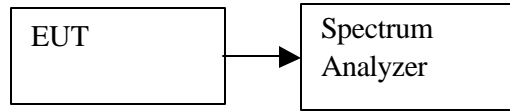


9.2. PEAK POWER

TEST SETUP



Detector Function Setting of Test Receiver

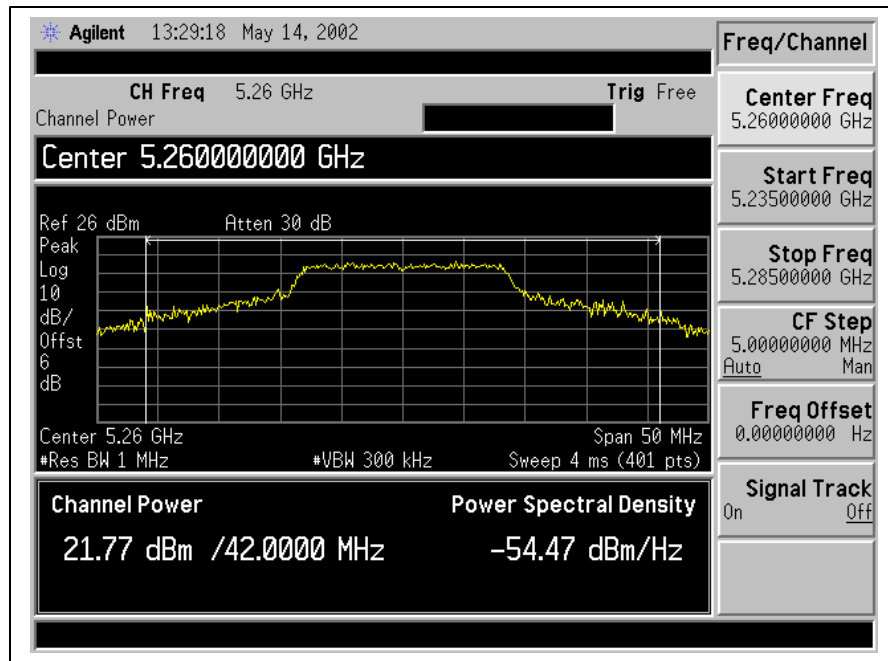
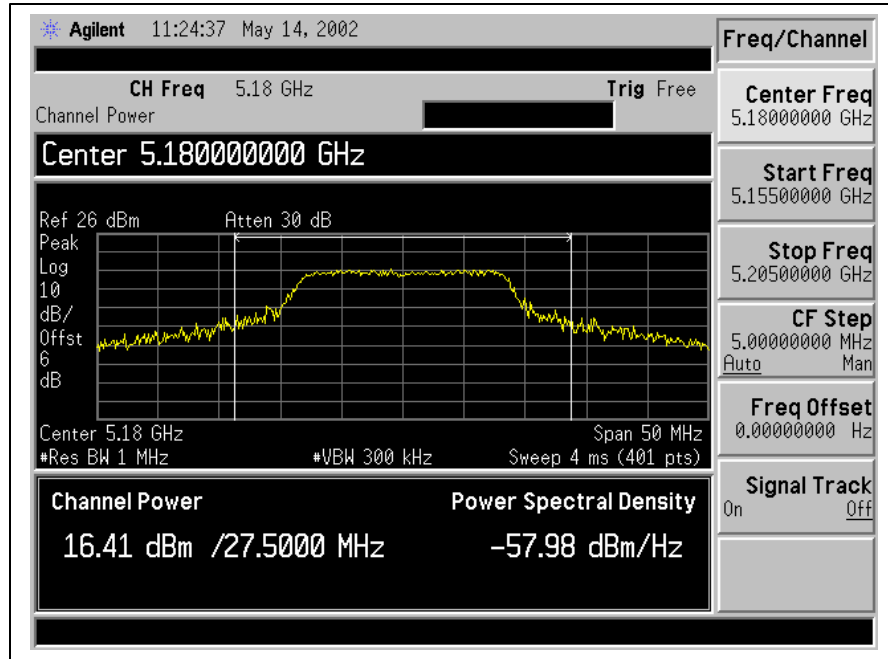
Frequency Range (MHz)	Detector Function	Resolution Bandwidth	Video Bandwidth
Above 1000	<input checked="" type="checkbox"/> Peak	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 300 kHz <input checked="" type="checkbox"/> 1 MHz VBW = EBW / (2 ⁿ *30)

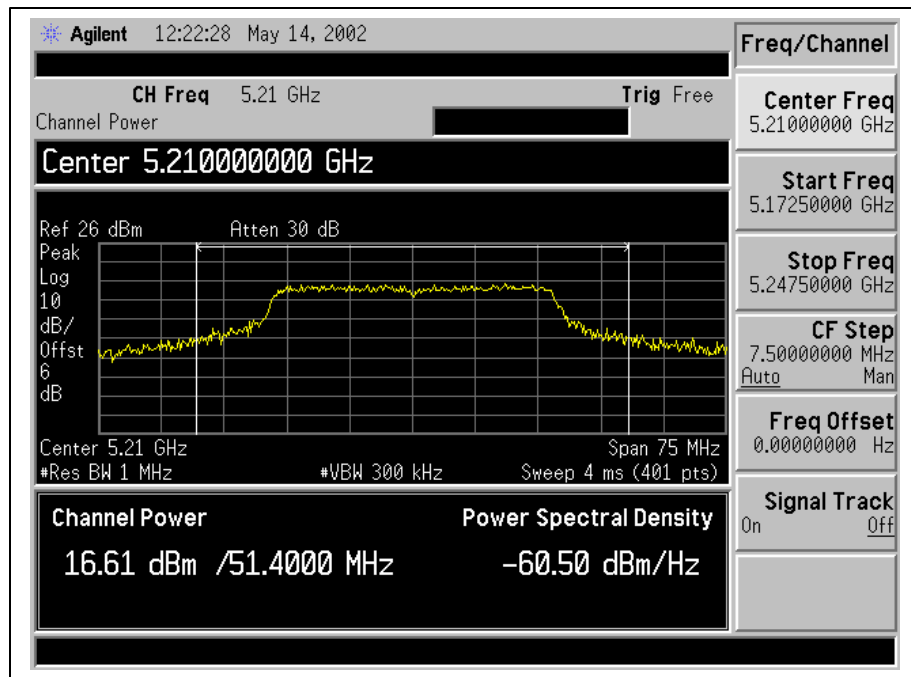
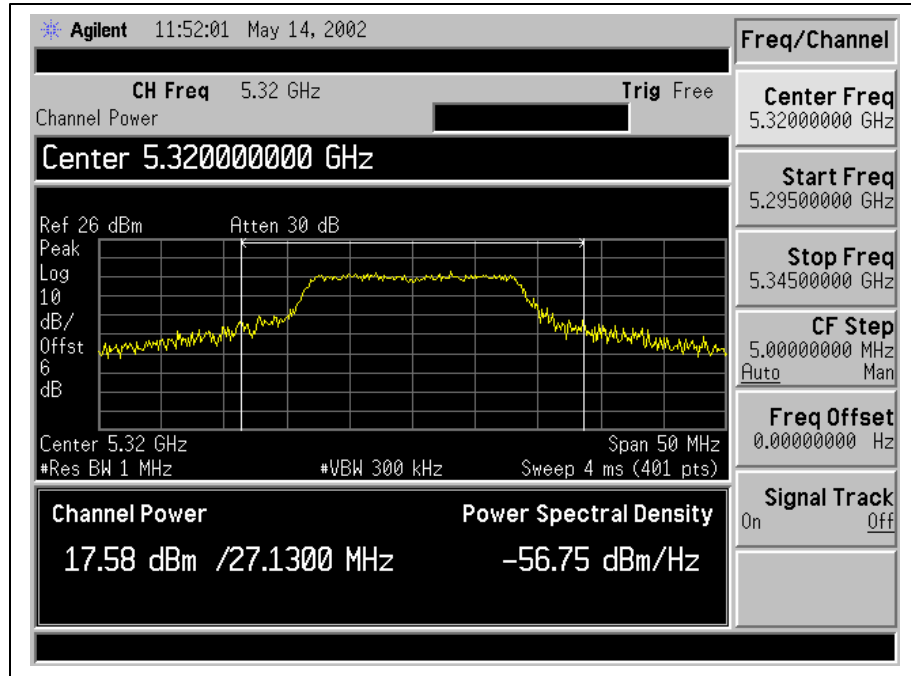
TEST PROCEDURE

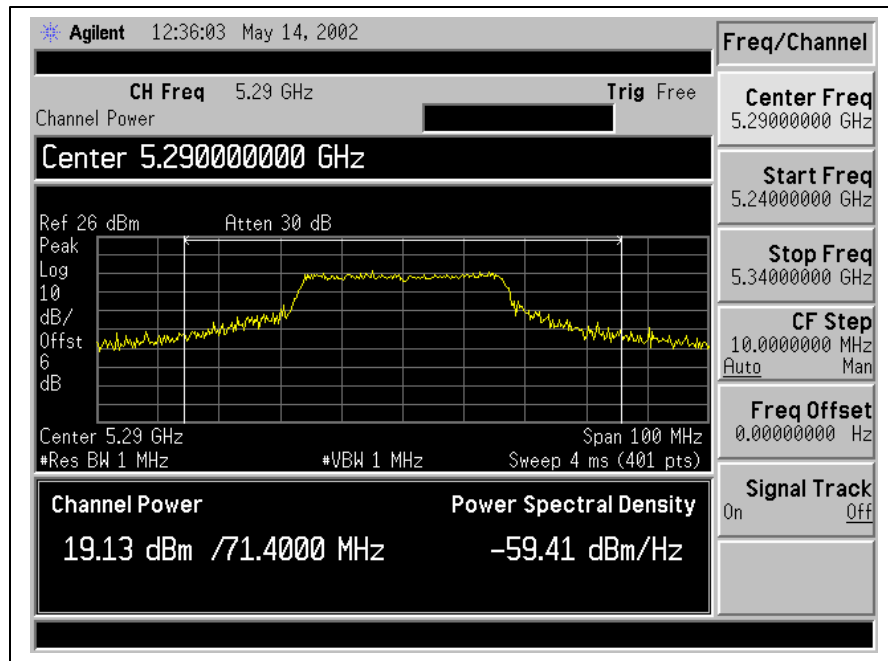
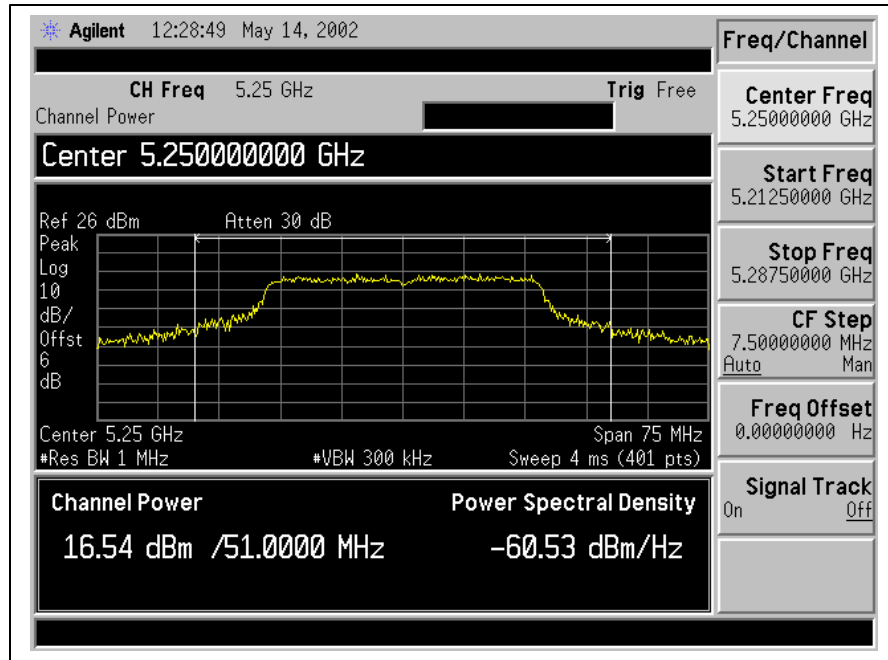
The EUT is configured on a test bench as shown above in a continuously transmitting / receiving mode. For each channel measured, the highest reading is corrected for the emissions bandwidth of that channel to yield the peak power.

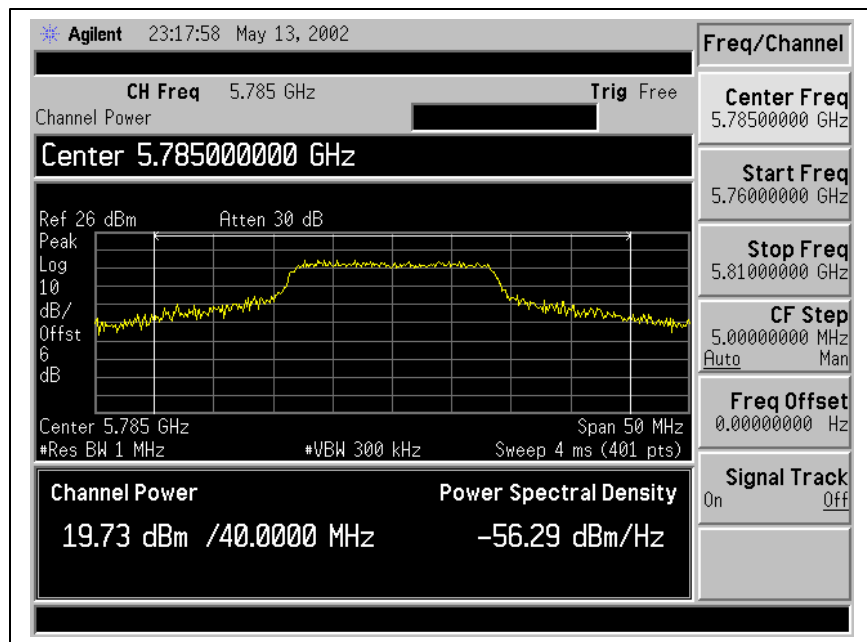
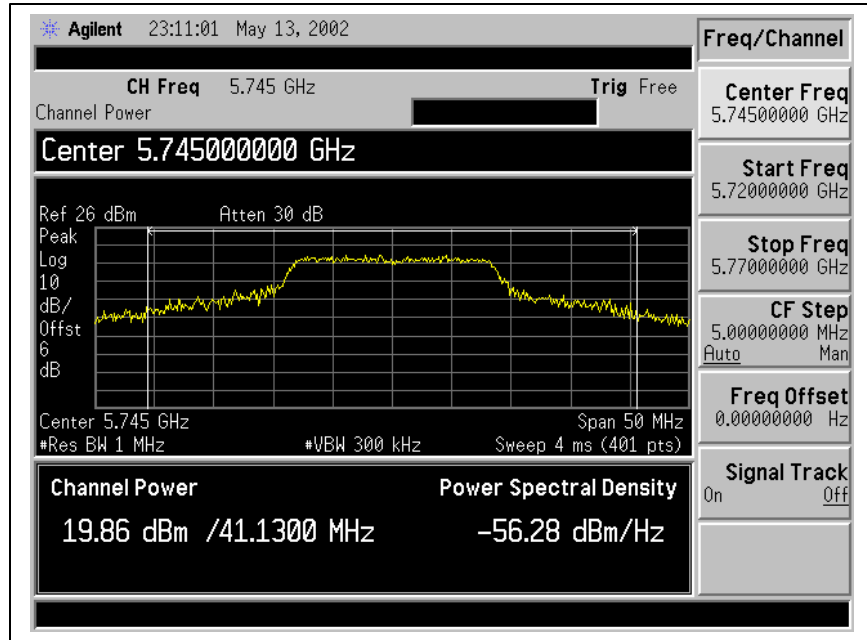
Peak Power = Measured Channel Power from Analyzer.

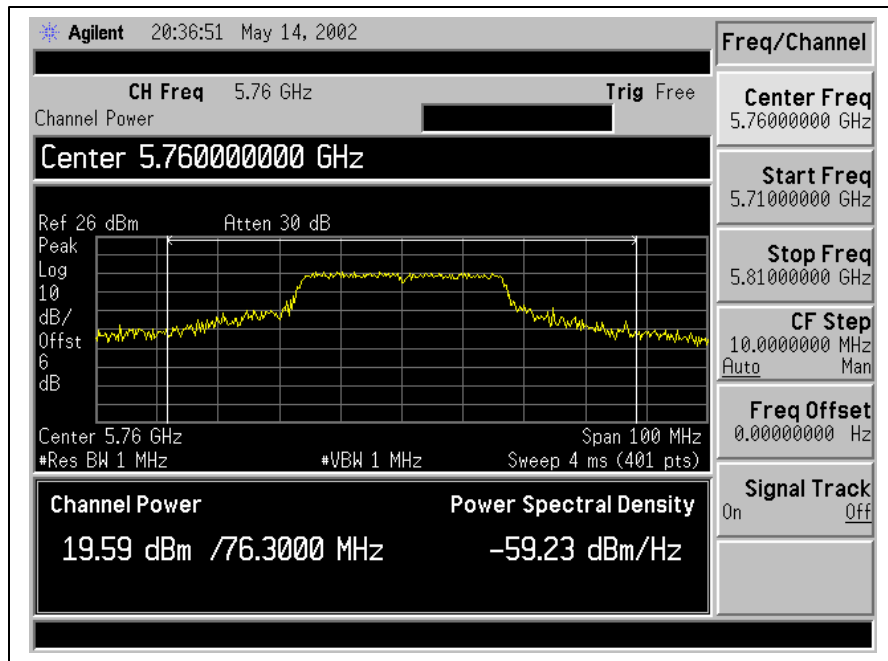
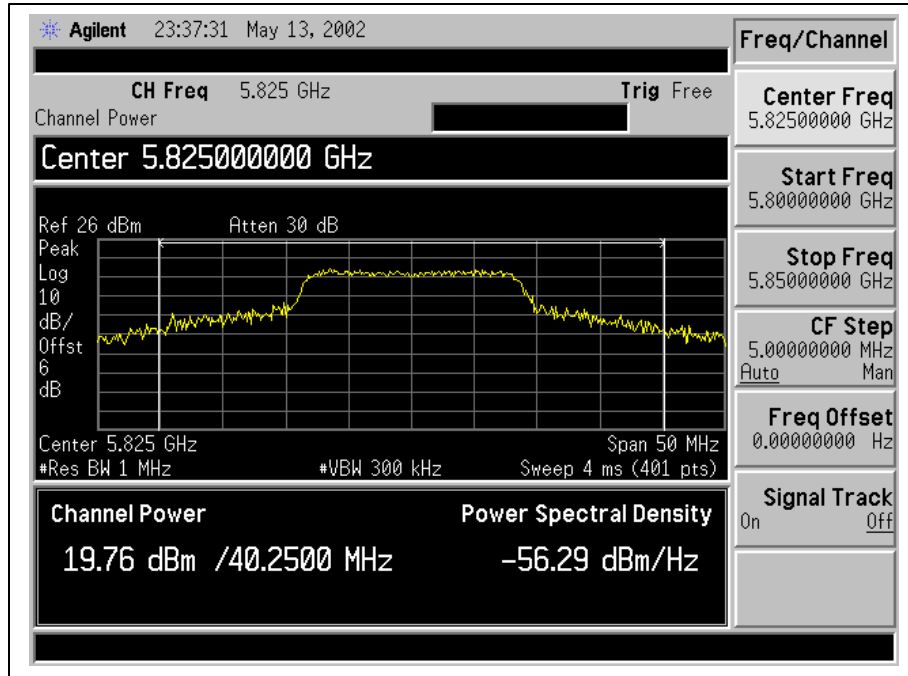
Operating in the 5.15 – 5.35 GHz Band (Normal Mode)		
Channel	Frequency (MHz)	Channel Power Measured (dBm)
Low	5180	16.41
Middle	5260	21.77
High	5320	17.58
Operating in the 5.15 – 5.35 GHz Band (Turbo Mode)		
Channel	Frequency (MHz)	Channel Power Measured (dBm)
Low	5210	16.61
Middle	5250	16.54
High	5290	19.13
Operating in the 5.725 – 5.850 GHz Band (Normal Mode)		
Channel	Frequency (MHz)	Channel Power Measured (dBm)
Low	5745	19.86
Middle	5785	19.73
High	5825	19.76
Operating in the 5.725 – 5.850 GHz Band (Turbo Mode)		
Channel	Frequency (MHz)	Channel Power Measured (dBm)
Low	5760	19.59
Middle	N/A	N/A
High	5800	19.50

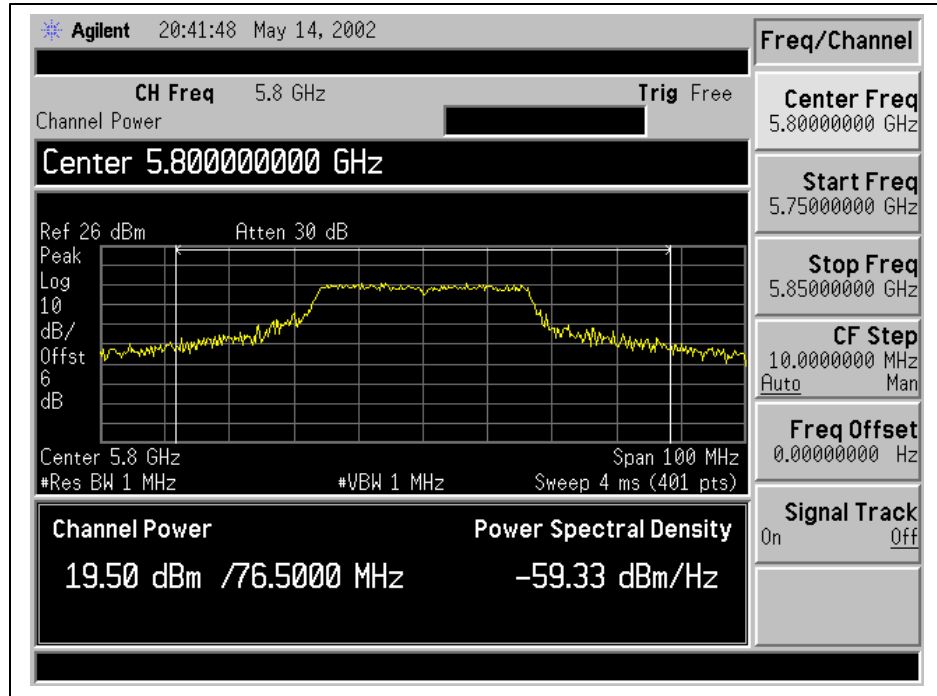










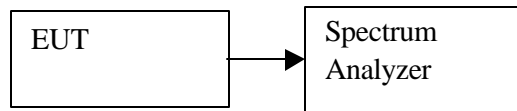


9.3. PEAK POWER SPECTRAL DENSITY

Detector Function Setting of Test Receiver

Frequency Range (MHz)	Detector Function	Resolution Bandwidth	Video Bandwidth
Above 1000	<input checked="" type="checkbox"/> Peak <input type="checkbox"/> Average	<input checked="" type="checkbox"/> 1 MHz <input type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 3 MHz <input type="checkbox"/> 10 Hz

TEST SETUP



TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer, the maximum level in a 1 MHz bandwidth was measured with the spectrum analyzer using RBW =1 MHz and VBW > 1 MHz. The PPSD is the highest level found across the emission in any 1 MHz band, after sweep of video averaging.

For the 5.725 to 5.850 GHz band, RBW = 3KHz, VBW = 3KHz, sweep time = span / 3 KHz, and video averaging was turned off.

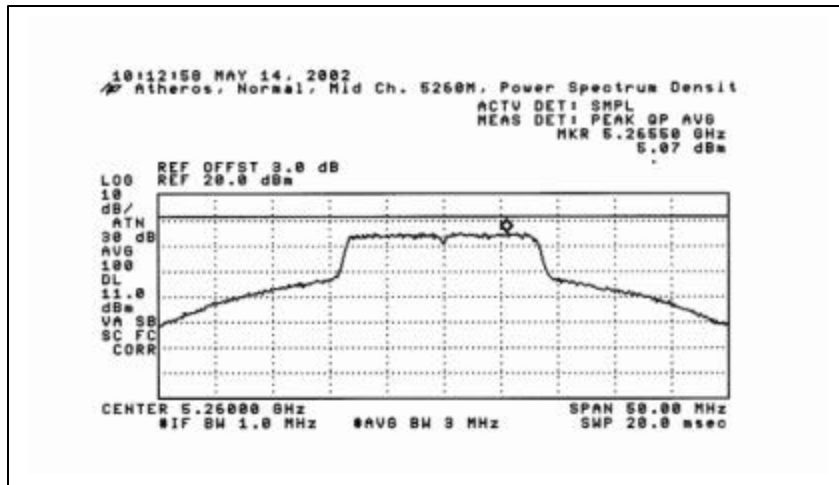
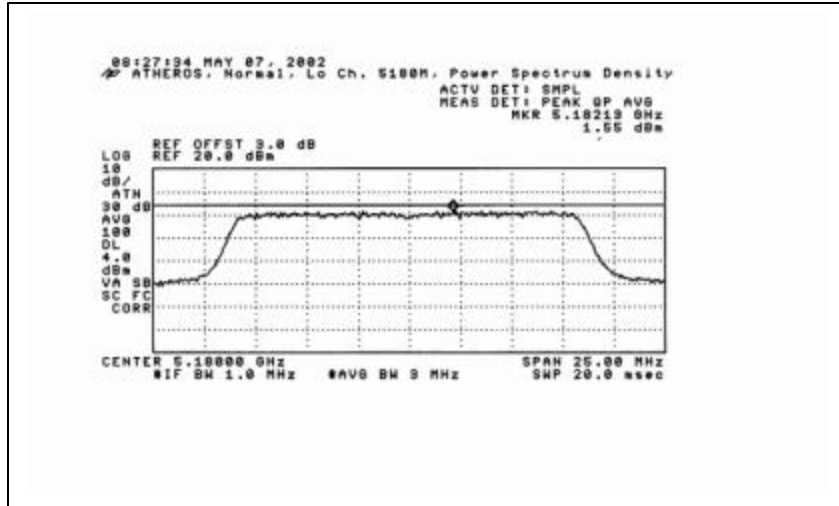
Result:

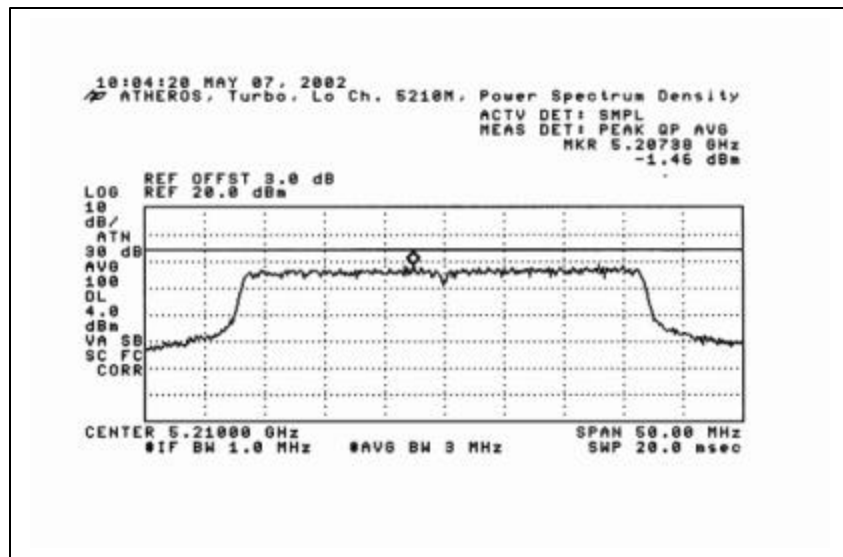
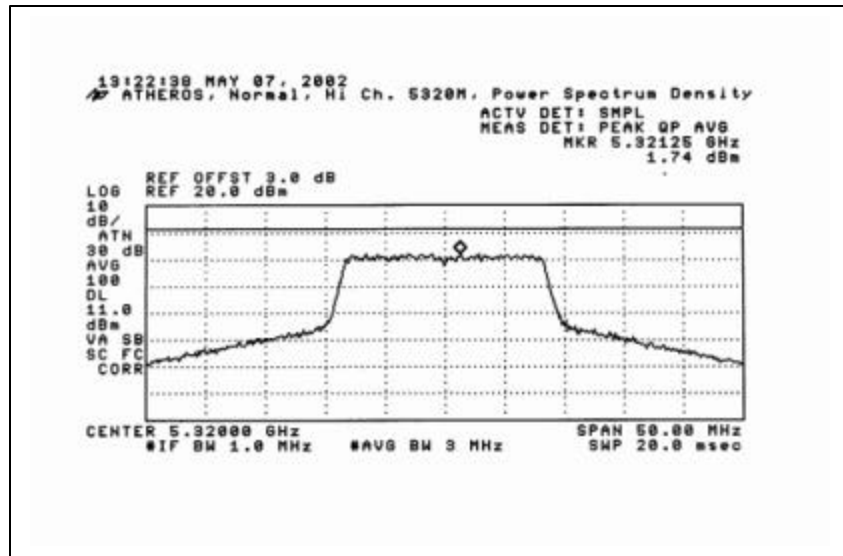
Test result: No non-compliance noted.

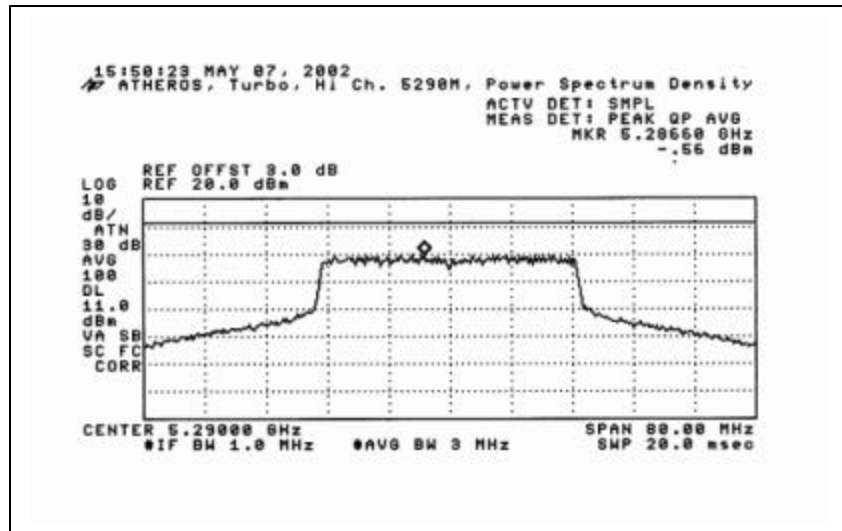
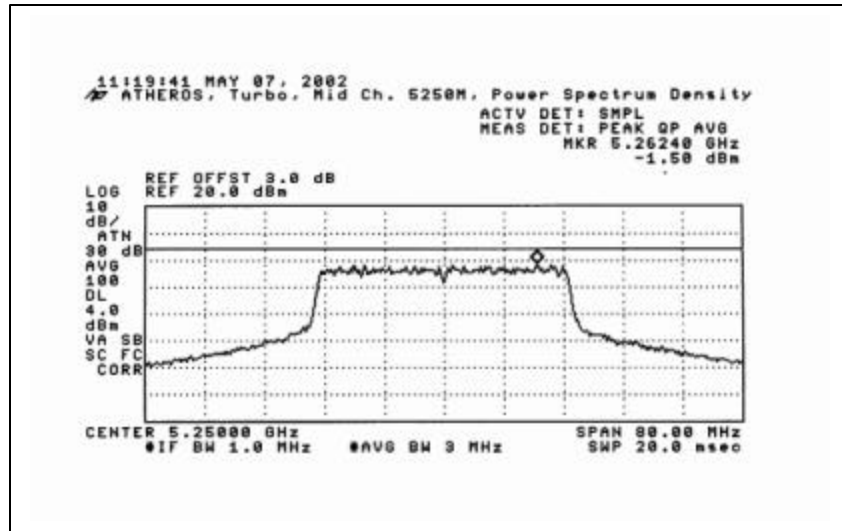
Operating in the 5.15 – 5.35 GHz Band (Normal Mode)			
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>	<i>Limit (dBm)</i>
<i>Low</i>	<i>5180</i>	<i>1.55</i>	<i>4</i>
<i>Middle</i>	<i>5260</i>	<i>5.07</i>	<i>11</i>
<i>High</i>	<i>5320</i>	<i>1.74</i>	<i>11</i>
Operating in the 5.15 – 5.35 GHz Band (Turbo Mode)			
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>	<i>Limit (dBm)</i>
<i>Low</i>	<i>5210</i>	<i>-1.46</i>	<i>4</i>
<i>Middle</i>	<i>5250</i>	<i>-1.50</i>	<i>4</i>
<i>High</i>	<i>5290</i>	<i>-0.56</i>	<i>11</i>

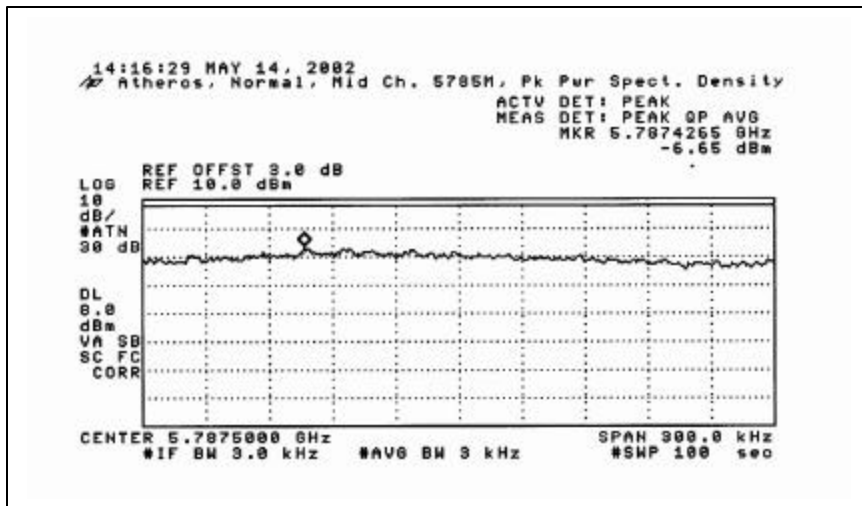
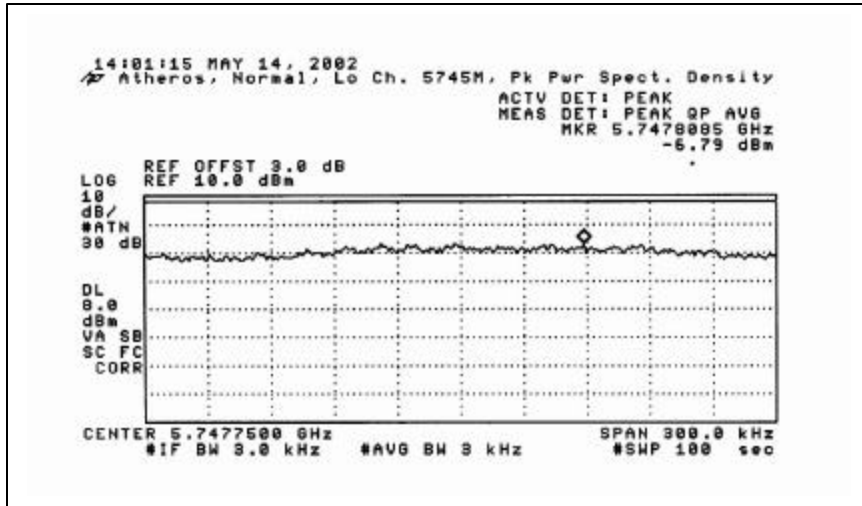
Using RBW=VBW=3KHz, and set sweep time = span / 3KHz method.

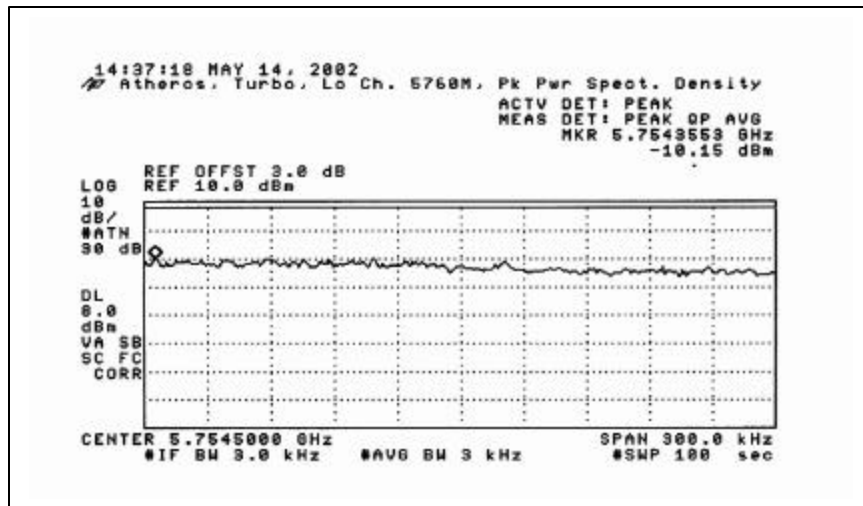
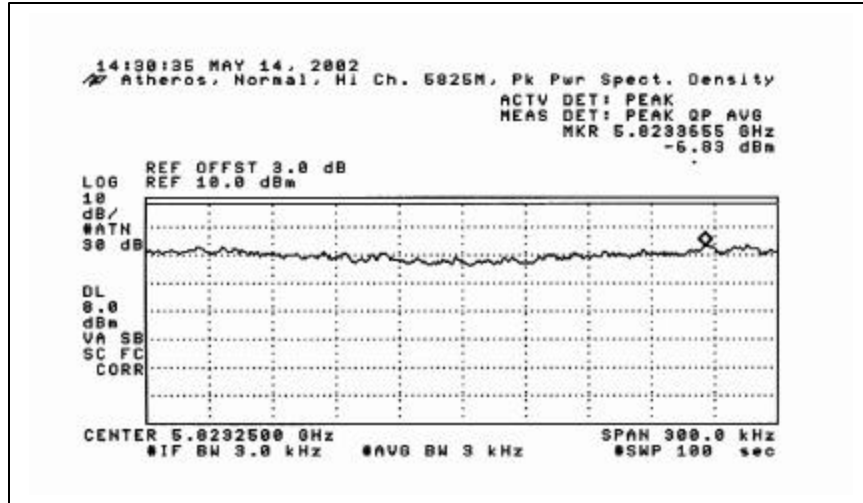
Operating in the 5.725 – 5.850 GHz Band (Normal Mode)			
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>	<i>Limit (dBm)</i>
<i>Low</i>	<i>5745</i>	<i>-6.79</i>	<i>8</i>
<i>Middle</i>	<i>5785</i>	<i>-6.65</i>	<i>8</i>
<i>High</i>	<i>5825</i>	<i>-6.83</i>	<i>8</i>
Operating in the 5.725 – 5.850 GHz Band (Turbo Mode)			
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>	<i>Limit (dBm)</i>
<i>Low</i>	<i>5760</i>	<i>-10.15</i>	<i>8</i>
<i>Middle</i>	<i>N/A</i>	<i>N/A</i>	<i>8</i>
<i>High</i>	<i>5800</i>	<i>-9.09</i>	<i>8</i>

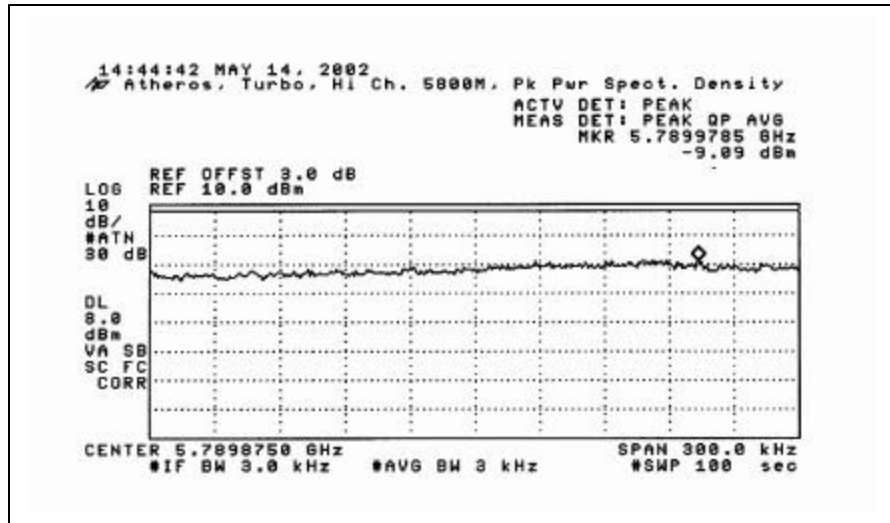










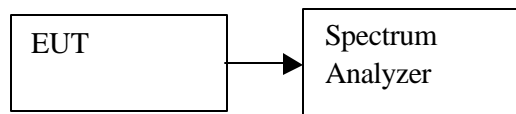


9.4. PEAK EXCURSION (PEAK – AVERAGE RATIO)

Detector Function Setting of Test Receiver

Frequency Range (MHz)	Detector Function	Resolution Bandwidth	Video Bandwidth
Above 1000	<input checked="" type="checkbox"/> Peak	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 1 MHz
	<input checked="" type="checkbox"/> Average	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 30 KHz

TEST SETUP



TEST PROCEDURE

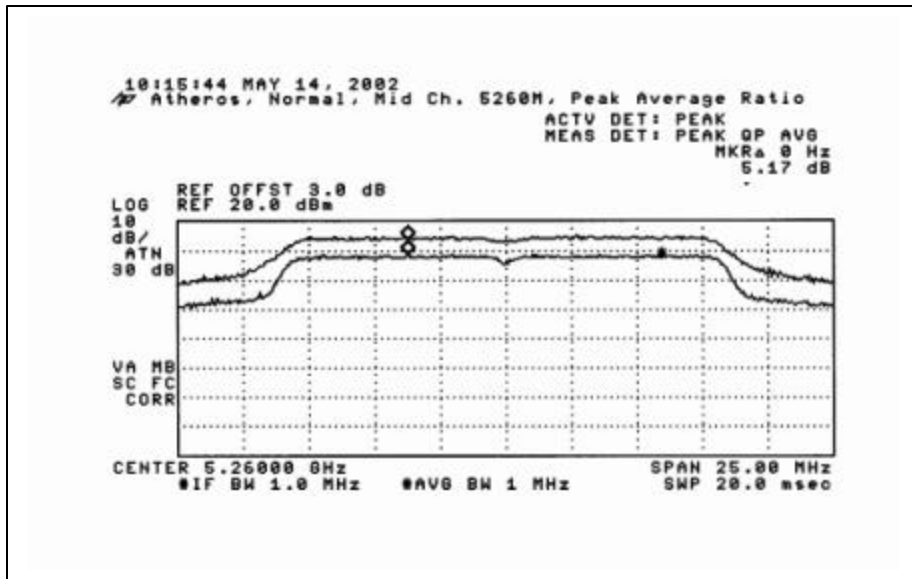
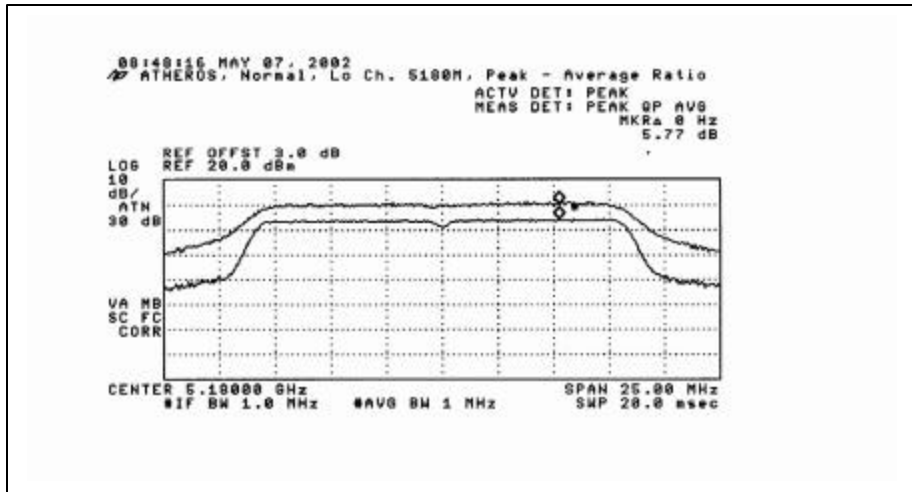
The transmitter output is connected to the spectrum analyzer through an attenuator. The spectrum analyzer is set to 1 MHz RESOLUTION BW and 1MHz VIDEO BW. Trace A is set to Max Hold, then to View. The VIDEO BW is readjusted to 30 kHz, and the signal under this measurement condition is captured in Trace B.

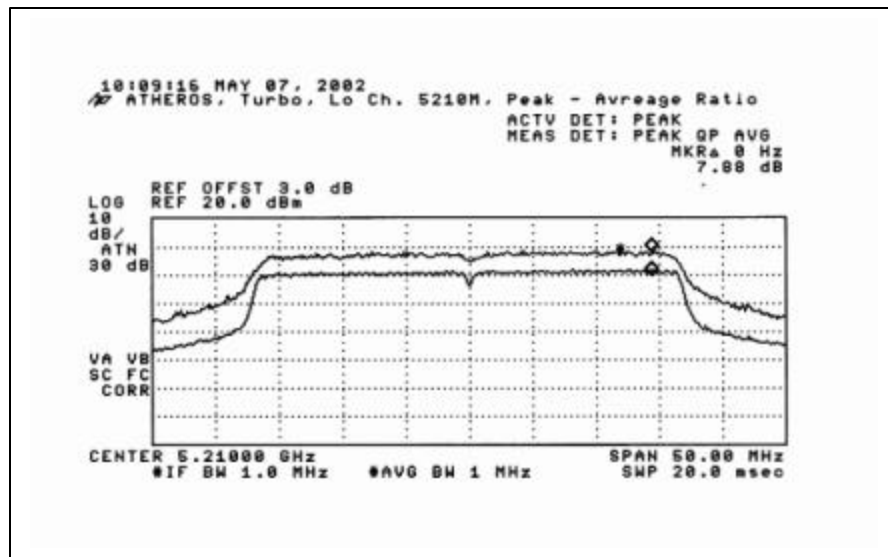
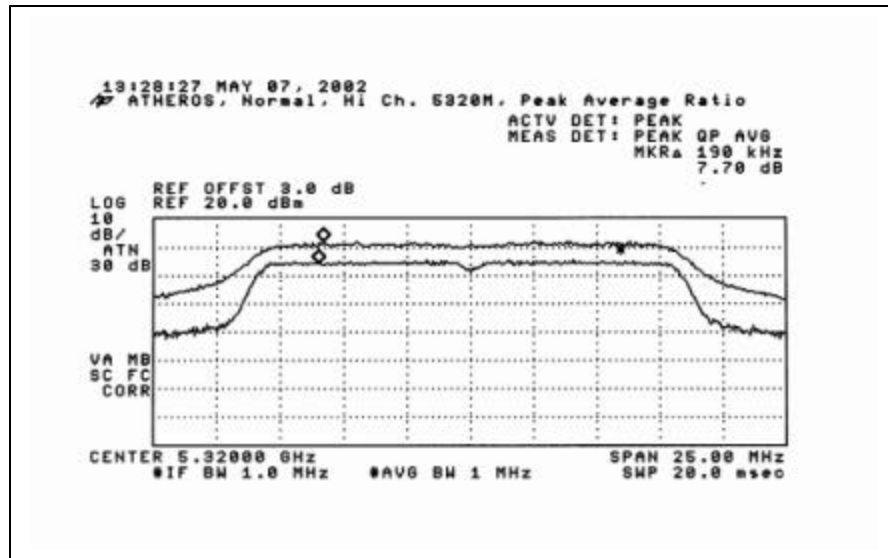
The difference between the traces is investigated. The marker is placed at the frequency which shows the largest difference. The amplitude delta between the traces at this frequency is the peak excursion.

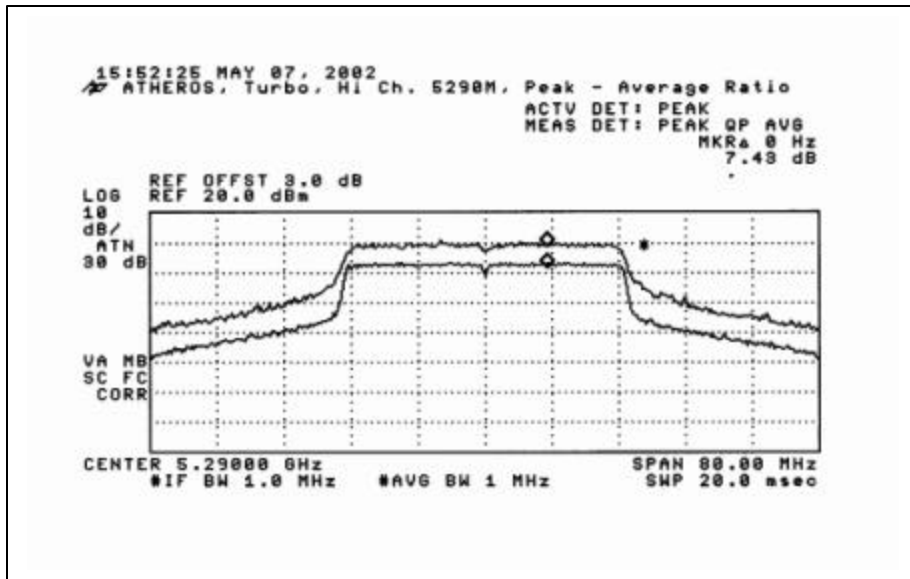
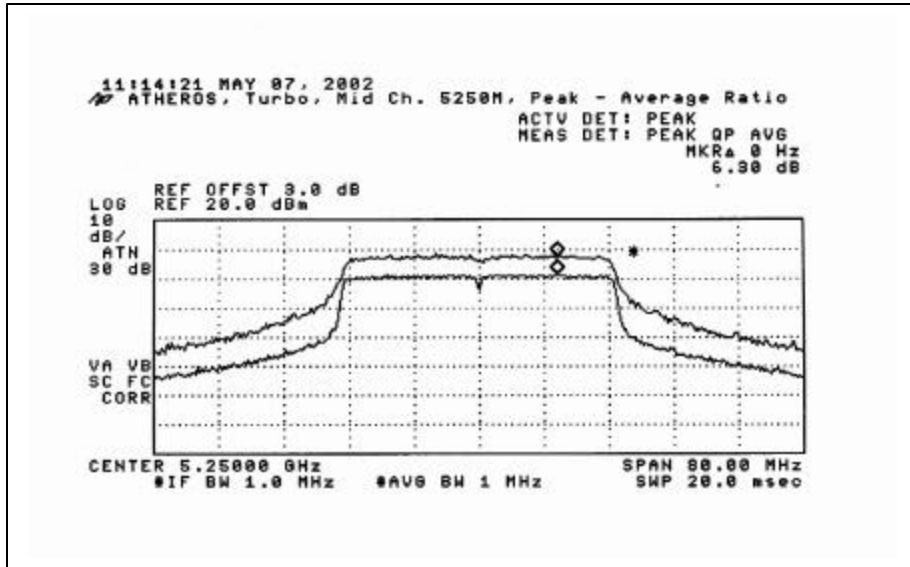
Result:

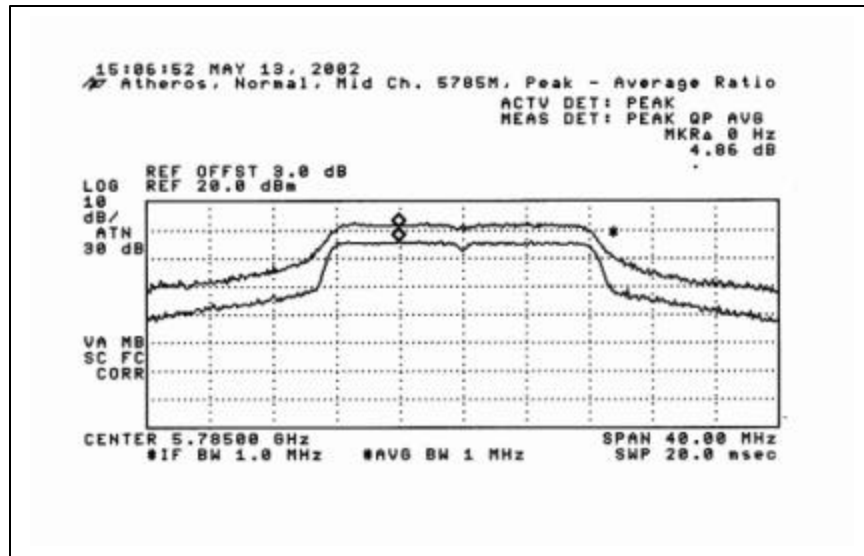
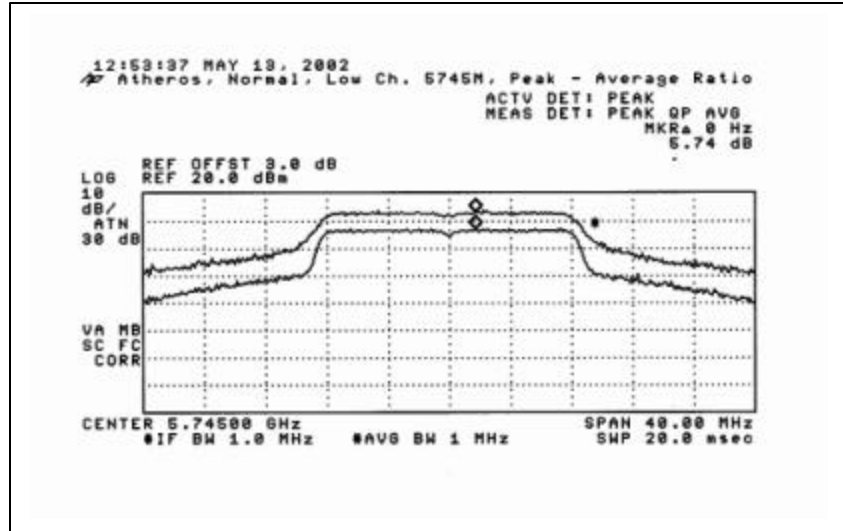
No non-compliance noted. See plots:

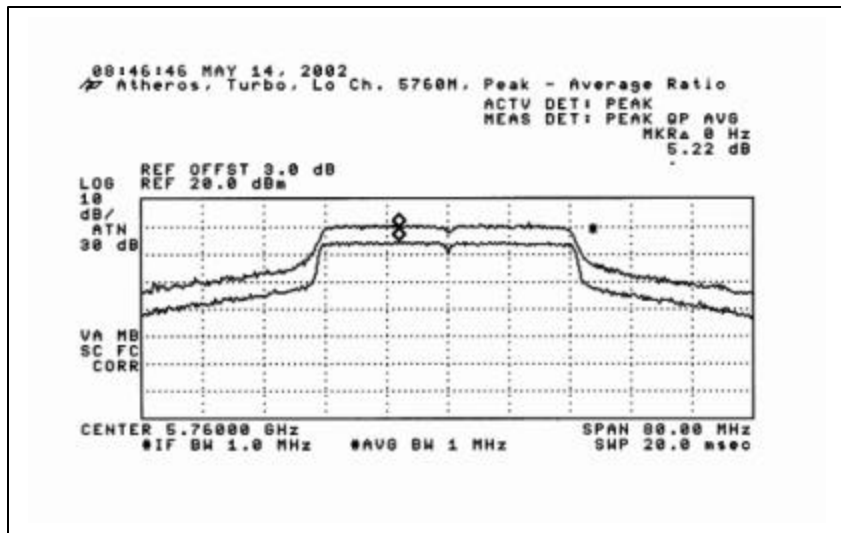
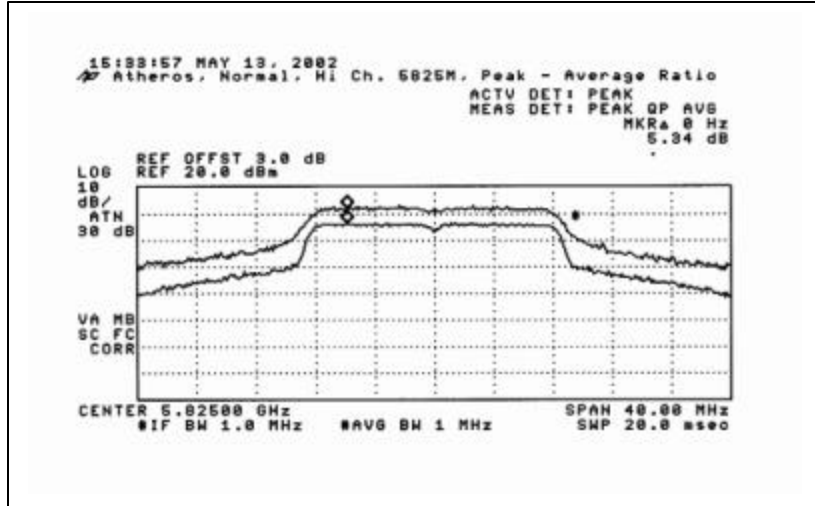
Operating in the 5.15 – 5.35 GHz Band (Normal Mode)		
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>
<i>Low</i>	<i>5180</i>	<i>5.77</i>
<i>Middle</i>	<i>5260</i>	<i>5.17</i>
<i>High</i>	<i>5320</i>	<i>7.70</i>
Operating in the 5.15 – 5.35 GHz Band (Turbo Mode)		
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>
<i>Low</i>	<i>5210</i>	<i>7.88</i>
<i>Middle</i>	<i>5250</i>	<i>6.30</i>
<i>High</i>	<i>5290</i>	<i>7.43</i>
Operating in the 5.725 – 5.850 GHz Band (Normal Mode)		
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>
<i>Low</i>	<i>5745</i>	<i>5.74</i>
<i>Middle</i>	<i>5785</i>	<i>4.86</i>
<i>High</i>	<i>5825</i>	<i>5.34</i>
Operating in the 5.725 – 5.850 GHz Band (Turbo Mode)		
<i>Channel</i>	<i>Frequency (MHz)</i>	<i>Results (dBm)</i>
<i>Low</i>	<i>5760</i>	<i>5.22</i>
<i>Middle</i>	<i>N/A</i>	<i>N/A</i>
<i>High</i>	<i>5800</i>	<i>5.43</i>

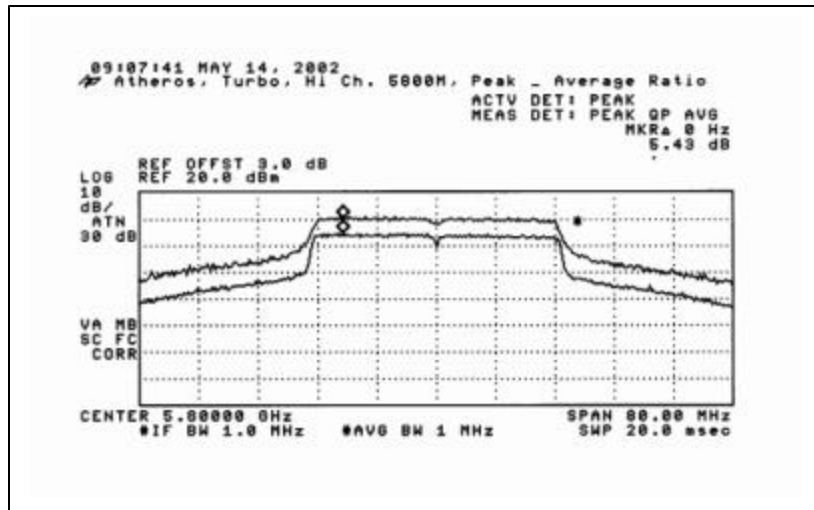










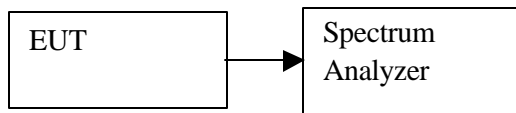


9.5. UNDESIRABLE EMISSION - BAND EDGE & DELTA (PEAK & AVERAGE)

Detector Function Setting of Test Receiver

Frequency Range (MHz)	Detector Function	Resolution Bandwidth	Video Bandwidth
Above 1000	<input checked="" type="checkbox"/> Peak	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 1 MHz
	<input checked="" type="checkbox"/> Average	<input checked="" type="checkbox"/> 1 MHz	<input checked="" type="checkbox"/> 10 Hz

TEST SETUP



TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer. The resolution and video bandwidth were set to 1MHz. The lower and upper band edge is investigated.

RESULT

No non-compliance noted. See plots:

Operating in the 5.15 – 5.35 GHz Band (Normal Mode)										
<i>Band Edge</i>	<i>Frequency (MHz)</i>	<i>Reading (dBm)</i>		<i>Ant Gain (dBi)</i>	<i>Results EIRP (dBm)</i>		<i>15.209 Limit (dBm)</i>		<i>Margin (dB)</i>	
		<i>Peak</i>	<i>Ave</i>		<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>
<i>Low</i>	<i>5150</i>	<i>-26.18</i>	<i>-45.78</i>	<i>1.5</i>	<i>-24.68</i>	<i>-44.28</i>	<i>-21</i>	<i>-41</i>	<i>-3.68</i>	<i>-3.28</i>
<i>High</i>	<i>5350</i>	<i>-29.63</i>	<i>-46.36</i>	<i>1.5</i>	<i>-28.13</i>	<i>-44.86</i>	<i>-21</i>	<i>-41</i>	<i>-7.13</i>	<i>-3.86</i>
<i>High</i>	<i>5351</i>	<i>N/A</i>	<i>-44.87</i>	<i>1.5</i>	<i>N/A</i>	<i>-43.37</i>	<i>N/A</i>	<i>-41</i>	<i>N/A</i>	<i>-2.37</i>
Operating in the 5.15 – 5.35 GHz Band (Turbo Mode)										
<i>Band Edge</i>	<i>Frequency (MHz)</i>	<i>Reading (dBm)</i>		<i>Ant Gain (dBi)</i>	<i>Results EIRP (dBm)</i>		<i>15.209 Limit (dBm)</i>		<i>Margin (dB)</i>	
		<i>Peak</i>	<i>Ave</i>		<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>
<i>Low</i>	<i>5150</i>	<i>-35.73</i>	<i>-47.51</i>	<i>1.5</i>	<i>-34.22</i>	<i>-46.01</i>	<i>-21</i>	<i>-41</i>	<i>-13.2</i>	<i>-5.01</i>
<i>Low</i>	<i>5087</i>	<i>N/A</i>	<i>-49.95</i>	<i>1.5</i>	<i>N/A</i>	<i>-48.45</i>	<i>N/A</i>	<i>-41</i>	<i>N/A</i>	<i>-7.45</i>
<i>High</i>	<i>5350</i>	<i>-30.73</i>	<i>-45.10</i>	<i>1.5</i>	<i>-29.23</i>	<i>-43.60</i>	<i>-21</i>	<i>-41</i>	<i>-8.23</i>	<i>-2.60</i>

ET 99-231 Limit = -20dBc

Operating in the 5.725 – 5.850 GHz Band (Normal Mode)										
<i>Band Edge</i>	<i>Frequency (MHz)</i>	<i>In-Band Power (dBm)</i>		<i>Out-Of-Band Power (dBm)</i>		<i>Delta (dBc)</i>		<i>Margin (dB)</i>		
		<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Peak</i>	<i>Peak</i>	<i>Ave</i>	
<i>Low</i>	<i>5725</i>	<i>4.6</i>	<i>-3.3</i>	<i>-23.52</i>	<i>-32.67</i>	<i>-28.12</i>	<i>-29.37</i>	<i>-8.12</i>	<i>-9.37</i>	
<i>High</i>	<i>5850</i>	<i>5.4</i>	<i>-3.5</i>	<i>-29.90</i>	<i>-42.39</i>	<i>-35.30</i>	<i>-38.89</i>	<i>-15.3</i>	<i>-18.8</i>	
Operating in the 5.725 – 5.850 GHz Band (Turbo Mode)										
<i>Band Edge</i>	<i>Frequency (MHz)</i>	<i>In-Band Power (dBm)</i>		<i>Out-Of-Band Power (dBm)</i>		<i>Delta (dBc)</i>		<i>Margin (dB)</i>		
		<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>	<i>Peak</i>	<i>Ave</i>	
<i>Low</i>	<i>5725</i>	<i>6.3</i>	<i>-6.2</i>	<i>-20.25</i>	<i>-32.69</i>	<i>-26.55</i>	<i>-26.49</i>	<i>-6.55</i>	<i>-6.49</i>	
<i>High</i>	<i>5850</i>	<i>6.6</i>	<i>-6.2</i>	<i>-30.46</i>	<i>-43.32</i>	<i>-37.06</i>	<i>-37.02</i>	<i>-17.1</i>	<i>-17.0</i>	