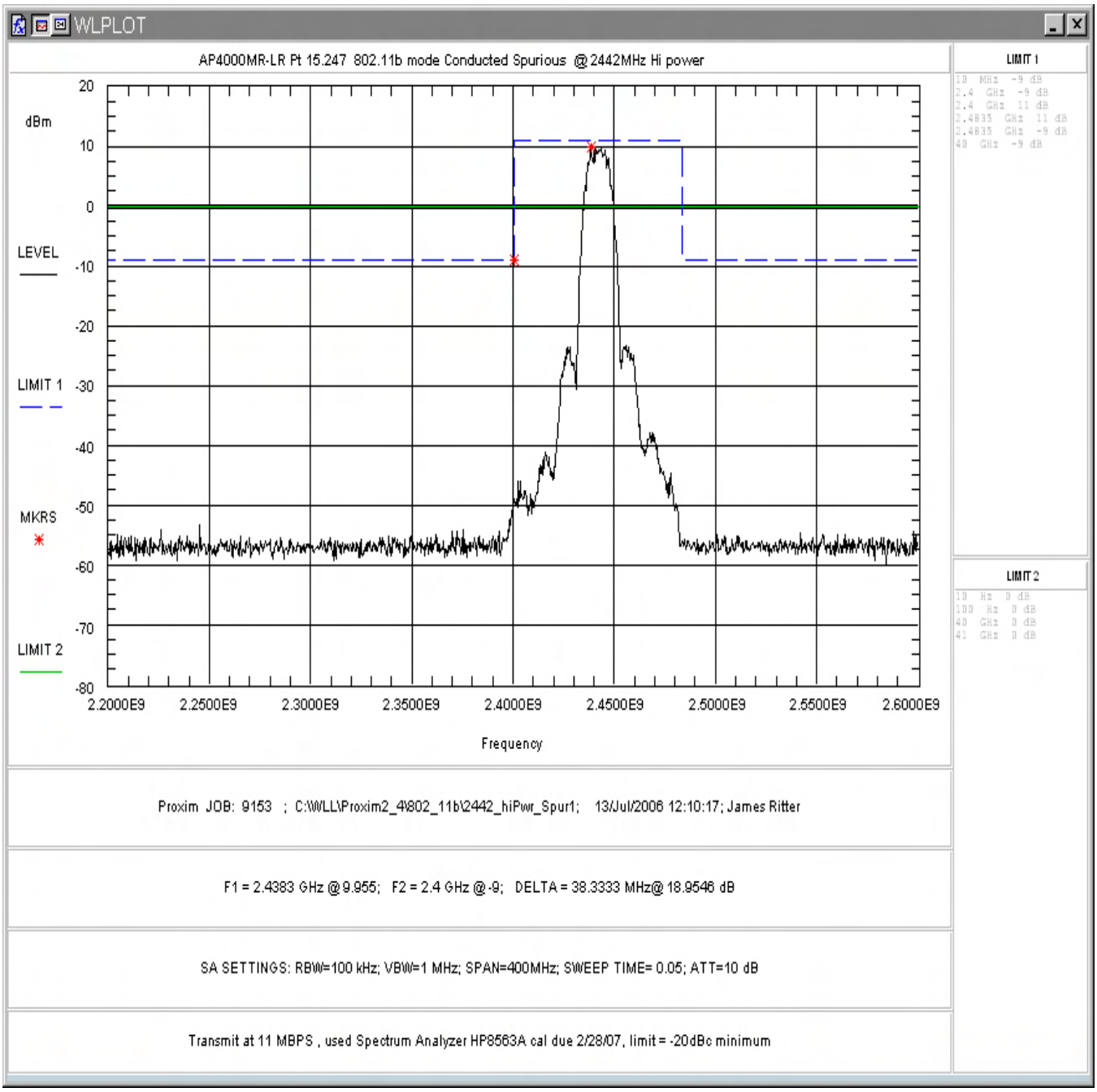

Figure 4-28. Conducted Spurious Emissions, High Power: Mid Channel In-Band (2.2 – 2.6GHz)

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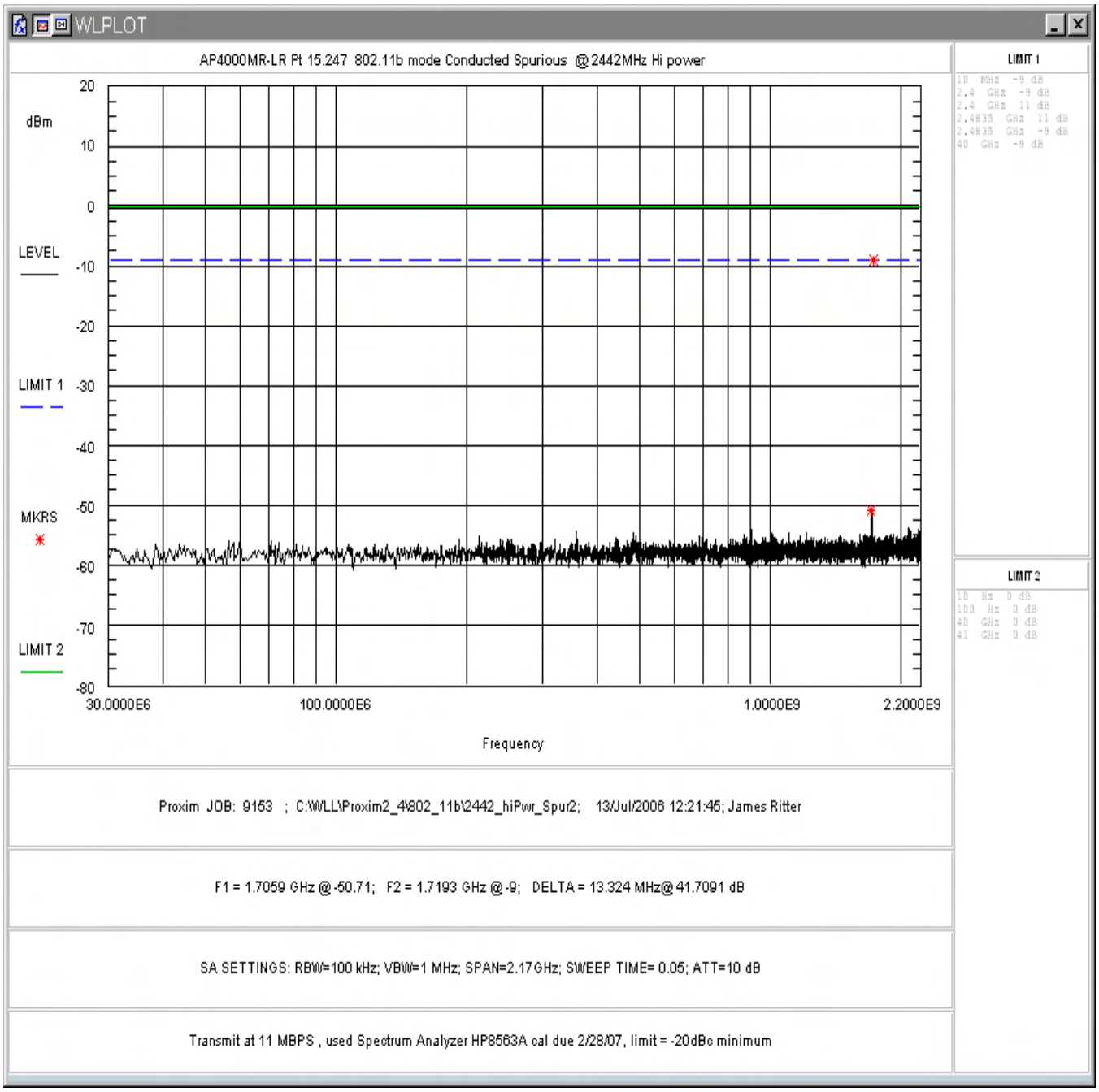

Figure 4-29. Conducted Spurious Emissions, High Power: Mid Channel 30 – 2200MHz

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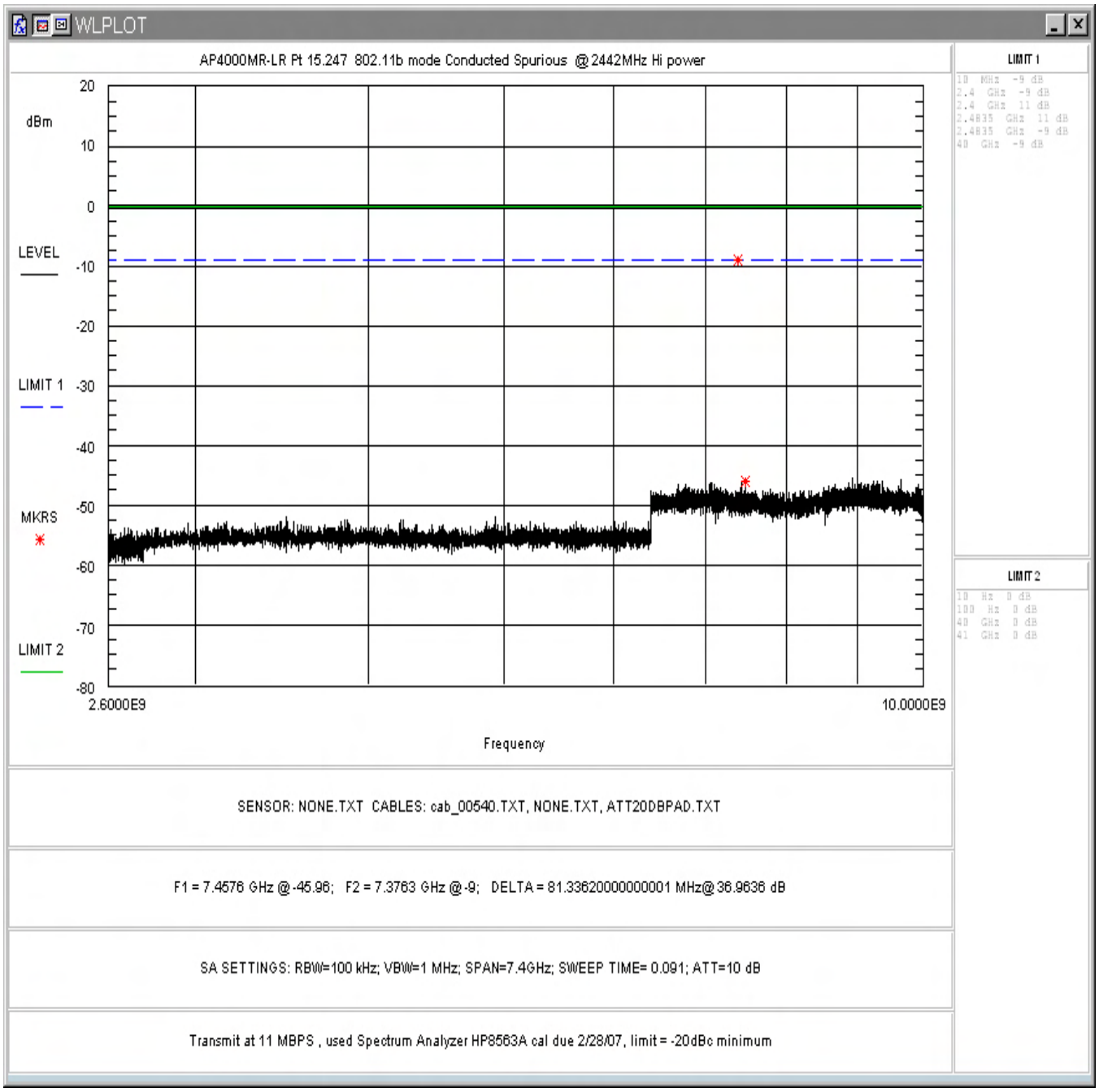

Figure 4-30. Conducted Spurious Emissions, High Power: Mid Channel 2.6 - 10GHz

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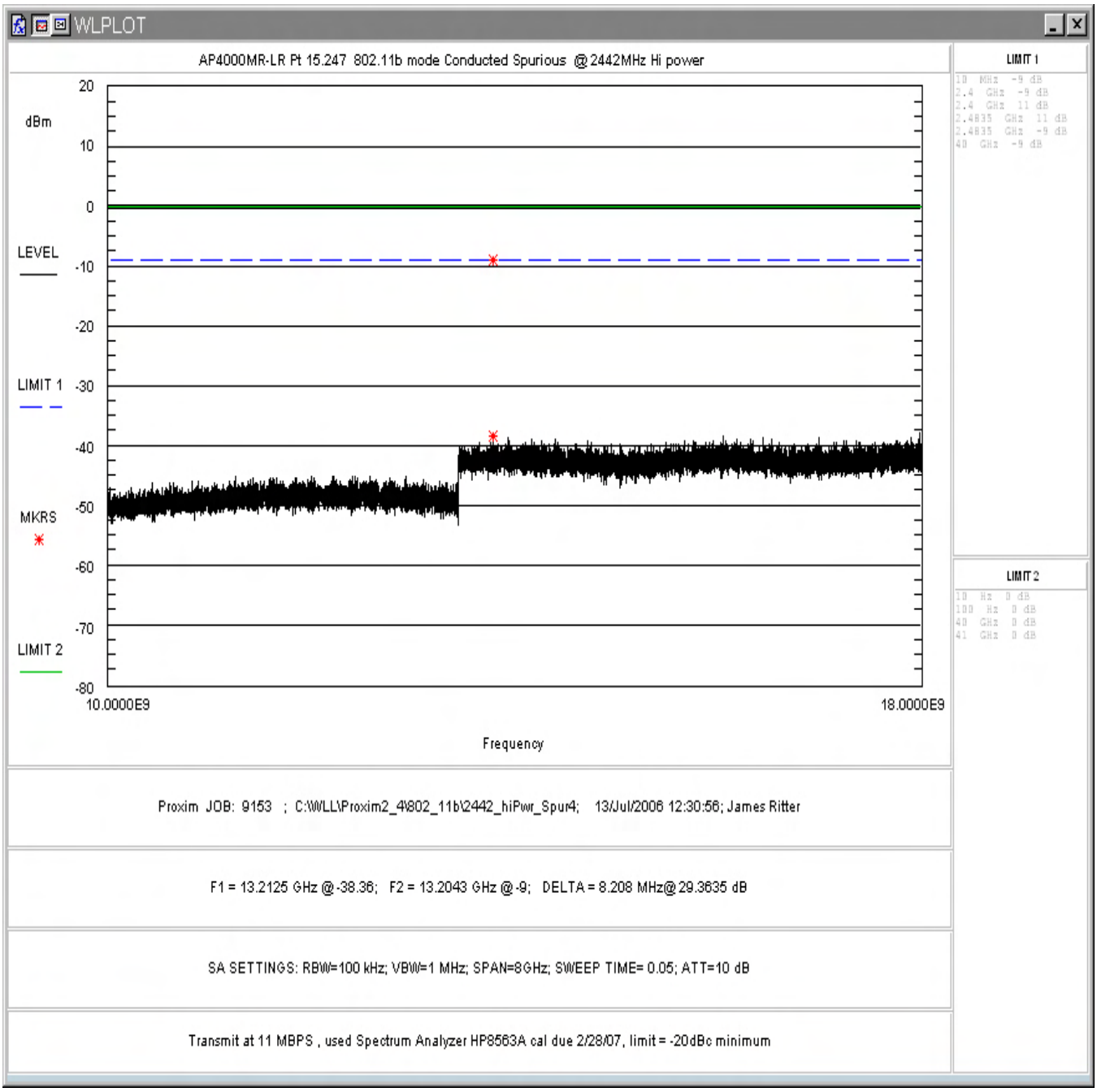

Figure 4-31. Conducted Spurious Emissions, High Power: Mid Channel 10 - 18GHz

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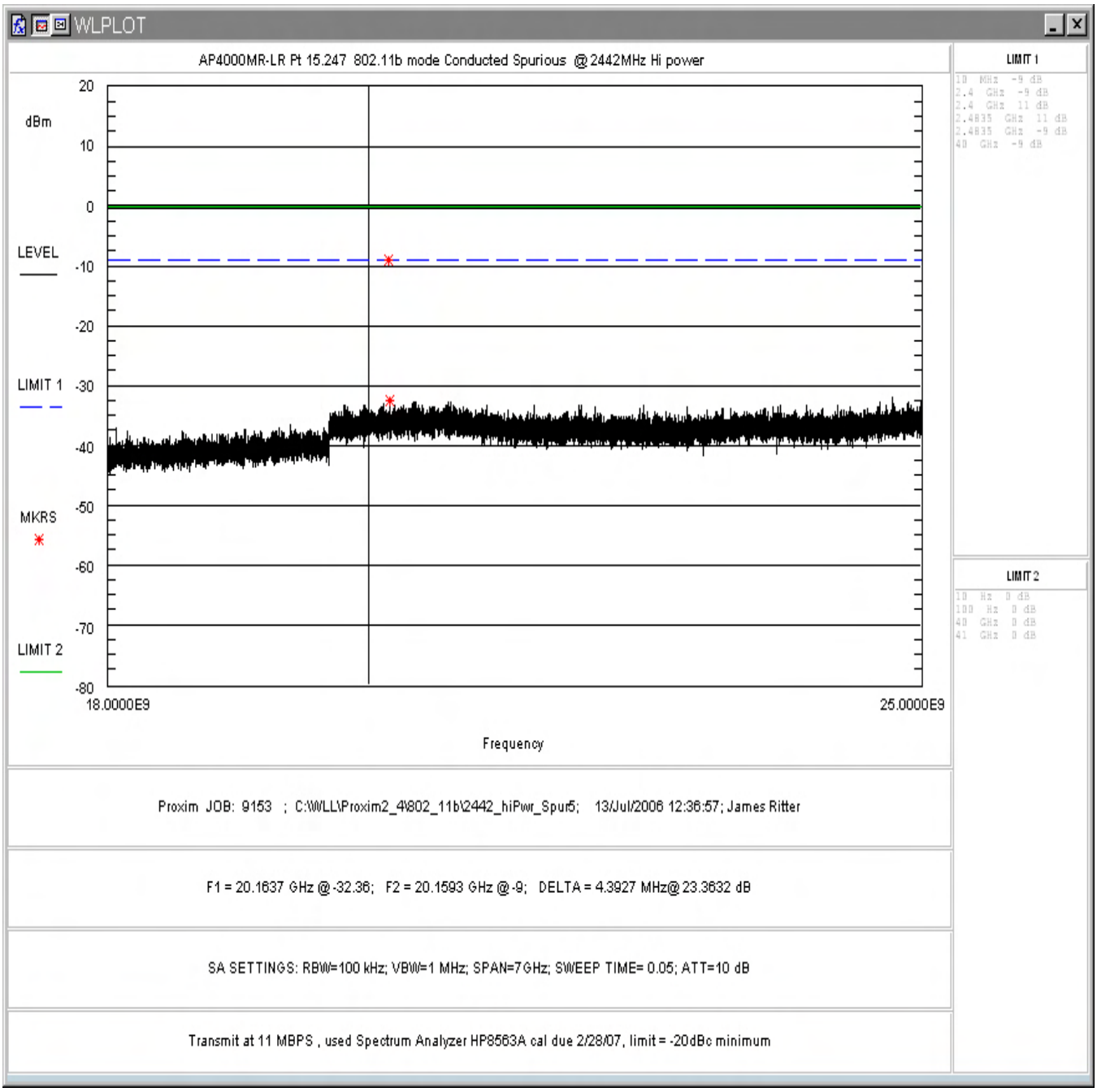

Figure 4-32. Conducted Spurious Emissions, High Power: Mid Channel 18 - 25GHz

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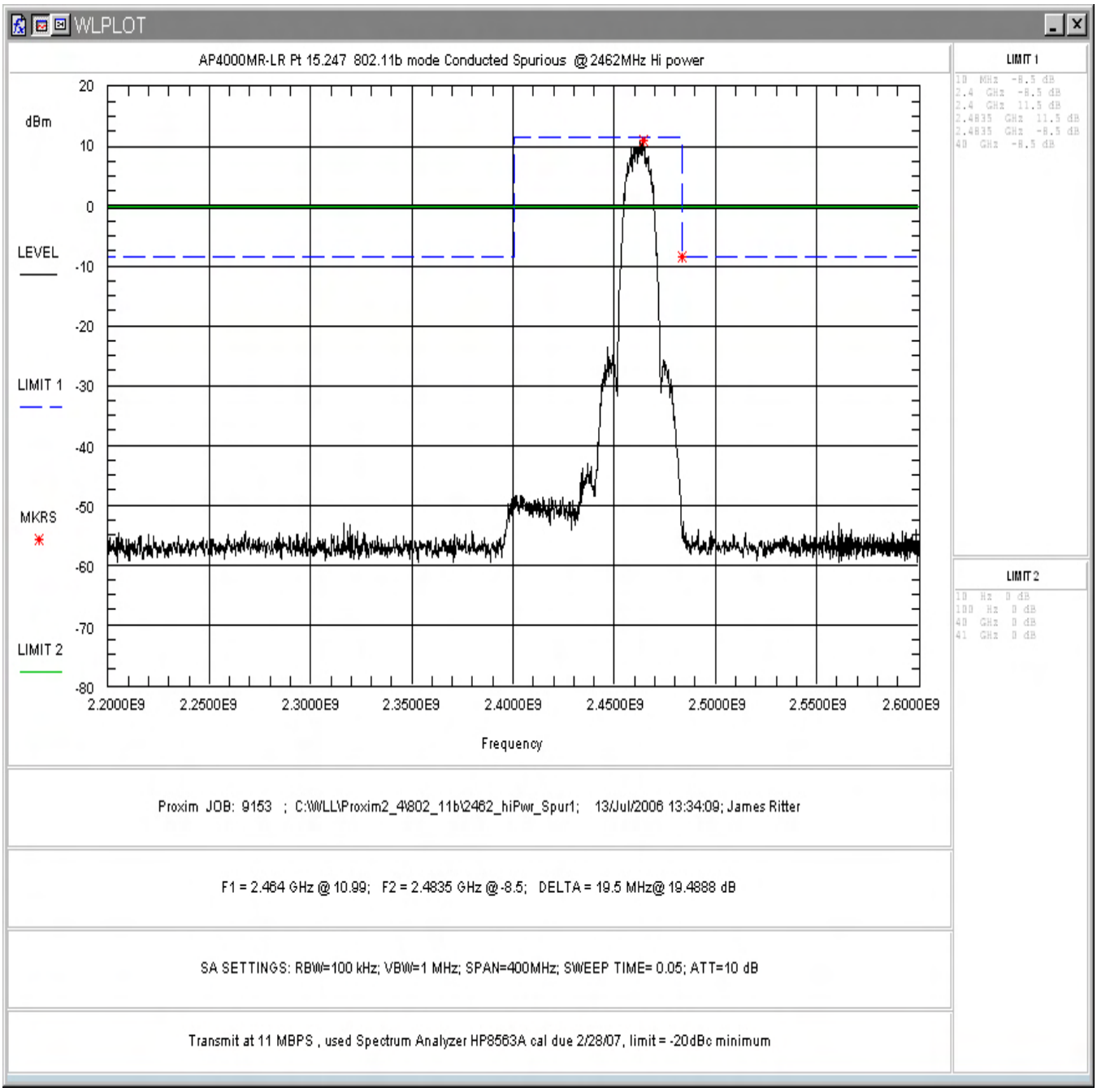

Figure 4-33. Conducted Spurious Emissions, High Power: High Channel In-Band (2.2 – 2.6GHz)

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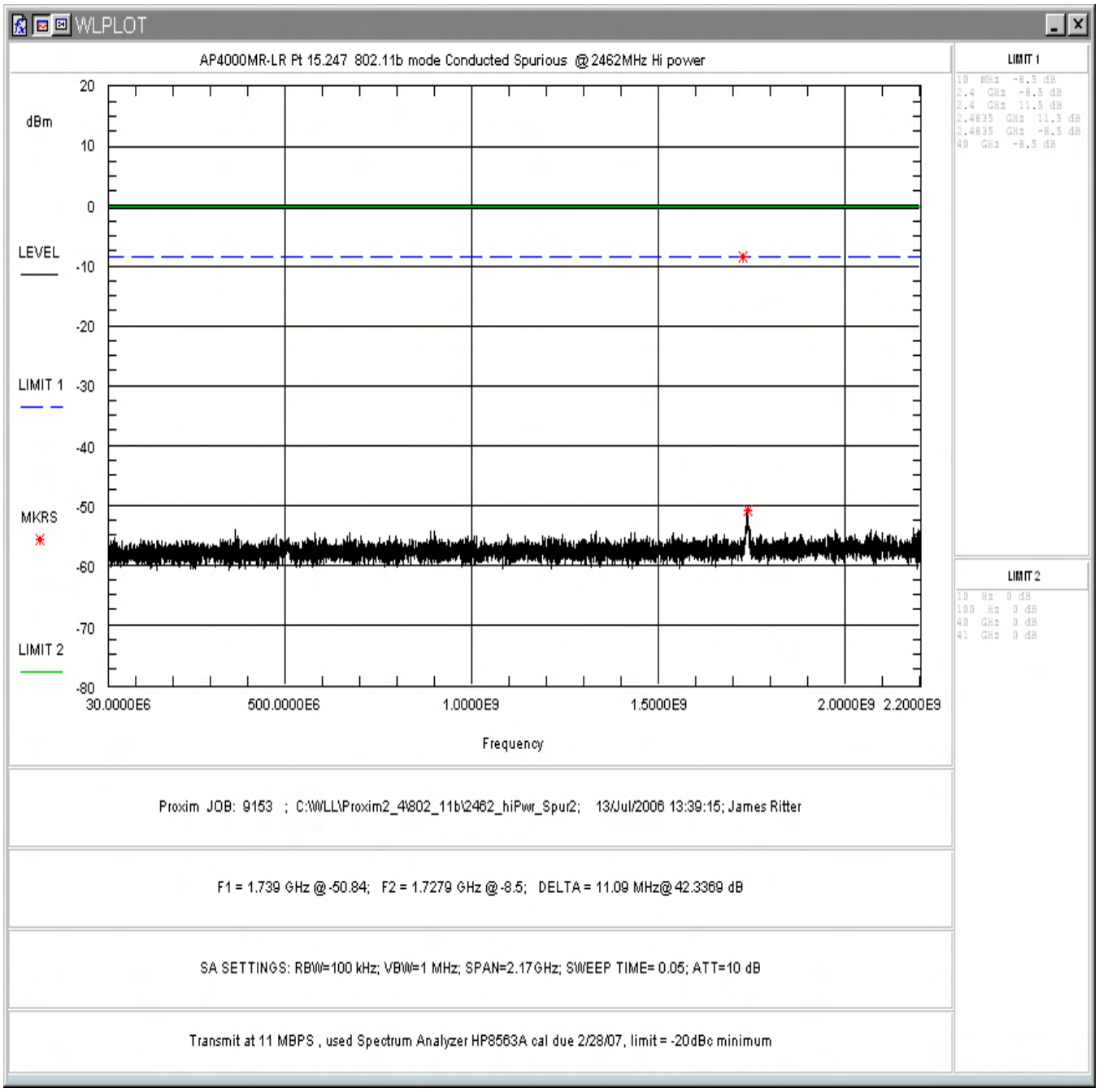

Figure 4-34. Conducted Spurious Emissions, High Power: High Channel 30 – 2200MHz

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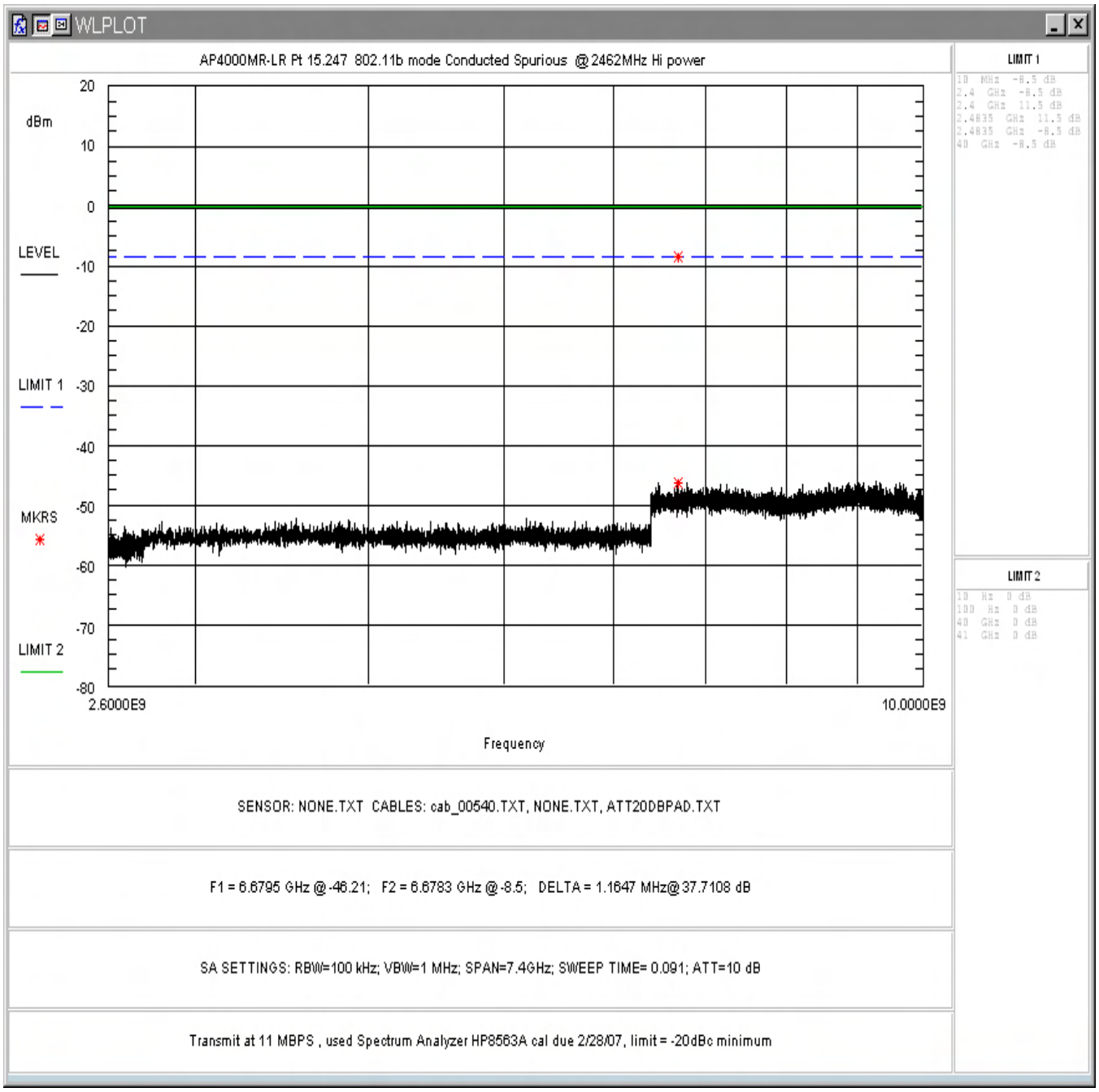

Figure 4-35. Conducted Spurious Emissions, High Power: High Channel 2.6 - 10GHz

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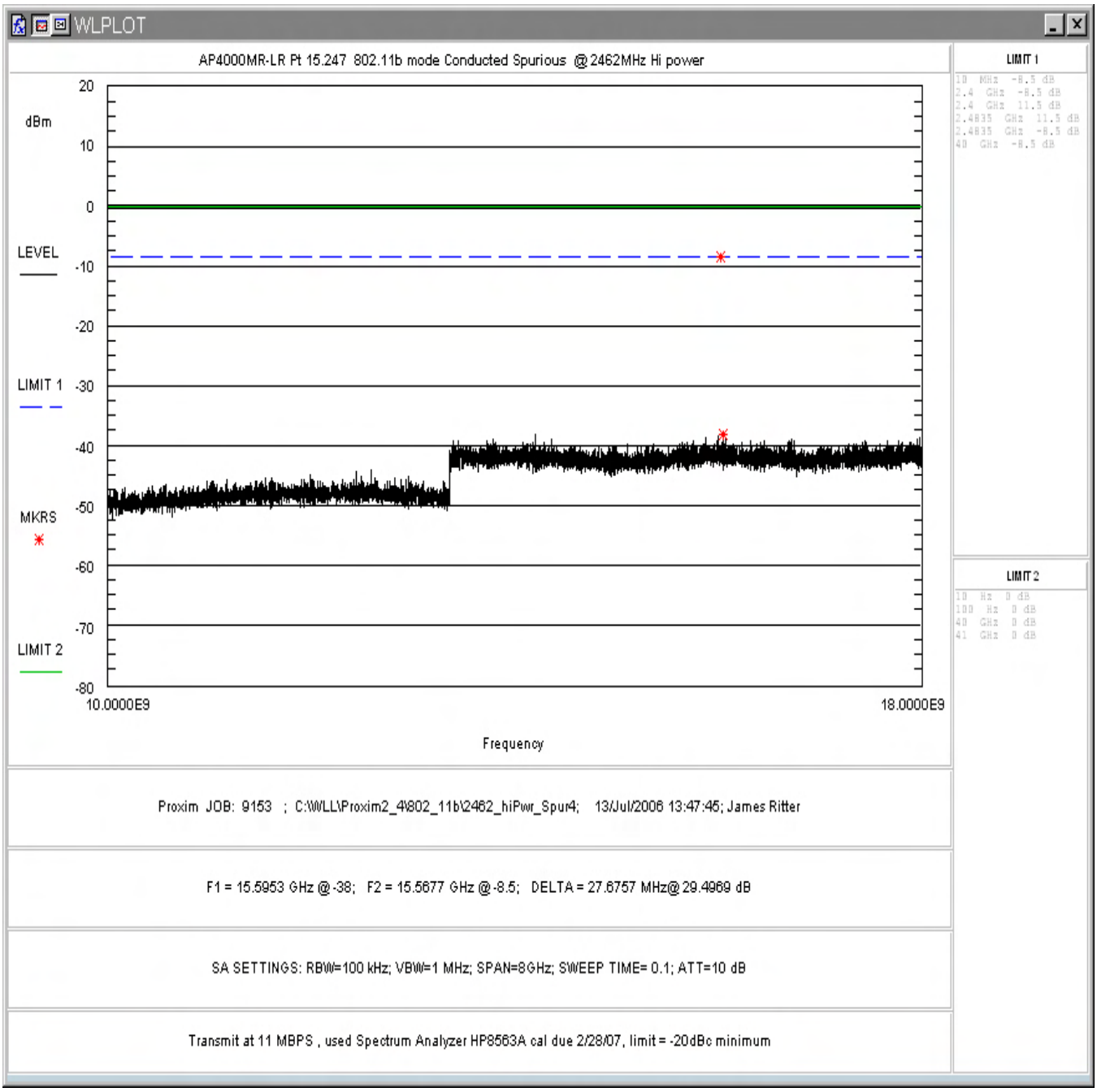

Figure 4-36. Conducted Spurious Emissions, High Power: High Channel 10 - 18GHz

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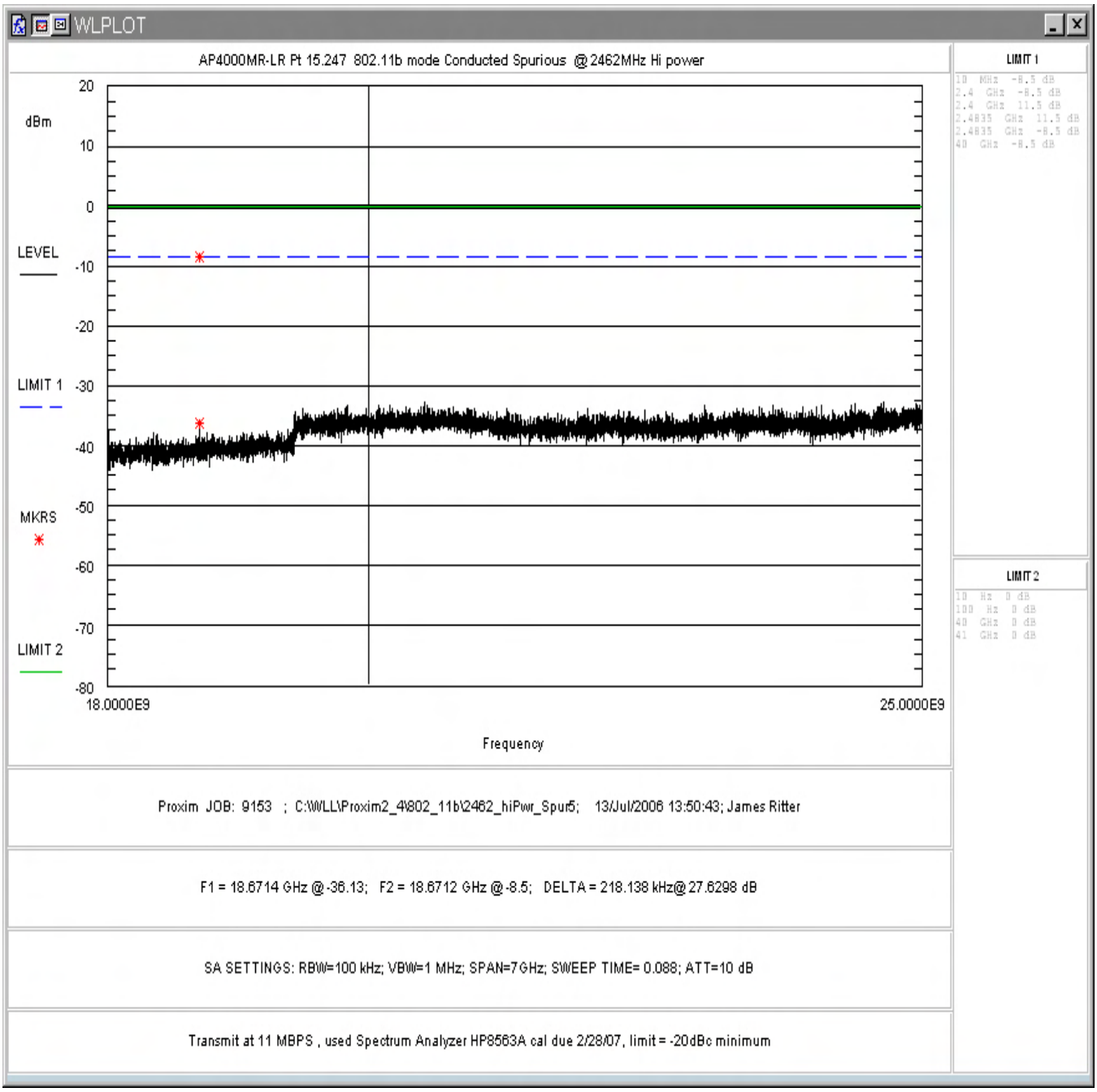

Figure 4-37. Conducted Spurious Emissions, High Power: High Channel 18 - 25GHz

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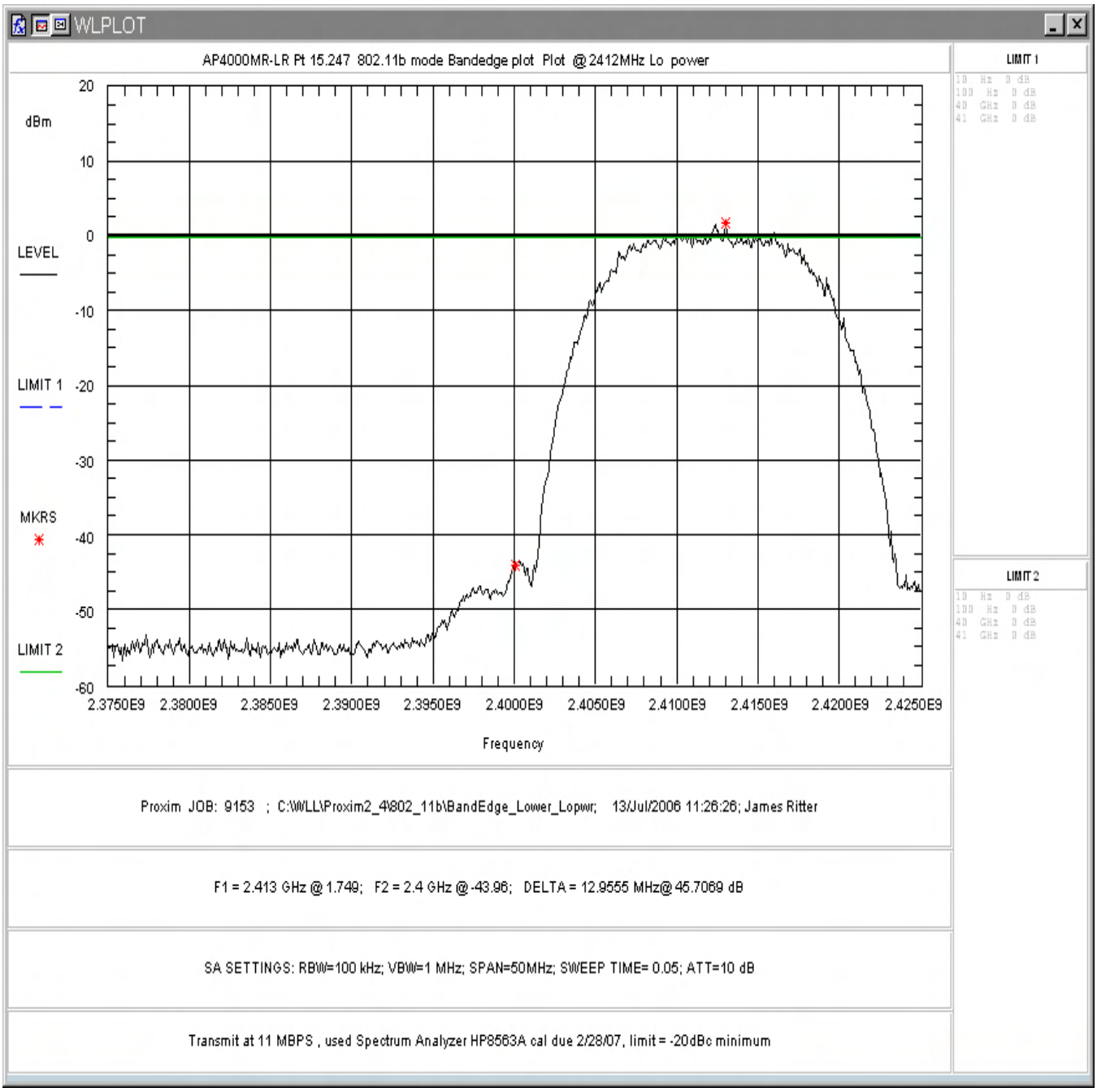

Figure 4-38. Conducted Spurious Emissions, Low Power: Low Channel, Band-edge

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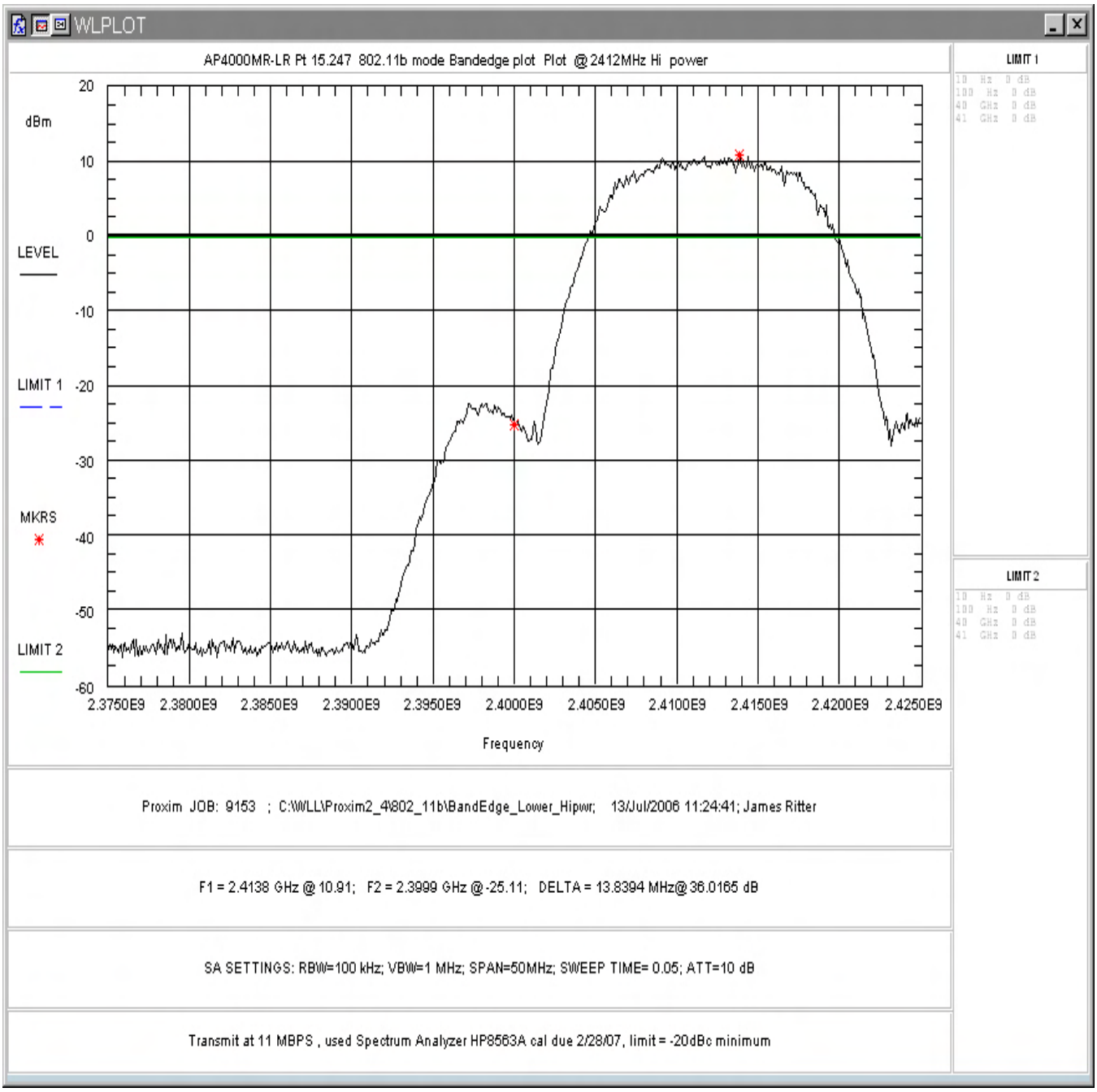

Figure 4-39. Conducted Spurious Emissions, High Power: Low Channel, Band-edge

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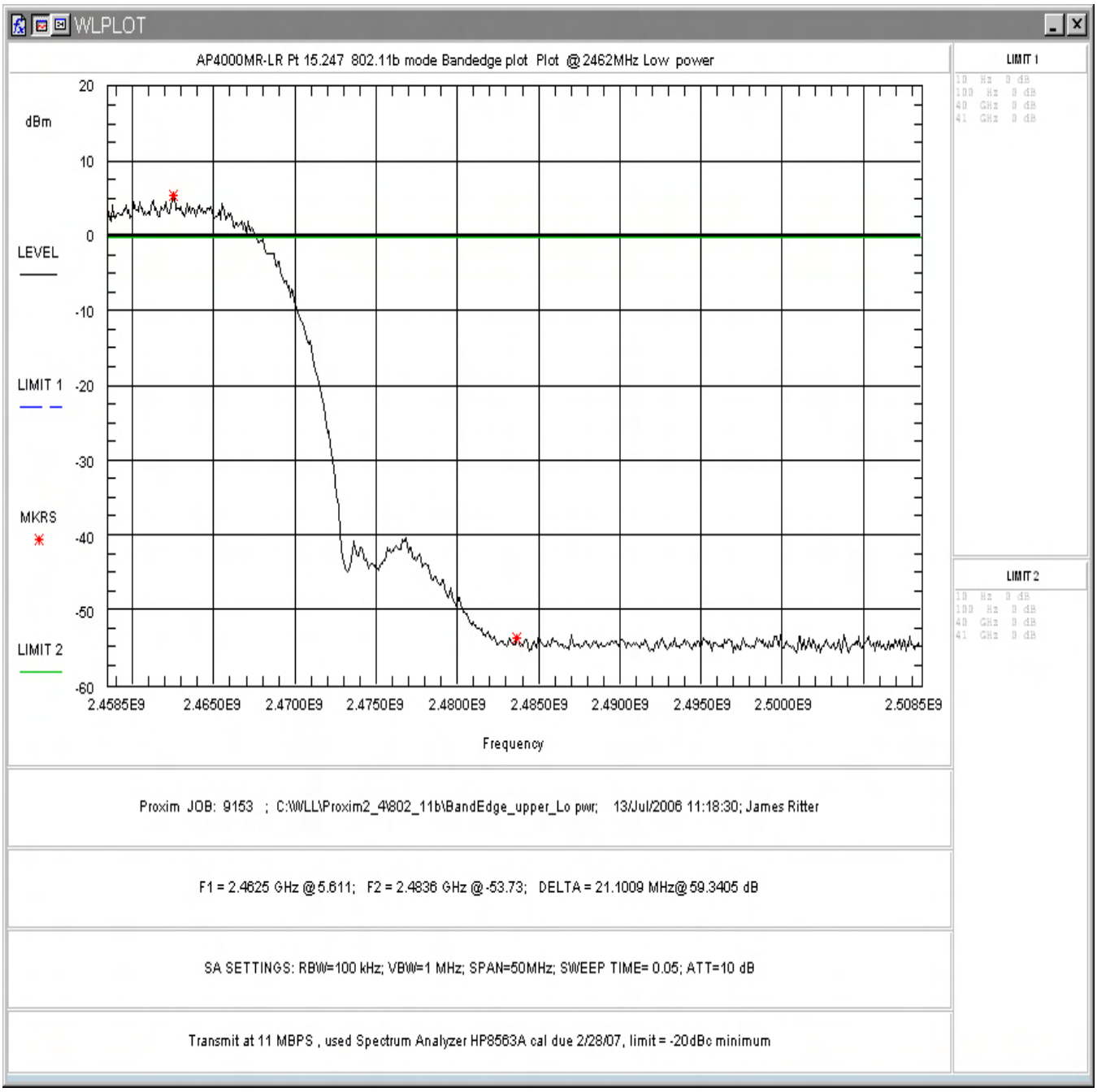

Figure 4-40. Conducted Spurious Emissions, Low Power: High Channel, Band-edge

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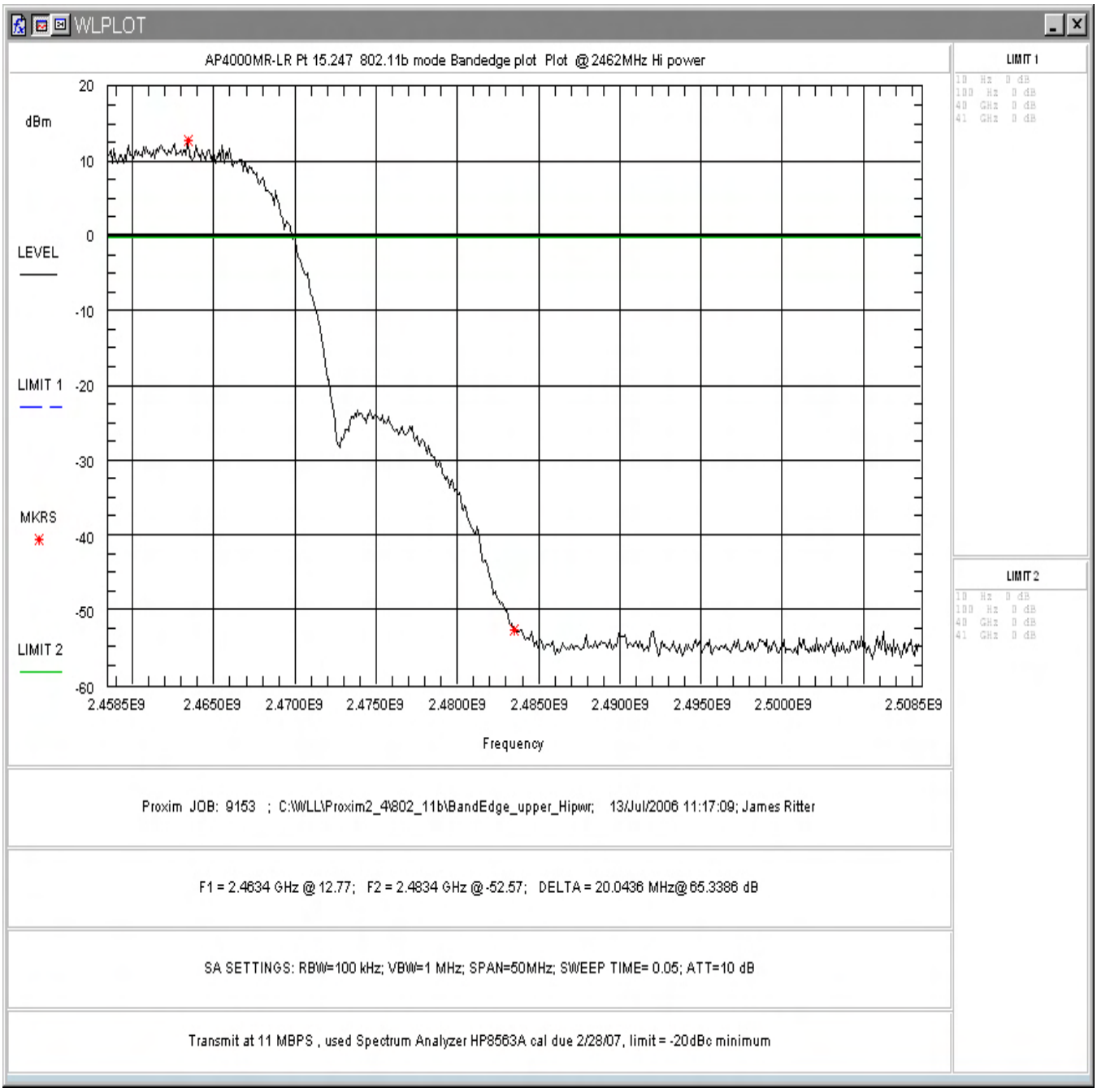

Figure 4-41. Conducted Spurious Emissions, High Power: High Channel, Band-edge

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4.5 Radiated Spurious Emissions: (FCC Part §2.1053)

The EUT must comply with the requirements for radiated spurious emissions that fall within the restricted bands. These emissions must meet the limits specified in §15.209 and §15.35(b) for peak measurements.

4.5.1 Test Procedure

The EUT was placed on motorized turntable for radiated testing on a 3-meter open field test site. The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. Receiving antennas were mounted on an antenna mast to determine the height of maximum emissions. The height of the antenna was varied between 1 and 4 meters. The peripherals were placed on the table in accordance with ANSI C63.4-2003. Cables were varied in position to produce maximum emissions. Both the horizontal and vertical field components were measured.

The emissions were measured using the following resolution bandwidths:

Frequency Range	Resolution Bandwidth	Video Bandwidth
30MHz-1000 MHz	120kHz	>100 kHz
>1000 MHz	1 MHz	<30 Hz (Avg.) 1MHz (Peak)

The following is a sample calculation used in the data tables for calculating the final field strength of spurious emissions and comparing these levels to the specified limits.

Sample Calculation:

Spectrum Analyzer Voltage (SA Level): V dBμV
Antenna Factor (Ant Corr): AFdB/m
Cable Loss Correction (Cable Corr): CCdB
Amplifier Gain: GdB
Electric Field (Corr Level): EdBμV/m = VdBμV + AFdB/m + CCdB - GdB
To convert to linear units: EμV/m = antilog (EdBμV/m/20)

Data are supplied in the following tables. Testing was performed to 25GHz. All detected emissions are reported in the following tables. Both peak and average measurements are listed.

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Table 5: Radiated Emission Test Data: Antenna A2.45LP17

Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
A2.45LP17													
Bandedge Ch. 1													
2390.000	H	45.0	1.0	46.8	29.1	1.6	38.1	0.0	39.4	93.5	500.0	-14.6	Avg
2390.000	H	45.0	1.0	57.3	29.1	1.6	38.1	0.0	49.9	313.4	5000.0	-24.1	Peak
2390.000	V	0.0	1.0	46.9	29.1	1.6	38.1	0.0	39.5	94.3	500.0	-14.5	Avg
2390.000	V	0.0	1.0	58.5	29.1	1.6	38.1	0.0	51.1	358.5	5000.0	-22.9	Peak
Ch. 11													
2483.500	H	45.0	1.0	47.6	29.3	1.5	38.1	0.0	40.4	104.2	500.0	-13.6	Avg
2483.500	H	45.0	1.0	61.7	29.3	1.5	38.1	0.0	54.4	526.7	5000.0	-19.5	Peak
2483.500	V	0.0	1.0	48.1	29.3	1.5	38.1	0.0	40.9	110.4	500.0	-13.1	Avg
2483.500	V	0.0	1.0	62.1	29.3	1.5	38.1	0.0	54.9	553.4	5000.0	-19.1	Peak
Data below 2.4GHz: Ch1 (Same Ch 6 and Ch 11)													
1064.000	H	90.0	1.0	59.2	24.7	1.2	39.2	0.6	46.5	210.2	5000.0	-27.5	peak
1197.730	H	180.0	1.0	56.5	25.4	1.3	39.0	0.8	45.0	176.9	5000.0	-29.0	peak
1329.700	H	190.0	1.0	59.5	26.0	1.4	38.8	1.2	49.2	289.9	5000.0	-24.7	peak
1462.150	H	165.0	1.0	55.0	26.5	1.4	38.7	1.7	45.9	197.7	5000.0	-28.1	peak
1064.000	H	90.0	1.0	44.1	24.7	1.2	39.2	0.6	31.4	37.1	500.0	-22.6	Avg
1197.730	H	180.0	1.0	45.3	25.4	1.3	39.0	0.8	33.8	48.9	500.0	-20.2	Avg
1329.700	H	190.0	1.0	46.8	26.0	1.4	38.8	1.2	36.6	67.4	500.0	-17.4	Avg
1462.150	H	165.0	1.0	43.0	26.5	1.4	38.7	1.7	33.9	49.7	500.0	-20.1	Avg
1064.000	V	150.0	1.0	53.1	24.7	1.2	39.2	0.6	40.4	104.5	5000.0	-33.6	peak
1197.730	V	170.0	1.0	56.3	25.4	1.3	39.0	0.8	44.8	173.5	5000.0	-29.2	peak
1329.700	V	155.0	1.0	56.2	26.0	1.4	38.8	1.2	45.9	197.6	5000.0	-28.1	peak
1462.150	V	160.0	1.0	61.2	26.5	1.4	38.7	1.7	52.1	402.2	5000.0	-21.9	peak
1064.000	V	150.0	1.0	42.1	24.7	1.2	39.2	0.6	29.4	29.5	500.0	-24.6	Avg
1197.730	V	170.0	1.0	45.3	25.4	1.3	39.0	0.8	33.8	48.9	500.0	-20.2	Avg
1329.700	V	155.0	1.0	44.7	26.0	1.4	38.8	1.2	34.4	52.6	500.0	-19.6	Avg
1462.150	V	160.0	1.0	47.8	26.5	1.4	38.7	1.7	38.7	86.6	500.0	-15.2	Avg

Ch. 11	**2462**												

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Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
4924.000	H	60.0	1.0	48.7	33.1	3.6	37.2	0.0	48.2	256.5	5000.0	-25.8	Peak
7386.000	H	0.0	1.0	47.8	36.9	4.7	37.6	0.0	51.9	392.5	5000.0	-22.1	amb Pk
12310.000	H	0.0	1.0	49.3	39.8	5.3	37.3	0.0	57.1	717.6	5000.0	-16.9	amb Pk
4924.000	H	60.0	1.0	35.2	33.1	3.6	37.2	0.0	34.7	54.2	500.0	-19.3	Avg
7386.000	H	0.0	1.0	35.2	36.9	4.7	37.6	0.0	39.2	91.4	500.0	-14.8	amb avg
12310.000	H	0.0	1.0	34.7	39.8	5.3	37.3	0.0	42.5	132.7	500.0	-11.5	amb avg
4924.000	V	190.0	1.0	53.5	33.1	3.6	37.2	0.0	53.0	445.7	5000.0	-21.0	Peak
7386.000	V	0.0	1.0	47.2	36.9	4.7	37.6	0.0	51.2	363.8	5000.0	-22.8	amb Pk
12310.000	V	0.0	1.0	47.5	39.8	5.3	37.3	0.0	55.3	581.3	5000.0	-18.7	amb Pk
4924.000	V	190.0	1.0	39.5	33.1	3.6	37.2	0.0	39.0	88.9	500.0	-15.0	Avg
7386.000	V	0.0	1.0	34.5	36.9	4.7	37.6	0.0	38.5	84.6	500.0	-15.4	amb avg
12310.000	V	0.0	1.0	34.8	39.8	5.3	37.3	0.0	42.6	134.7	500.0	-11.4	amb avg

Ch1	**2412**												
4824.000	H	10.0	1.0	46.5	32.9	3.5	37.2	0.0	45.7	192.4	5000.0	-28.3	Peak
12060.000	H	0.0	1.0	47.5	39.7	5.0	37.8	0.0	54.5	530.5	5000.0	-19.5	amb Pk
14472.000	H	0.0	1.0	46.0	41.1	6.2	36.9	0.0	56.3	655.8	5000.0	-17.6	amb Pk
4824.000	H	10.0	1.0	35.3	32.9	3.5	37.2	0.0	34.5	53.2	500.0	-19.5	Avg
12060.000	H	0.0	1.0	36.3	39.7	5.0	37.8	0.0	43.3	146.1	500.0	-10.7	amb avg
14472.000	H	0.0	1.0	36.8	41.1	6.2	36.9	0.0	47.1	227.4	500.0	-6.8	amb avg
4824.000	V	140.0	1.0	40.1	32.9	3.5	37.2	0.0	39.3	92.1	5000.0	-34.7	Peak
12060.000	V	0.0	1.0	47.0	39.7	5.0	37.8	0.0	54.0	500.8	5000.0	-20.0	amb Pk
14472.000	V	0.0	1.0	45.8	41.1	6.2	36.9	0.0	56.1	640.8	5000.0	-17.8	amb Pk
4824.000	V	140.0	1.0	35.0	32.9	3.5	37.2	0.0	34.2	51.2	500.0	-19.8	Avg
12060.000	V	0.0	1.0	35.8	39.7	5.0	37.8	0.0	42.8	137.9	500.0	-11.2	amb avg
14472.000	V	0.0	1.0	36.2	41.1	6.2	36.9	0.0	46.5	212.2	500.0	-7.4	amb avg

Ch6	**2442**												
4884.000	H	0.0	1.0	46.8	33.0	3.5	37.2	0.0	46.2	204.0	5000.0	-27.8	Peak
7326.000	H	90.0	1.0	50.2	36.9	4.5	37.6	0.0	54.0	502.7	5000.0	-20.0	Peak
12210.000	H	0.0	1.0	47.5	39.8	5.2	37.5	0.0	55.0	560.5	5000.0	-19.0	amb Pk
4884.000	H	0.0	1.0	34.1	33.0	3.5	37.2	0.0	33.5	47.1	500.0	-20.5	Avg
7326.000	H	0.0	1.0	38.3	36.9	4.5	37.6	0.0	42.2	128.6	500.0	-11.8	Avg
12210.000	H	0.0	1.0	34.9	39.8	5.2	37.5	0.0	42.4	131.4	500.0	-11.6	amb avg

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Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
4884.000	V	180.0	1.0	47.2	33.0	3.5	37.2	0.0	46.5	212.2	5000.0	-27.4	Peak
7326.000	V	0.0	1.0	46.2	36.9	4.5	37.6	0.0	50.0	316.8	5000.0	-24.0	amb Pk
12210.000	V	0.0	1.0	44.2	39.8	5.2	37.5	0.0	51.6	382.0	5000.0	-22.3	amb Pk
4884.000	V	180.0	1.0	34.2	33.0	3.5	37.2	0.0	33.5	47.5	500.0	-20.4	Avg
7326.000	V	0.0	1.0	34.0	36.9	4.5	37.6	0.0	37.9	78.1	500.0	-16.1	amb avg
12210.000	V	0.0	1.0	34.7	39.8	5.2	37.5	0.0	42.1	128.0	500.0	-11.8	amb avg

Table 6: Radiated Emission Test Data: Antenna A2412-0

Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
A2412-0													
Bandedge Ch. 1													
2390.000	H	290.0	1.0	57.3	29.1	2.9	38.1	0.0	51.3	366.4	5000.0	-22.7	Peak
2390.000	H	290.0	1.0	45.7	29.1	2.9	38.1	0.0	39.6	95.7	500.0	-14.4	Avg
2390.000	V	120.0	1.0	58.2	29.1	2.9	38.1	0.0	52.1	403.6	5000.0	-21.9	Peak
2390.000	V	120.0	1.0	46.7	29.1	2.9	38.1	0.0	40.6	107.4	500.0	-13.4	Avg
Ch. 11													
2483.500	H	54.0	1.0	58.0	29.3	3.0	38.1	0.0	52.2	407.5	5000.0	-21.8	Peak
2483.500	H	54.0	1.0	46.7	29.3	3.0	38.1	0.0	40.9	110.6	500.0	-13.1	Avg
2483.500	V	323.0	1.0	58.3	29.3	3.0	38.1	0.0	52.5	423.3	5000.0	-21.4	Peak
2483.500	V	323.0	1.0	47.0	29.3	3.0	38.1	0.0	41.2	114.8	500.0	-12.8	Avg
Data below 2.4GHz: Ch1 (Same Ch 6 and Ch 11)													
1064.000	H	313.0	1.0	53.0	24.7	1.2	39.2	0.6	40.3	103.3	5000.0	-33.7	peak
1197.730	H	119.0	1.0	56.1	25.4	1.3	39.0	0.8	44.6	168.9	5000.0	-29.4	peak
1329.700	H	38.0	1.0	56.3	26.0	1.4	38.8	1.2	46.1	201.2	5000.0	-27.9	peak
1462.150	H	355.0	1.0	59.0	26.5	1.4	38.7	1.7	49.9	313.3	5000.0	-24.1	peak
1064.000	H	313.0	1.0	41.0	24.7	1.2	39.2	0.6	28.3	26.0	500.0	-25.7	Avg
1197.730	H	119.0	1.0	42.3	25.4	1.3	39.0	0.8	30.8	34.5	500.0	-23.2	Avg

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Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
1329.700	H	38.0	1.0	45.0	26.0	1.4	38.8	1.2	34.7	54.6	500.0	-19.2	Avg
1462.150	H	355.0	1.0	45.5	26.5	1.4	38.7	1.7	36.4	66.2	500.0	-17.6	Avg
1064.000	V	10.0	1.0	51.0	24.7	1.2	39.2	0.6	38.3	82.1	5000.0	-35.7	peak
1197.730	V	103.0	1.0	55.0	25.4	1.3	39.0	0.8	43.5	148.8	5000.0	-30.5	peak
1329.700	V	289.0	1.0	57.2	26.0	1.4	38.8	1.2	46.9	221.7	5000.0	-27.1	peak
1462.150	V	177.0	1.0	55.6	26.5	1.4	38.7	1.7	46.5	211.8	5000.0	-27.5	peak
1064.000	V	10.0	1.0	38.0	24.7	1.2	39.2	0.6	25.3	18.4	500.0	-28.7	Avg
1197.730	V	103.0	1.0	43.7	25.4	1.3	39.0	0.8	32.1	40.4	500.0	-21.9	Avg
1329.700	V	289.0	1.0	45.7	26.0	1.4	38.8	1.2	35.4	59.0	500.0	-18.6	Avg
1462.150	V	177.0	1.0	43.5	26.5	1.4	38.7	1.7	34.4	52.6	500.0	-19.6	Avg

Ch. 11	**2462**												
4924.000	H	108.0	1.0	50.2	33.1	4.1	37.2	0.0	50.2	322.6	5000.0	-23.8	Peak
7386.000	H	20.0	1.0	50.1	36.9	5.1	37.6	0.0	54.5	531.6	5000.0	-19.5	Peak
12310.000	H	0.0	1.0	47.1	39.8	6.7	37.3	0.0	56.3	654.6	5000.0	-17.7	amb Pk
4924.000	H	108.0	1.0	36.2	33.1	4.1	37.2	0.0	36.2	64.4	500.0	-17.8	Avg
7386.000	H	20.0	1.0	36.2	36.9	5.1	37.6	0.0	40.6	107.3	500.0	-13.4	Avg
12310.000	H	0.0	1.0	34.9	39.8	6.7	37.3	0.0	44.1	160.7	500.0	-9.9	amb avg
4924.000	V	285.0	1.0	49.5	33.1	4.1	37.2	0.0	49.5	298.6	5000.0	-24.5	Peak
7386.000	V	100.0	1.0	49.0	36.9	5.1	37.6	0.0	53.4	468.4	5000.0	-20.6	Peak
12310.000	V	0.0	1.0	46.7	39.8	6.7	37.3	0.0	55.9	622.9	5000.0	-18.1	amb Pk
4924.000	V	285.0	1.0	35.8	33.1	4.1	37.2	0.0	35.8	61.9	500.0	-18.1	Avg
7386.000	V	100.0	1.0	35.7	36.9	5.1	37.6	0.0	40.1	100.9	500.0	-13.9	Avg
12310.000	V	0.0	1.0	34.7	39.8	6.7	37.3	0.0	43.9	156.5	500.0	-10.1	amb avg

Ch1	**2412**												
4824.000	H	212.0	1.0	45.8	32.9	4.1	37.2	0.0	45.5	189.2	5000.0	-28.4	Peak
12060.000	H	0.0	1.0	46.9	39.7	6.6	37.8	0.0	55.4	591.3	5000.0	-18.5	amb Pk
14472.000	H	0.0	1.0	49.5	41.1	7.5	36.9	0.0	61.2	1141.7	5000.0	-12.8	amb Pk
4824.000	H	212.0	1.0	33.7	32.9	4.1	37.2	0.0	33.4	47.0	500.0	-20.5	Avg
12060.000	H	0.0	1.0	34.8	39.7	6.6	37.8	0.0	43.3	146.8	500.0	-10.6	amb avg
14472.000	H	0.0	1.0	37.1	41.1	7.5	36.9	0.0	48.8	273.9	500.0	-5.2	amb avg
4824.000	V	312.0	1.0	46.0	32.9	4.1	37.2	0.0	45.7	193.6	5000.0	-28.2	Peak

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Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
12060.000	V	0.0	1.0	46.7	39.7	6.6	37.8	0.0	55.2	575.8	5000.0	-18.8	amb Pk
14472.000	V	0.0	1.0	49.5	41.1	7.5	36.9	0.0	61.2	1141.7	5000.0	-12.8	amb Pk
4824.000	V	312.0	1.0	32.9	32.9	4.1	37.2	0.0	32.6	42.6	500.0	-21.4	Avg
12060.000	V	0.0	1.0	34.7	39.7	6.6	37.8	0.0	43.2	144.6	500.0	-10.8	amb avg
14472.000	V	0.0	1.0	37.2	41.1	7.5	36.9	0.0	48.8	276.4	500.0	-5.1	amb avg
Ch6	**2442**												
4884.000	H	123.0	1.0	47.7	33.0	4.1	37.2	0.0	47.6	239.0	5000.0	-26.4	Peak
7326.000	H	10.0	1.0	49.3	36.9	5.0	37.6	0.0	53.7	482.5	5000.0	-20.3	Peak
12210.000	H	0.0	1.0	46.5	39.8	6.6	37.5	0.0	55.4	592.1	5000.0	-18.5	amb Pk
4884.000	H	123.0	1.0	34.3	33.0	4.1	37.2	0.0	34.2	51.4	500.0	-19.8	Avg
7326.000	H	10.0	1.0	35.8	36.9	5.0	37.6	0.0	40.2	102.0	500.0	-13.8	Avg
12210.000	H	0.0	1.0	34.9	39.8	6.6	37.5	0.0	43.8	155.7	500.0	-10.1	amb avg
4884.000	V	338.0	1.0	48.2	33.0	4.1	37.2	0.0	48.1	253.1	5000.0	-25.9	Peak
7326.000	V	0.0	1.0	45.2	36.9	5.0	37.6	0.0	49.6	300.9	5000.0	-24.4	amb Pk
12210.000	V	0.0	1.0	44.5	39.8	6.6	37.5	0.0	53.4	470.3	5000.0	-20.5	amb Pk
4884.000	V	338.0	1.0	34.0	33.0	4.1	37.2	0.0	33.9	49.5	500.0	-20.1	Avg
7326.000	V	0.0	1.0	33.8	36.9	5.0	37.6	0.0	38.2	81.3	500.0	-15.8	amb avg
12210.000	V	0.0	1.0	34.6	39.8	6.6	37.5	0.0	43.5	150.4	500.0	-10.4	amb avg

Table 7: Radiated Emission Test Data: Antenna A2.45FP18

Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
A2.45FP18 **Bandedge Ch. 1**													
2390.000	H	10.0	1.0	57.3	29.1	1.6	38.1	0.0	49.9	312.3	5000.0	-24.1	Peak
2390.000	H	10.0	1.0	45.8	29.1	1.6	38.1	0.0	38.4	83.4	500.0	-15.6	Avg
2390.000	V	10.0	1.0	65.2	29.1	1.6	38.1	0.0	57.8	772.8	5000.0	-16.2	Peak

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Frequency (MHz)	Polarity H/V	Az Deg	Ant. Height (m)	SA Level (dBµV)	Ant. Corr. (dB/m)	Cable Corr. (dB)	Amp Gain (dB)	Filter Corr (dB)	Corr. Level (dBµV/m)	Corr. Level (µV/m)	Limit (µV/m)	Margin (dB)	Notes
2390.000	V	10.0	1.0	54.8	29.1	1.6	38.1	0.0	47.4	235.0	500.0	-6.6	Avg
Ch. 11													
2483.500	H	350.0	1.0	59.1	29.3	1.5	38.1	0.0	51.9	391.8	5000.0	-22.1	Peak
2483.500	H	350.0	1.0	46.7	29.3	1.5	38.1	0.0	39.5	94.0	500.0	-14.5	Avg
2483.500	V	350.0	1.0	68.4	29.3	1.5	38.1	0.0	61.2	1143.0	5000.0	-12.8	Peak
2483.500	V	350.0	1.0	57.1	29.3	1.5	38.1	0.0	49.9	311.2	500.0	-4.1	Avg
Data below 2.4GHz: Ch1 (Same Ch 6 and Ch 11)													
1064.000	H	45.0	1.0	59.1	24.7	1.2	39.2	0.6	46.4	208.5	5000.0	-27.6	peak
1197.730	H	180.0	1.0	55.5	25.4	1.3	39.0	0.8	44.0	157.7	5000.0	-30.0	peak
1329.700	H	180.0	1.0	58.2	26.0	1.4	38.8	1.2	47.9	248.7	5000.0	-26.1	peak
1462.150	H	45.0	1.0	51.5	26.5	1.4	38.7	1.7	42.4	132.1	5000.0	-31.6	peak
1064.000	H	45.0	1.0	45.1	24.7	1.2	39.2	0.6	32.4	41.6	500.0	-21.6	Avg
1197.730	H	180.0	1.0	44.5	25.4	1.3	39.0	0.8	33.0	44.4	500.0	-21.0	Avg
1329.700	H	180.0	1.0	46.5	26.0	1.4	38.8	1.2	36.2	64.9	500.0	-17.7	Avg
1462.150	H	45.0	1.0	38.8	26.5	1.4	38.7	1.7	29.7	30.6	500.0	-24.3	Avg
1064.000	V	270.0	1.0	50.1	24.7	1.2	39.2	0.6	37.4	74.0	5000.0	-36.6	peak
1197.730	V	200.0	1.0	55.5	25.4	1.3	39.0	0.8	44.0	157.7	5000.0	-30.0	peak
1329.700	V	170.0	1.0	54.7	26.0	1.4	38.8	1.2	44.4	166.8	5000.0	-29.5	peak
1462.150	V	90.0	1.0	57.2	26.5	1.4	38.7	1.7	48.1	254.7	5000.0	-25.9	peak
1064.000	V	270.0	1.0	37.5	24.7	1.2	39.2	0.6	24.8	17.3	500.0	-29.2	Avg
1197.730	V	200.0	1.0	43.2	25.4	1.3	39.0	0.8	31.7	38.3	500.0	-22.3	Avg
1329.700	V	170.0	1.0	42.3	26.0	1.4	38.8	1.2	32.0	40.0	500.0	-21.9	Avg
1462.150	V	90.0	1.0	44.5	26.5	1.4	38.7	1.7	35.4	59.0	500.0	-18.6	Avg

Ch. 11	**2462**												
4924.000	H	0.0	1.0	49.2	33.1	3.6	37.2	0.0	48.7	270.7	5000.0	-25.3	Peak
7386.000	H	0.0	1.0	48.2	36.9	4.7	37.6	0.0	52.2	408.1	5000.0	-21.8	Peak
12310.000	H	0.0	1.0	47.5	39.8	5.3	37.3	0.0	55.3	581.3	5000.0	-18.7	amb Pk
4924.000	H	0.0	1.0	34.8	33.1	3.6	37.2	0.0	34.3	51.9	500.0	-19.7	Avg
7386.000	H	0.0	1.0	36.7	36.9	4.7	37.6	0.0	40.7	108.6	500.0	-13.3	Avg
12310.000	H	0.0	1.0	35.2	39.8	5.3	37.3	0.0	43.0	140.6	500.0	-11.0	amb avg
4924.000	V	190.0	1.0	52.3	33.1	3.6	37.2	0.0	51.8	389.5	5000.0	-22.2	Peak

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7386.000	V	0.0	1.0	49.1	36.9	4.7	37.6	0.0	53.1	454.3	5000.0	-20.8	Peak
12310.000	V	0.0	1.0	47.9	39.8	5.3	37.3	0.0	55.7	608.7	5000.0	-18.3	amb Pk
4924.000	V	190.0	1.0	38.2	33.1	3.6	37.2	0.0	37.7	76.3	500.0	-16.3	Avg
7386.000	V	0.0	1.0	36.3	36.9	4.7	37.6	0.0	40.3	104.1	500.0	-13.6	Avg
12310.000	V	0.0	1.0	35.8	39.8	5.3	37.3	0.0	43.6	151.1	500.0	-10.4	amb avg

Ch1	**2412**												
4824.000	H	0.0	1.0	43.1	32.9	3.5	37.2	0.0	42.3	130.1	5000.0	-31.7	Peak
12060.000	H	90.0	1.0	44.1	39.7	5.0	37.8	0.0	51.1	358.6	5000.0	-22.9	amb Pk
14472.000	H	0.0	1.0	50.0	41.1	6.2	36.9	0.0	60.3	1039.3	5000.0	-13.6	amb Pk
4824.000	H	0.0	1.0	33.1	32.9	3.5	37.2	0.0	32.3	41.1	500.0	-21.7	Avg
12060.000	H	90.0	1.0	33.9	39.7	5.0	37.8	0.0	40.9	110.8	500.0	-13.1	amb avg
14472.000	H	0.0	1.0	36.9	41.1	6.2	36.9	0.0	47.2	230.0	500.0	-6.7	amb avg
4824.000	V	0.0	1.0	45.2	32.9	3.5	37.2	0.0	44.4	165.1	5000.0	-29.6	Peak
12060.000	V	90.0	1.0	46.9	39.7	5.0	37.8	0.0	53.9	492.8	5000.0	-20.1	amb Pk
14472.000	V	0.0	1.0	50.3	41.1	6.2	36.9	0.0	60.7	1079.6	5000.0	-13.3	amb Pk
4824.000	V	0.0	1.0	34.1	32.9	3.5	37.2	0.0	33.3	46.2	500.0	-20.7	Avg
12060.000	V	90.0	1.0	34.8	39.7	5.0	37.8	0.0	41.8	123.5	500.0	-12.1	amb avg
14472.000	V	0.0	1.0	37.2	41.1	6.2	36.9	0.0	47.5	237.3	500.0	-6.5	amb avg

Ch6	**2442**												
4884.000	H	90.0	1.0	45.6	33.0	3.5	37.2	0.0	45.0	177.1	5000.0	-29.0	Peak
7326.000	H	90.0	1.0	49.2	36.9	4.5	37.6	0.0	53.0	448.1	5000.0	-21.0	Peak
12210.000	H	0.0	1.0	47.5	39.8	5.2	37.5	0.0	55.0	560.5	5000.0	-19.0	amb Pk
4884.000	H	90.0	1.0	34.1	33.0	3.5	37.2	0.0	33.5	47.1	500.0	-20.5	Avg
7326.000	H	90.0	1.0	37.8	36.9	4.5	37.6	0.0	41.7	121.4	500.0	-12.3	Avg
12210.000	H	0.0	1.0	35.6	39.8	5.2	37.5	0.0	43.1	142.4	500.0	-10.9	amb avg
4884.000	V	180.0	1.0	47.8	33.0	3.5	37.2	0.0	47.2	228.9	5000.0	-26.8	Peak
7326.000	V	10.0	1.0	47.0	36.9	4.5	37.6	0.0	50.9	349.0	5000.0	-23.1	Peak
12210.000	V	0.0	1.0	47.9	39.8	5.2	37.5	0.0	55.4	586.9	5000.0	-18.6	amb Pk
4884.000	V	180.0	1.0	33.8	33.0	3.5	37.2	0.0	33.2	45.7	500.0	-20.8	Avg
7326.000	V	10.0	1.0	34.7	36.9	4.5	37.6	0.0	38.5	84.4	500.0	-15.5	Avg
12210.000	V	0.0	1.0	35.8	39.8	5.2	37.5	0.0	43.3	145.7	500.0	-10.7	amb avg

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4.6 AC Powerline Conducted Emissions: (FCC Part §15.207)

The EUT was placed on an 80 cm high 1 x 1.5 m non-conductive table above a ground plane. Power to the EUT was provided through a Solar Corporation 50 Ω/50 μH Line Impedance Stabilization Network bonded to a 3 x 2 meter ground plane. The LISN has its AC input supplied from a filtered AC power source. Power and data cables were moved about to obtain maximum emissions.

The 50Ω output of the LISN was connected to the input of the spectrum analyzer and the emissions in the frequency range of 150 kHz to 30 MHz were measured. The detector function was set to quasi-peak, peak, or average as appropriate, and the resolution bandwidth during testing was at least 9 kHz, with all post-detector filtering no less than 10 times the resolution bandwidth for peak measurements.

Data is recorded in the following table.

Table 8. Conducted Emissions Test Data; §15.207

LINE 1 - NEUTRAL

Frequency (MHz)	Level QP (dBμV)	Cable Loss (dB)	LISN Corr (dB)	Limit QP (dBμV)	Level Corr (dBμV)	Margin QP (dB)	Level AVG (dBμV)	Cable Loss (dB)	Level Corr (dBμV)	Limit AVG (dBμV)	Margin AVG (dB)
3.543	29.6	10.5	0.7	56.0	40.8	-15.2	28.8	10.5	40.0	46.0	-6.0
3.694	26.6	10.5	0.7	56.0	37.8	-18.2	16.0	10.5	27.2	46.0	-18.8
11.955	25.9	11.8	1.6	60.0	39.3	-20.7	18.2	11.8	31.6	50.0	-18.4
18.304	29.9	12.3	2.8	60.0	45.0	-15.0	25.5	12.3	40.6	50.0	-9.4
20.381	30.3	12.4	3.2	60.0	45.9	-14.1	22.1	12.4	37.7	50.0	-12.3
26.610	31.8	12.7	4.6	60.0	49.1	-10.9	29.2	12.7	46.5	50.0	-3.5
26.854	31.7	12.7	4.7	60.0	49.1	-10.9	21.3	12.7	38.7	50.0	-11.3

LINE 2 - PHASE

Frequency (MHz)	Level QP (dBμV)	Cable Loss (dB)	LISN Corr (dB)	Limit QP (dBμV)	Level Corr (dBμV)	Margin QP (dB)	Level AVG (dBμV)	Cable Loss (dB)	Level Corr (dBμV)	Limit AVG (dBμV)	Margin AVG (dB)
1.818	22.5	10.5	0.5	56.0	33.5	-22.5	17.4	10.5	28.4	46.0	-17.6
3.523	28.4	10.5	0.9	56.0	39.8	-16.2	27.7	10.5	39.1	46.0	-6.9
10.794	26.2	11.7	1.8	60.0	39.7	-20.3	21.0	11.7	34.5	50.0	-15.5
17.694	30.7	12.2	3.6	60.0	46.6	-13.4	27.2	12.2	43.1	50.0	-6.9
18.244	31.2	12.3	3.8	60.0	47.2	-12.8	28.0	12.3	44.0	50.0	-6.0
20.259	31.0	12.4	4.2	60.0	47.5	-12.5	26.2	12.4	42.7	50.0	-7.3
26.660	32.1	12.7	5.7	60.0	50.4	-9.6	28.5	12.7	46.8	50.0	-3.2
26.854	31.8	12.7	5.7	60.0	50.2	-9.8	21.7	12.7	40.1	50.0	-9.9

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4.7 Co-Location Measurements

This device may operate concurrently with other radio transmitters. To determine if the mixing of signals from one radio to another produces harmonics above specification limits, the device was set up to operate with the following radios:

Table 9. Co-Location Radio Measurement

Radio	Frequency/Rule Part	Note	First Order Products (nominal frequencies)
2.4 GHz	Part 15.247	Unlicensed equipment to be certified	-
5.8 GHz	Part 15.247	Unlicensed co-located equipment	3.4, 8.2 GHz
4.9 GHz	Part 90	Unlicensed co-located equipment	2.5, 7.3 GHz

The equipment was configured for a single channel in each band. The device was set up in an anechoic chamber and all transmitters were set to operate normally. A scan of the spectrum was performed to identify any intermodulation products that may have been produced by mixing action occurring between the different transmitters. Particular attention was paid to the Restricted Bands of operation and measurements were collected as the equipment turntable was rotated through 360 degrees. Measurements were collected up to 18GHz as it would be expected that any harmonic product would lie at or below the first product.

No products were found that exceed the radiated emissions limits of Part 15.209.

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