

Figure 138. Conducted Spurious Emissions, 8-DPSK Mode, Center Channel 20-25GHz (in STB2078 Host)

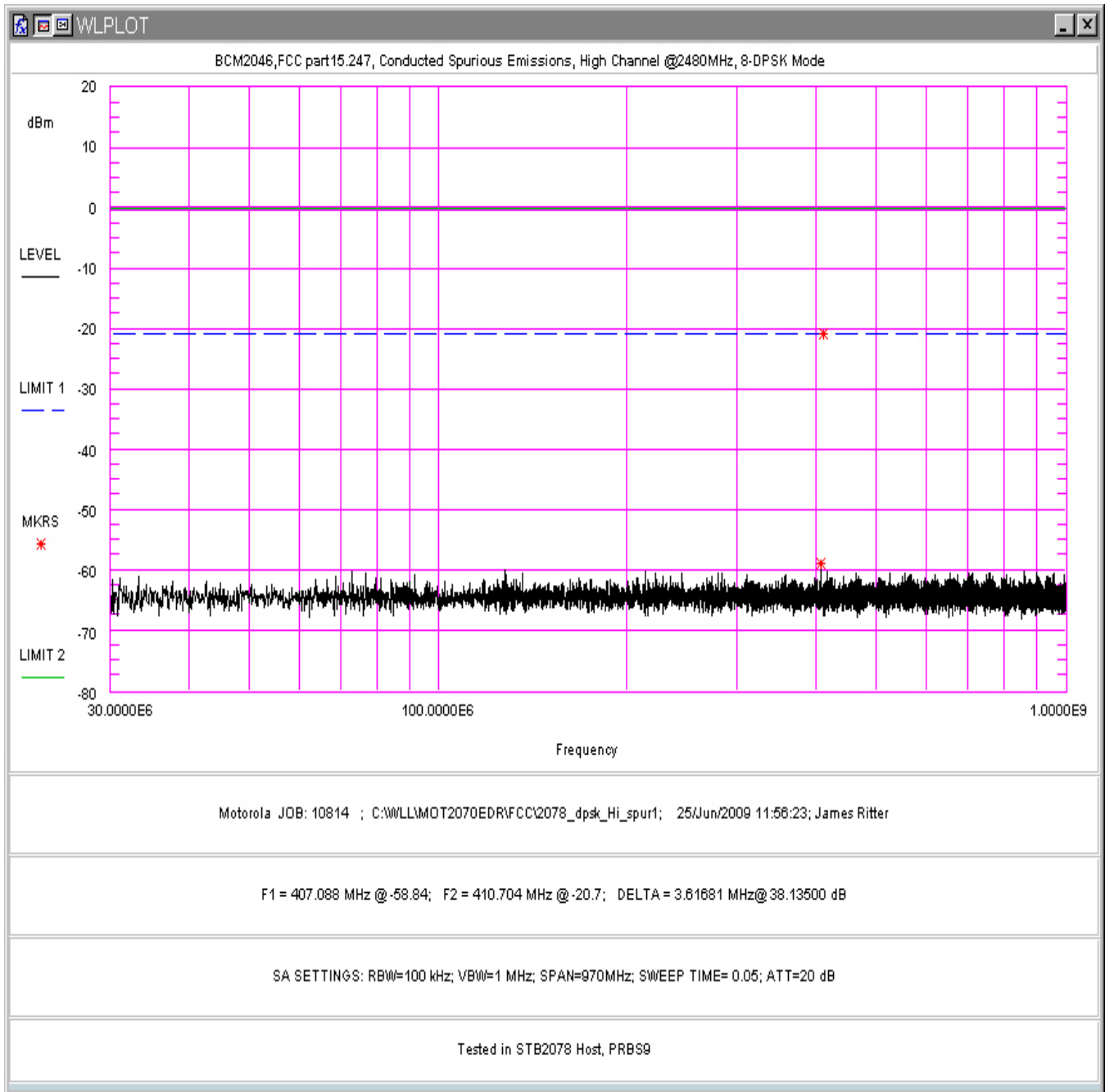


Figure 139 Conducted Spurious Emissions, 8-DPSK Mode, High Channel 30 - 1000MHz (in STB2078 Host)

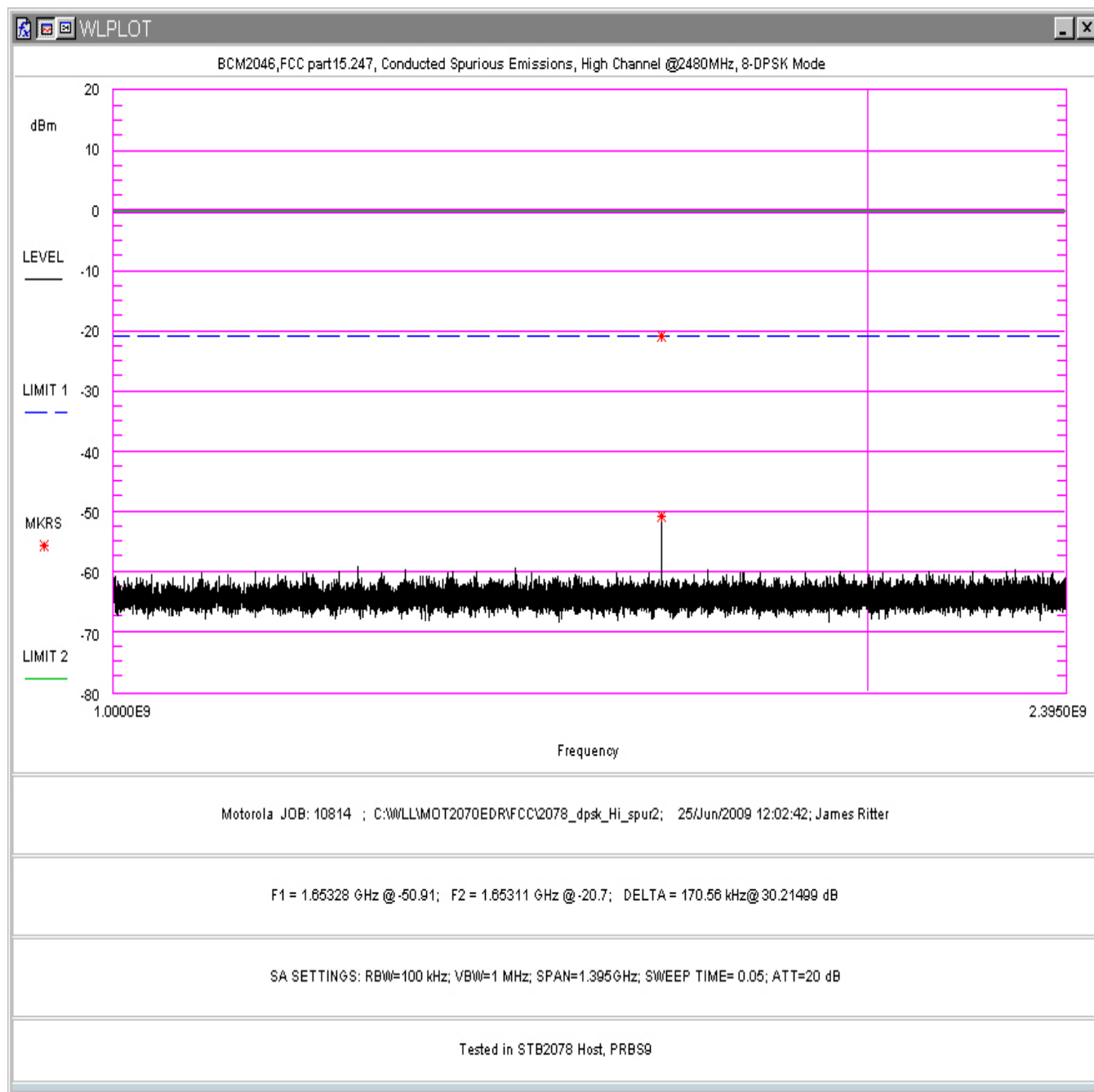


Figure 140. Conducted Spurious Emissions, 8-DPSK Mode, High Channel 1 – 2.395GHz (in STB2078 Host)

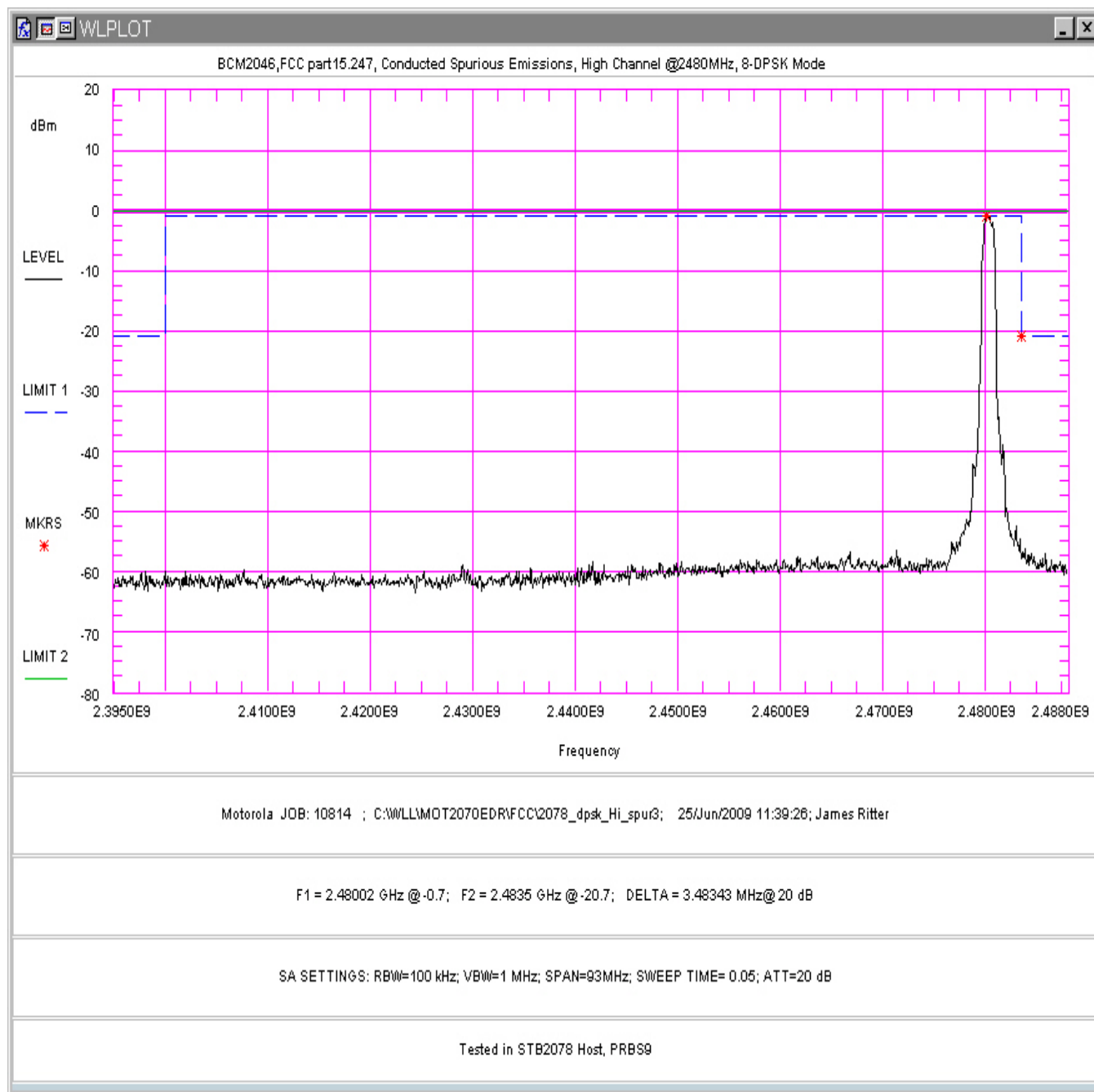


Figure 141. Conducted Spurious Emissions, 8-DPSK Mode, High Channel 2.395- 2.488GHz (in STB2078 Host)

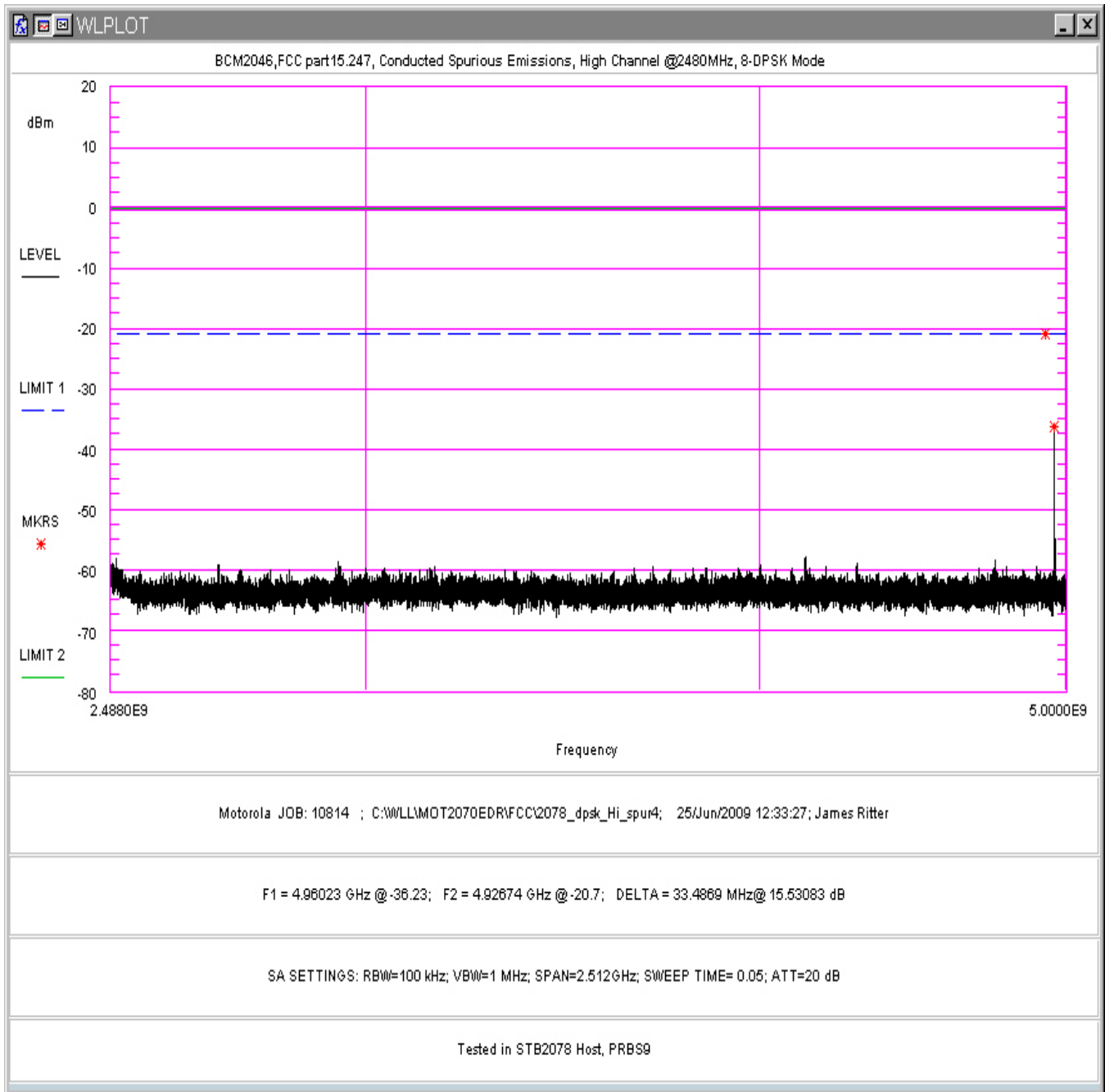


Figure 142. Conducted Spurious Emissions, 8-DPSK Mode, High Channel 2.488 – 5 GHz (in STB2078 Host)

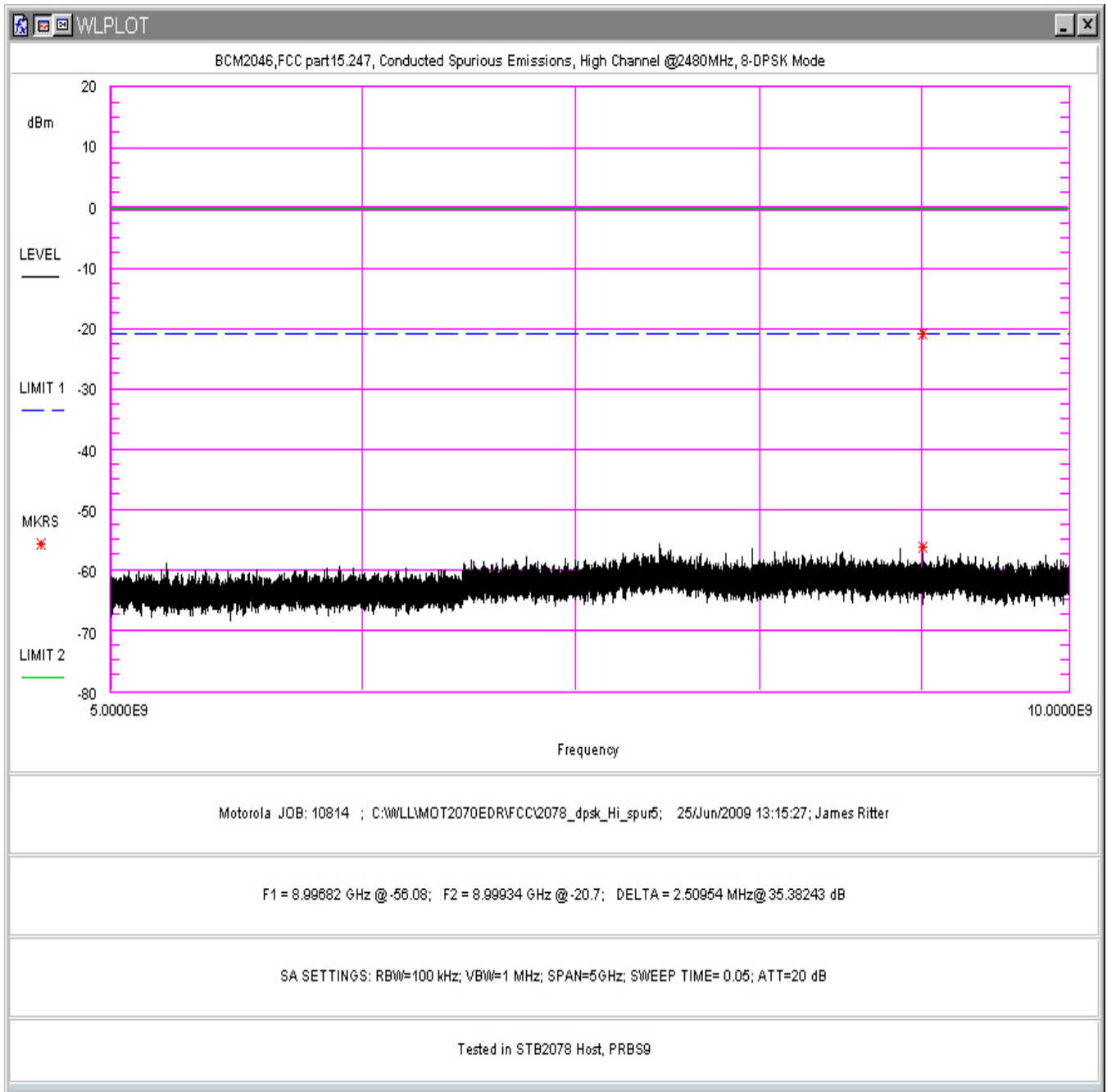


Figure 143. Conducted Spurious Emissions, 8-DPSK Mode, High Channel 5-10GHz (in STB2078 Host)

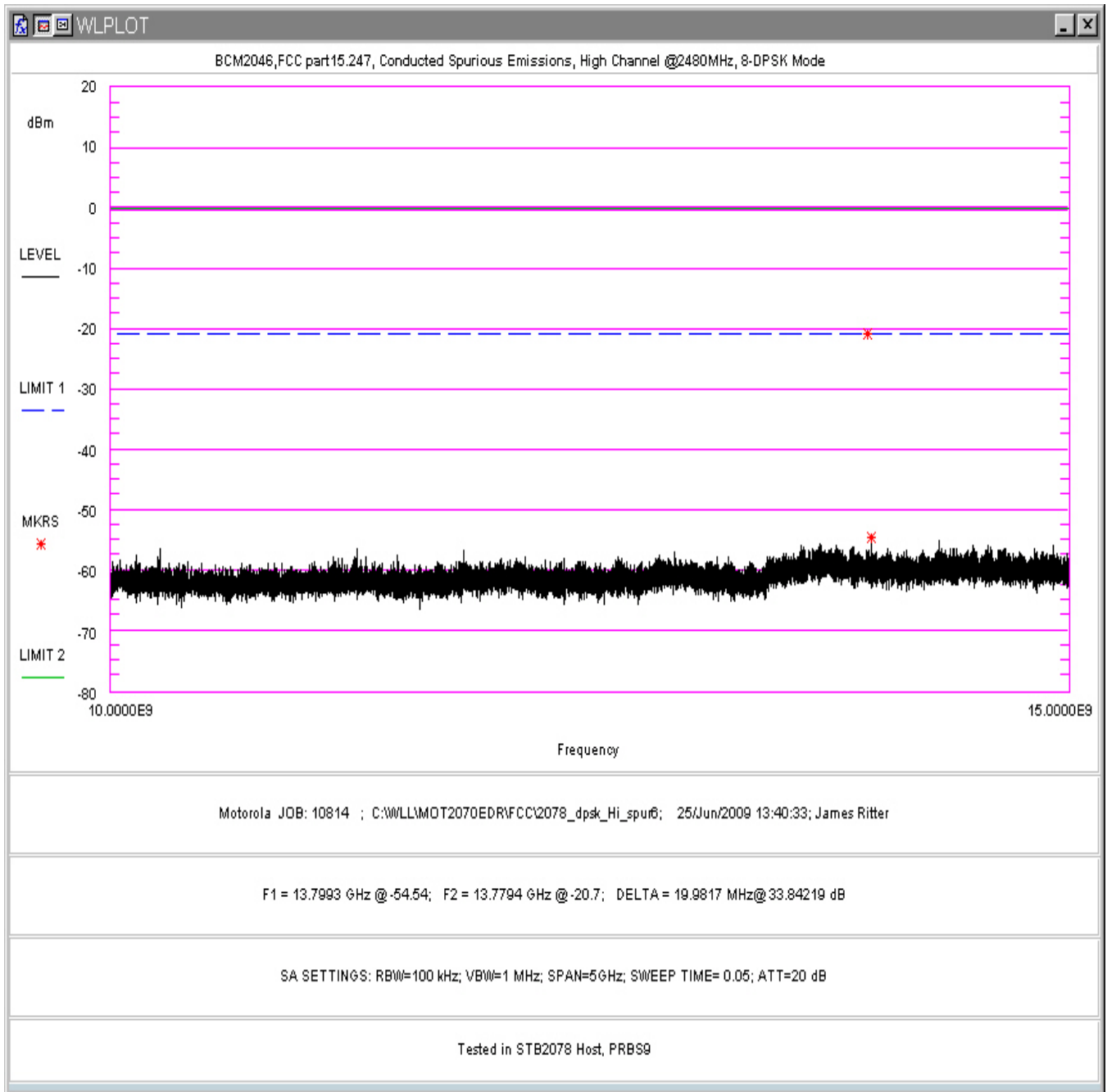


Figure 144. Conducted Spurious Emissions, 8-DPSK Mode, High Channel 10- 15GHz (in STB2078 Host)

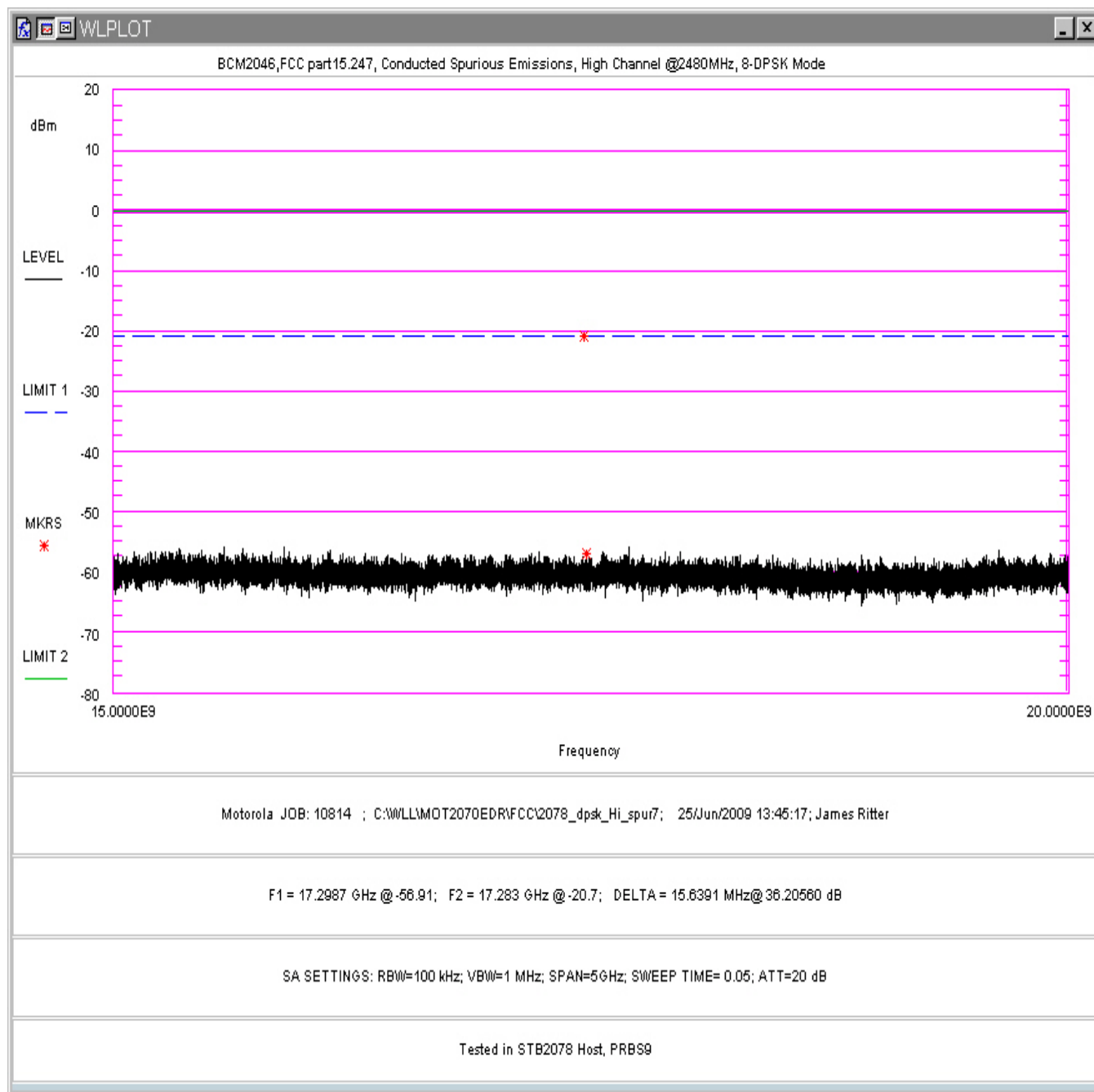


Figure 145. Conducted Spurious Emissions, 8-DPSK Mode, High Channel 15- 20GHz (in STB2078 Host)

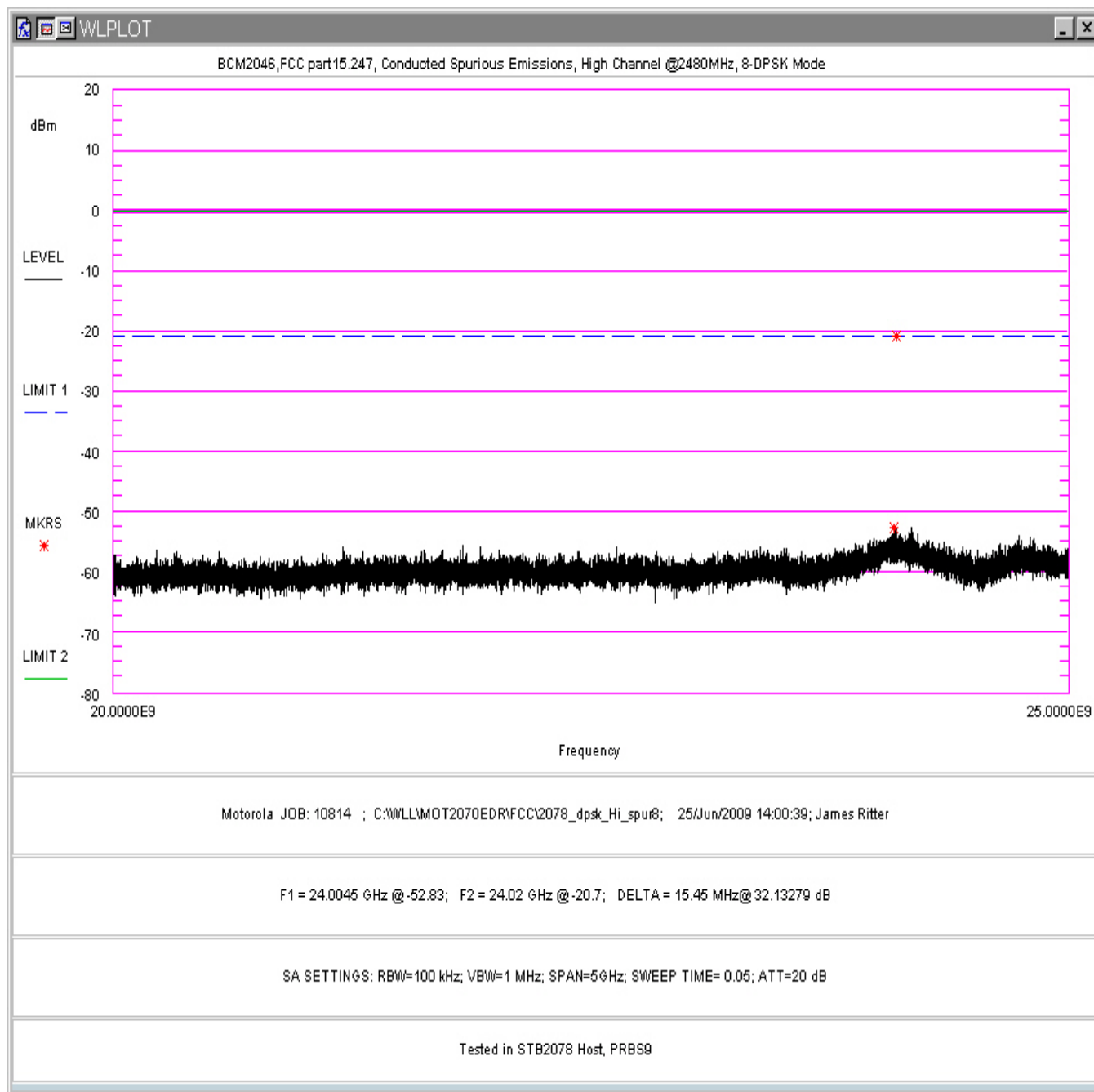


Figure 146. Conducted Spurious Emissions, 8-DPSK Mode, High Channel 20-25GHz (in STB2078 Host)

5.6 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.

5.6.1 Test Procedure

The BCM2046 Bluetooth Module was tested radiated emissions in a host MT2070 Scanner unit with an internal 1.88 dBi Monopole Antenna. The BCM2046 Bluetooth Module was also tested for radiated emissions in a STB2078 scanner cradle unit with an integral 2.5dBi Omni antenna.

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 EUT was checked in 3 orthogonals and the worst case emissions reported.

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	10 Hz (Avg.) 1MHz (Peak)

**Table 8: Radiated Emission Test Data (Restricted Bands), Transmit @2402MHz
(In MT2070 Scanner with 1.88dBi Monopole antenna)**

Frequency (MHz)	Polarity H/V	Azimuth (Degree)	Ant. Height (m)	SA Level (dBuV)	Corr Factors (dB)	Corr. Level (uV/m)	Limit (uV/m)	Margin (dB)	Comments
2400.00	V	190.00	3.00	28.60	-3.4	18.2	5000.0	-48.8	Peak
4804.00	V	180.00	1.60	49.00	2.7	383.1	5000.0	-22.3	Peak
12010.00	V	90.00	2.50	48.50	10.7	914.0	5000.0	-14.8	Peak
2400.00	V	190.00	3.00	30.20	-3.4	21.9	500.0	-27.2	AVG
4804.00	V	180.00	1.60	38.20	2.7	110.5	500.0	-13.1	AVG
12010.00	V	90.00	2.50	35.30	10.7	200.0	500.0	-8.0	AVG
2400.00	H	180.00	2.60	51.50	-3.4	254.3	5000.0	-25.9	Peak
4804.00	H	185.00	2.20	47.80	2.7	333.7	5000.0	-23.5	Peak
12010.00	H	0.00	2.50	45.70	10.7	662.1	5000.0	-17.6	Peak
2400.00	H	180.00	2.60	21.20	-3.4	7.8	500.0	-36.2	AVG
4804.00	H	185.00	2.20	36.30	2.7	88.8	500.0	-15.0	AVG
12010.00	H	0.00	2.50	35.50	10.7	204.6	500.0	-7.8	AVG
Non - Harmonic									
74.96	V	325.00	1.65	21.10	9.9	35.5	100.0	-9.0	
120.02	V	190.00	1.00	9.10	15.4	16.8	150.0	-19.0	
132.02	V	180.00	1.00	11.60	15.3	22.1	150.0	-16.6	
74.96	H	180.00	2.40	23.30	9.9	45.7	100.0	-6.8	
108.14	H	170.00	2.98	16.50	13.7	32.5	150.0	-13.3	
120.02	H	135.00	2.28	16.50	15.4	39.4	150.0	-11.6	
132.02	H	140.00	2.51	14.60	15.3	31.2	150.0	-13.6	

**Table 9: Radiated Emission Test Data (Restricted Bands), Transmit @2441MHz
(In MT2070 Scanner with 1.88dBi Monopole antenna)**

Frequency (MHz)	Polarity H/V	Azimuth (Degree)	Ant. Height (m)	SA Level (dBuV)	Corr Factors (dB)	Corr. Level (uV/m)	Limit (uV/m)	Margin (dB)	Comments
4882.00	V	350.00	2.10	50.30	2.9	456.1	5000.0	-20.8	Peak
7323.00	V	0.00	2.10	44.50	8.5	447.5	5000.0	-21.0	Peak
12205.00	V	0.00	2.10	45.70	11.5	722.1	5000.0	-16.8	Peak
4882.00	V	350.00	2.10	39.30	2.9	128.6	500.0	-11.8	AVG
7323.00	V	0.00	2.10	34.30	8.5	138.3	500.0	-11.2	AVG
12205.00	V	0.00	2.10	35.30	11.5	218.1	500.0	-7.2	AVG
4882.00	H	90.00	2.20	47.50	2.9	330.4	5000.0	-23.6	Peak
7323.00	H	90.00	2.20	46.20	8.5	544.3	5000.0	-19.3	Peak
12205.00	H	0.00	2.20	47.20	11.5	858.2	5000.0	-15.3	Peak
4882.00	H	90.00	2.20	36.00	2.9	87.9	500.0	-15.1	AVG
7323.00	H	90.00	2.20	34.30	8.5	138.3	500.0	-11.2	AVG
12205.00	H	0.00	2.20	35.30	11.5	218.1	500.0	-7.2	AVG
Non - Harmonic									
74.96	V	325.00	1.65	21.10	9.9	35.5	100.0	-9.0	
120.02	V	190.00	1.00	9.10	15.4	16.8	150.0	-19.0	
132.02	V	180.00	1.00	11.60	15.3	22.1	150.0	-16.6	
74.96	H	180.00	2.40	23.30	9.9	45.7	100.0	-6.8	
108.14	H	170.00	2.98	16.50	13.7	32.5	150.0	-13.3	
120.02	H	135.00	2.28	16.50	15.4	39.4	150.0	-11.6	
132.02	H	140.00	2.51	14.60	15.3	31.2	150.0	-13.6	

**Table 10: Radiated Emission Test Data (Restricted Bands), Transmit @2480MHz
(In MT2070 Scanner with 1.88dBi Monopole antenna)**

Frequency (MHz)	Polarity H/V	Azimuth (Degree)	Ant. Height (m)	SA Level (dBuV)	Corr Factors (dB)	Corr. Level (uV/m)	Limit (uV/m)	Margin (dB)	Comments
2483.50	V	250.00	2.85	64.70	-3.2	1192.9	5000.0	-12.4	Peak
4960.00	V	90.00	1.70	49.20	3.1	411.8	5000.0	-21.7	Peak
7440.00	V	90.00	1.70	47.00	8.7	608.6	5000.0	-18.3	Peak
12400.00	V	0.00	1.50	46.20	12.2	833.0	5000.0	-15.6	Peak
2483.50	V	250.00	2.85	54.50	-3.2	368.6	500.0	-2.6	AVG
4960.00	V	90.00	1.70	38.70	3.1	122.9	500.0	-12.2	AVG
7440.00	V	90.00	1.70	35.00	8.7	152.9	500.0	-10.3	AVG
12400.00	V	0.00	1.50	36.00	12.2	257.4	500.0	-5.8	AVG
2483.50	H	250.00	1.42	63.50	-3.2	1039.0	5000.0	-13.6	Peak
4960.00	H	45.00	1.56	48.70	3.1	388.7	5000.0	-22.2	Peak
7440.00	H	0.00	1.50	46.00	8.7	542.4	5000.0	-19.3	Peak
12400.00	H	0.00	1.50	49.00	12.2	1149.9	5000.0	-12.8	Peak
2483.50	H	250.00	1.42	54.00	-3.2	348.0	500.0	-3.1	AVG
4960.00	H	45.00	1.56	38.00	3.1	113.4	500.0	-12.9	AVG
7440.00	H	0.00	1.50	35.20	8.7	156.4	500.0	-10.1	AVG
12400.00	H	0.00	1.50	36.00	12.2	257.4	500.0	-5.8	AVG
Non - Harmonic									
74.96	V	325.00	1.65	21.10	9.9	35.5	100.0	-9.0	
120.02	V	190.00	1.00	9.10	15.4	16.8	150.0	-19.0	
132.02	V	180.00	1.00	11.60	15.3	22.1	150.0	-16.6	
74.96	H	180.00	2.40	23.30	9.9	45.7	100.0	-6.8	
108.14	H	170.00	2.98	16.50	13.7	32.5	150.0	-13.3	
120.02	H	135.00	2.28	16.50	15.4	39.4	150.0	-11.6	
132.02	H	140.00	2.51	14.60	15.3	31.2	150.0	-13.6	

**Table 11: Radiated Emission Test Data (Restricted Bands), Transmit @2402MHz
(In STB2078 Cradle with 2.5dBi Omni antenna)**

Frequency (MHz)	Polarity H/V	Azimuth (Degree)	Ant. Height (m)	SA Level (dBuV)	Corr Factors (dB)	Corr. Level (uV/m)	Limit (uV/m)	Margin (dB)	Comments
2400.00	V	180.00	2.50	26.40	-3.4	14.1	5000.0	-51.0	Peak
4804.00	V	160.00	2.80	51.50	2.7	510.9	5000.0	-19.8	Peak
12010.00	V	90.00	2.50	48.50	10.7	914.0	5000.0	-14.8	Peak
2400.00	V	180.00	2.50	17.80	-3.4	5.3	500.0	-39.6	AVG
4804.00	V	160.00	2.80	42.20	2.7	175.1	500.0	-9.1	AVG
12010.00	V	90.00	2.50	35.30	10.7	200.0	500.0	-8.0	AVG
2400.00	H	270.00	2.60	35.00	-3.4	38.1	500.0	-22.4	Peak
4804.00	H	275.00	3.12	52.80	2.7	593.4	5000.0	-18.5	Peak
12010.00	H	0.00	2.50	45.70	10.7	662.1	5000.0	-17.6	Peak
2400.00	H	270.00	2.60	16.50	-3.4	4.5	500.0	-40.9	AVG
4804.00	H	275.00	3.12	43.30	2.7	198.8	500.0	-8.0	AVG
12010.00	H	0.00	2.50	35.50	10.7	204.6	500.0	-7.8	AVG
Non-Harmonic									
109.85	V	315.00	2.53	13.80	12.6	20.9	150.0	-17.1	
332.80	V	135.00	1.68	8.30	17.6	19.8	200.0	-20.1	
109.85	H	45.00	3.00	18.00	12.6	34.0	150.0	-12.9	
327.73	H	180.00	1.51	5.50	17.5	14.1	200.0	-23.1	

**Table 12: Radiated Emission Test Data (Restricted Bands), Transmit @2441MHz
(In STB2078 Cradle with 2.5dBi Omni antenna)**

Frequency (MHz)	Polarity H/V	Azimuth (Degree)	Ant. Height (m)	SA Level (dBuV)	Corr Factors (dB)	Corr. Level (uV/m)	Limit (uV/m)	Margin (dB)	Comments
4882.00	V	185.00	2.90	50.20	2.9	450.9	5000.0	-20.9	Peak
7323.00	V	0.00	2.10	44.50	8.5	447.5	5000.0	-21.0	Peak
12205.00	V	0.00	2.10	45.70	11.5	722.1	5000.0	-16.8	Peak
4882.00	V	185.00	2.90	41.30	2.9	161.8	500.0	-9.8	AVG
7323.00	V	0.00	2.10	34.30	8.5	138.3	500.0	-11.2	AVG
12205.00	V	0.00	2.10	35.30	11.5	218.1	500.0	-7.2	AVG
4882.00	H	275.00	2.30	48.80	2.9	383.8	5000.0	-22.3	Peak
7323.00	H	90.00	2.20	46.20	8.5	544.3	5000.0	-19.3	Peak
12205.00	H	0.00	2.20	47.20	11.5	858.2	5000.0	-15.3	Peak
4882.00	H	275.00	2.30	40.20	2.9	142.6	500.0	-10.9	AVG
7323.00	H	90.00	2.20	34.30	8.5	138.3	500.0	-11.2	AVG
12205.00	H	0.00	2.20	35.30	11.5	218.1	500.0	-7.2	AVG
Non-Harmonic									
109.85	V	315.00	2.53	13.80	12.6	20.9	150.0	-17.1	
332.80	V	135.00	1.68	8.30	17.6	19.8	200.0	-20.1	
109.85	H	45.00	3.00	18.00	12.6	34.0	150.0	-12.9	
327.73	H	180.00	1.51	5.50	17.5	14.1	200.0	-23.1	

**Table 13: Radiated Emission Test Data (Restricted Bands), Transmit @2480MHz
(In STB2078 Cradle with 2.5dBi Omni antenna)**

Frequency (MHz)	Polarity H/V	Azimuth (Degree)	Ant. Height (m)	SA Level (dBuV)	Corr Factors (dB)	Corr. Level (uV/m)	Limit (uV/m)	Margin (dB)	Comments
2483.50	V	120.00	2.53	57.50	-3.2	520.7	5000.0	-19.6	Peak
4960.00	V	0.00	2.90	48.00	3.1	358.6	5000.0	-22.9	Peak
7440.00	V	0.00	2.50	44.00	8.7	430.9	5000.0	-21.3	Peak
12400.00	V	0.00	2.50	35.80	12.2	251.6	5000.0	-26.0	Peak
2483.50	V	120.00	2.53	51.70	-3.2	267.1	500.0	-5.4	AVG
4960.00	V	0.00	2.90	40.30	3.1	147.8	500.0	-10.6	AVG
7440.00	V	0.00	2.50	34.80	8.7	149.4	500.0	-10.5	AVG
12400.00	V	0.00	2.50	35.80	12.2	251.6	500.0	-6.0	AVG
2483.50	H	270.00	2.56	56.50	-3.2	464.1	5000.0	-20.6	Peak
4960.00	H	280.00	3.20	53.20	3.1	652.6	5000.0	-17.7	Peak
7440.00	H	0.00	2.50	44.00	8.7	430.9	5000.0	-21.3	Peak
12400.00	H	0.00	2.50	46.00	12.2	814.1	5000.0	-15.8	Peak
2483.50	H	270.00	2.56	48.80	-3.2	191.3	500.0	-8.3	AVG
4960.00	H	280.00	3.20	45.20	3.1	259.8	500.0	-5.7	AVG
7440.00	H	0.00	2.50	34.80	8.7	149.4	500.0	-10.5	AVG
12400.00	H	0.00	2.50	35.80	12.2	251.6	500.0	-6.0	AVG
Non-Harmonic									
109.85	V	315.00	2.53	13.80	12.6	20.9	150.0	-17.1	
332.80	V	135.00	1.68	8.30	17.6	19.8	200.0	-20.1	
109.85	H	45.00	3.00	18.00	12.6	34.0	150.0	-12.9	
327.73	H	180.00	1.51	5.50	17.5	14.1	200.0	-23.1	