

Figure D-91. Ambient Emissions in 1110-1160 MHz Frequency Band at Office Site #4.

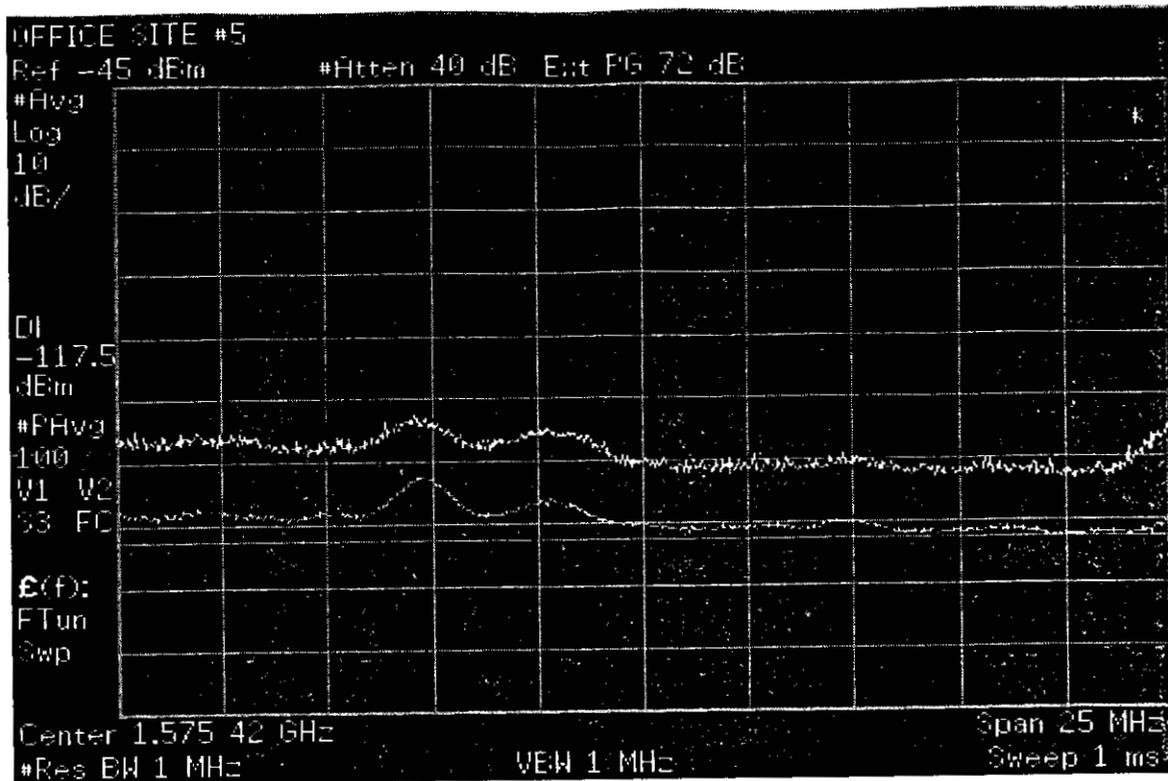


Figure D-92. Ambient Emissions in GPS L1 Frequency Band at Office Site #5.

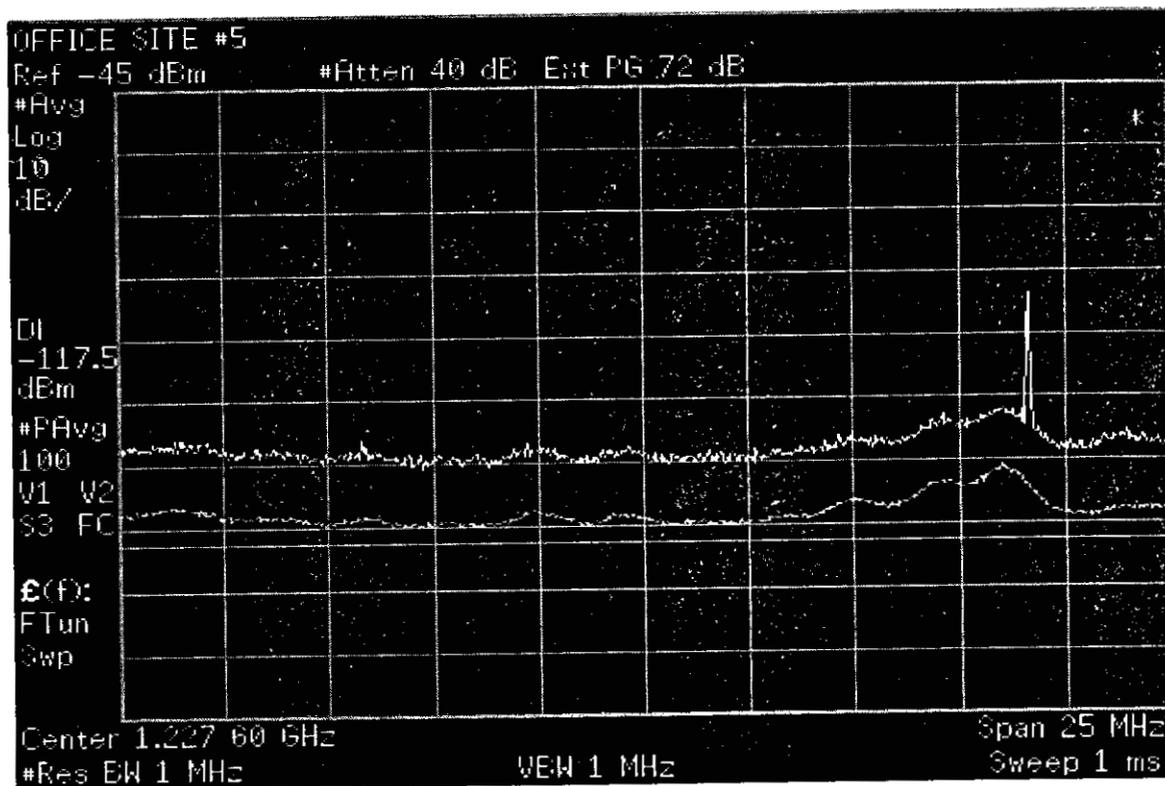


Figure D-93. Ambient Emissions in GPS L2 Frequency Band at Office Site #5.

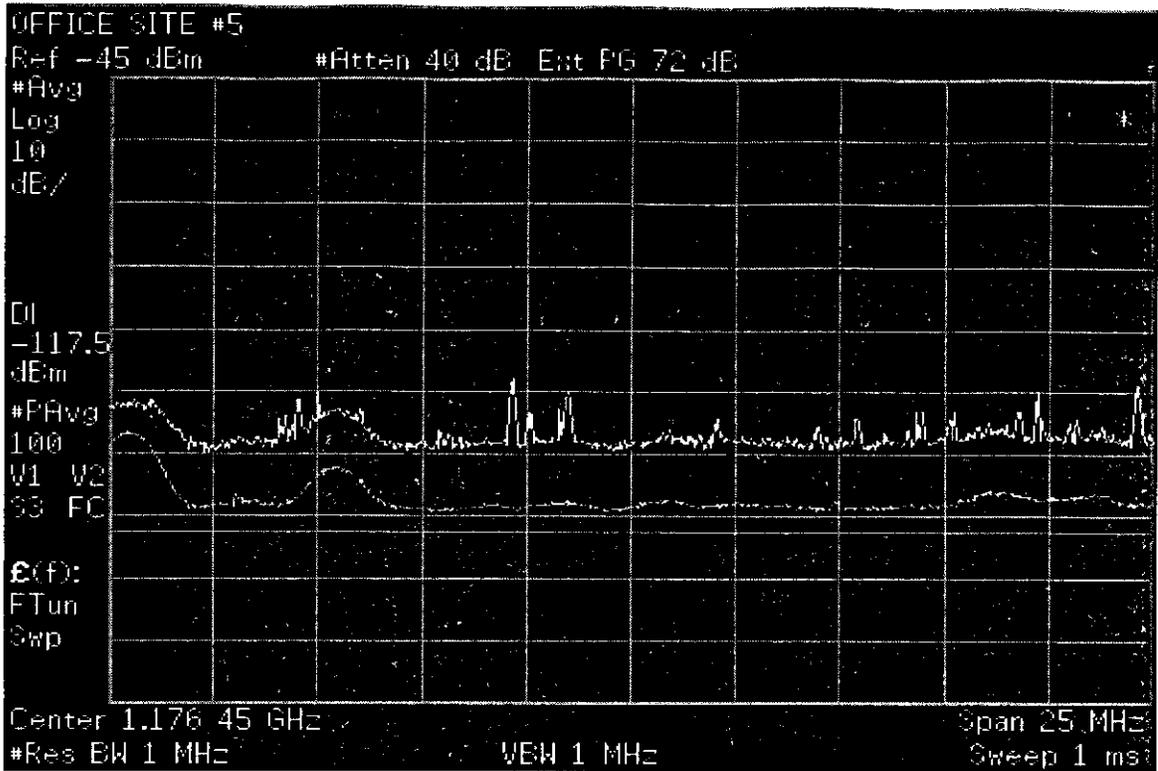


Figure D-94. Ambient Emissions in GPS L5 Frequency Band at Office Site #5.

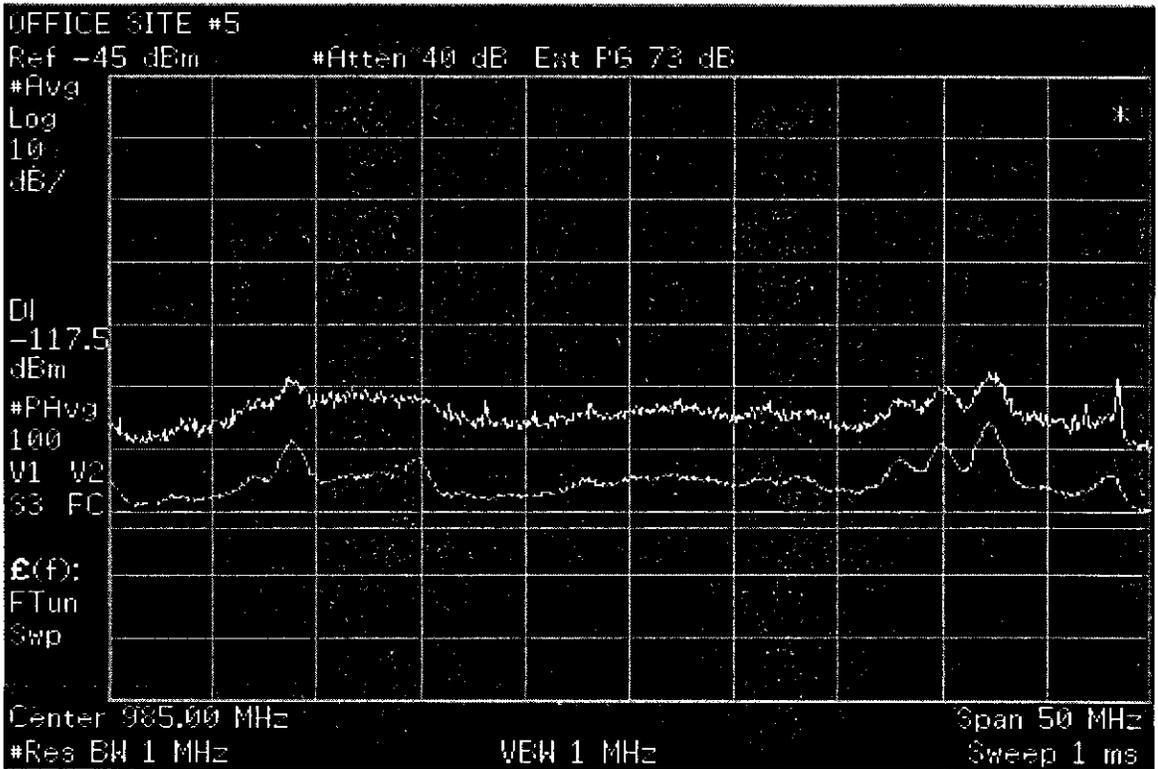


Figure D-95. Ambient Emissions in 960-1010MHz Frequency Band at Office Site #5.

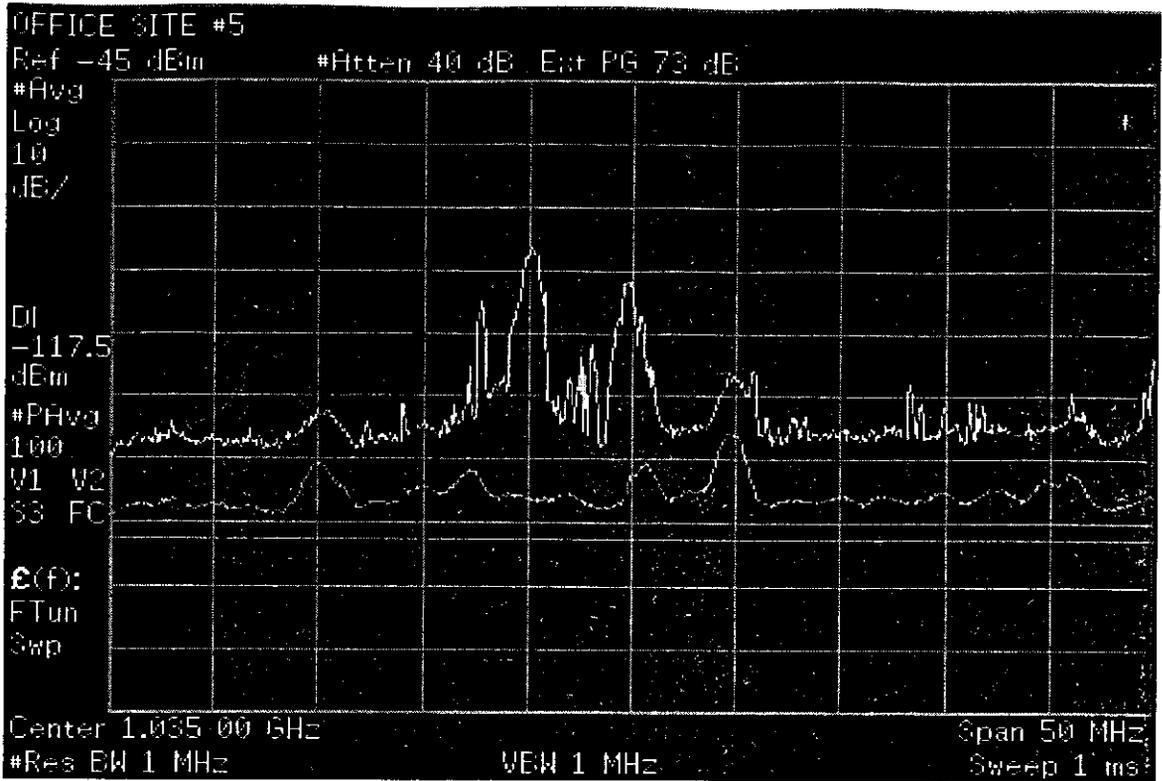


Figure D-96. Ambient Emissions in 1010-1060 MHz Frequency Band at Office Site #5.

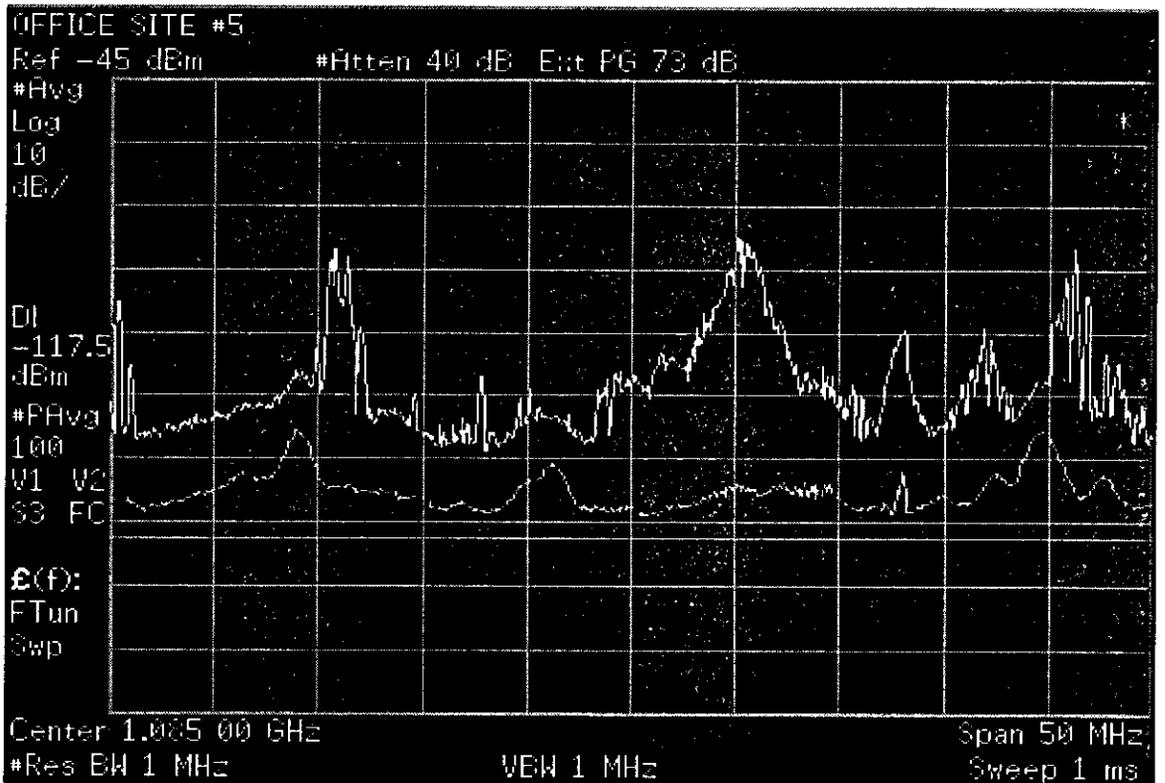


Figure D-97. Ambient Emissions in 1060-1110 MHz Frequency Band at Office Site #5.

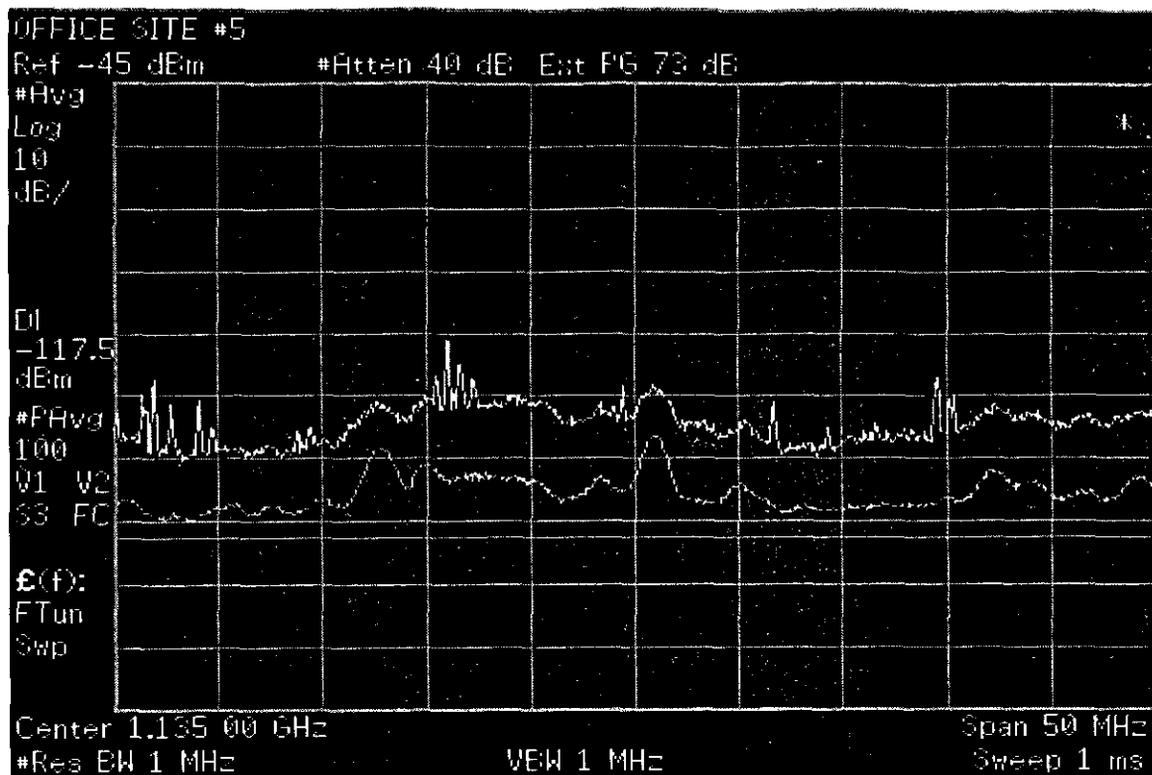


Figure D-98. Ambient Emissions in 1110-1160 MHz Frequency Band at Office Site #5.

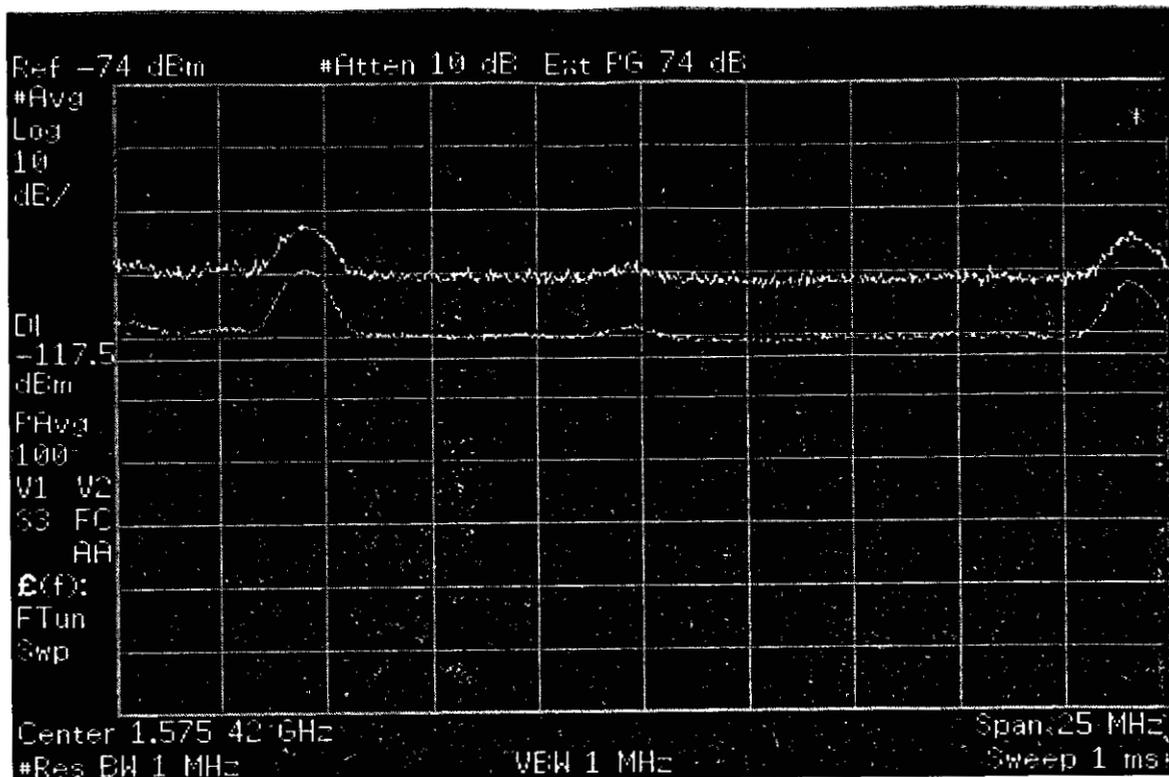


Figure D-99. Ambient Emissions in GPS L1 Frequency Band at Factory Site#1.

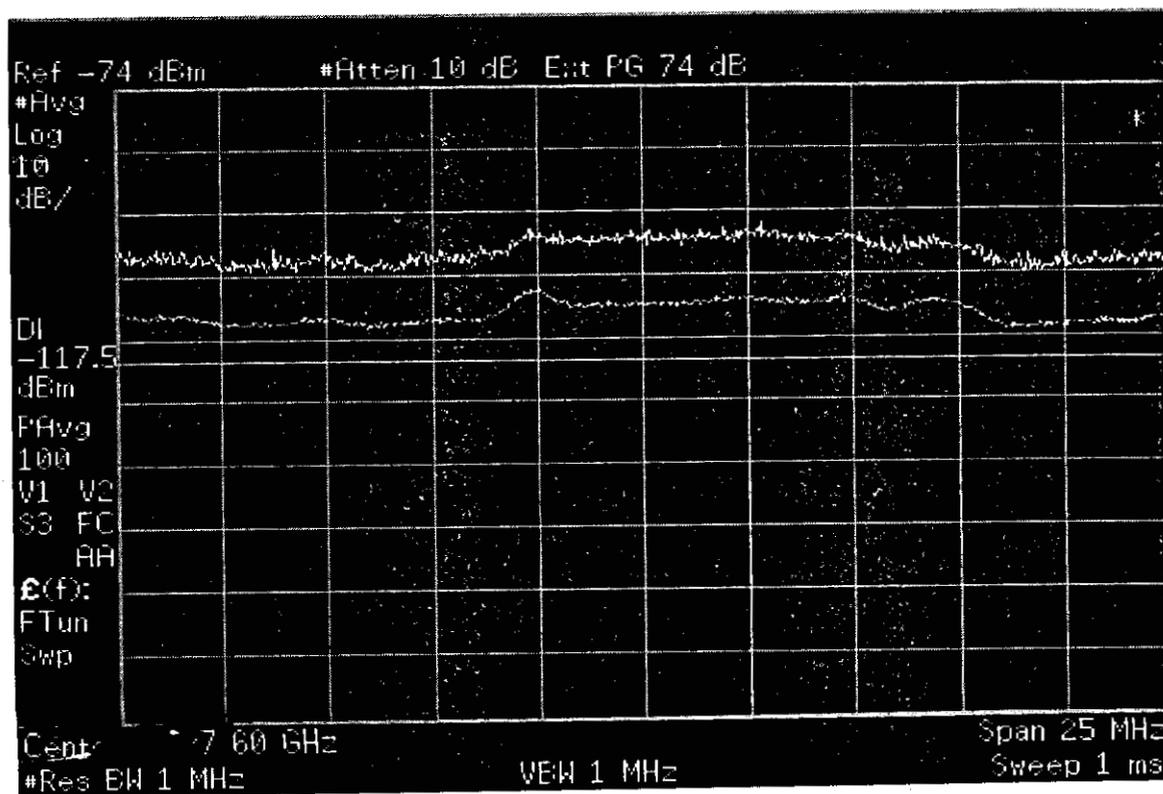


Figure D-100. Ambient Emissions in GPS L2 Frequency Band at Factory Site#1.

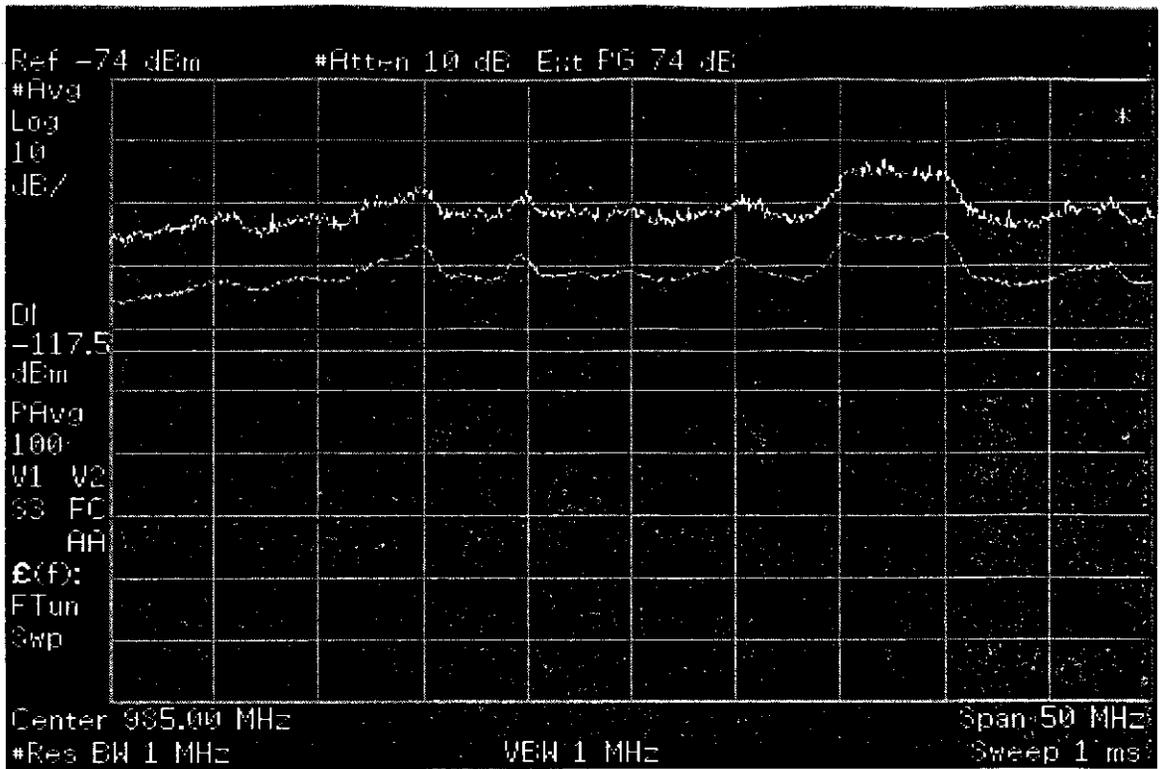


Figure D-101. Ambient Emissions in 960-1010 MHz Frequency Band at Factory Site#1.

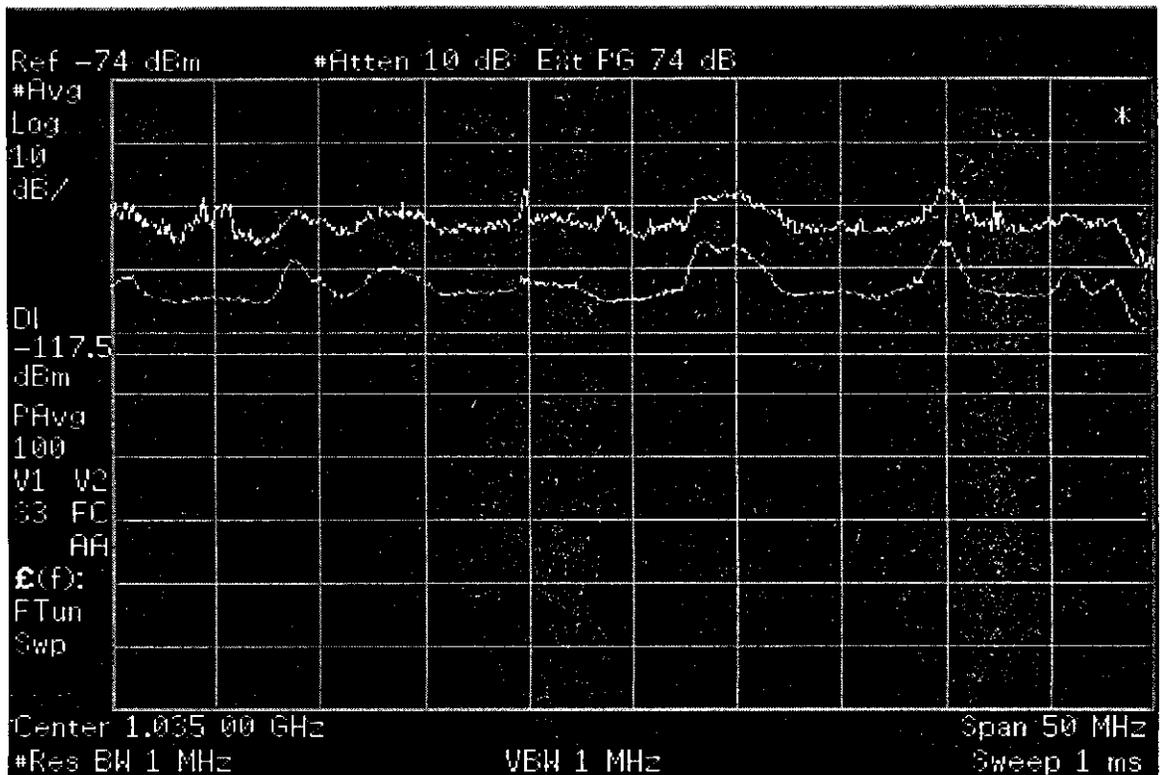


Figure D-102. Ambient Emissions in 1010-1060MHz Frequency Band at Factory Site#1.

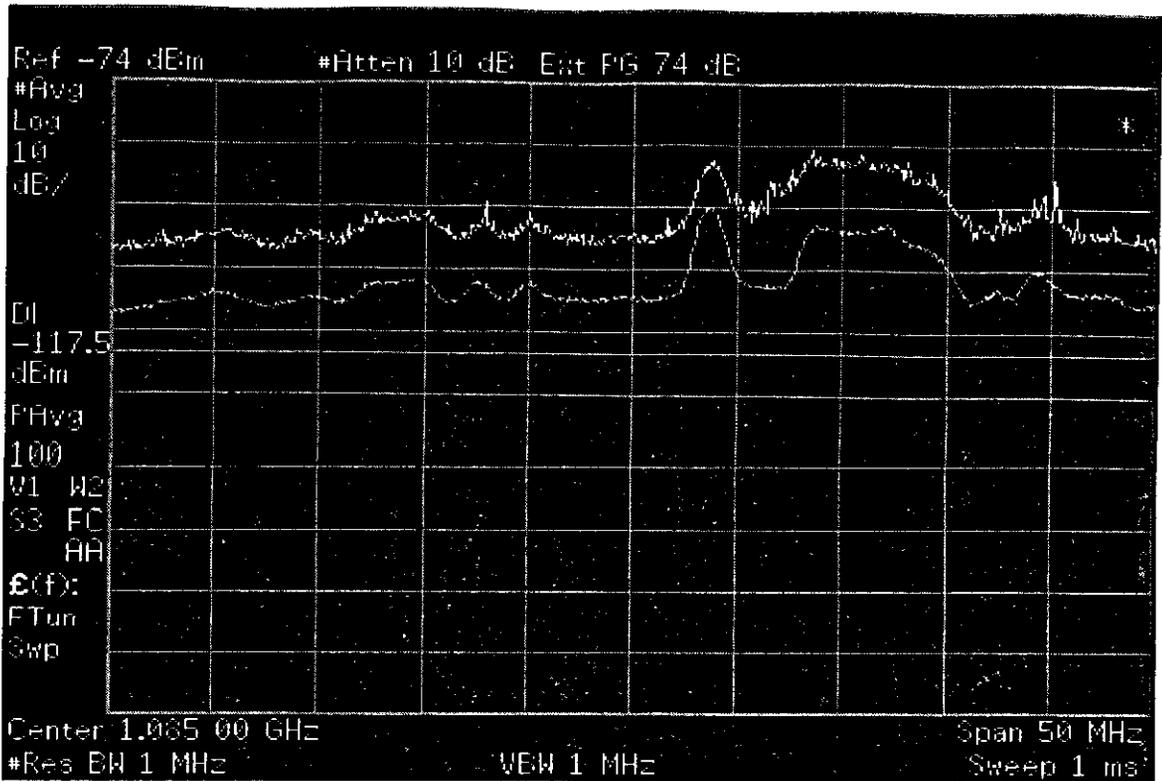


Figure D-103. Ambient Emissions in 1060-1110 MHz Frequency Band at Factory Site #1.

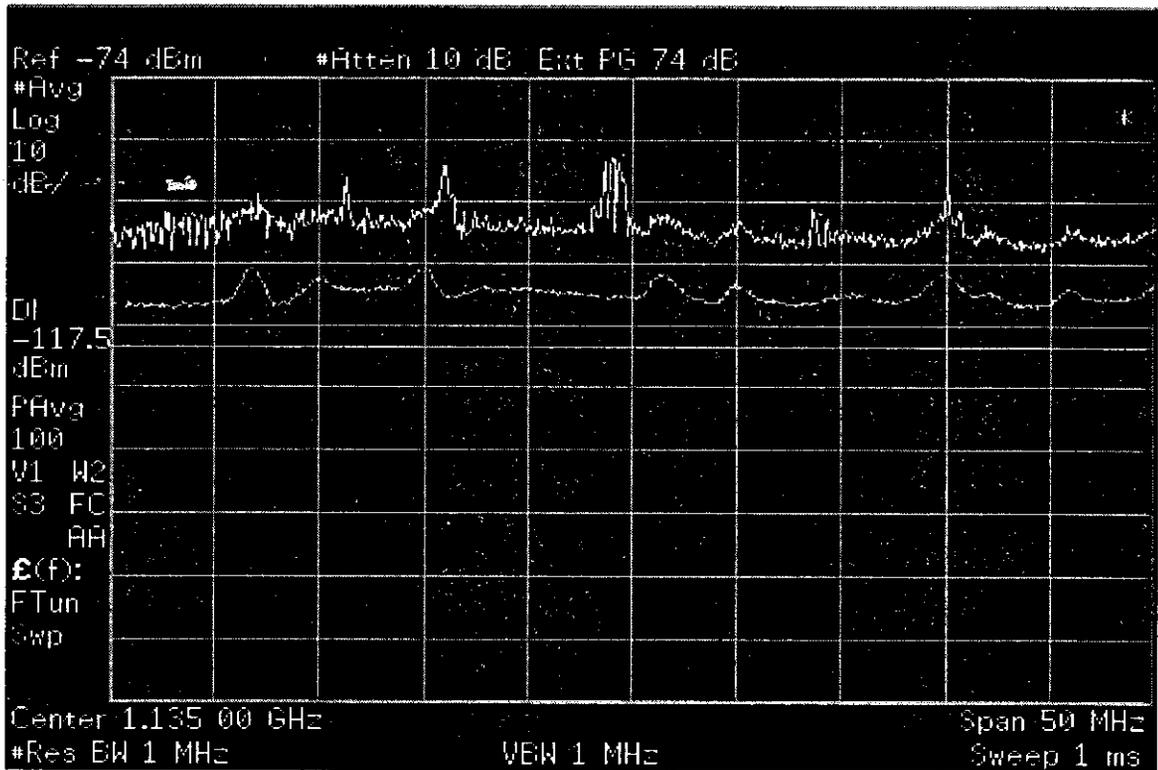


Figure D-104. Ambient Emissions in 1110-1160 MHz Frequency Band at Factory Site #1.

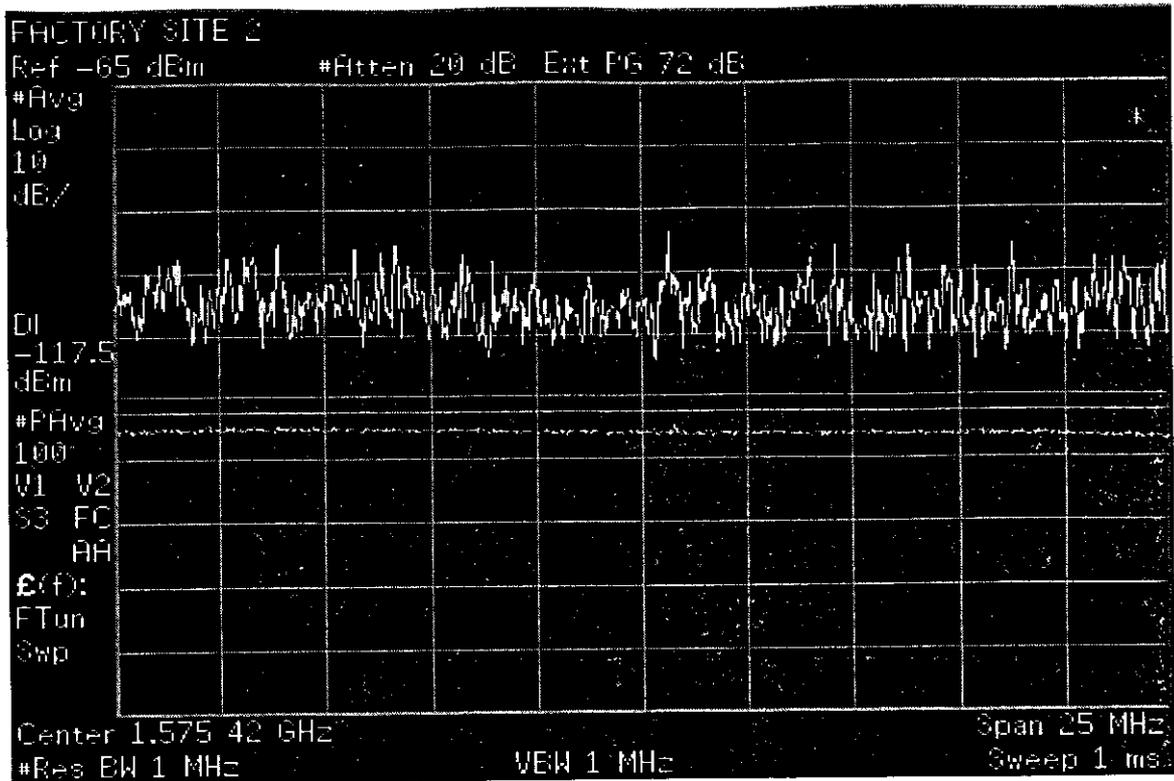


Figure D-105. Ambient Emissions in GPS L1 Frequency Band at Factory Site #2.

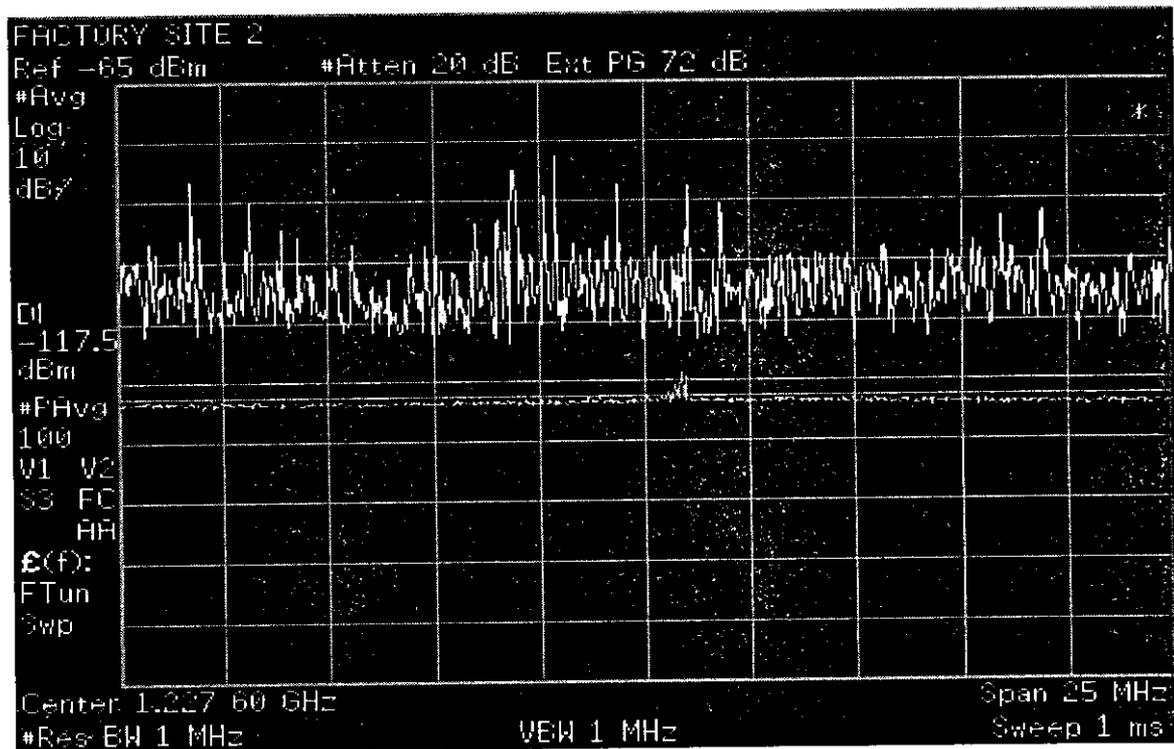


Figure D-106. Ambient Emissions in GPS L2 Frequency Band at Factory Site #2.

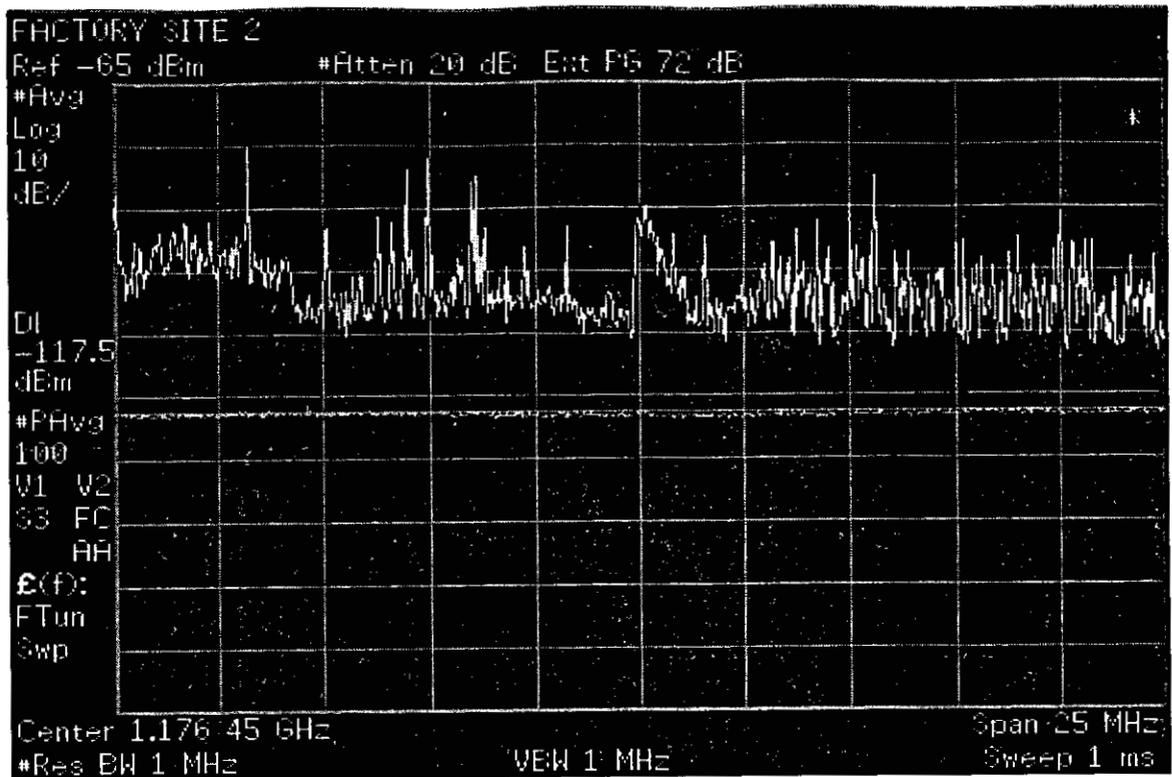


Figure D-107. Ambient Emissions in GPS L5 Frequency Band at Factory Site #2.

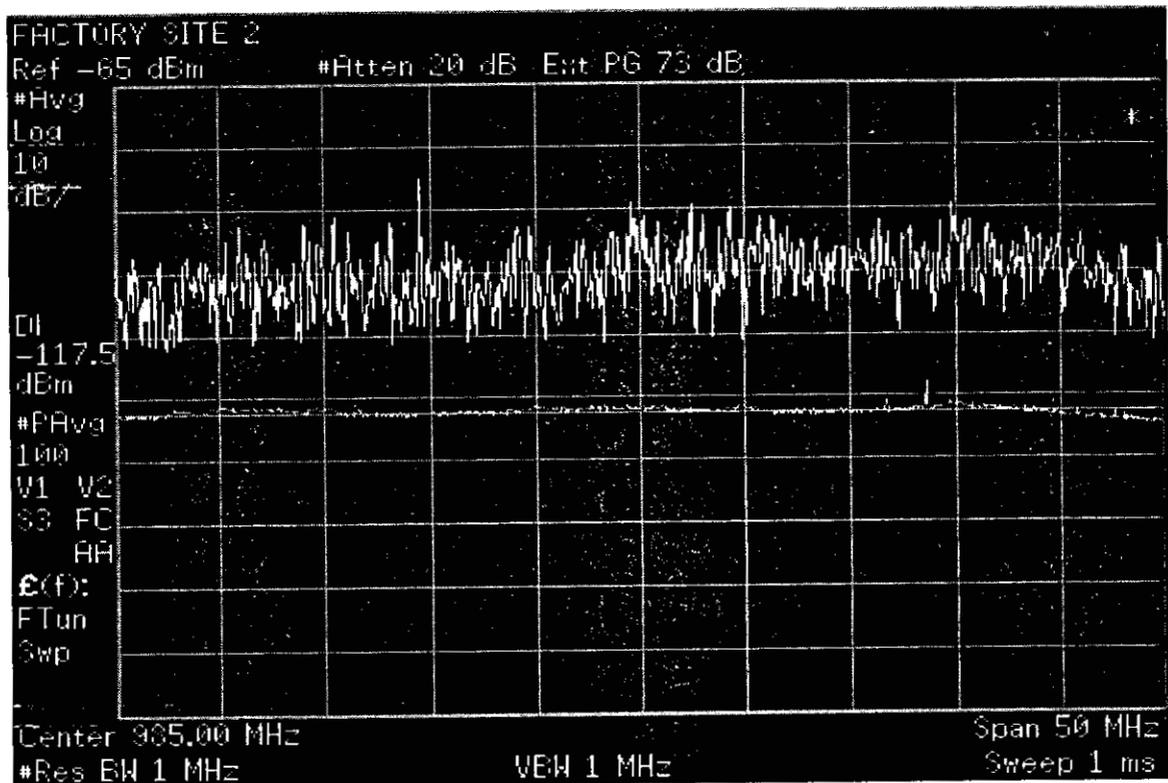


Figure D-108. Ambient Emissions in 960-1010 MHz Frequency Band at Factory Site #2.

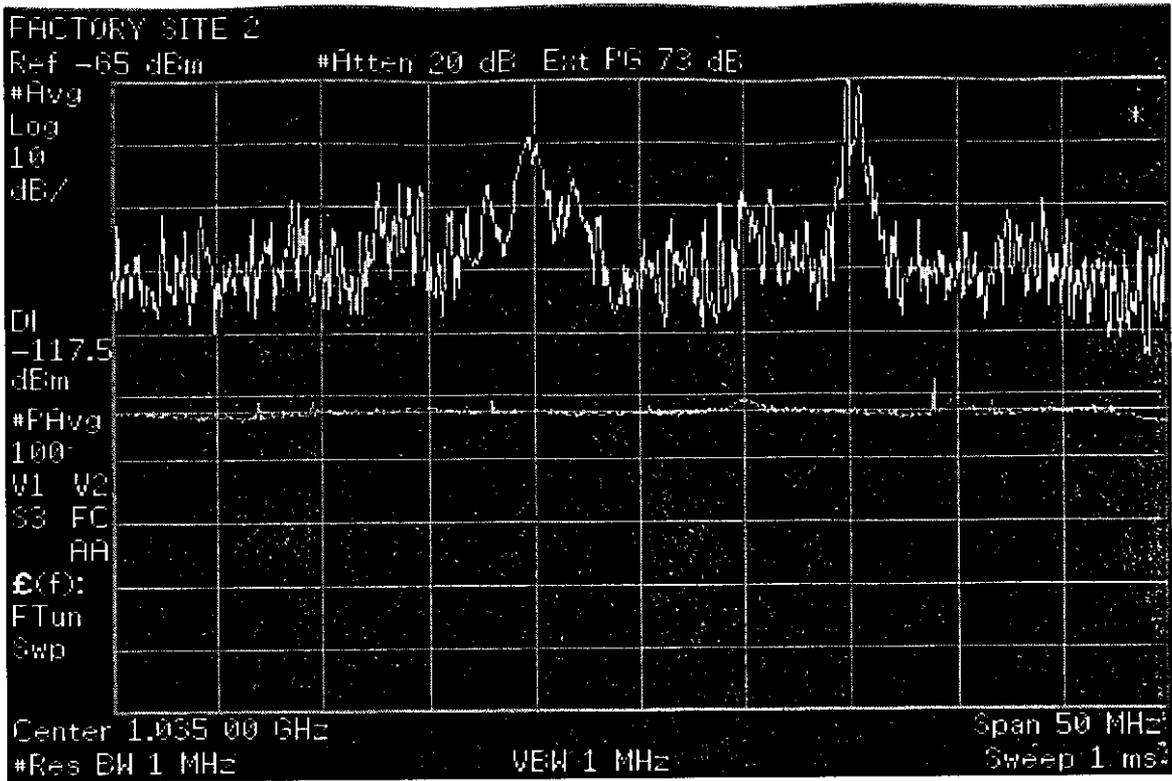


Figure D-109. Ambient Emissions in 1010-1060 MHz Frequency Band at Factory Site #2.

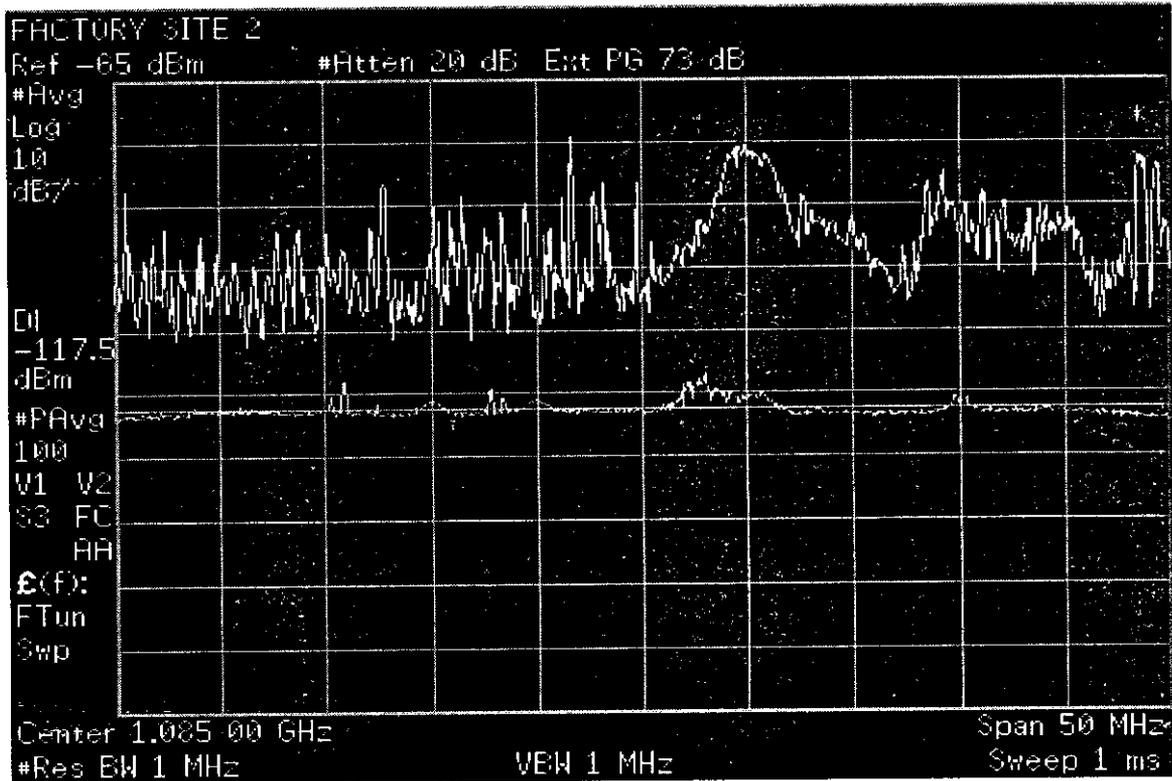


Figure D-110. Ambient Emissions in 1060-1110 MHz Frequency Band at Factory Site #2.

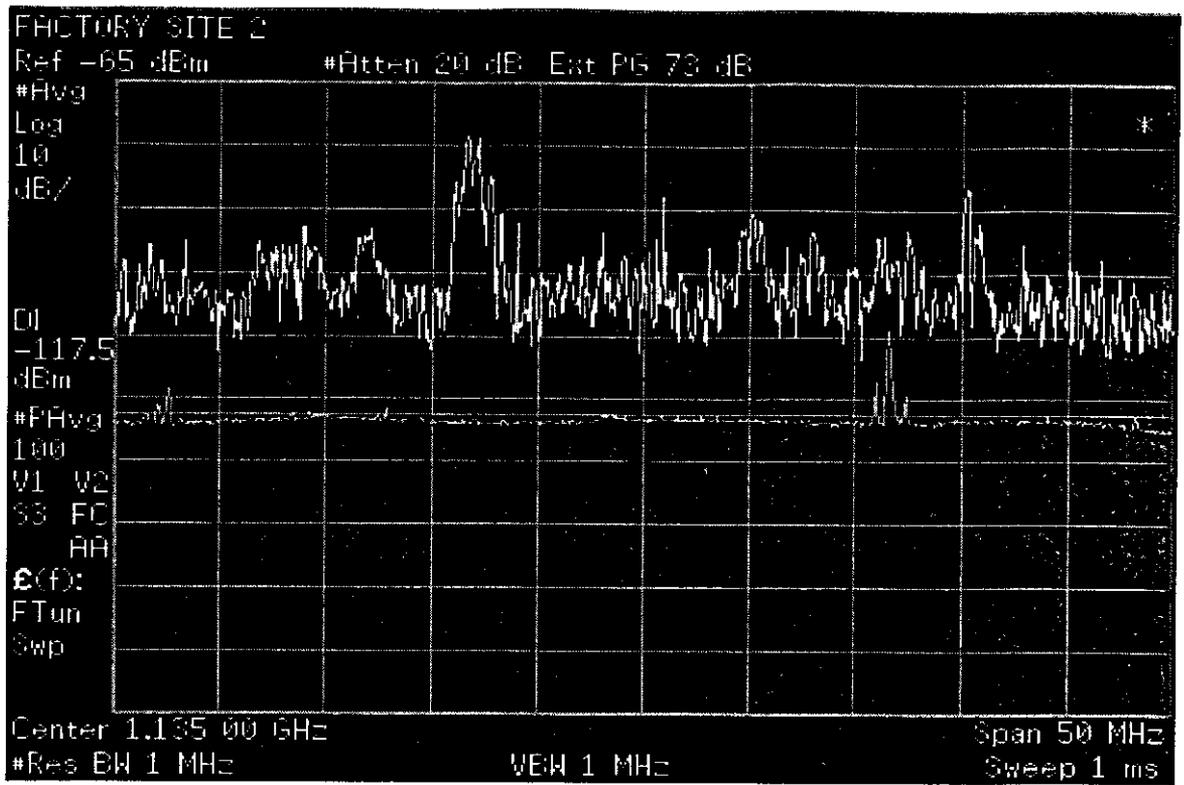


Figure D-111. Ambient Emissions in 1110-1160 MHz Frequency Band at Factory Site #2.

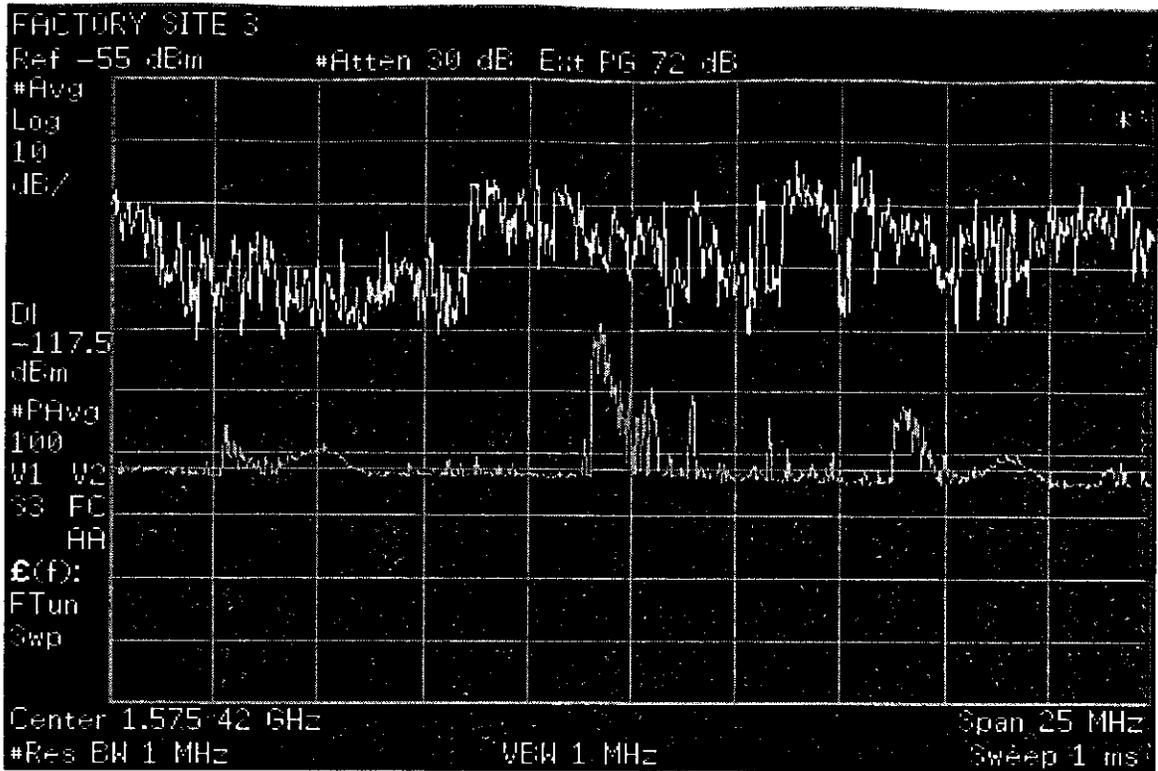


Figure D-112. Ambient Emissions in GPS L1 Frequency Band at Factory Site #3.

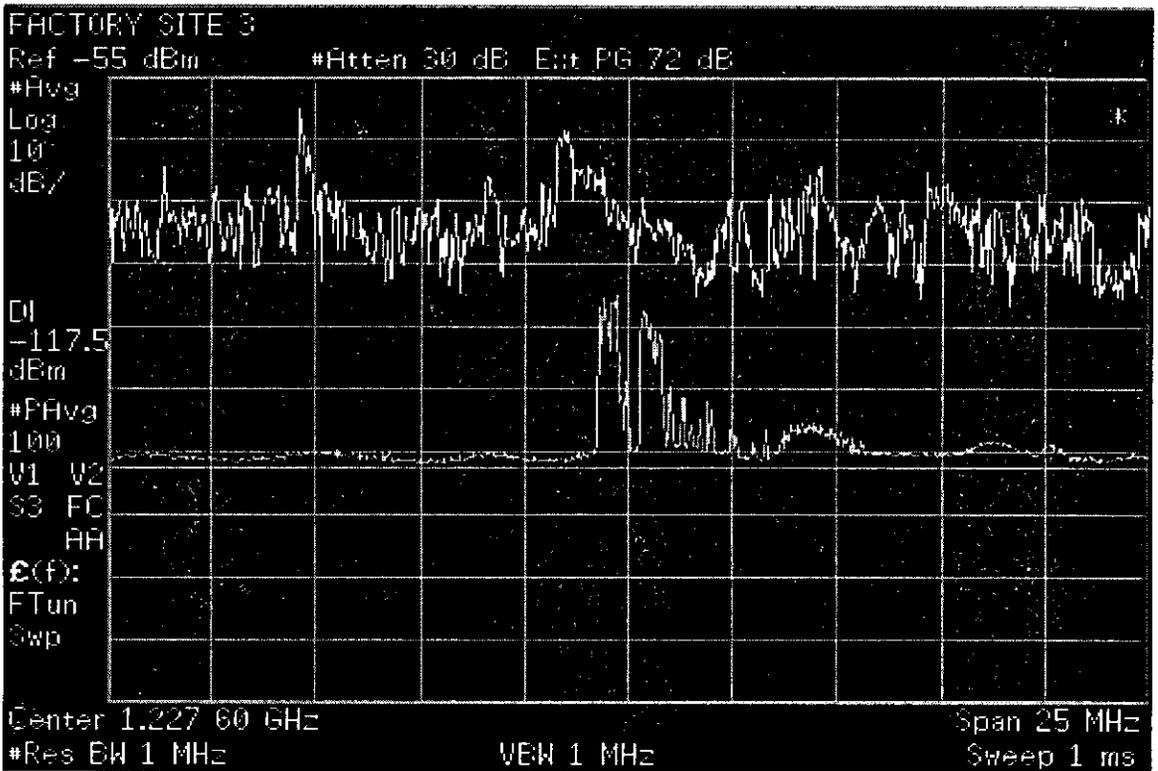


Figure D-113. Ambient Emissions in GPS L2 Frequency Band at Factory Site #3.

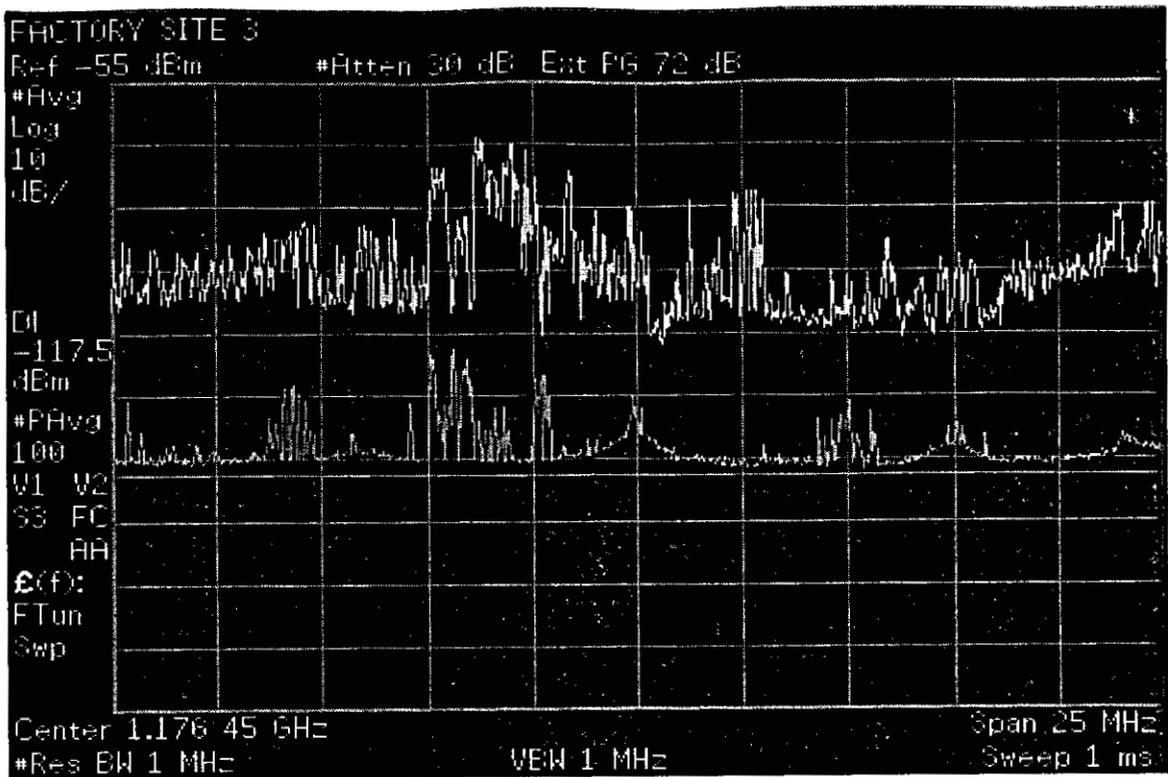


Figure D-114. Ambient Emissions in GPS L5 Frequency Band at Factory Site #3.

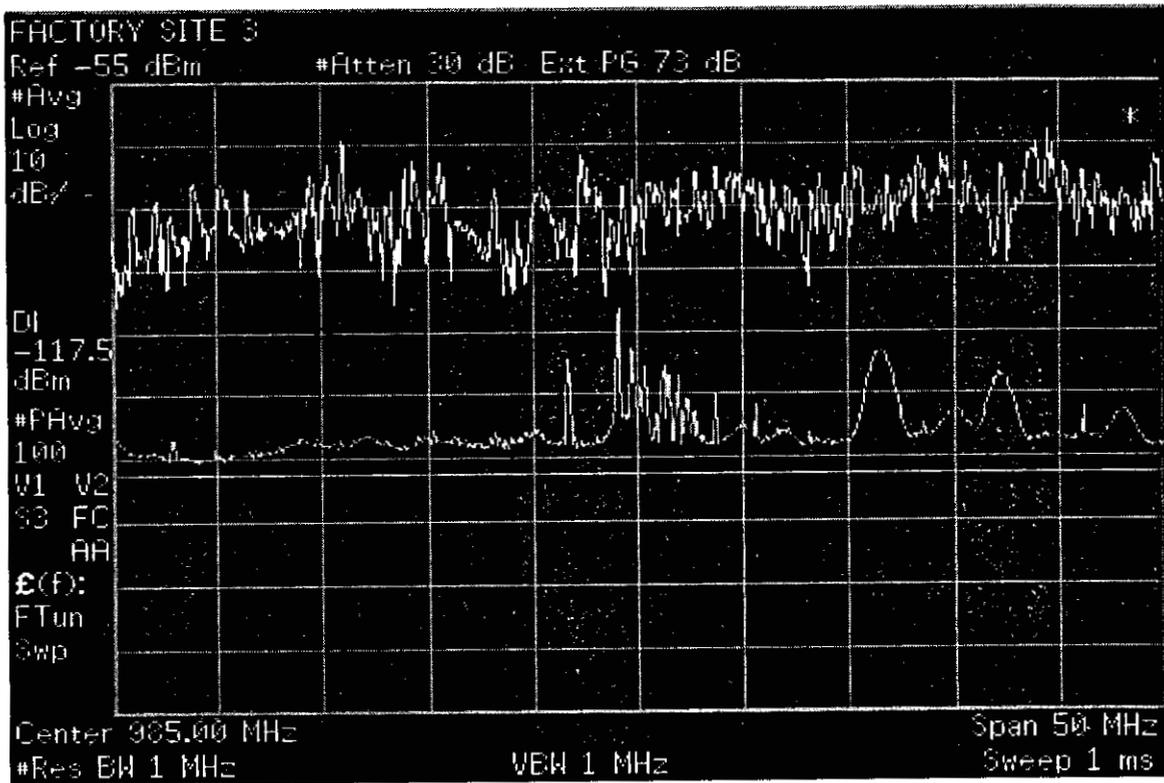


Figure D-115. Ambient Emissions in 960-1010 MHz Frequency Band at Factory Site #3.

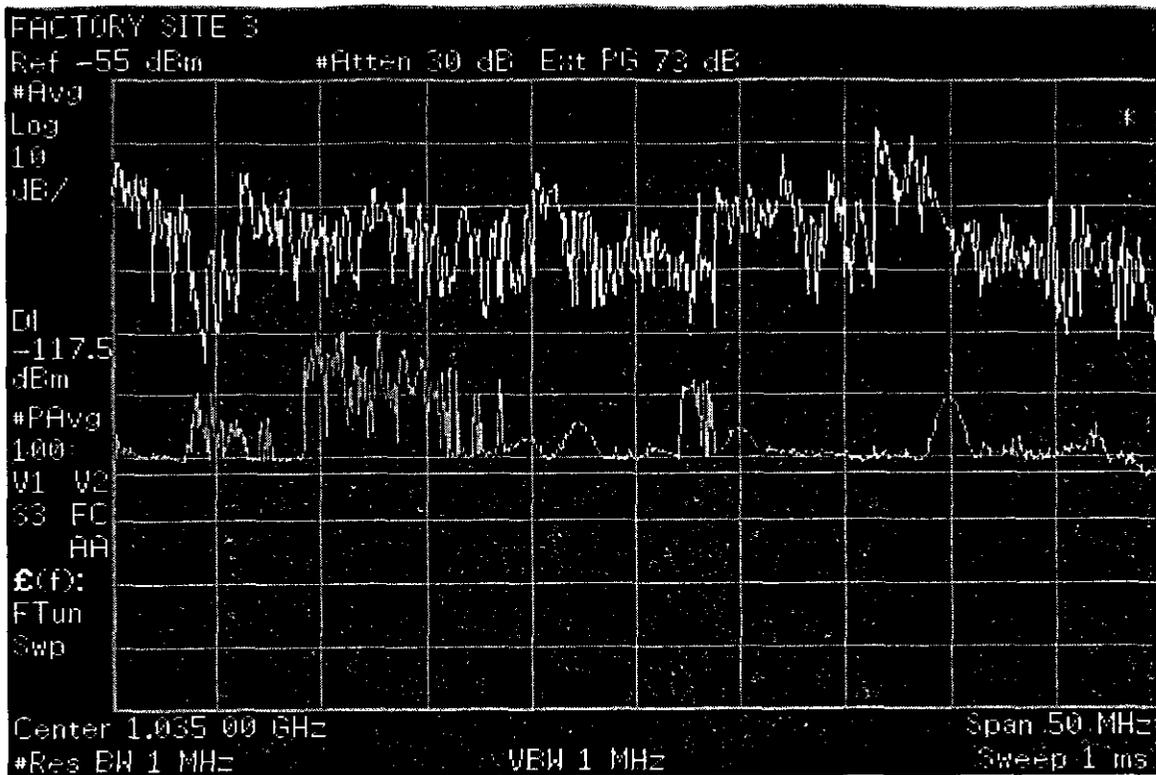


Figure D-116. Ambient Emissions in 1010-1060 MHz Frequency Band at Factory Site #3.

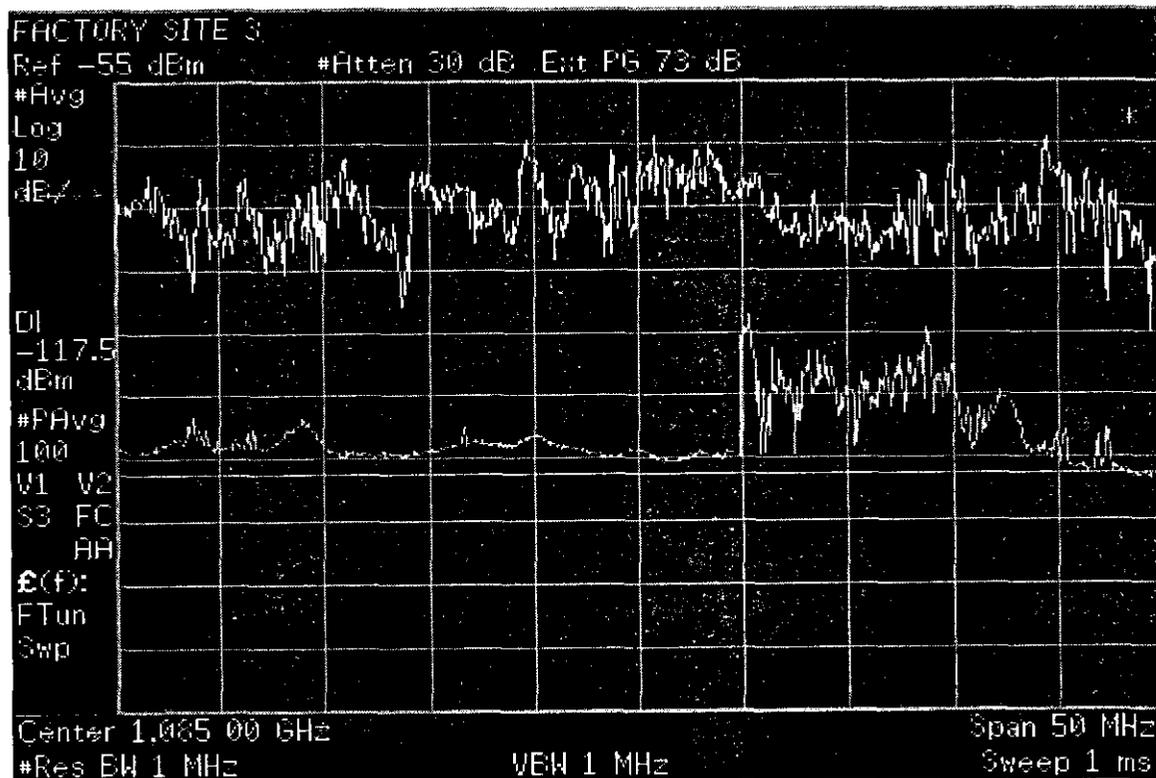


Figure D-117. Ambient Emissions in 1060-1110 MHz Frequency Band at Factory Site #3.

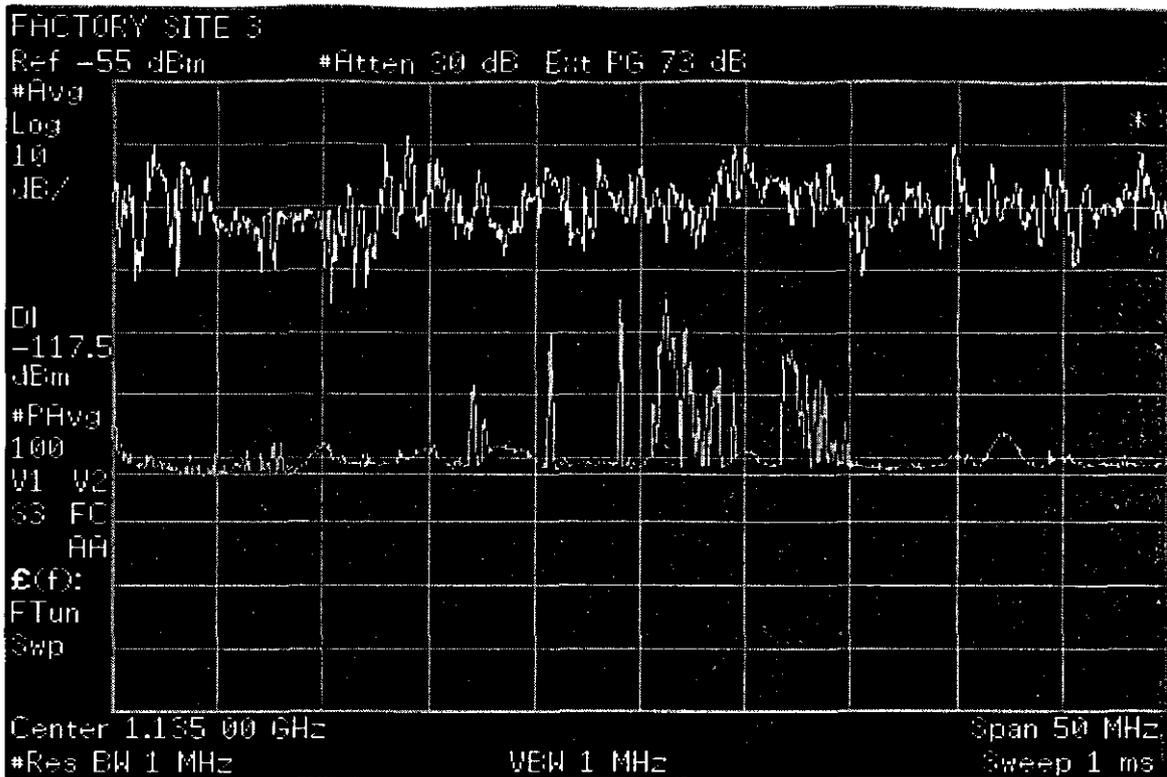


Figure D-118. Ambient Emissions in 1110-1160 MHz Frequency Band at Factory Site #3.

## **APPENDIX E**

### **RADIATED EMISSIONS MEASUREMENT DATA**

The data plots recorded from the measurements of radiated emissions from common consumer electronic/electrical devices are presented in this appendix.

In each of the spectrum analyzer plots presented in this Appendix, two measurement traces are shown. The lower (yellow) trace represents the background (ambient) emissions in the frequency band under examination with the DUT turned off. The upper (blue) trace represents the sum of the RMS average emissions radiated from the DUT and the existing background (ambient) emissions. A constant display line (green) is also shown in each plot. This is set to a level of **-117.5 dBm** to represent the received power equivalent to the UWB EIRP limit of **-75.3 dBm/MHz** at a distance of two meters.

All external measurement system parameters (e.g., amplifier gains, cable loss, and antenna gain) are accounted for in the spectrum analyzer display and are provided on each plot under the tag Ext PG located at the top of the display.

In each of these plots, the horizontal axis represents frequency and the vertical axis represents amplitude. A span of 25 MHz was used to encompass the **24 MHz** registered **GPS** frequency band. For a 25 MHz span, each vertical graticule line represents a 2.5 MHz deviation in frequency (25 MHz/10 graticule lines). On the amplitude axis, each horizontal graticule line represents a 10 dB decrement from the reference level amplitude shown in the upper left-hand corner of the plot. Note that some of these plots utilize other than 10 dB per vertical division (graticule line). This was done to facilitate better resolution of the signals under examination. These plots are read the same way as described previously except that each vertical line may represent a deviation of 2, 3, or 5 dB from the reference level. The dB-per-division scale, applicable to each plot, is shown in the upper left-hand margin.

An important consideration in the interpretation of this data is the fact that the radiated spurious power captured by the measurement system is actually the sum of the ambient emissions already present and those spurious emissions introduced when the DUT is turned on. Since the emissions under consideration in this study are often very close to the ambient noise floor, the contribution of the noise floor to this sum can be significant. Within this study, if the difference between the measured ambient level and the corresponding radiated-plus-ambient level is 3 dB, then the DUT emission amplitude level is interpreted as being equivalent to the ambient level. Accordingly, if the difference between the DUT radiated-plus-ambient emission level and the corresponding ambient emission level is less than 3 dB, then the DUT emission level is interpreted as being less than the ambient level. Emissions that are more than 3 dB above the corresponding ambient level are attributed to spurious emissions from the DUT.

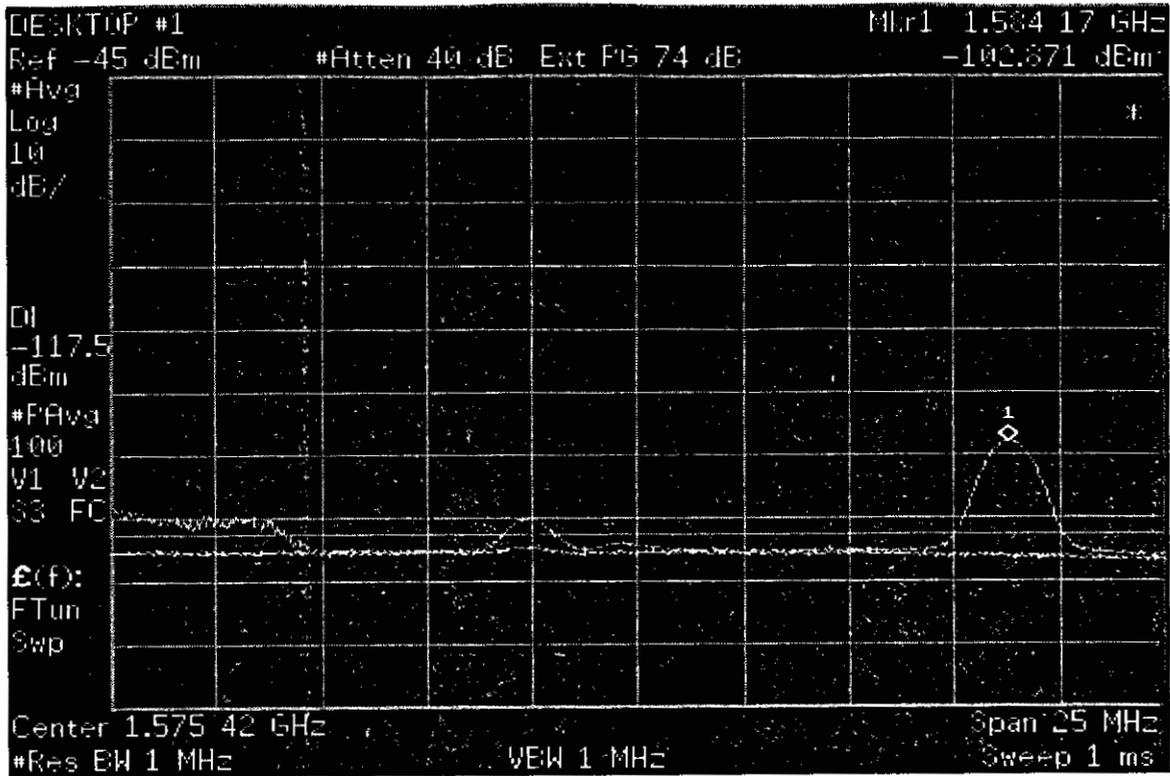


Figure E-119. Desktop Computer #1 Radiated Emissions in GPS L1 Frequency Band.

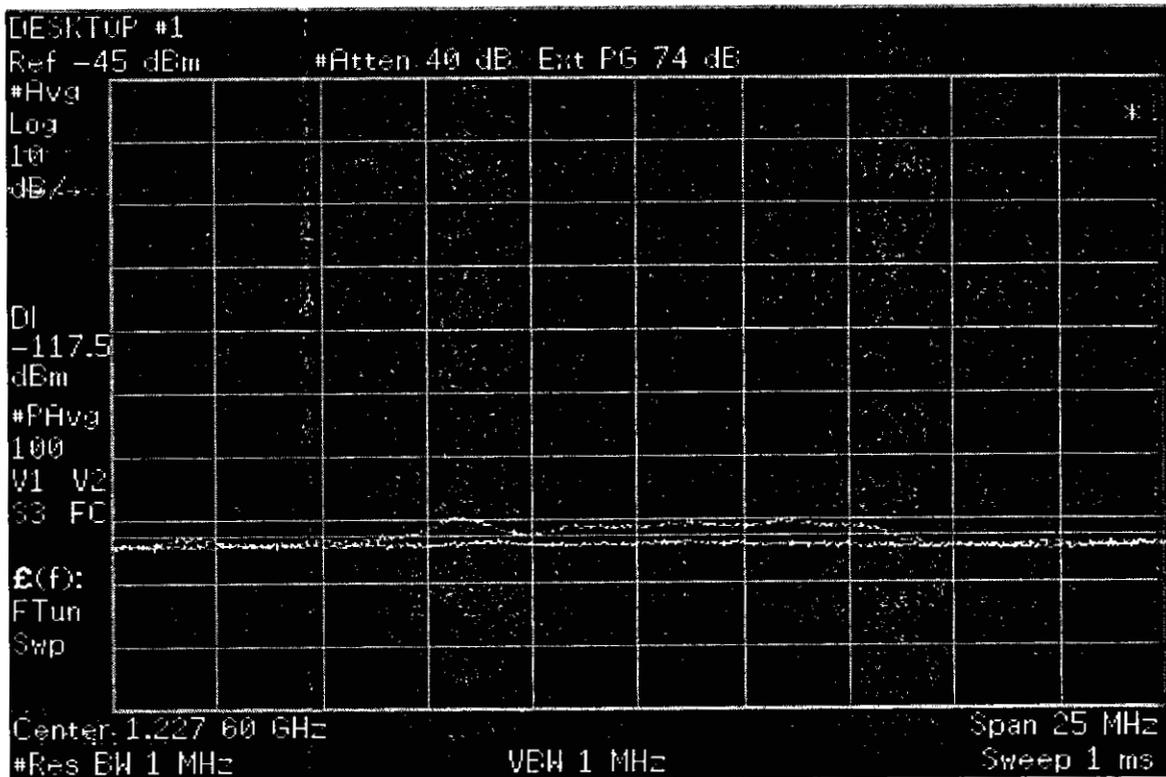


Figure E-120. Desktop Computer #1 Radiated Emissions in GPS L2 Frequency Band.

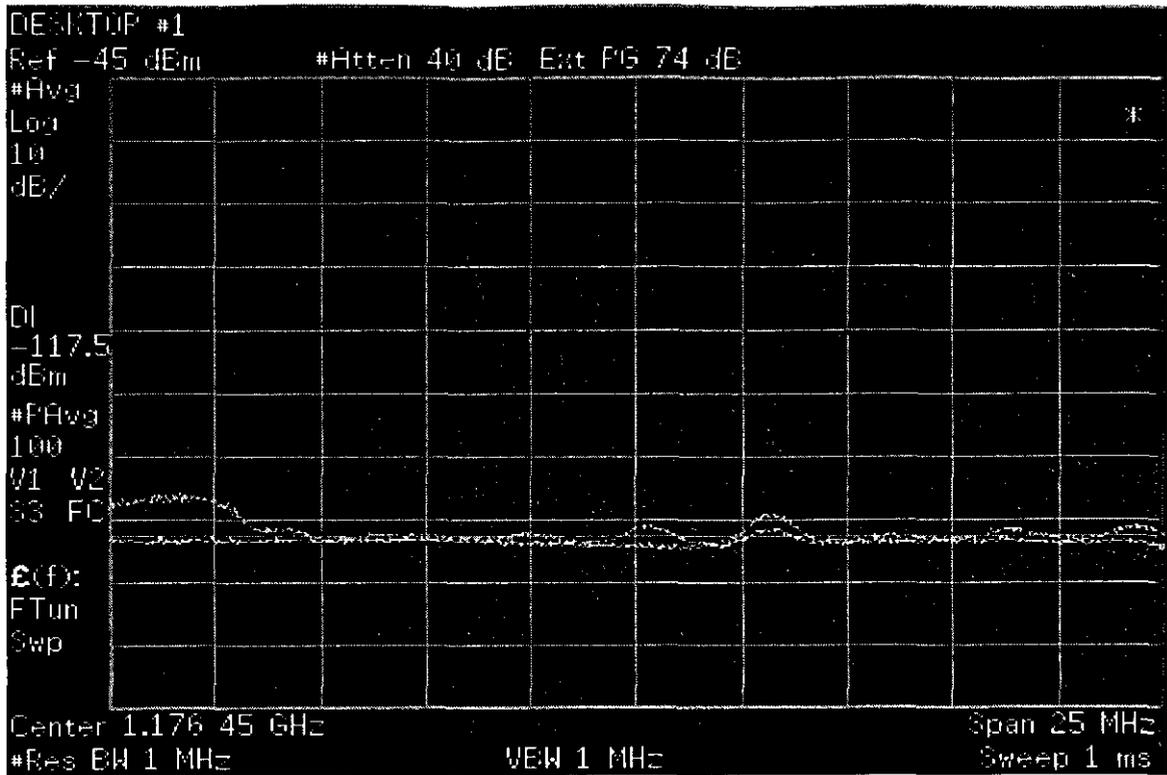


Figure E-121. Desktop Computer #1 Radiated Emissions in GPS L5 Frequency Band.

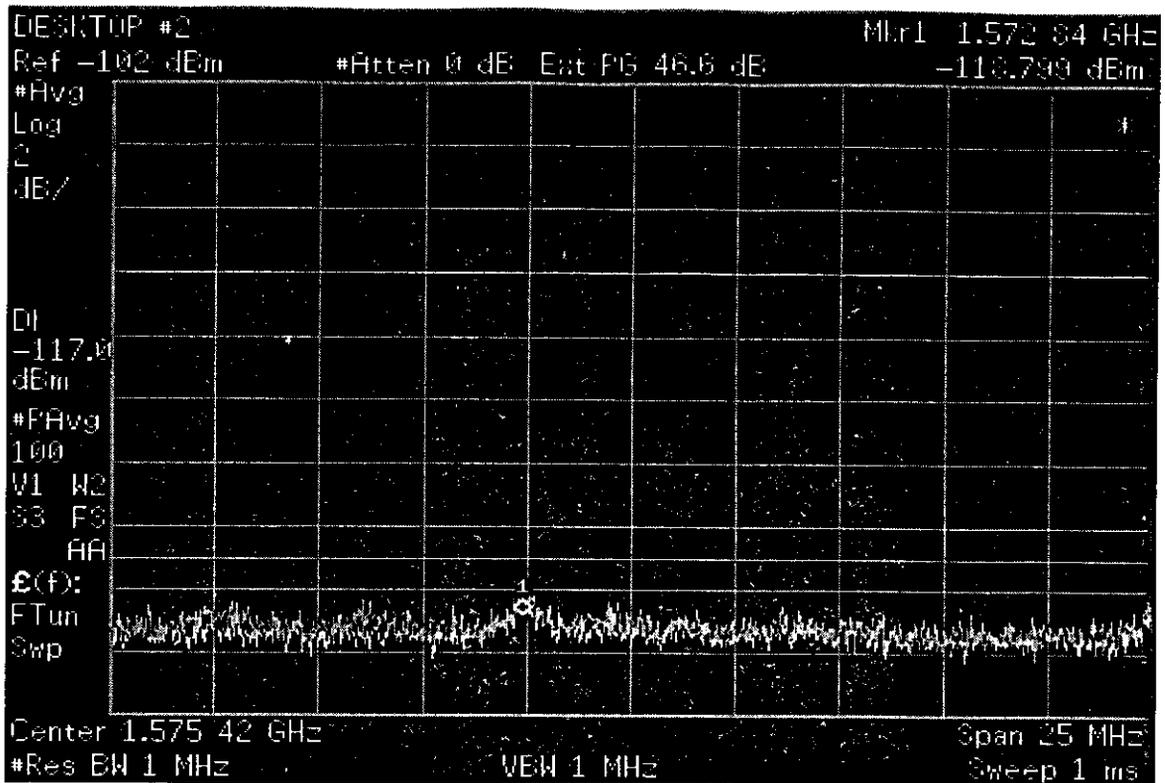


Figure E-122. Desktop Computer #2 Radiated Emissions in GPS L1 Frequency Band.

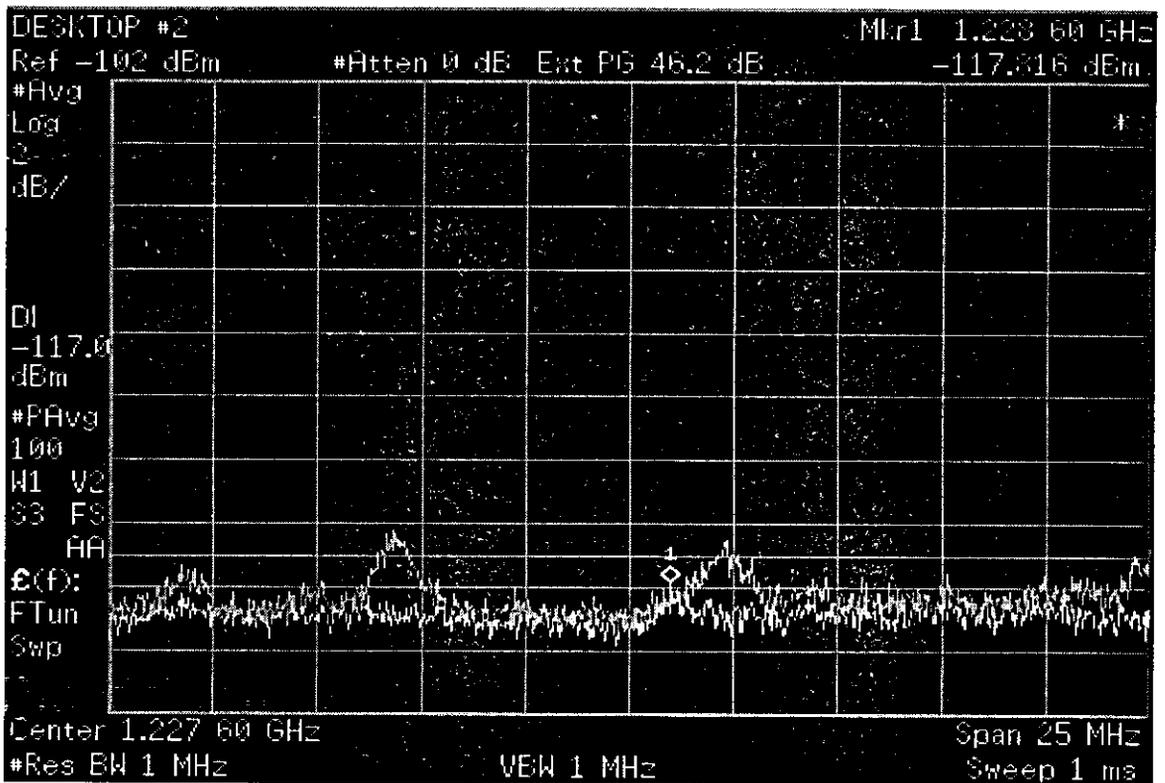


Figure E-123. Desktop Computer #2 Radiated Emissions in GPS L2 Frequency Band.

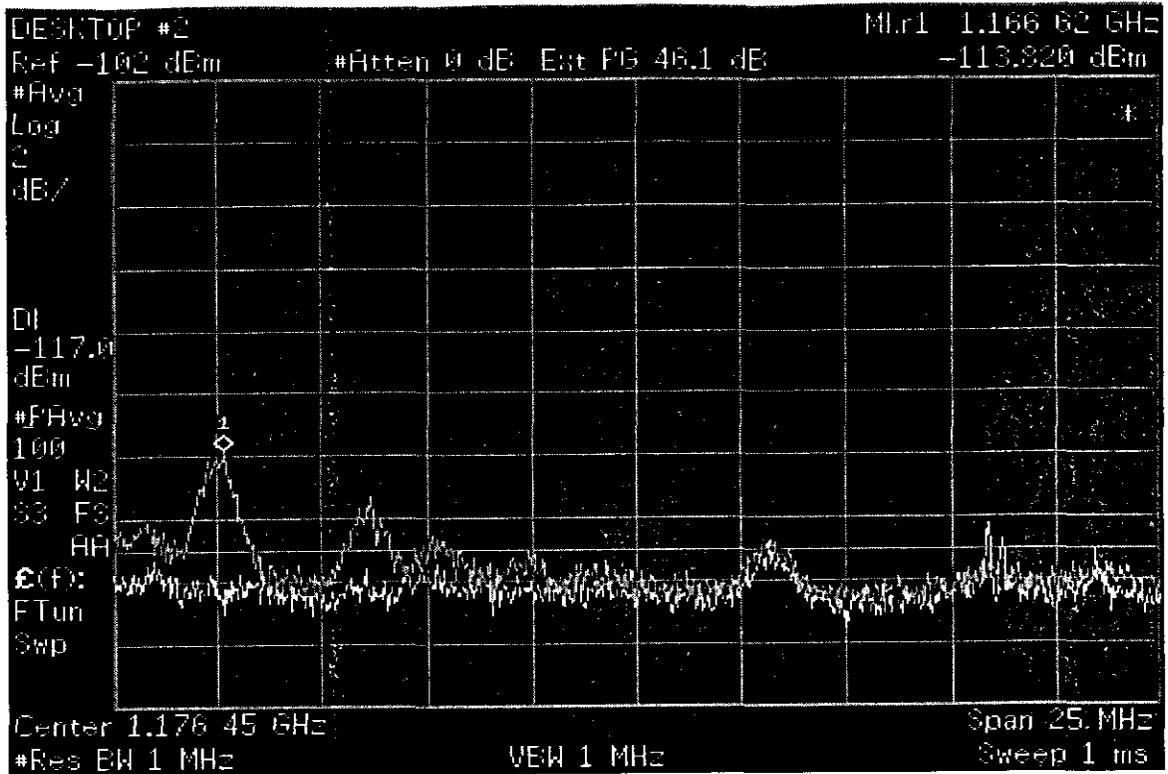


Figure E-124. Desktop Computer#2 Radiated Emissions in GPS LS Frequency Band.

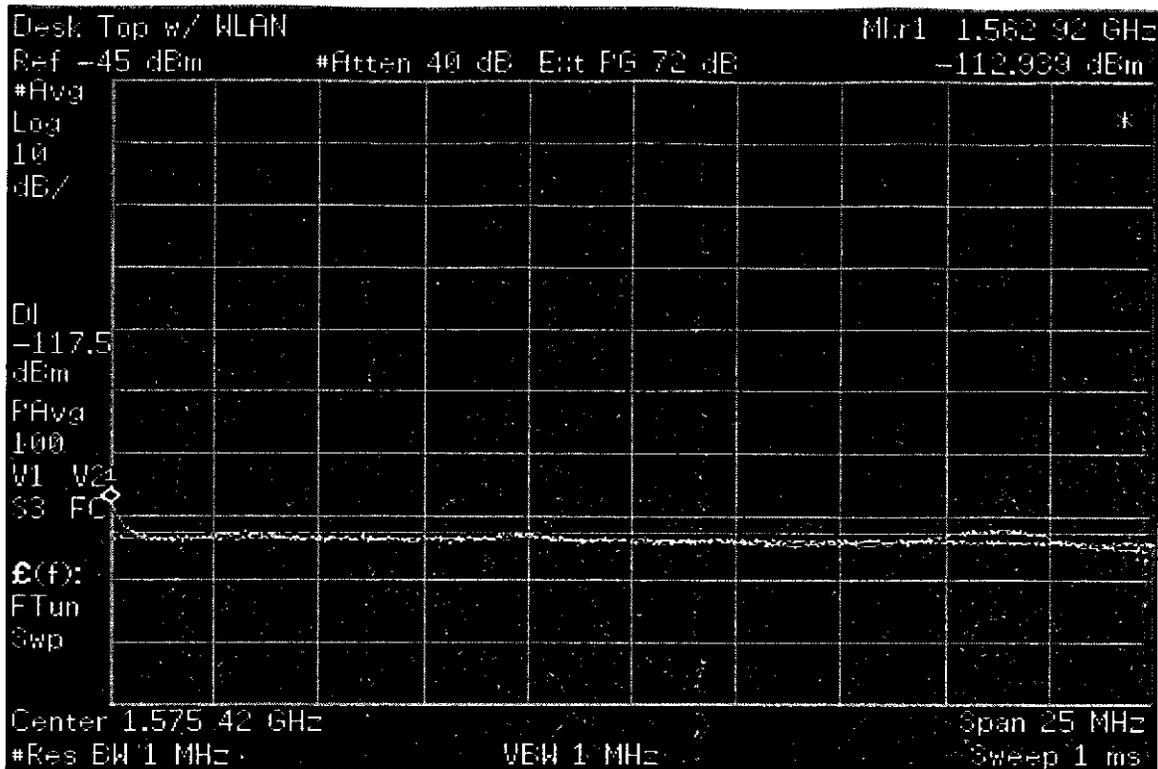


Figure E-125. Desktop Computer #3 Radiated Emissions in GPS L1 Frequency Band.

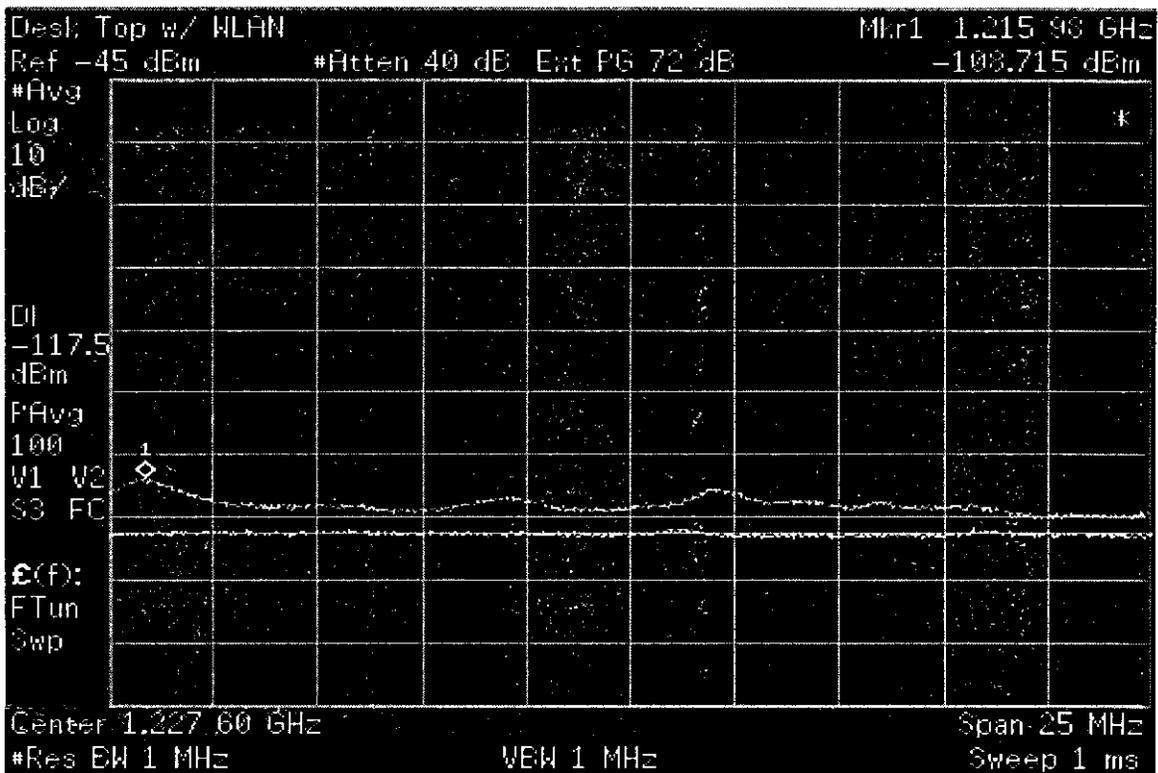


Figure E-126. Desktop Computer #3 Radiated Emissions in GPS L2 Frequency Band.

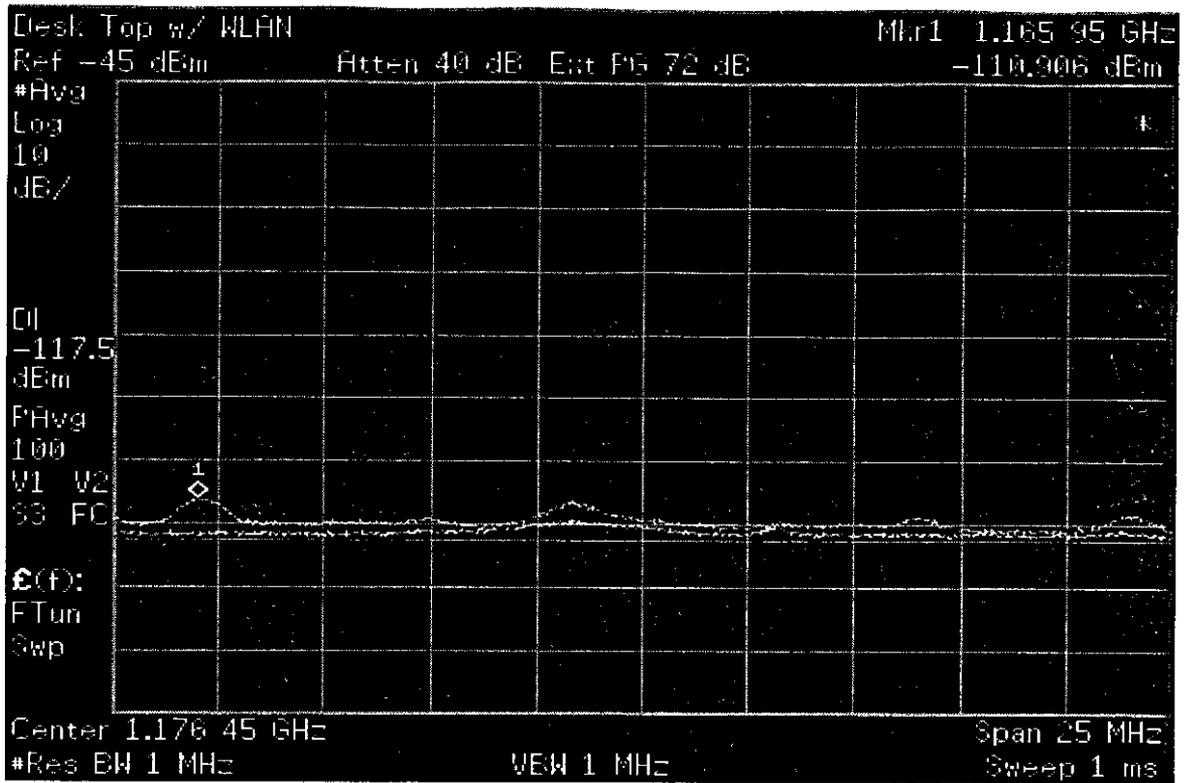


Figure E-127. Desktop Computer #3 Radiated Emissions in GPS L5 Frequency Band.

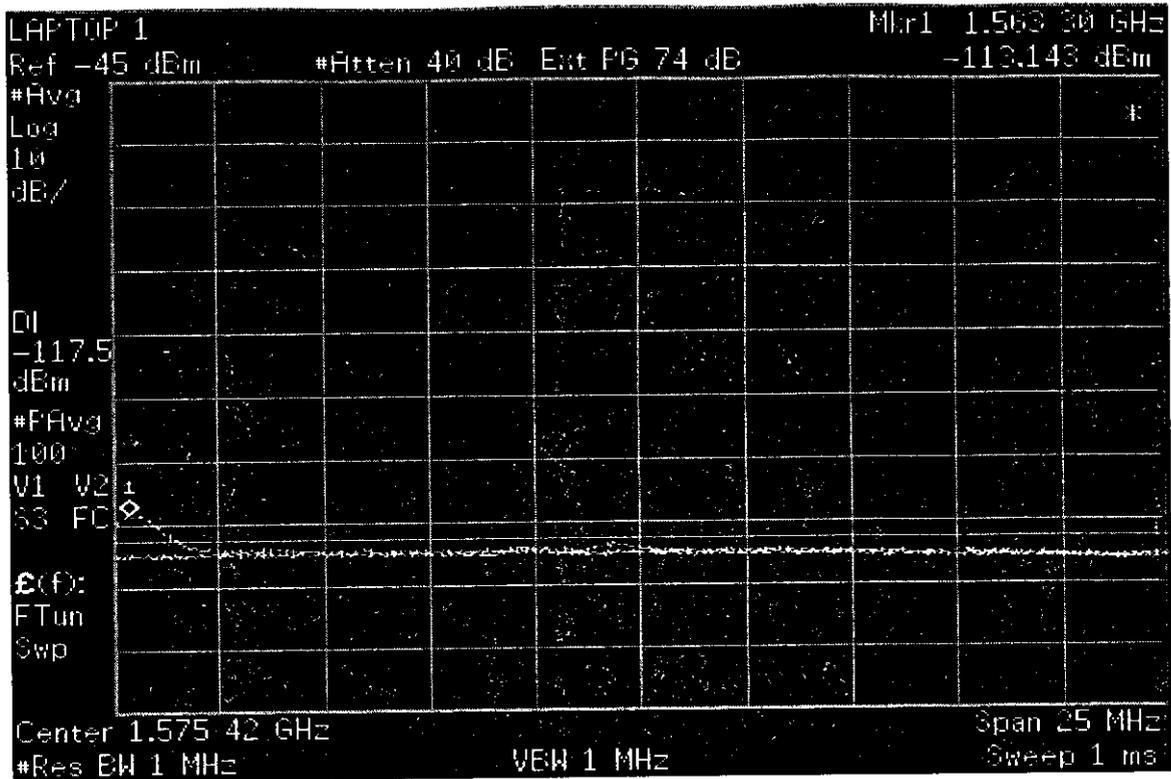


Figure E-128. Laptop Computer #1 Radiated Emissions in GPS L1 Frequency Band.

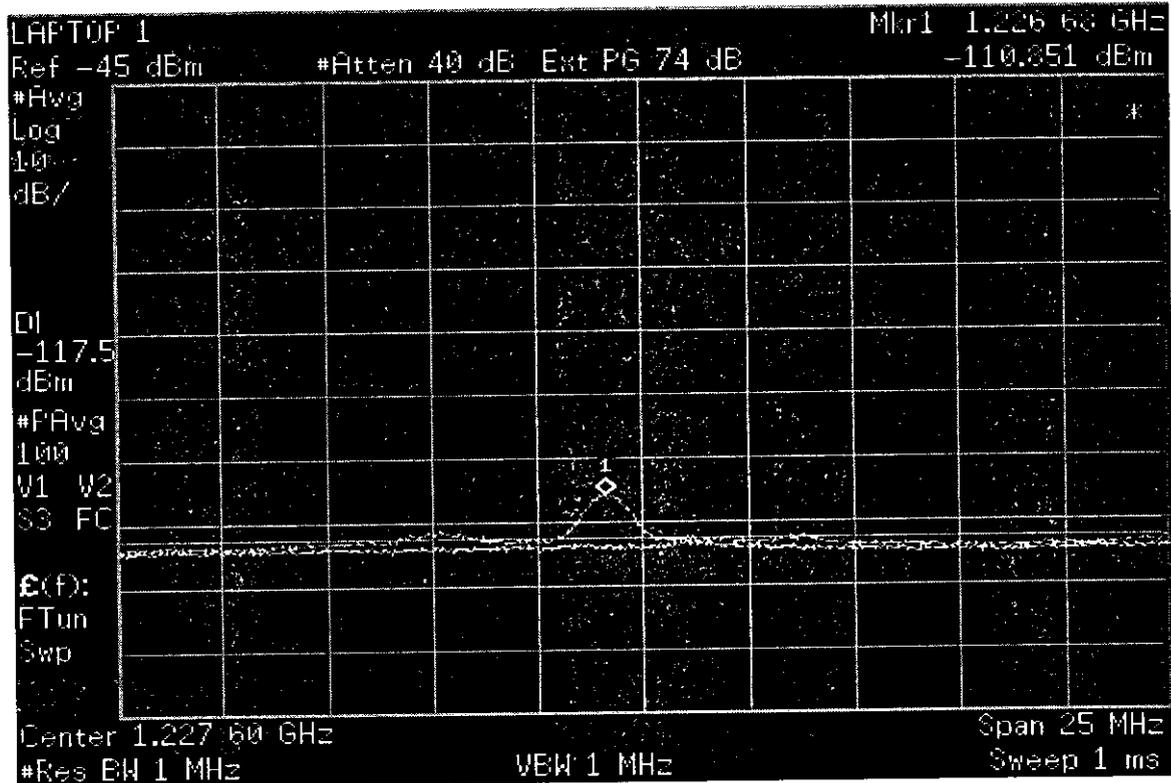


Figure E-129. Laptop Computer #1 Radiated Emissions in GPS L2 Frequency Band.

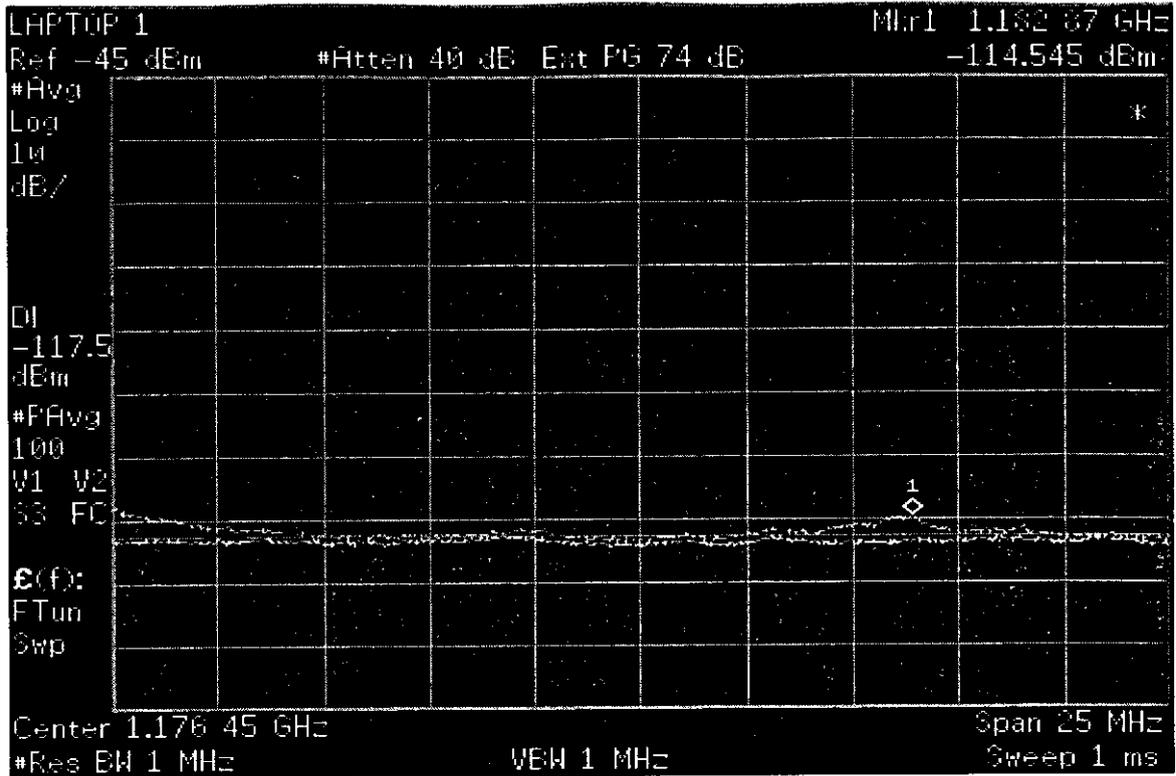


Figure E-130. Laptop Computer #1 Radiated Emissions in GPS L5 Frequency Band.

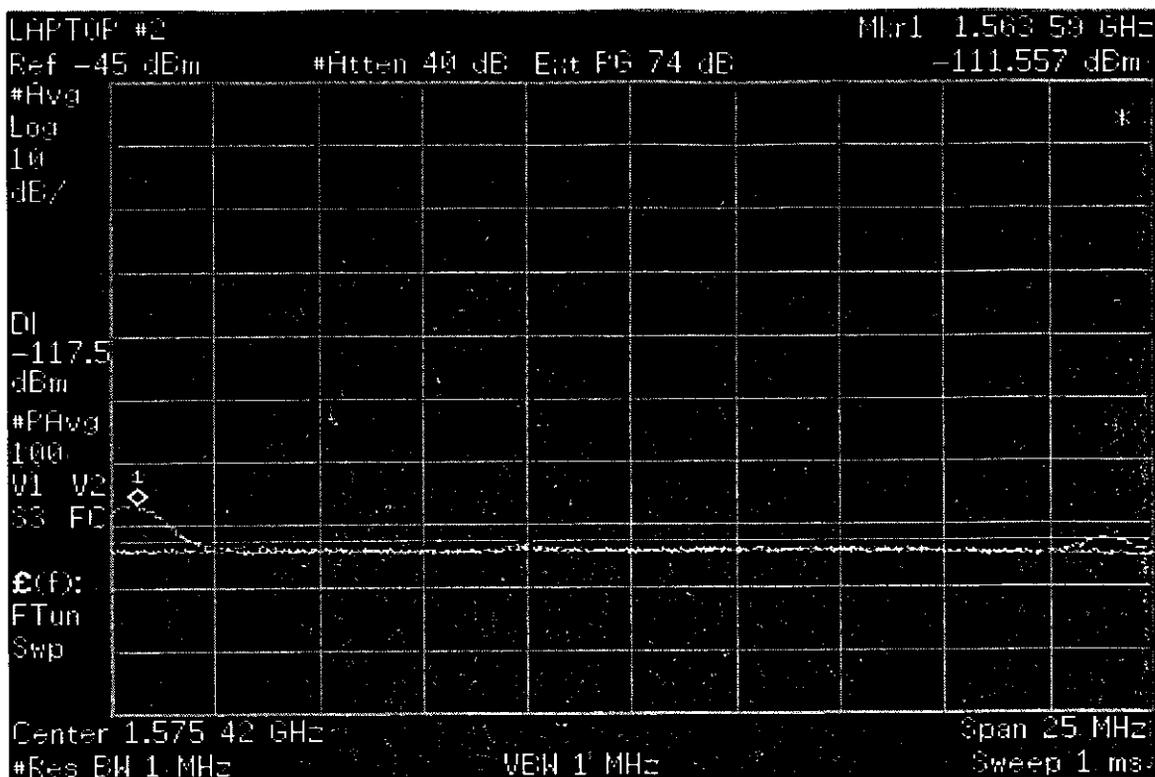


Figure E-131. Laptop Computer #2 Radiated Emissions in GPS L1 Frequency Band.

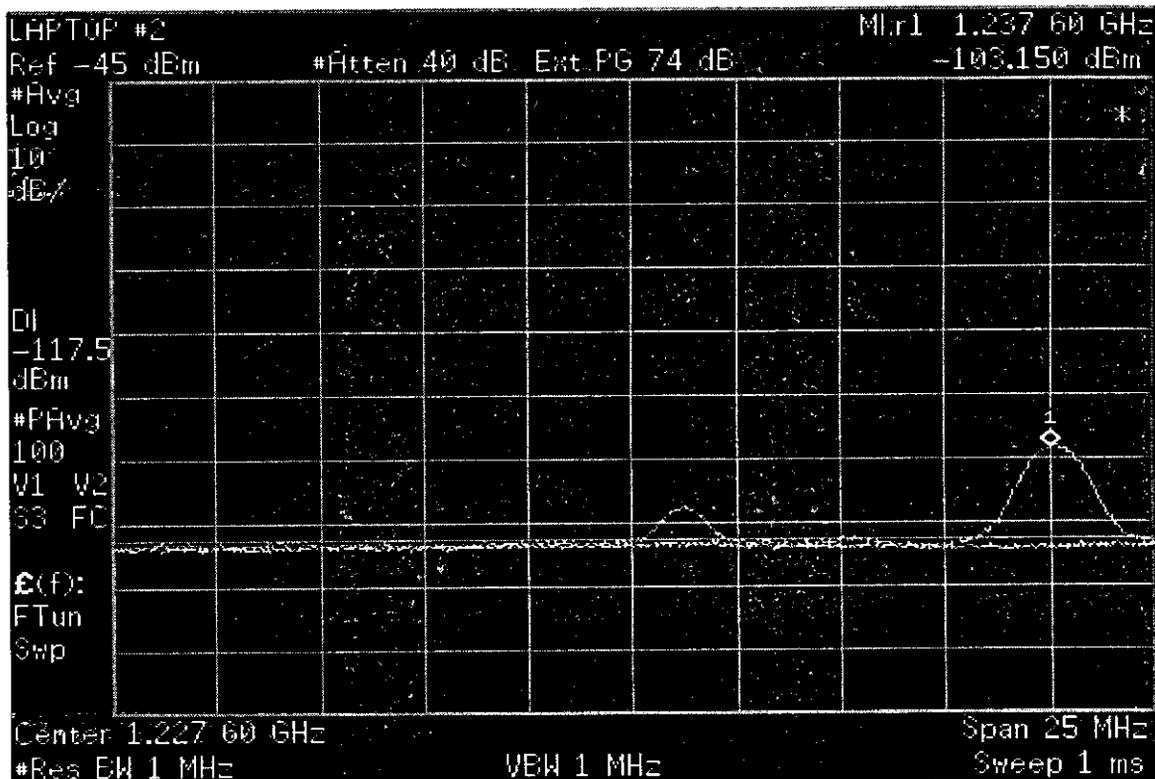


Figure E-132. Laptop Computer #2 Radiated Emissions in GPS L2 Frequency Band.

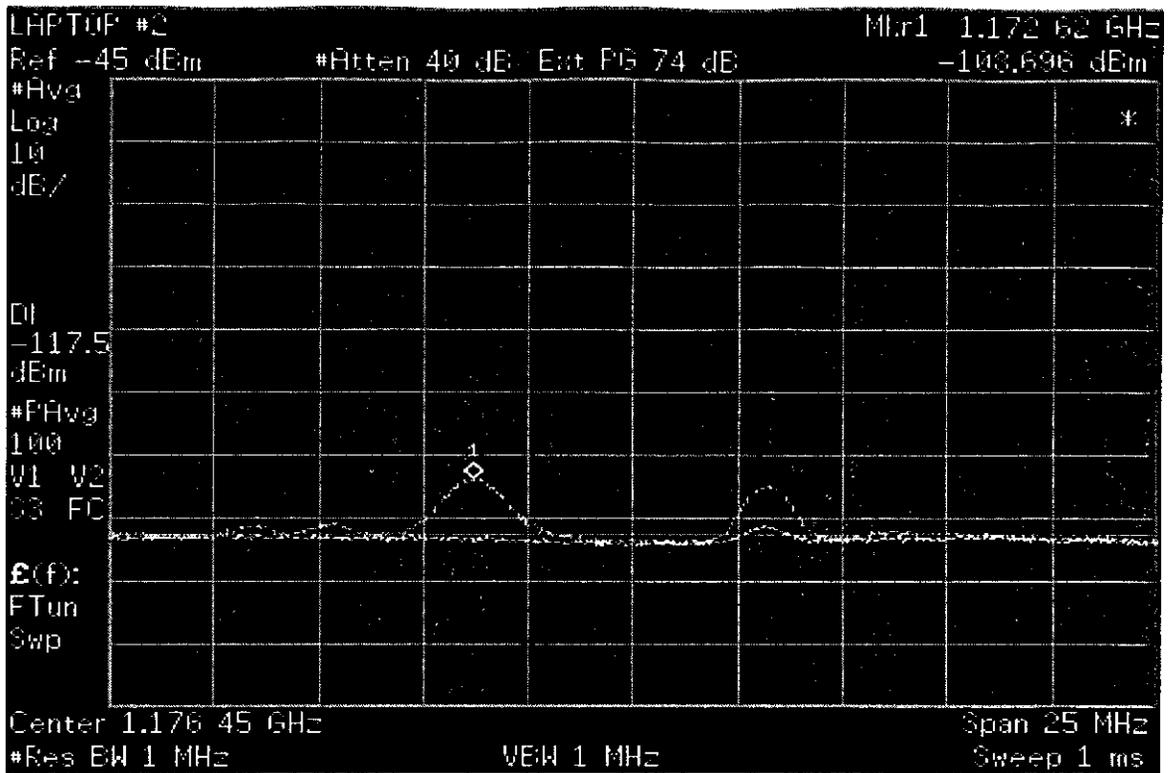


Figure E-133. Laptop Computer #2 Radiated Emissions in GPS L5 Frequency Band.

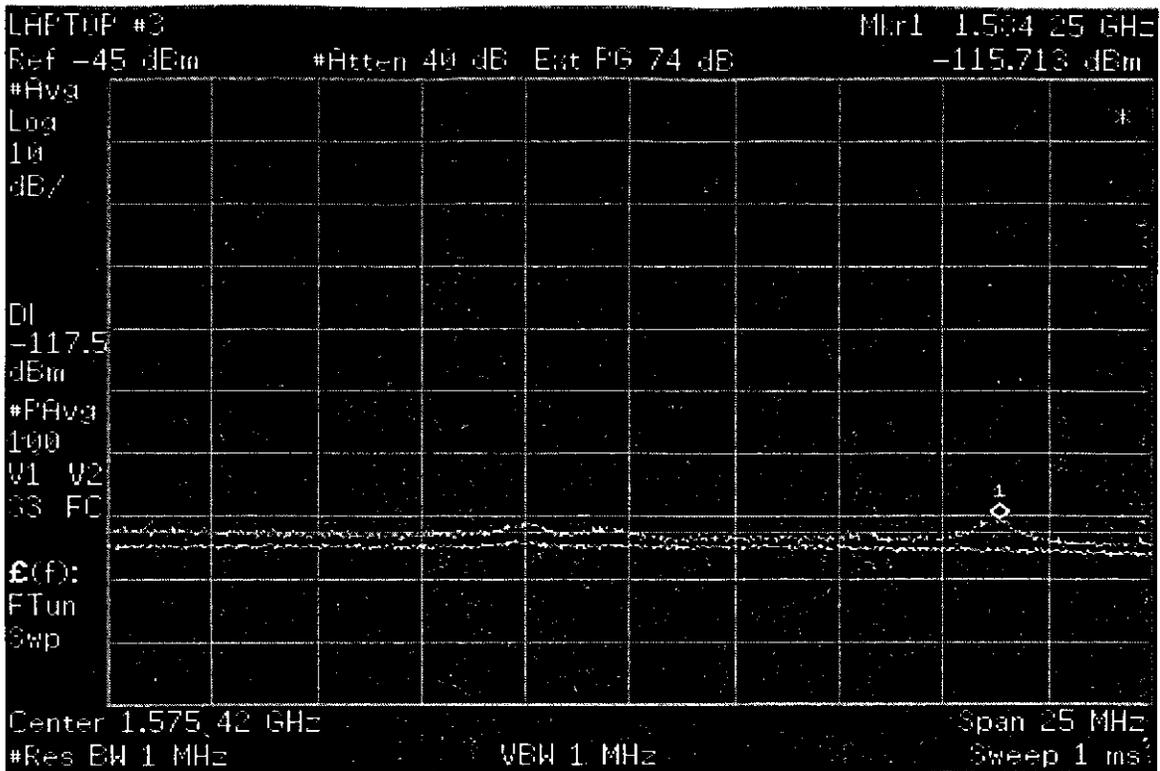


Figure E-134. Laptop Computer #3 Radiated Emissions in GPS L1 Frequency Band.

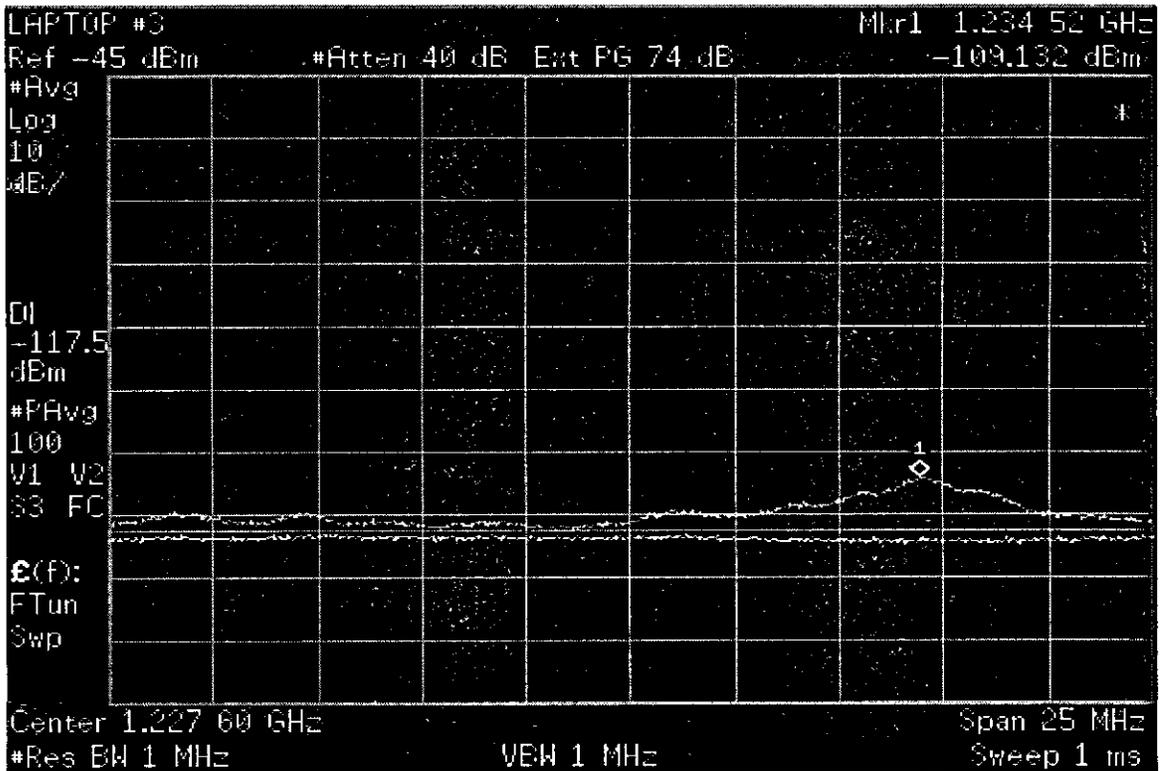


Figure E-135. Laptop Computer #3 Radiated Emissions in GPS L1 Frequency Band.

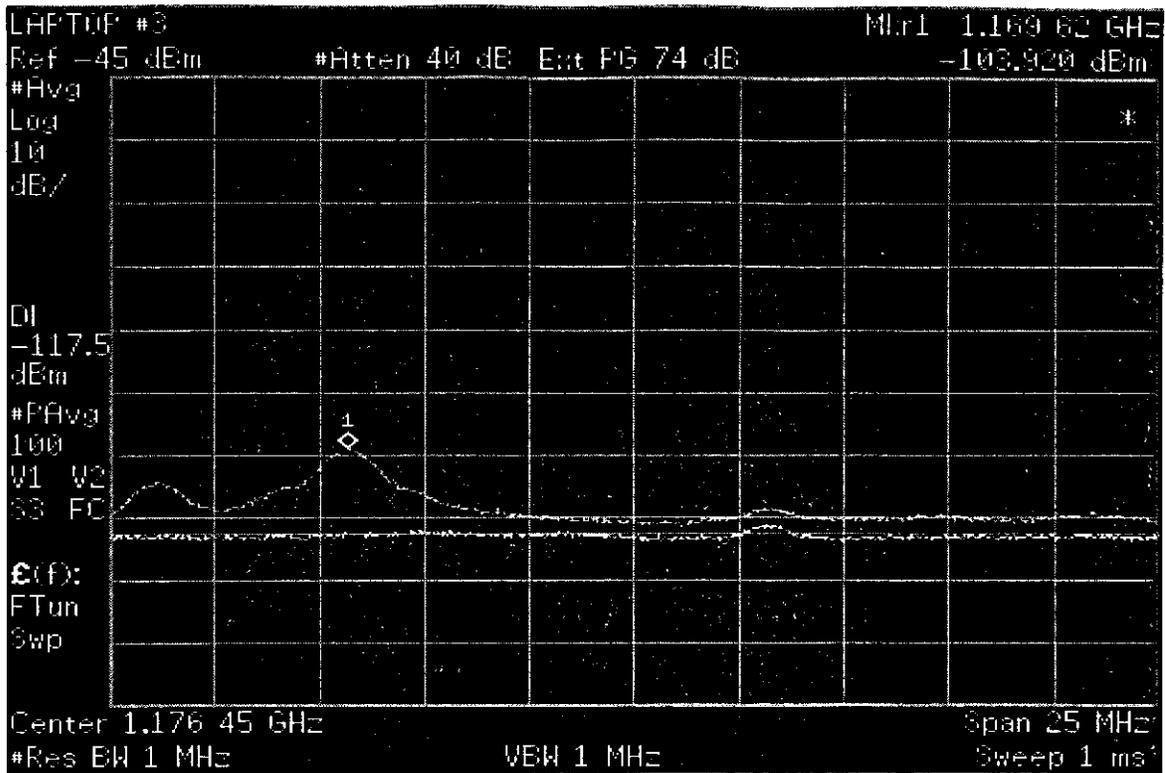


Figure E-136. Laptop Computer#3 Radiated Emissions in GPS L5 Frequency Band.

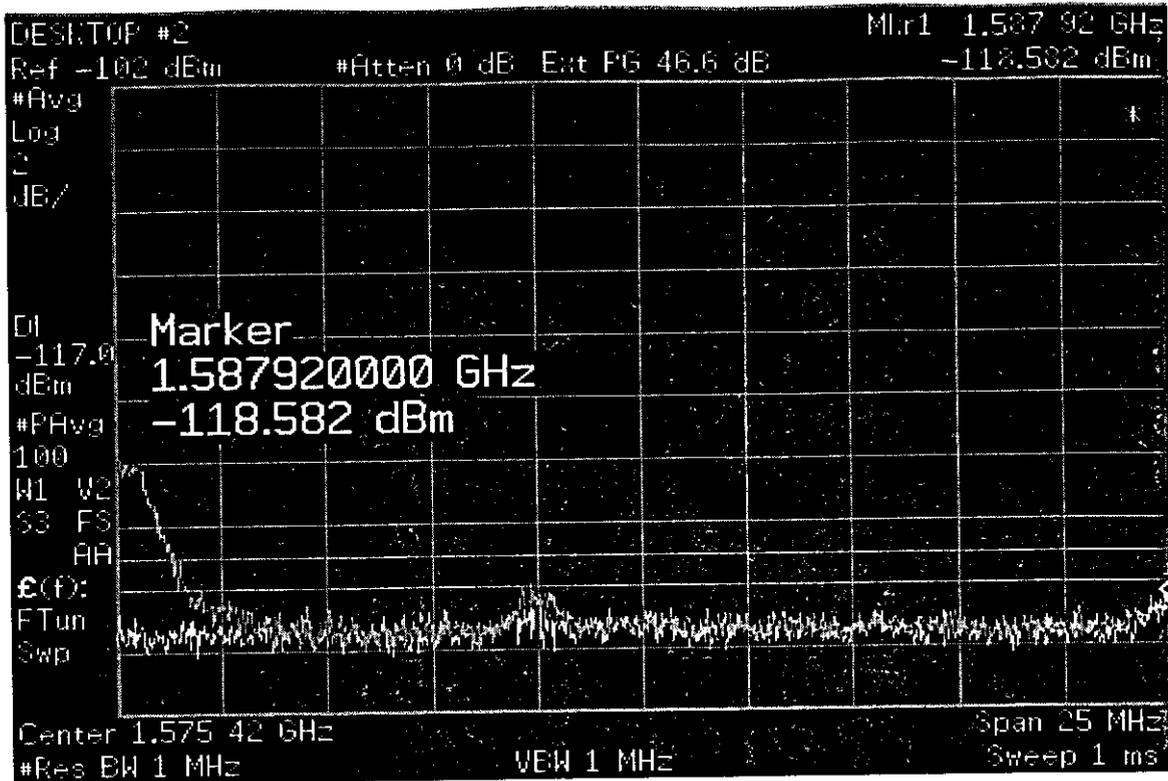


Figure E-137. Laptop Computer #4 Radiated Emissions in GPS L1 Frequency Band.

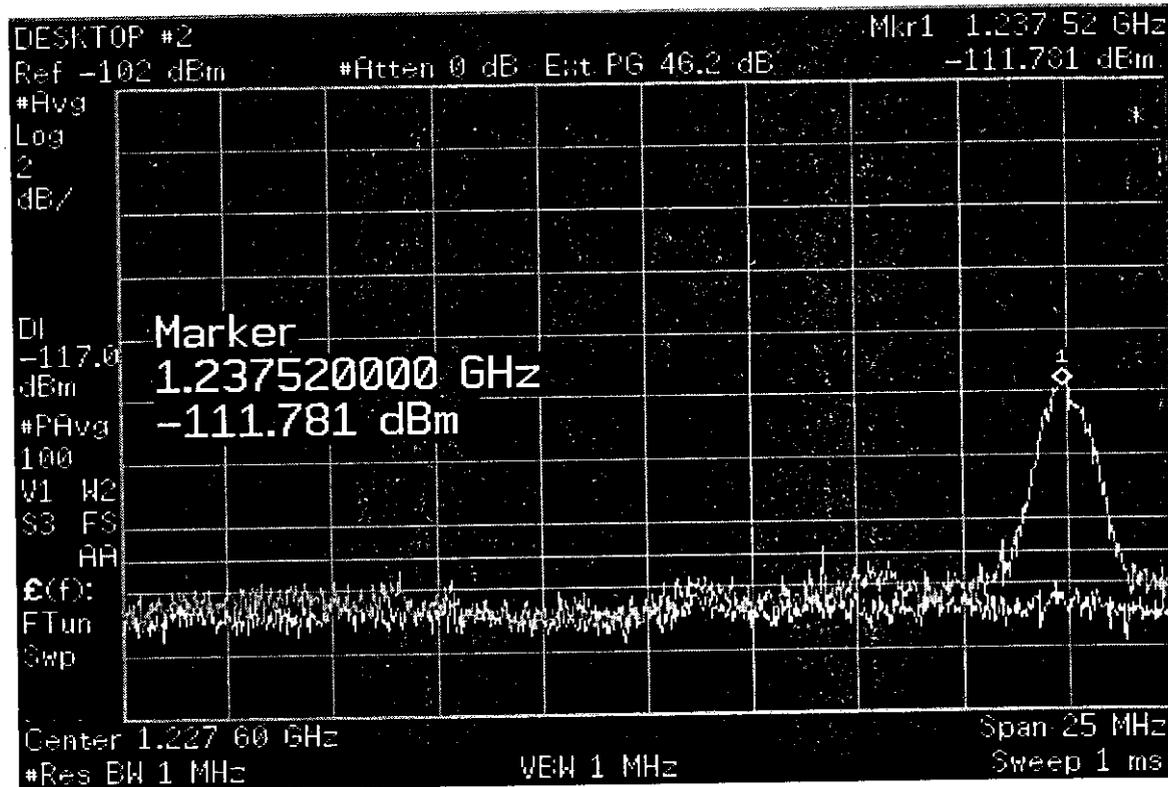


Figure E-138. Laptop Computer #4 Radiated Emissions in GPS L2 Frequency Band.

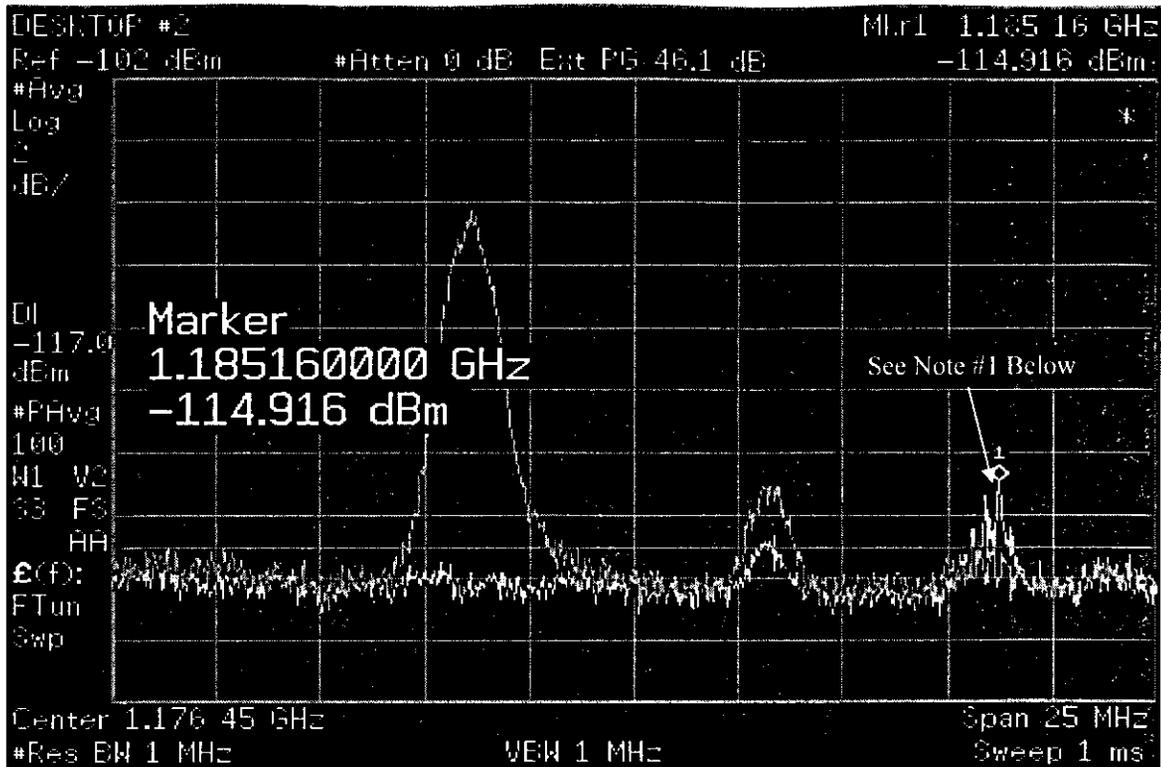


Figure E-139. Laptop Computer #4 Radiated Emissions in GPS L5 Frequency Band.

Note #1: In this spectral plot, the ambient or background emission level is shown as greater than the sum of the radiated emissions and the background emissions in the highlighted frequency range. Although this apparent inconsistency was not thoroughly examined, the most likely explanation is as follows: the background measurement and the radiated measurements were performed sequentially rather than simultaneously. The ambient emission was higher when the background measurement was performed than it was when the radiated measurement was made. This can be attributed to one or more of the following phenomena. An antenna rotation associated with the ambient transmitter (e.g., transmit antenna was pointed in the direction of the test facility when the background measurement was made, but pointed away during the radiated emissions measurement) or fading due to the occurrence of multi-path signal arrival at the measurement antenna.

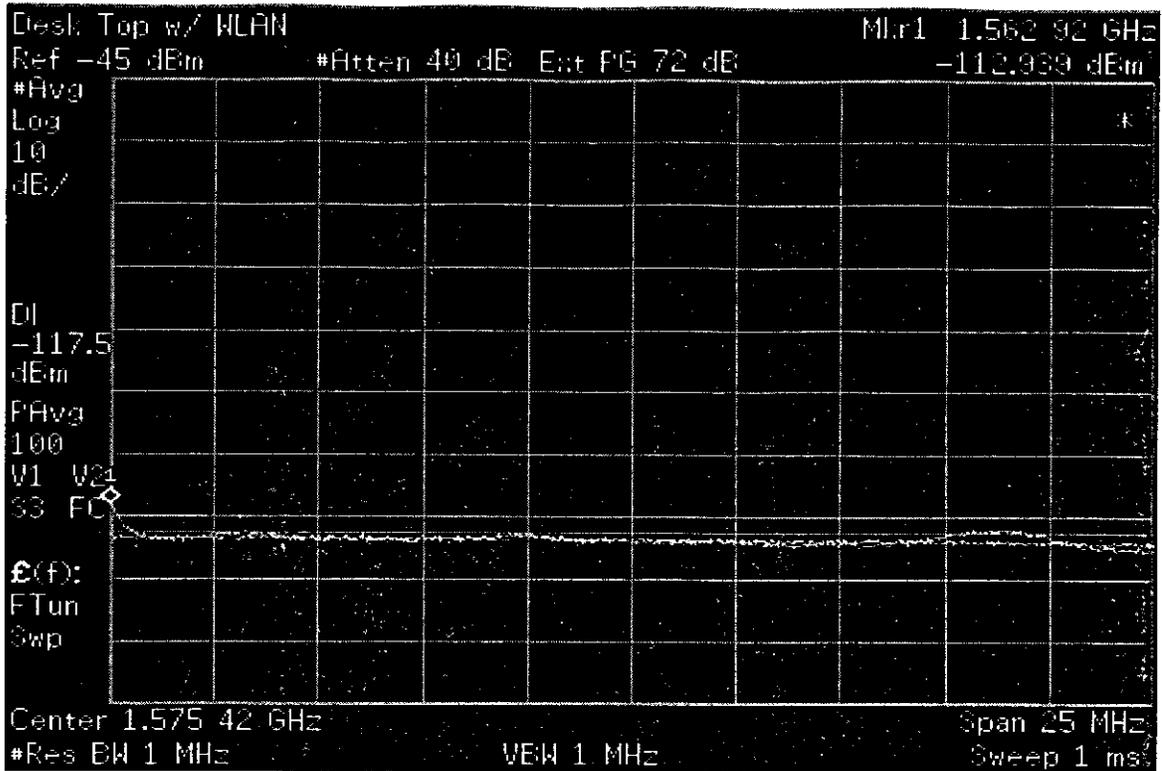


Figure E-140. Personal Digital Assistant (PDA) Radiated Emissions in GPS L1 Frequency Band.

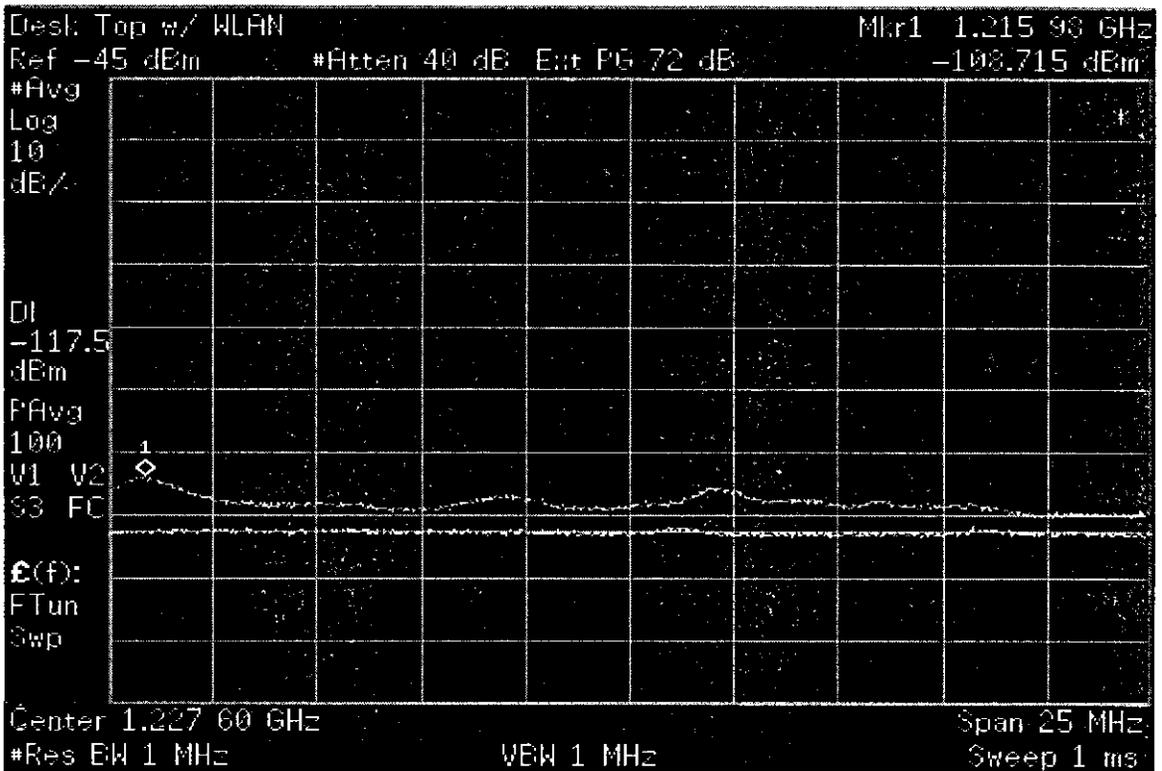


Figure E-141. Personal Digital Assistant (PDA) Radiated Emissions in GPS L2 Frequency Band.

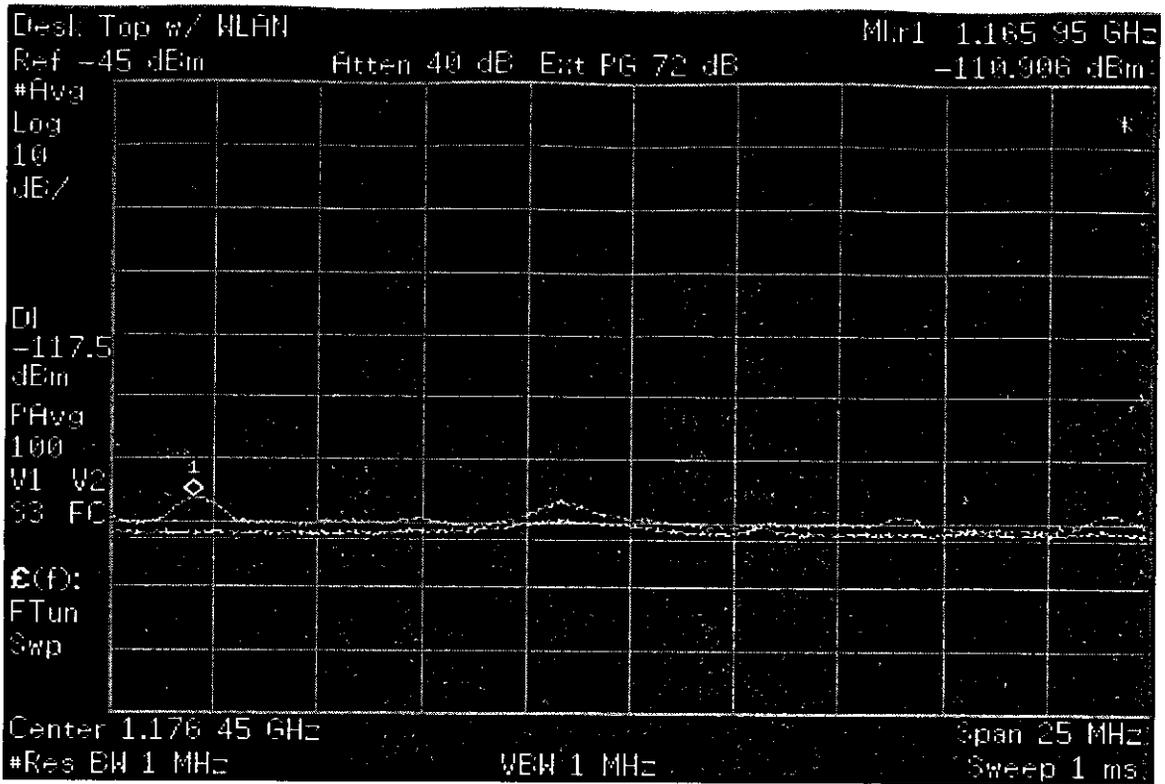


Figure E-142. Personal Digital Assistant (PDA) Radiated Emissions in CPS L5 Frequency Band.

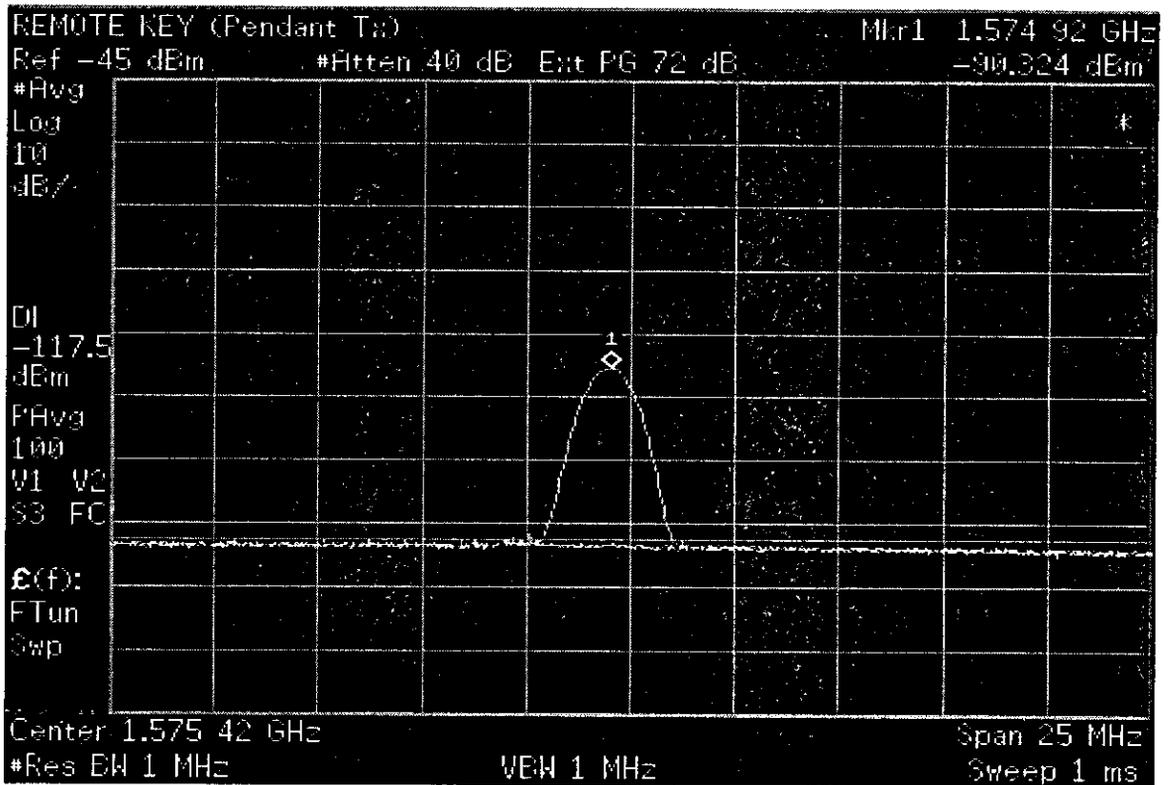


Figure E-143. Pendant Transmitter Radiated Emissions in CPS L1 Frequency Band.

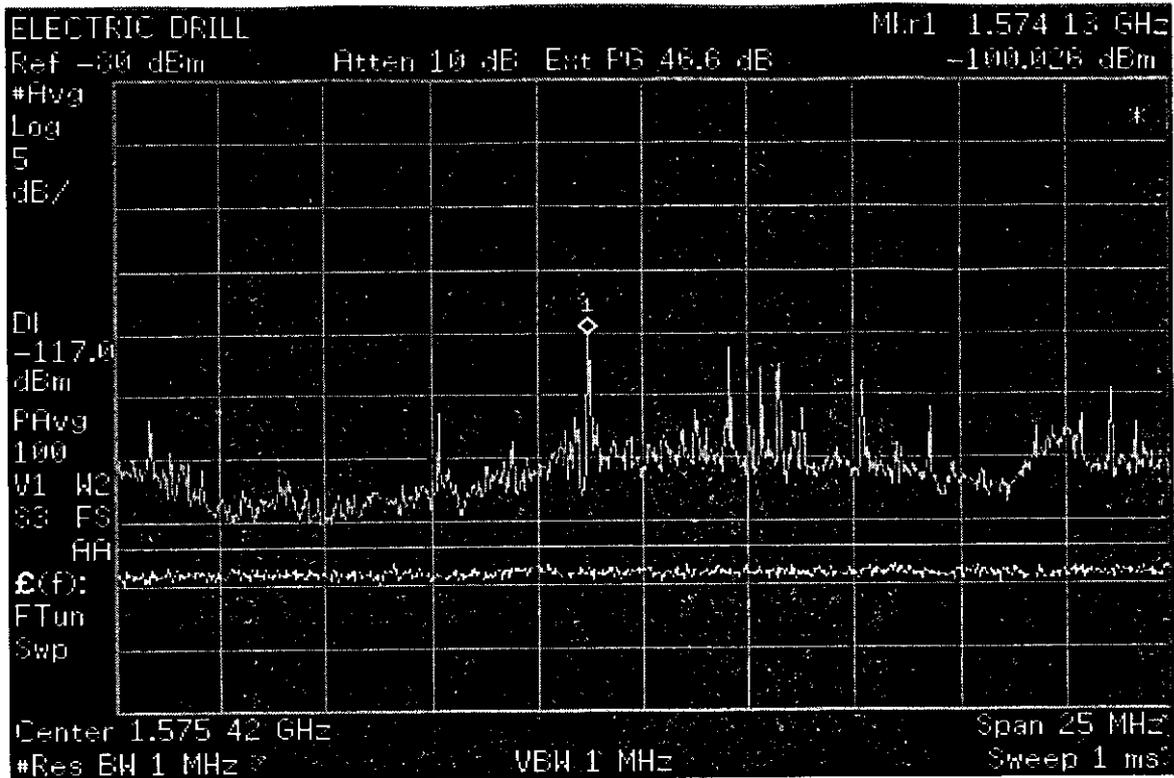


Figure E-144. Electric Drill #1 Radiated Emissions in GPS L1 Frequency Band.

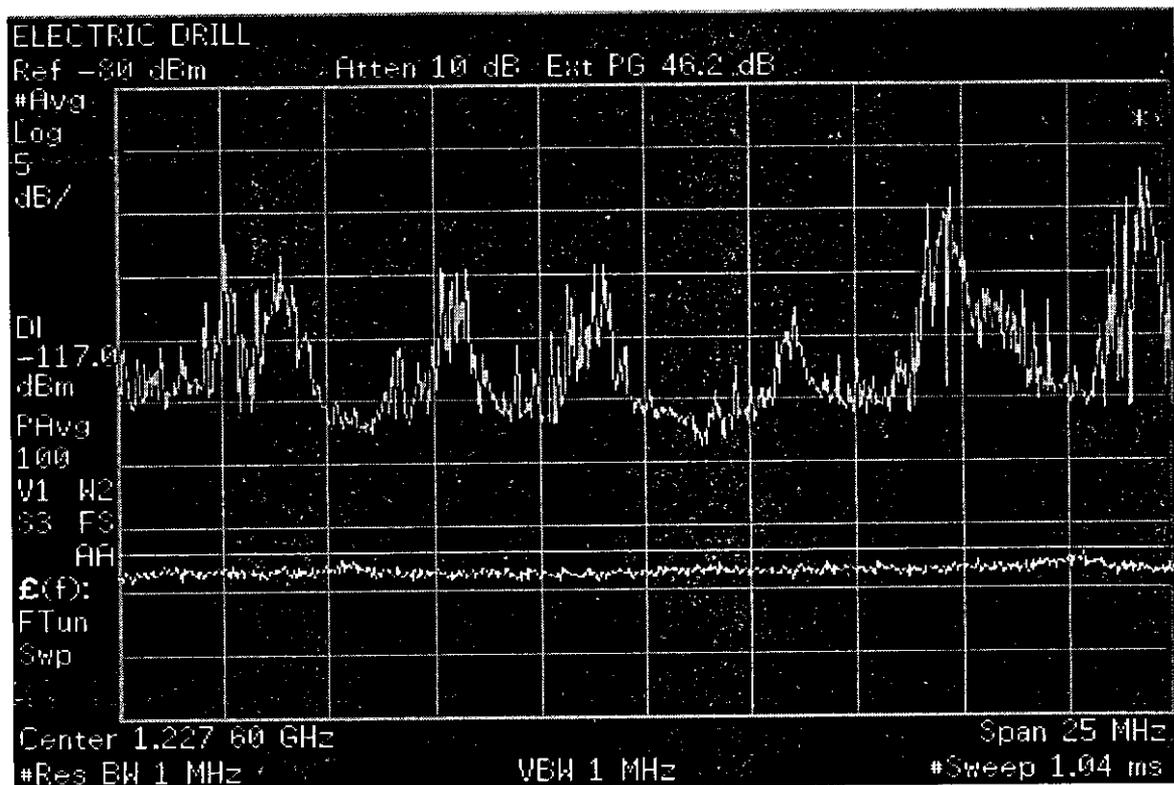


Figure E-145. Electric Drill #1 Radiated Emissions in GPS L2 Frequency Band.

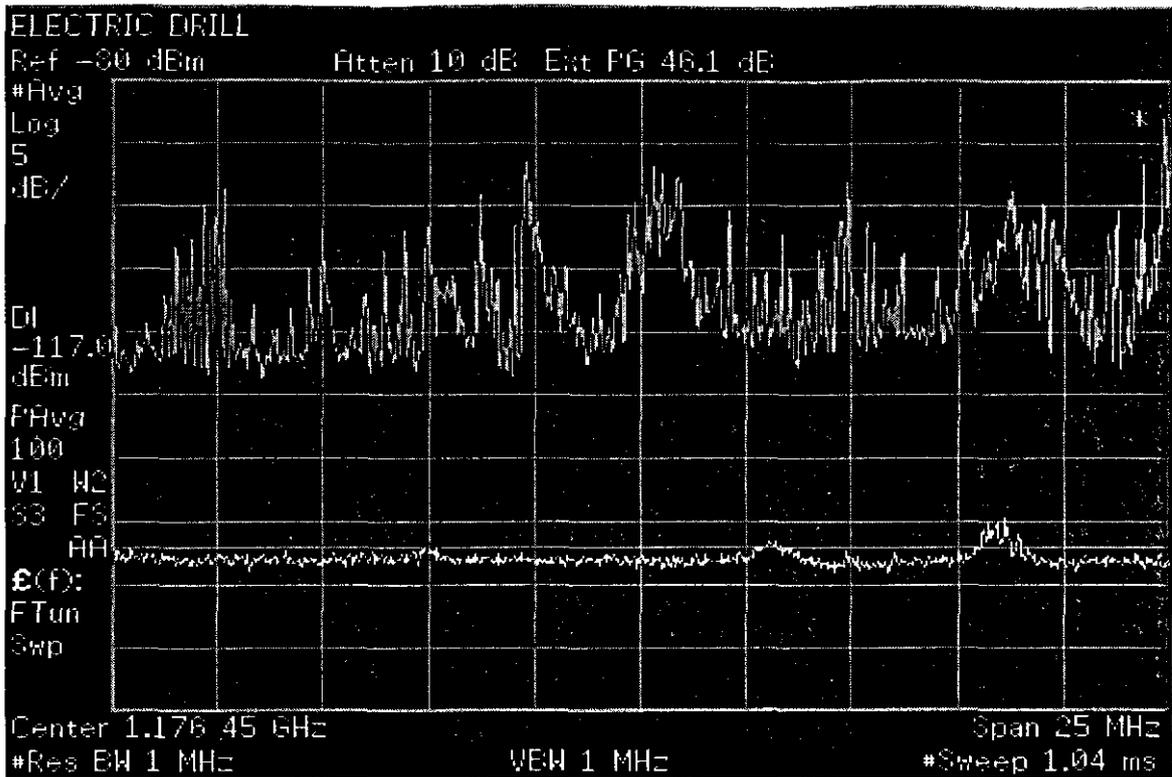


Figure E-146. Electric Drill #1 Radiated Emissions in GPS L5 Frequency Band.

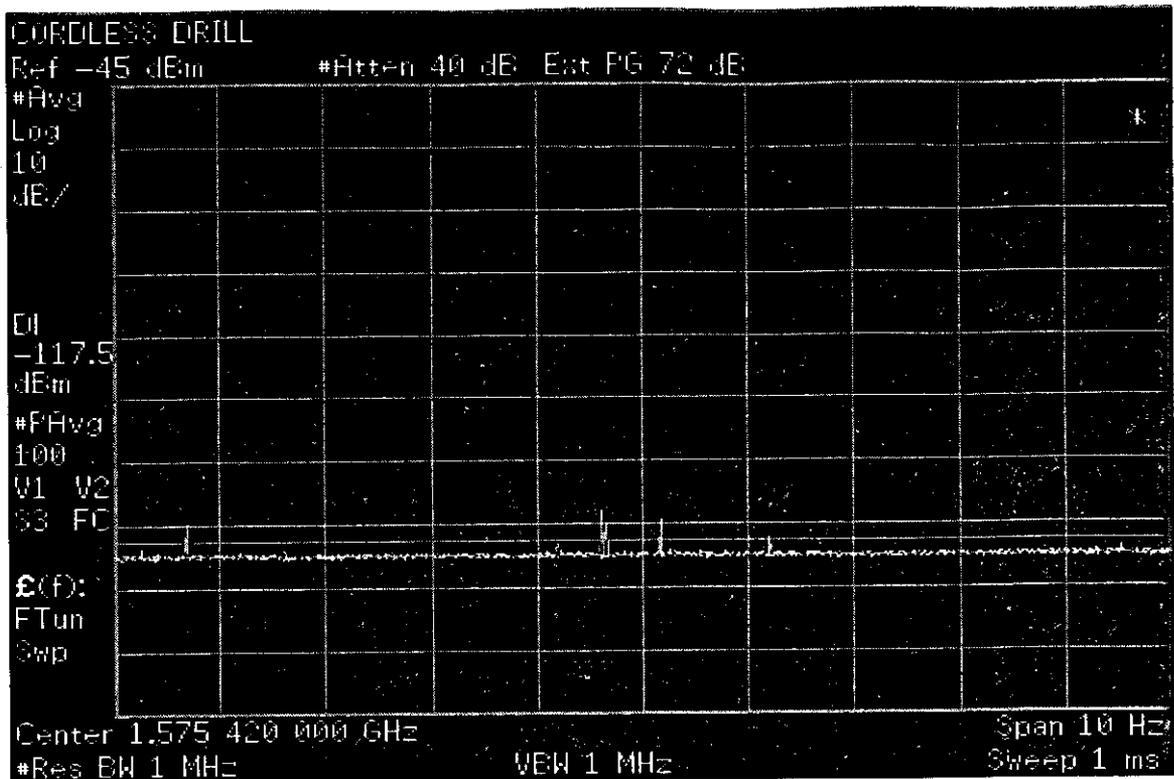


Figure E-147. Electric Drill #2 Radiated Emissions in GPS L1 Frequency Band.

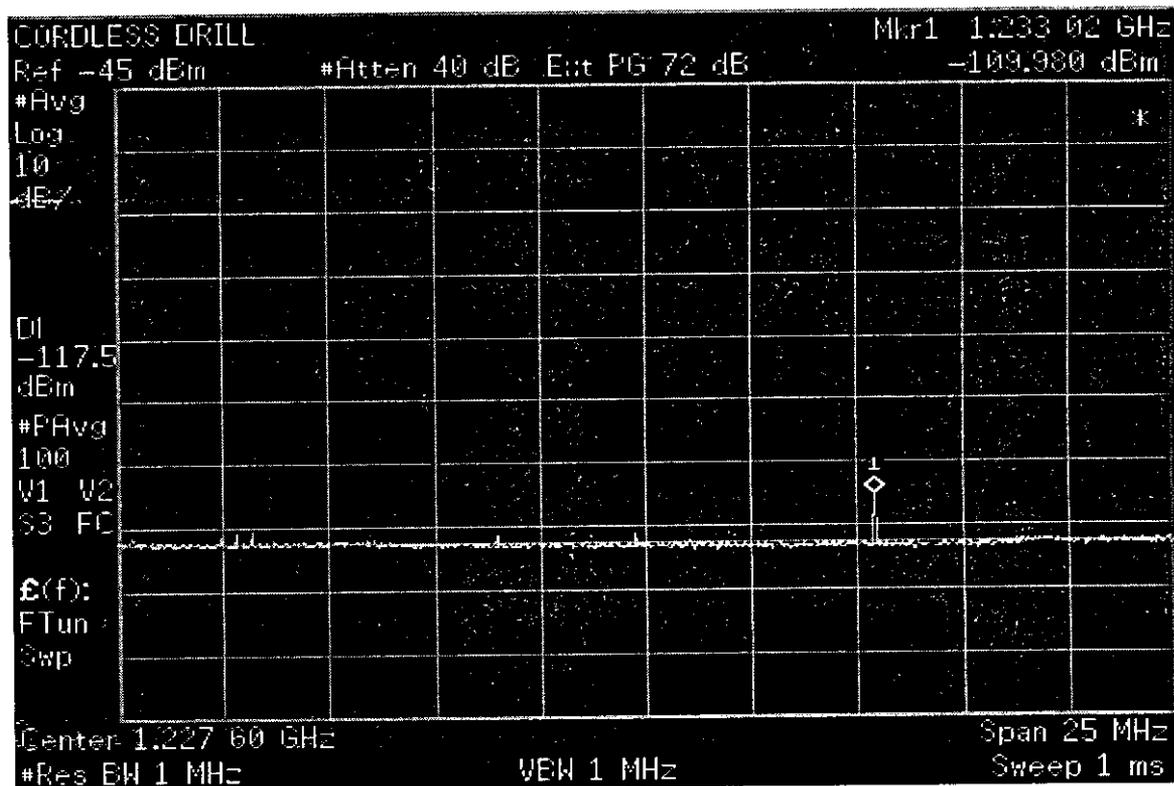


Figure E-148. Electric Drill #2 Radiated Emissions in GPS L2 Frequency Band.

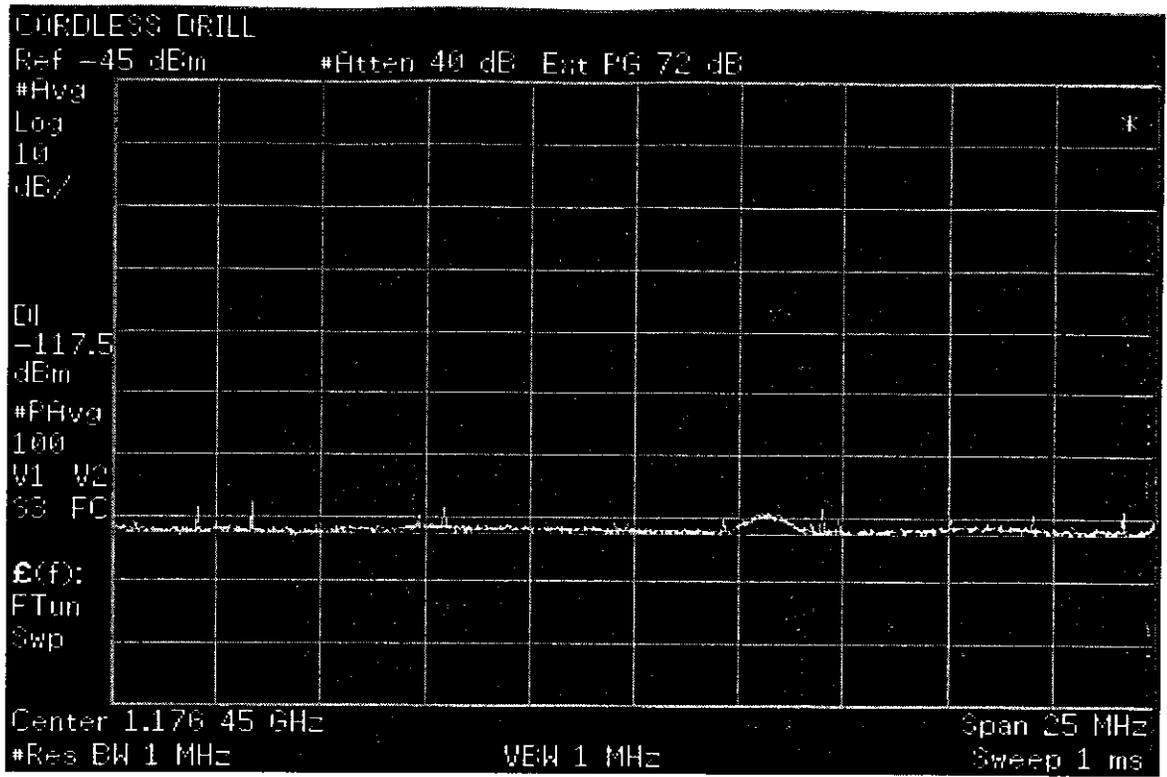


Figure E-149. Electric Drill #2 Radiated Emissions in GPS L5 Frequency Band.

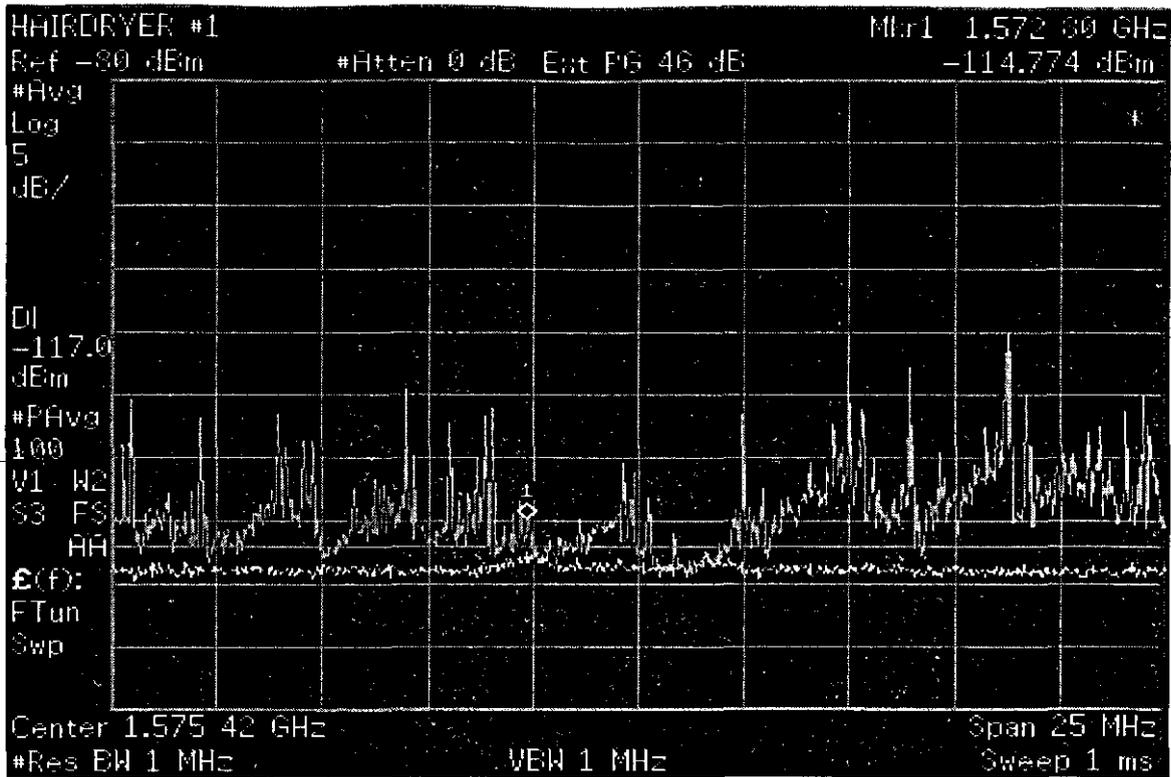


Figure E-150. Electric Hairdryer #1 Radiated Emissions in the GPS L1 Frequency Band.

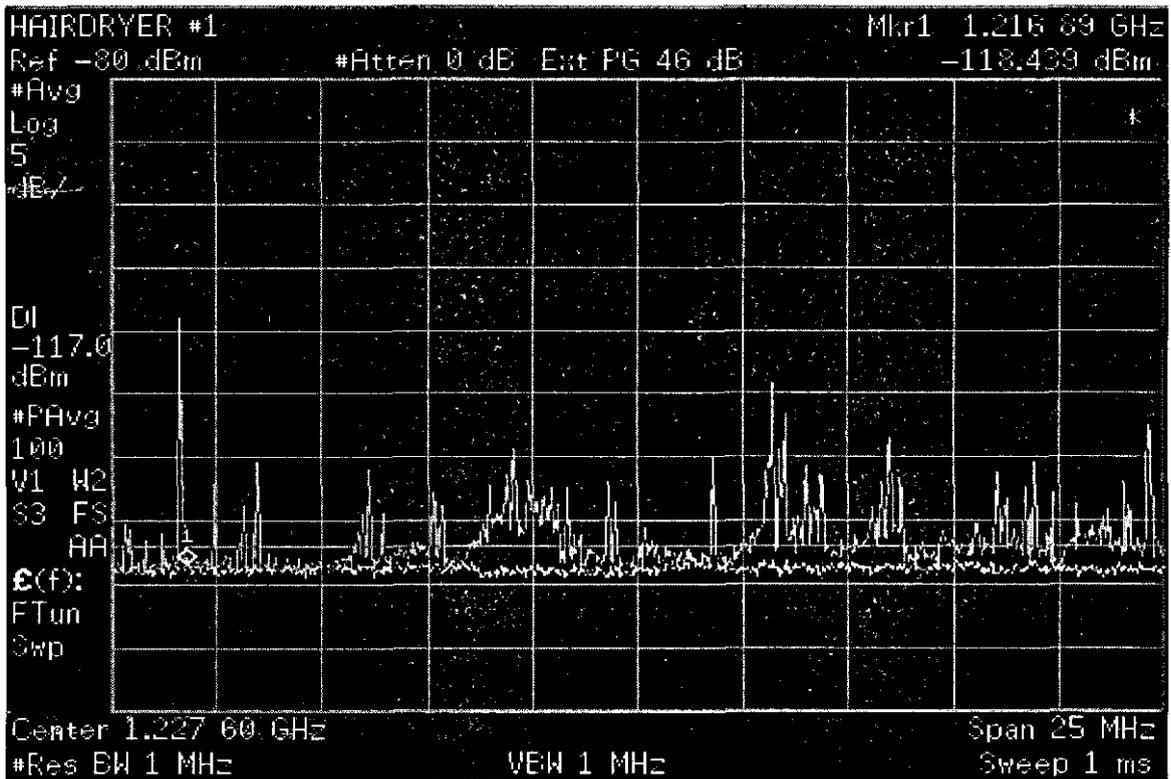


Figure E-151. Electric Hairdryer #1 Radiated Emissions in the GPS L2 Frequency Band.

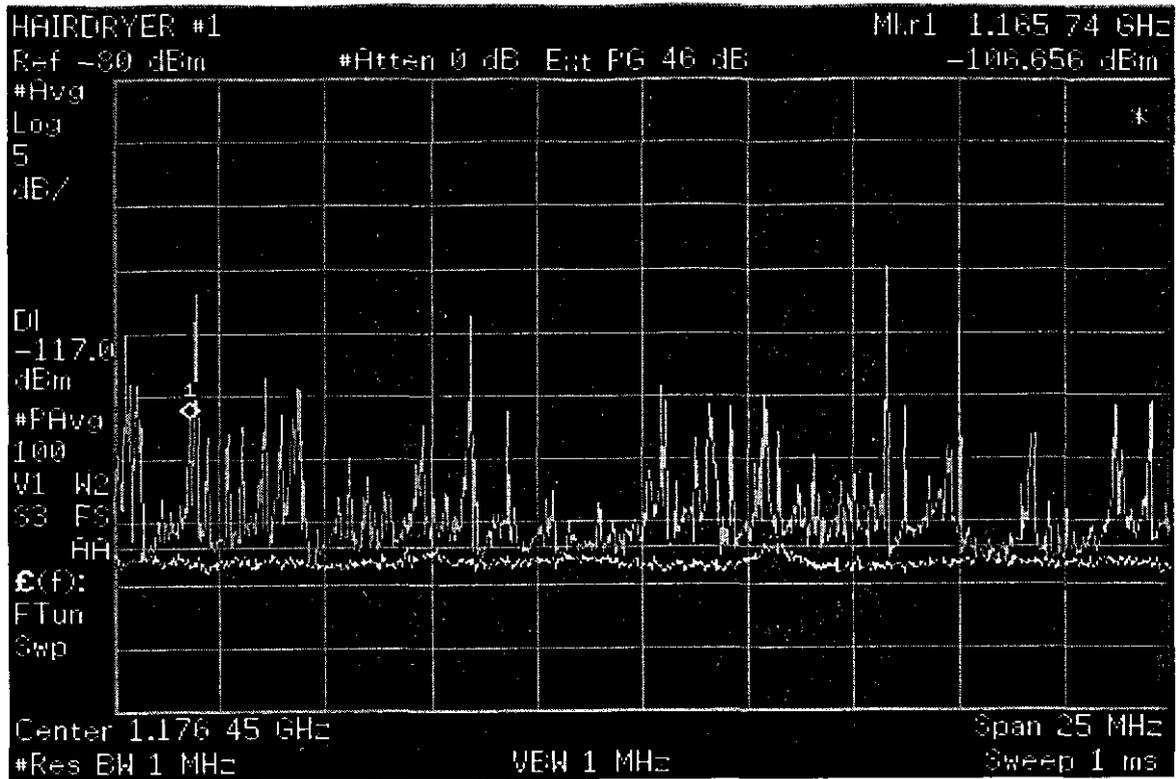


Figure E-152. Electric Hairdryer #1 Radiated Emissions in the GPS L5 Frequency Band.

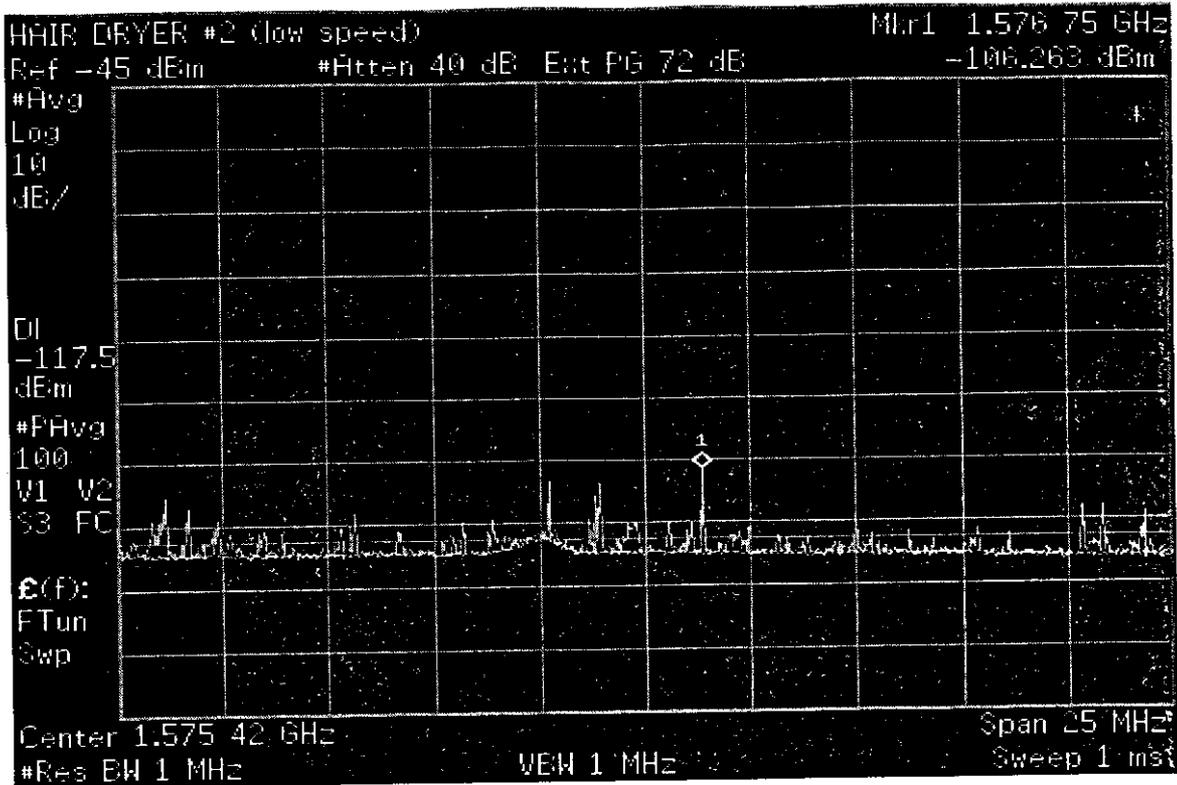


Figure E-153. Electric Hairdryer #2 Radiated Emissions in the GPS L1 Frequency Band.

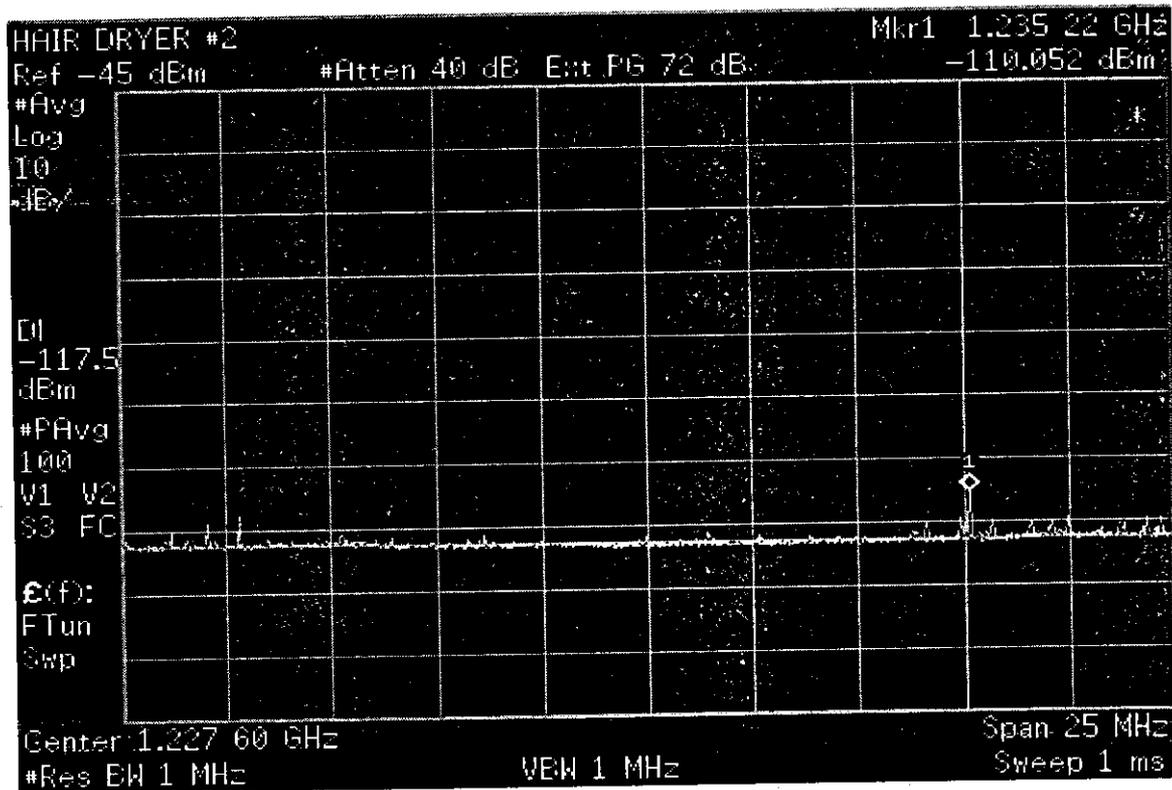


Figure E-154. Electric Hairdryer #2 Radiated Emissions in the GPS L2 Frequency Band.

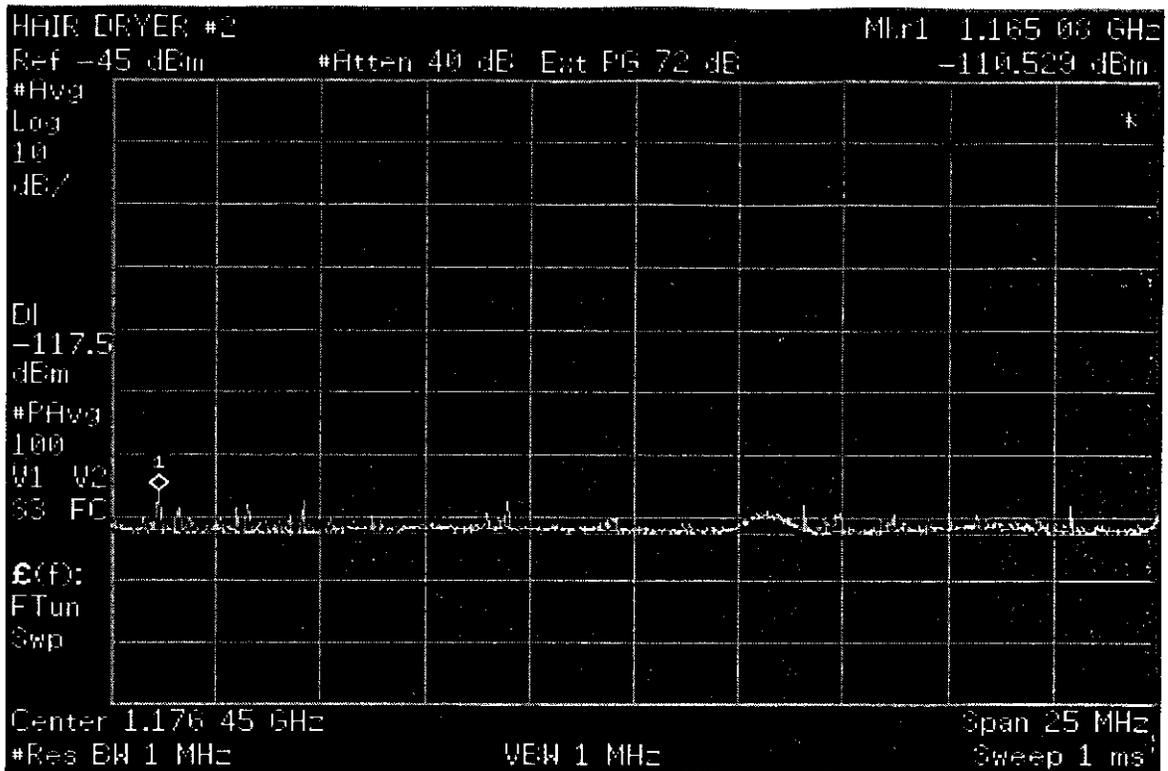


Figure E-155. Electric Hairdryer#2 Radiated Emissions in the GPS L5 Frequency Band.

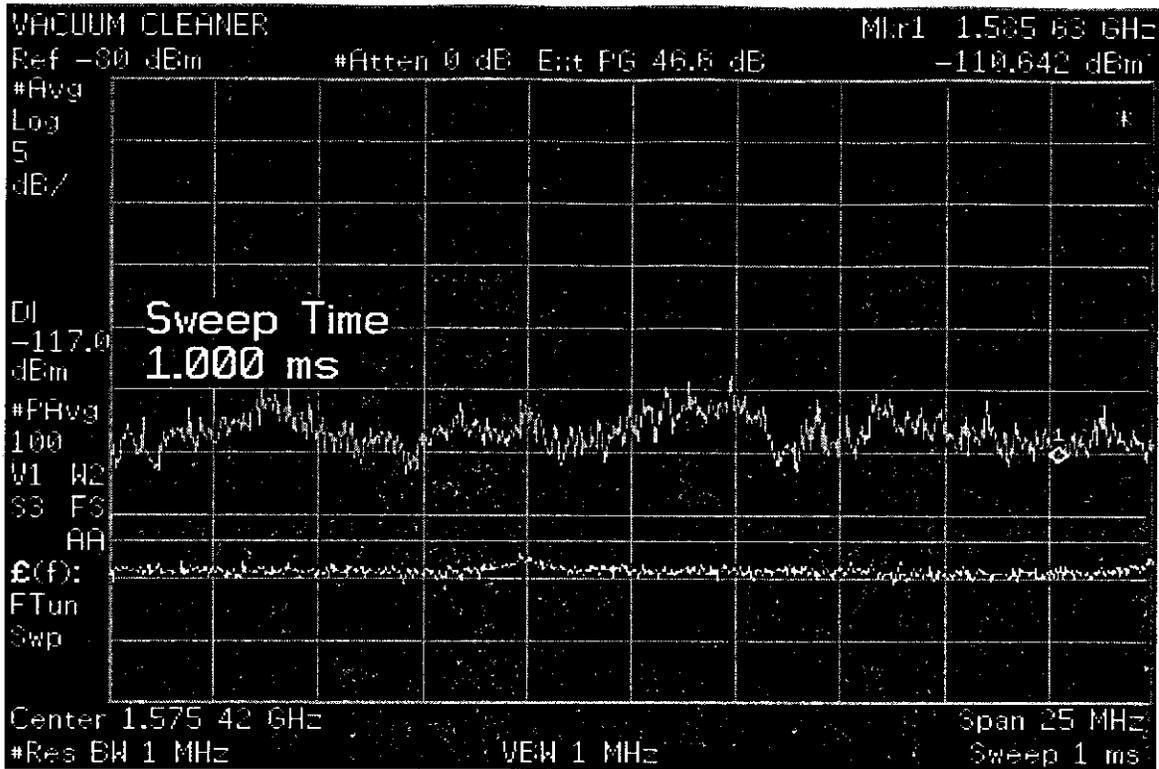


Figure E-156. Electric Vacuum Cleaner Radiated Emissions in the GPS L1 Frequency Band.

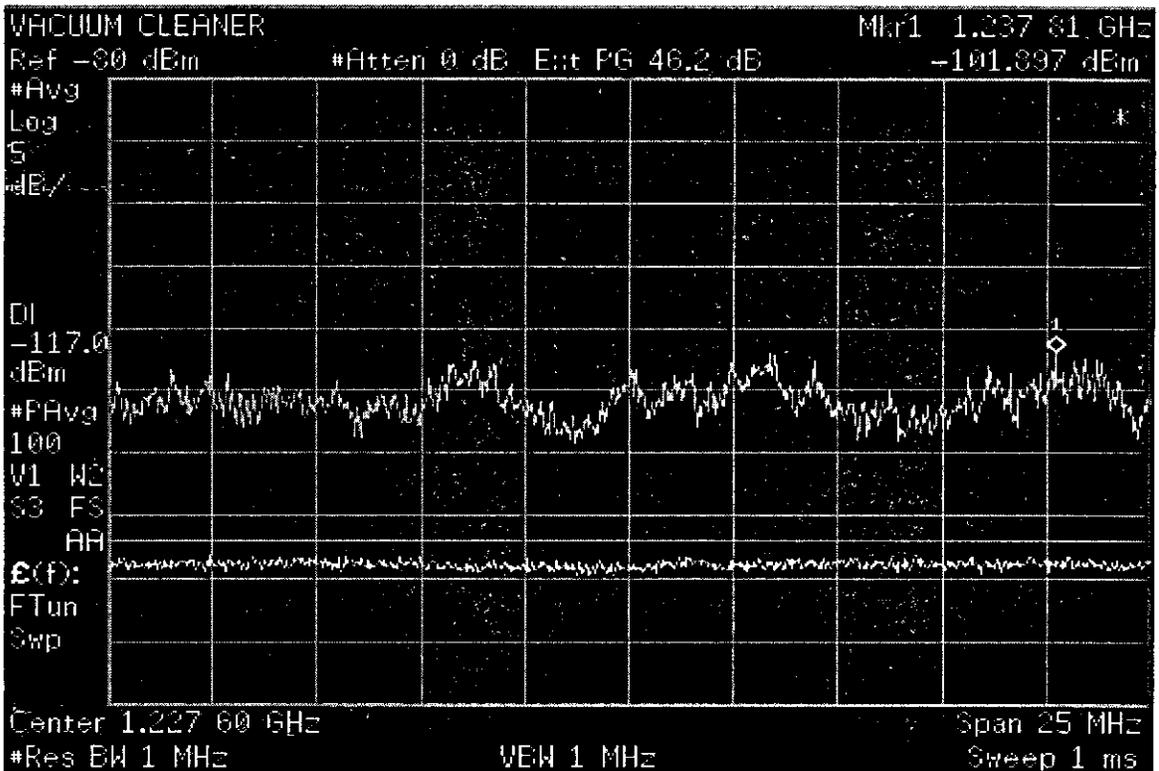


Figure E-157. Electric Vacuum Cleaner Radiated Emissions in the GPS L2 Frequency Band.

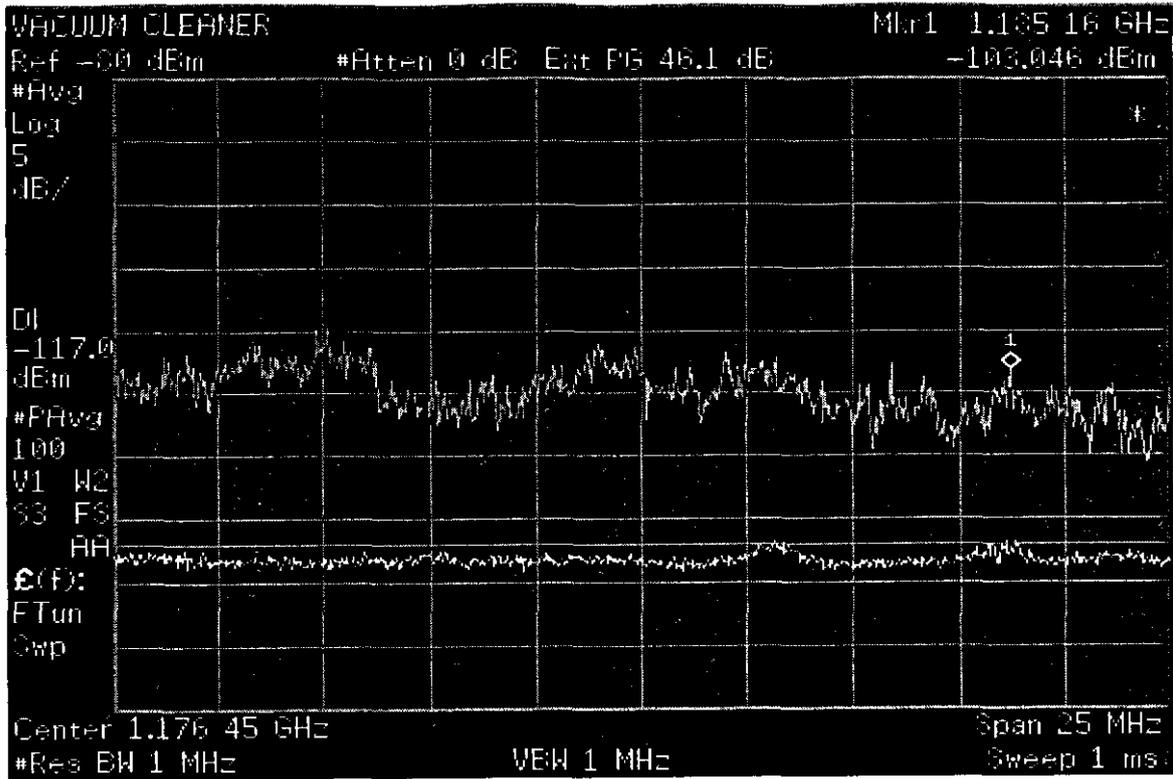


Figure E-158. Electric Vacuum Cleaner Radiated Emissions in the GPS L5 Frequency Band.