



3.12 BAND EDGES MEASUREMENT

3.12.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 1MHz Resolution Bandwidth).

3.12.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

NOTE:

- 1.The measurement uncertainty is less than $\pm 2.6\text{dB}$, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

3.12.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW spectrum analyzer to 1 MHz and set VBW spectrum analyzer to 10 Hz with suitable frequency span including 1 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW=VBW=100kHz ; Average RBW=1MHz, VBW=1KHz) are attached on the following pages.

3.12.4 EUT OPERATING CONDITION

Same as Item 4.3.5



3.12.5 TEST RESULTS (ANTENNA 1 – DSSS)

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):

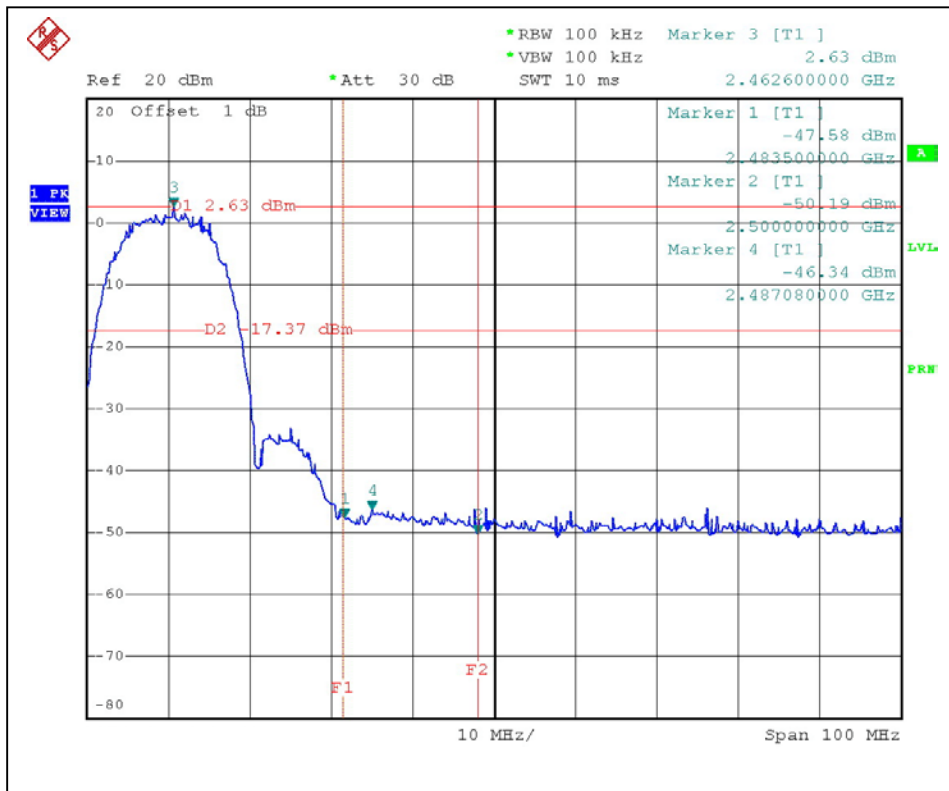
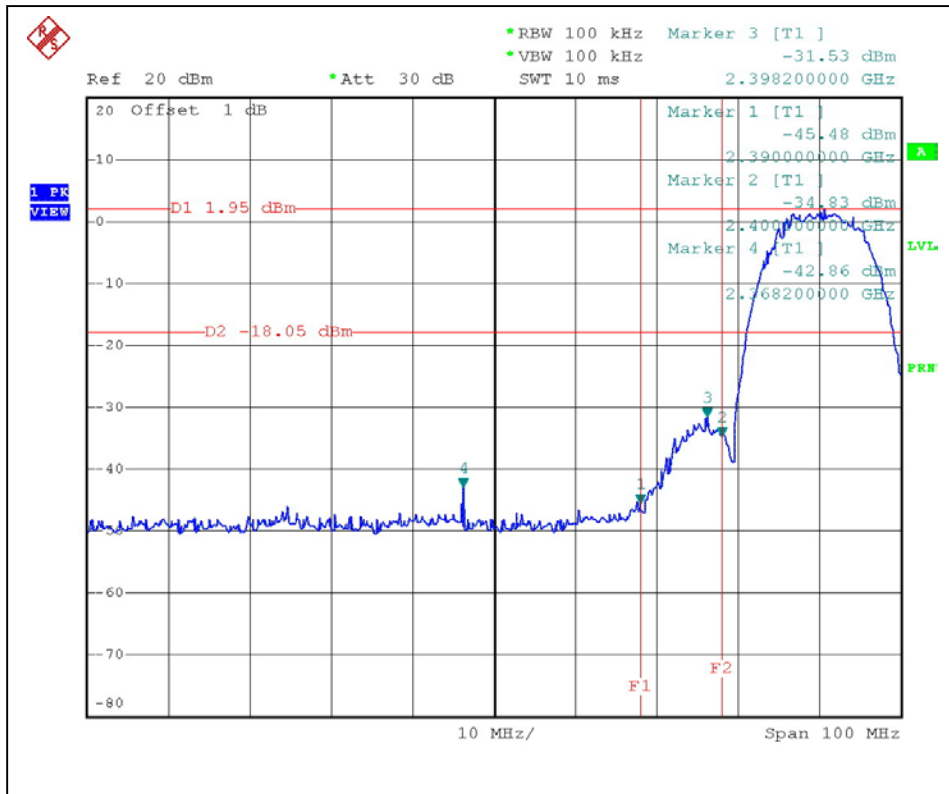
The band edge emission plot of DSSS technique on the following first page show 47.43dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 111.4dBuV/m, so the maximum field strength in restrict band is $111.4-47.43=63.97$ dBuV/m which is under 74 dBuV/m limit.

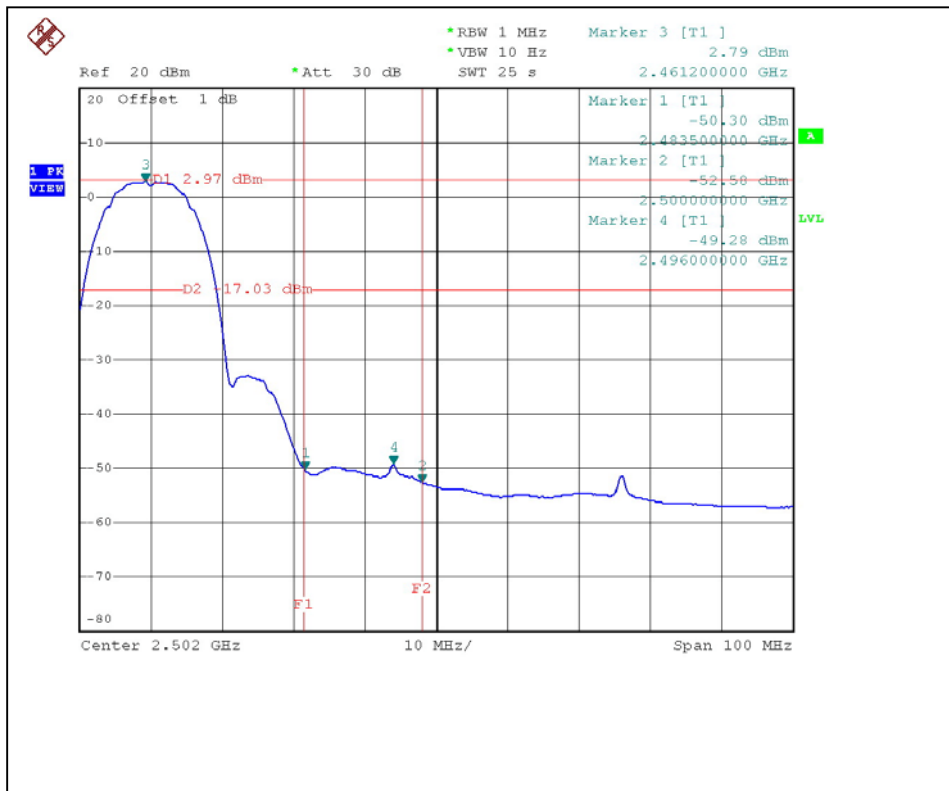
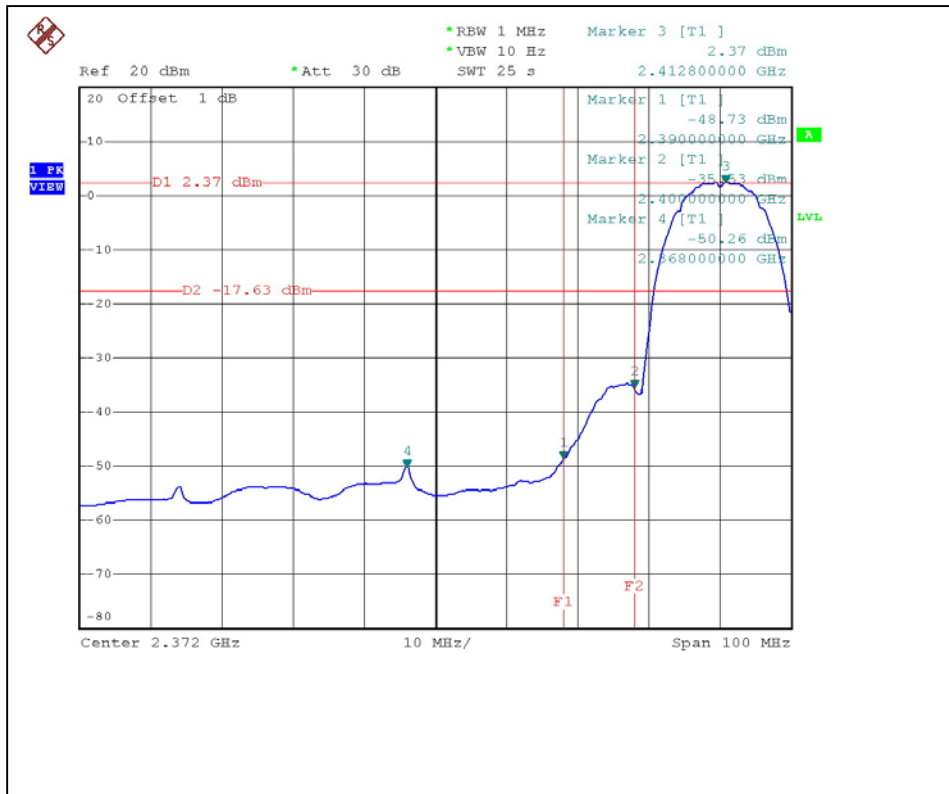
The band edge emission plot of DSSS technique on the following first page shows 50.21dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 112.5dBuV/m, so the maximum field strength in restrict band is $112.5-50.21=62.29$ dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):

The band edge emission plot of DSSS technique on the following second page shows 51.10dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 104.7dBuV/m, so the maximum field strength in restrict band is $104.7-51.10=53.60$ dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 53.27dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 105.0dBuV/m, so the maximum field strength in restrict band is $105.0-53.27=51.73$ dBuV/m which is under 54 dBuV/m limit.







3.12.6 TEST RESULTS (ANTENNA 2 – DSSS)

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):

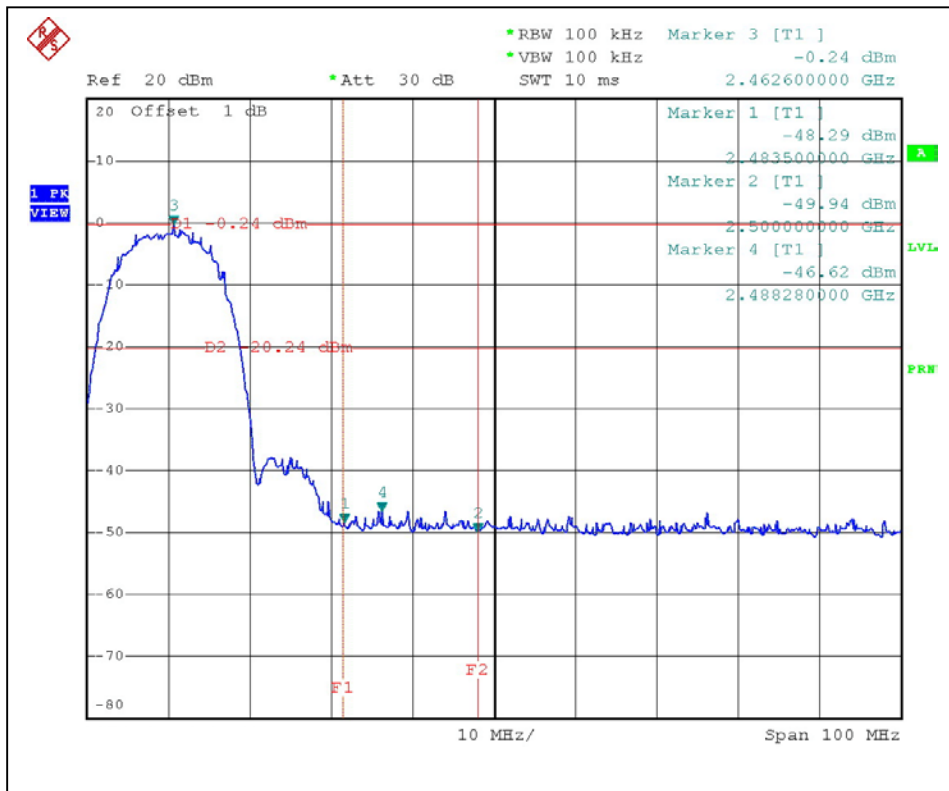
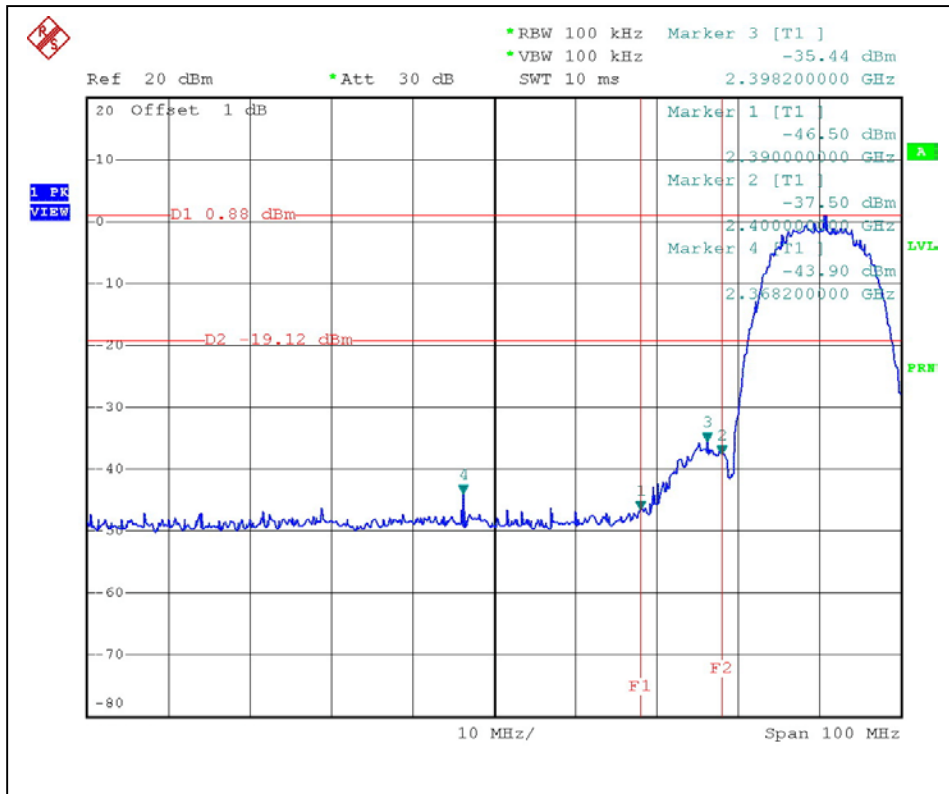
The band edge emission plot of DSSS technique on the following first page show 47.38dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 109.1dBuV/m, so the maximum field strength in restrict band is $109.1-47.38=61.72$ dBuV/m which is under 74 dBuV/m limit.

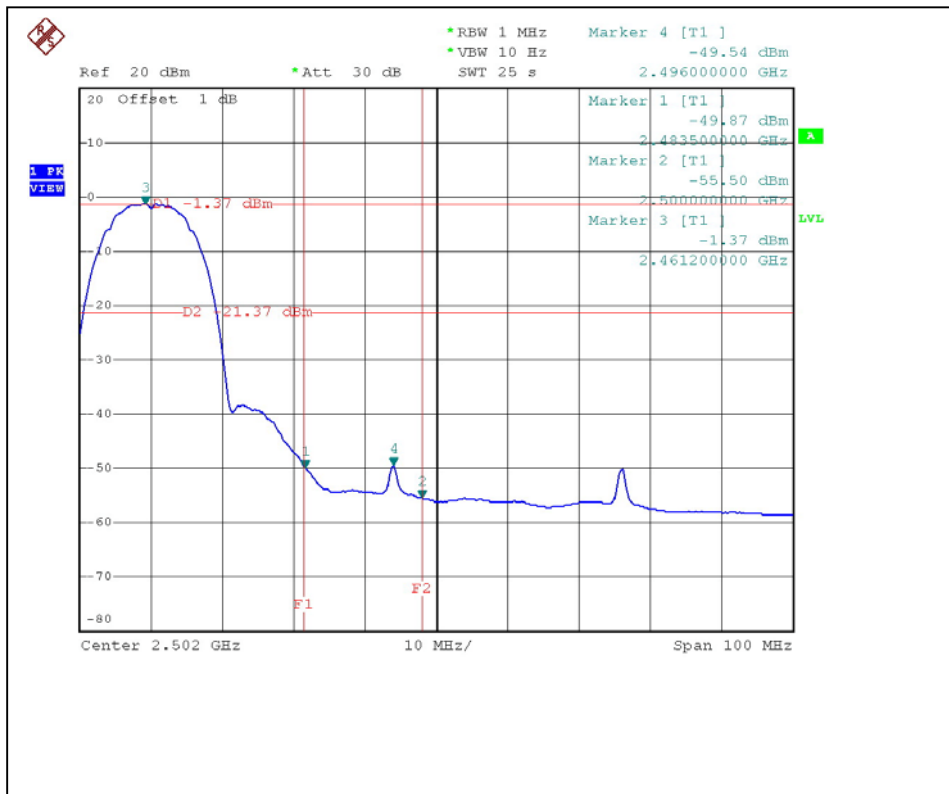
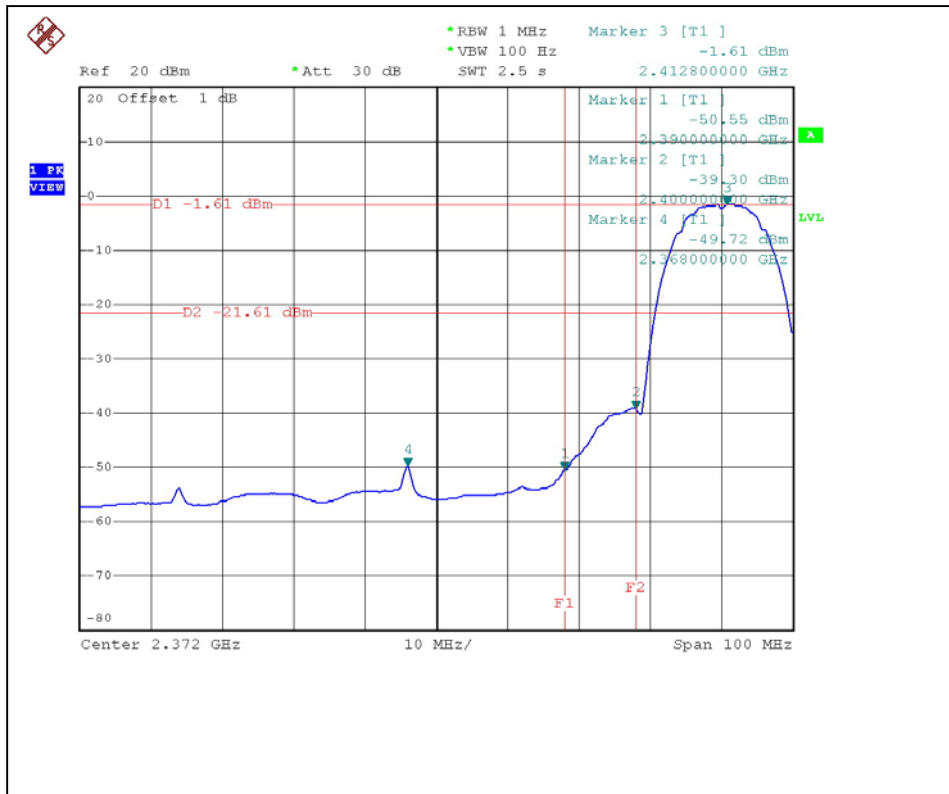
The band edge emission plot of DSSS technique on the following first page shows 48.53dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 108.7dBuV/m, so the maximum field strength in restrict band is $108.7-48.53=60.17$ dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):

The band edge emission plot of DSSS technique on the following second page shows 48.94dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 101.7dBuV/m, so the maximum field strength in restrict band is $101.7-48.94=52.76$ dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 48.5dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 101.6dBuV/m, so the maximum field strength in restrict band is $101.6-48.5=53.1$ dBuV/m which is under 54 dBuV/m limit.







3.12.7 TEST RESULTS (ANTENNA 3 – DSSS)

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):

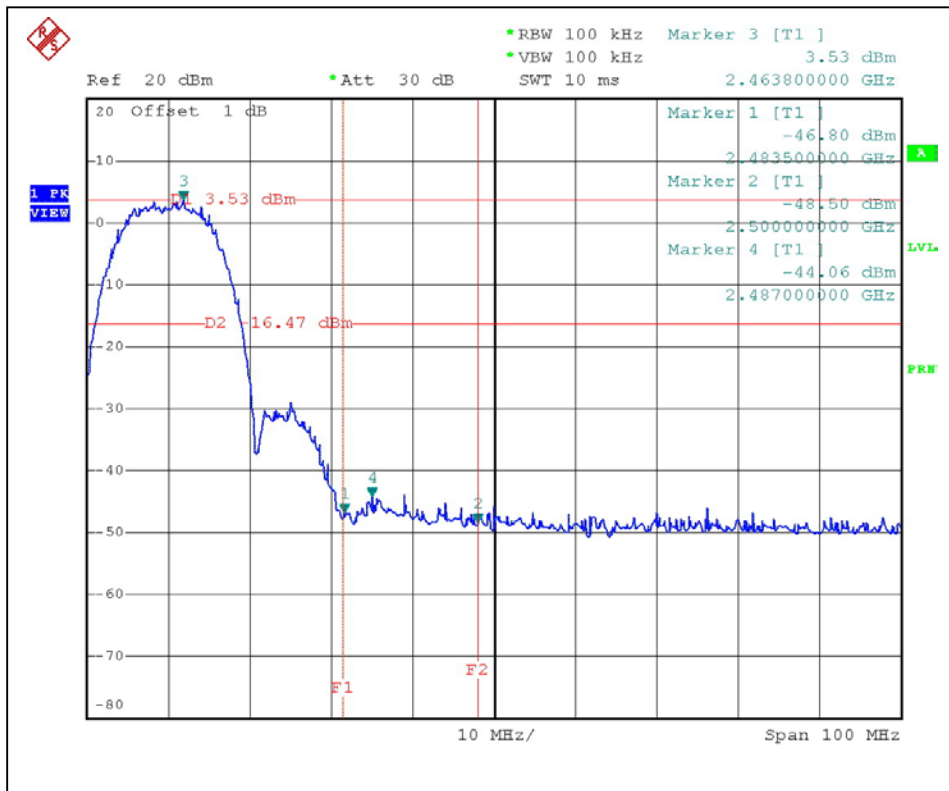
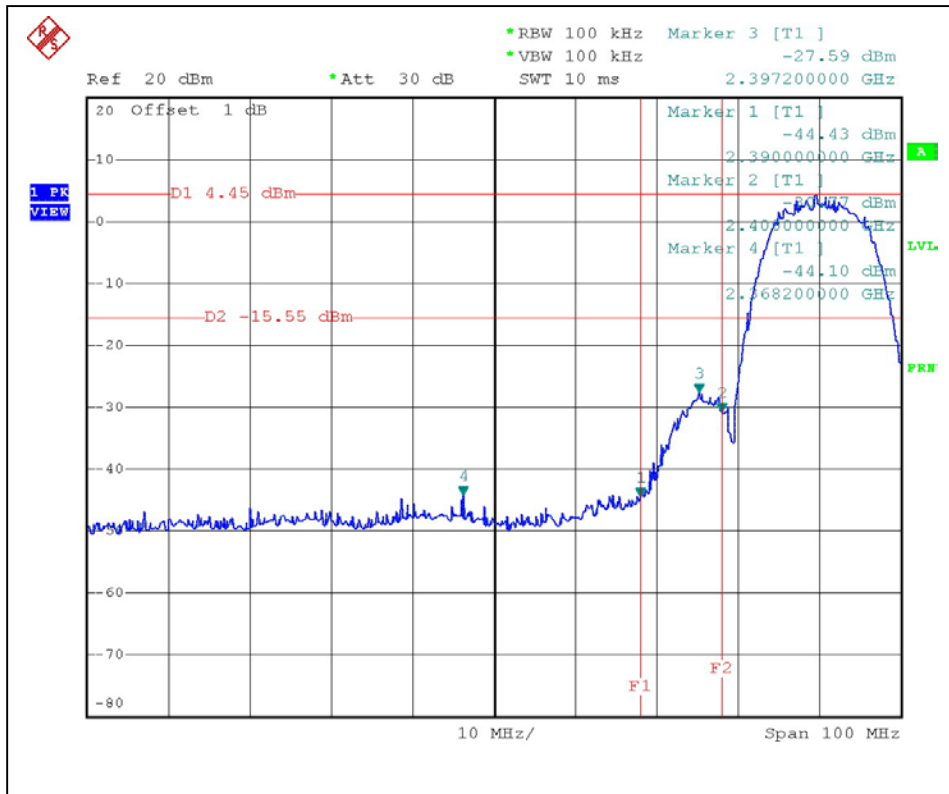
The band edge emission plot of DSSS technique on the following first page show 48.88dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 109.4dBuV/m, so the maximum field strength in restrict band is $109.4 - 48.88 = 60.52$ dBuV/m which is under 74 dBuV/m limit.

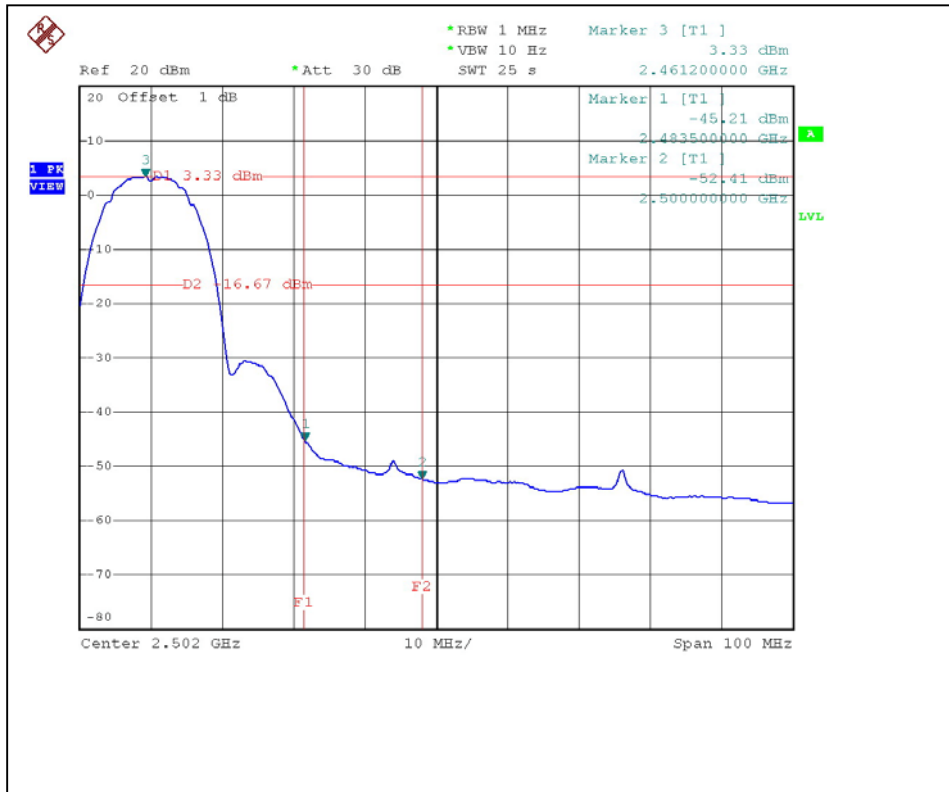
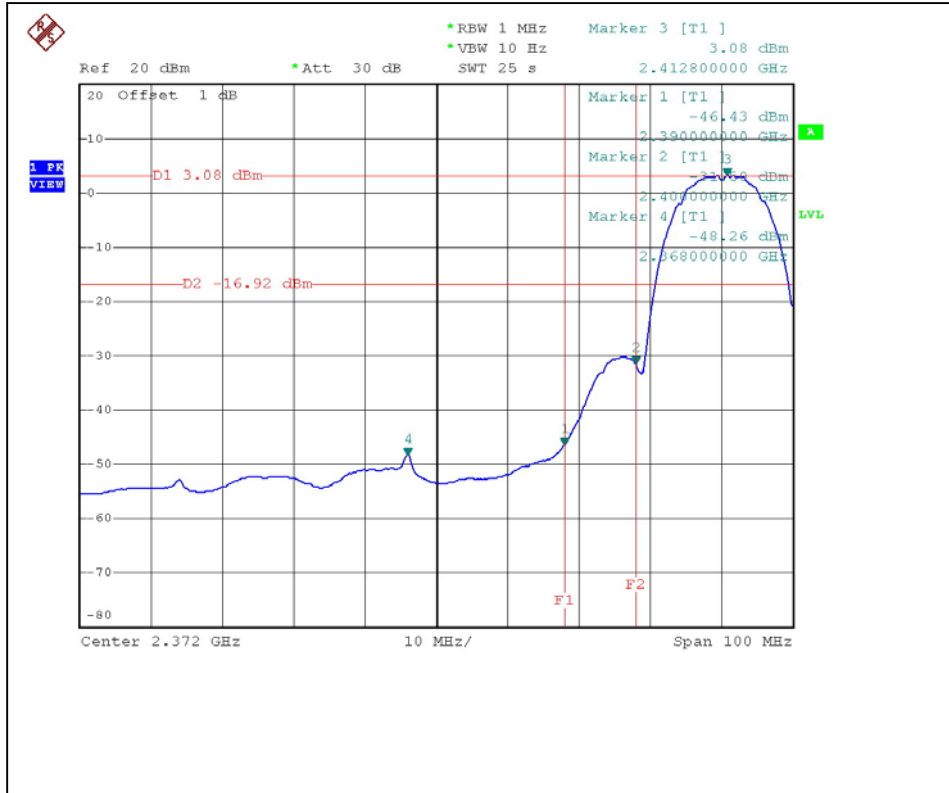
The band edge emission plot of DSSS technique on the following first page shows 50.33dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 107.9dBuV/m, so the maximum field strength in restrict band is $107.9 - 50.33 = 57.57$ dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):

The band edge emission plot of DSSS technique on the following second page shows 49.51dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 102.5dBuV/m, so the maximum field strength in restrict band is $102.5 - 49.51 = 52.99$ dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 48.54dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 100.9dBuV/m, so the maximum field strength in restrict band is $100.9 - 48.54 = 52.36$ dBuV/m which is under 54 dBuV/m limit.







3.12.8 TEST RESULTS (ANTENNA 4 – DSSS)

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):

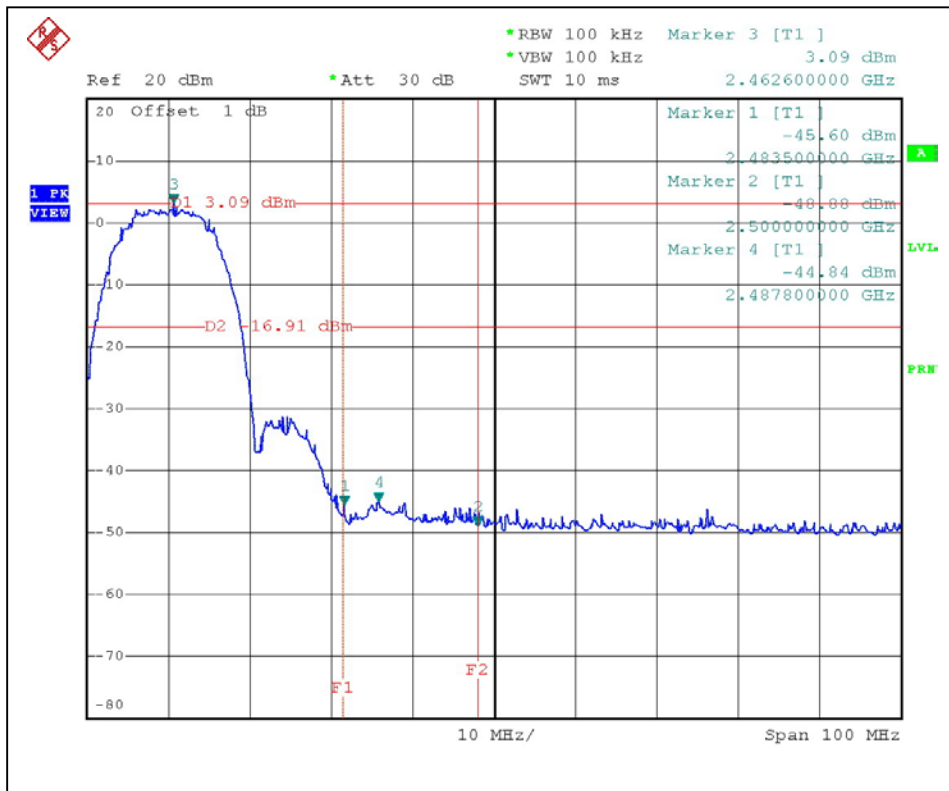
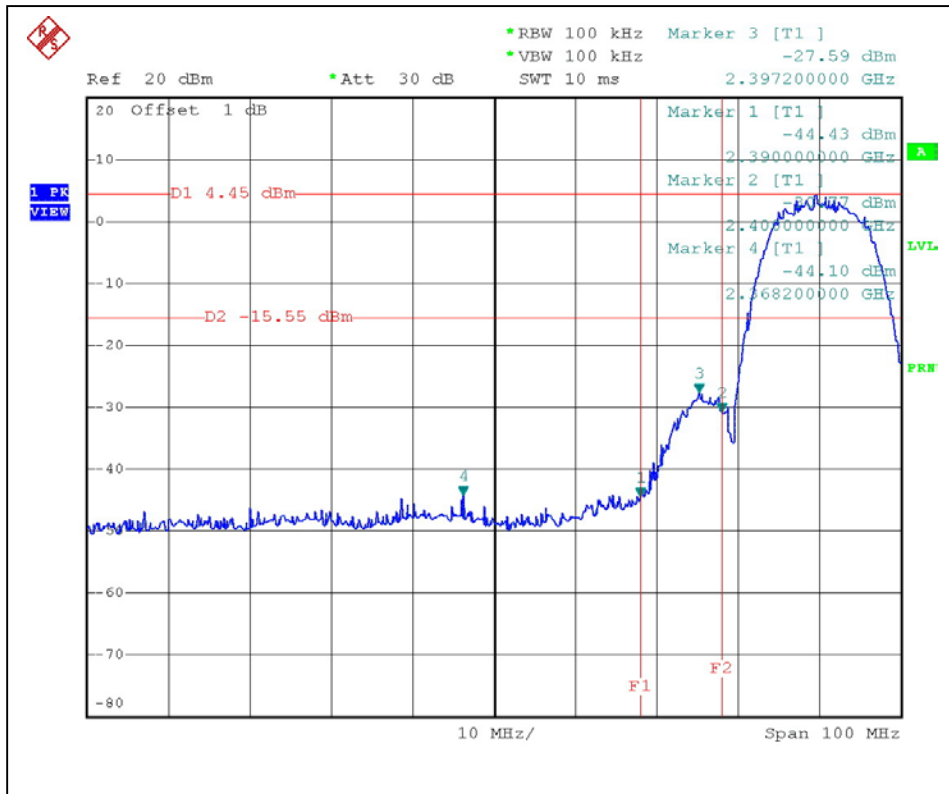
The band edge emission plot of DSSS technique on the following first page show 48.88dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 109.7dBuV/m, so the maximum field strength in restrict band is $109.7-48.88=60.82$ dBuV/m which is under 74 dBuV/m limit.

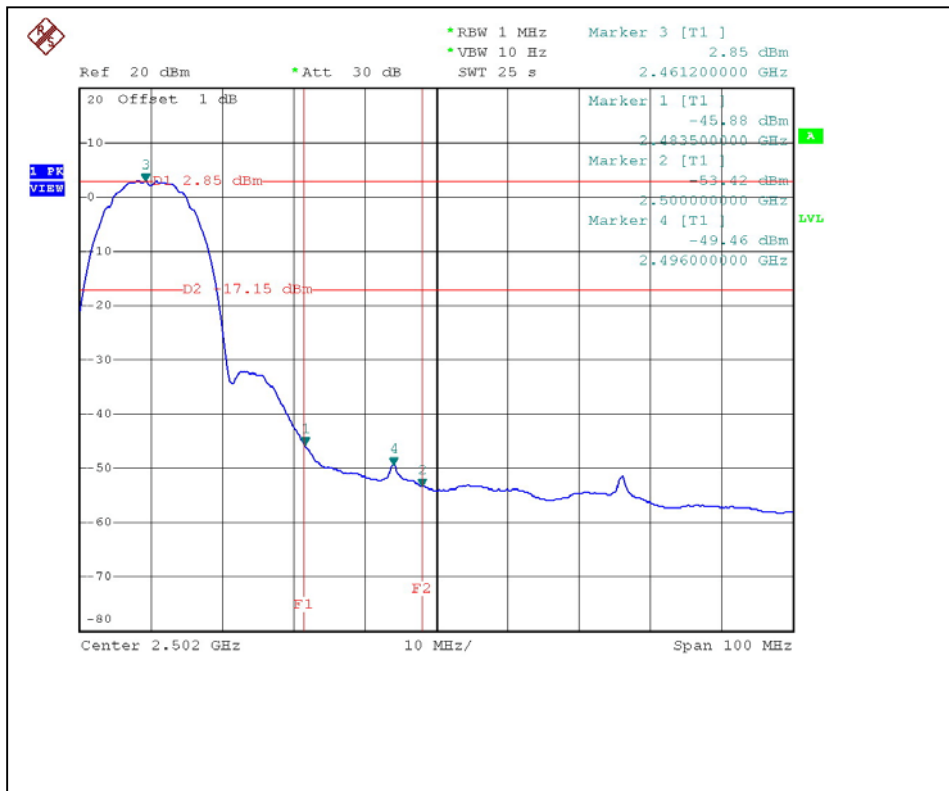
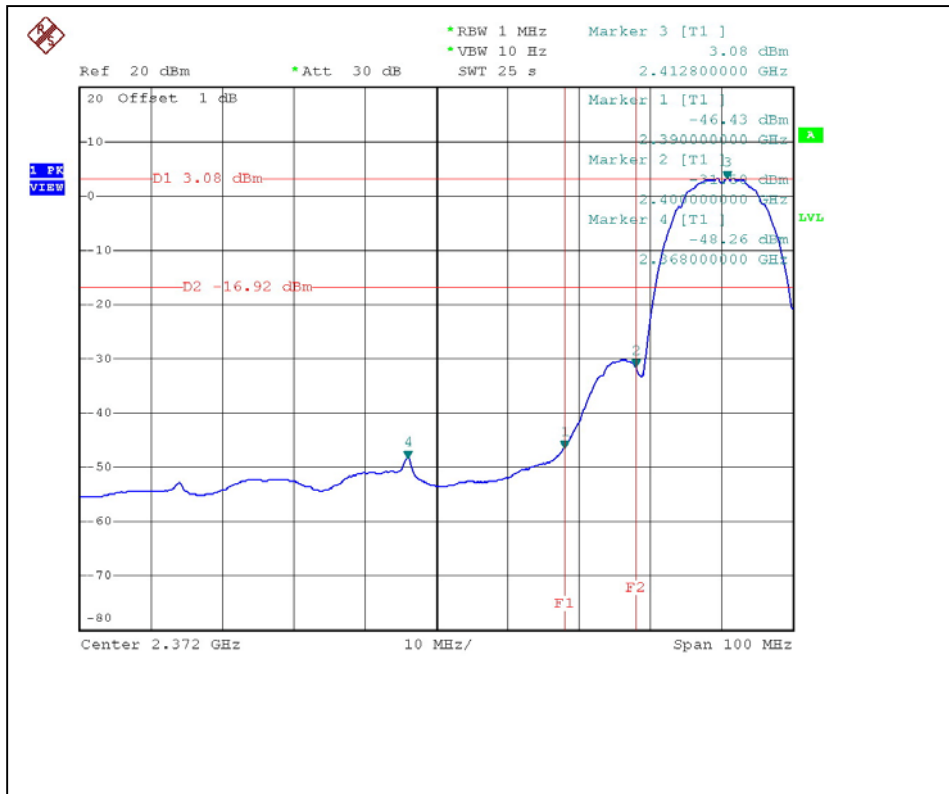
The band edge emission plot of DSSS technique on the following first page shows 48.69dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 107.8dBuV/m, so the maximum field strength in restrict band is $107.8-48.69=59.11$ dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):

The band edge emission plot of DSSS technique on the following second page shows 49.51dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 102.2dBuV/m, so the maximum field strength in restrict band is $102.2-49.51=52.69$ dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 48.73dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 100.6dBuV/m, so the maximum field strength in restrict band is $100.6-48.73=51.87$ dBuV/m which is under 54 dBuV/m limit.







3.12.9 TEST RESULTS (ANTENNA 1 – OFDM)

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):

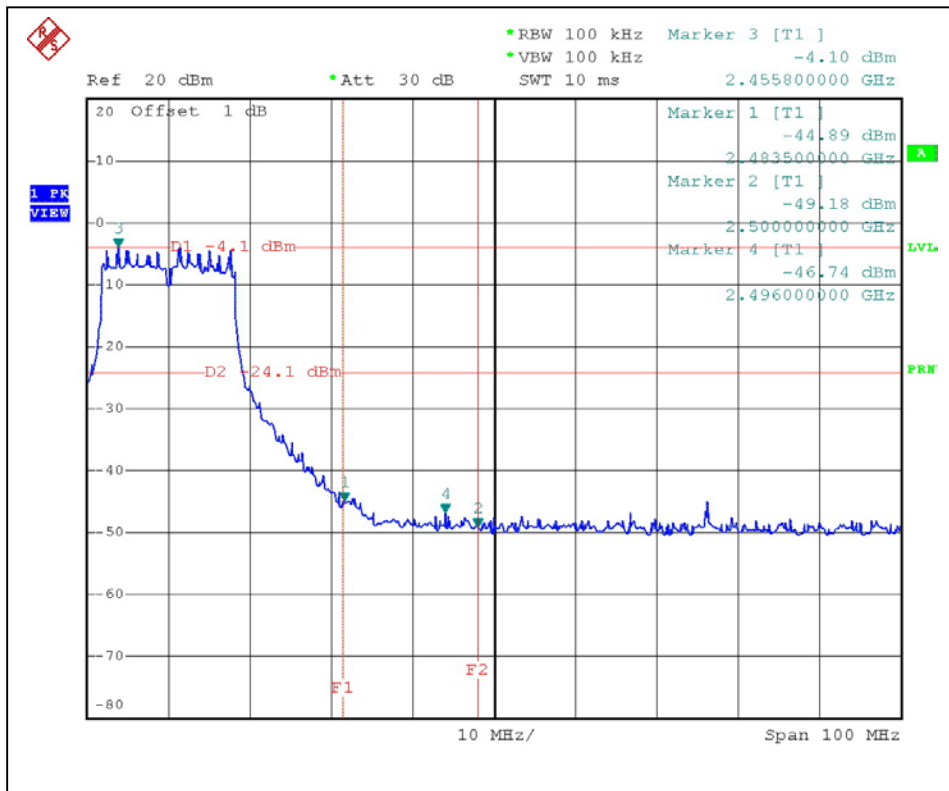
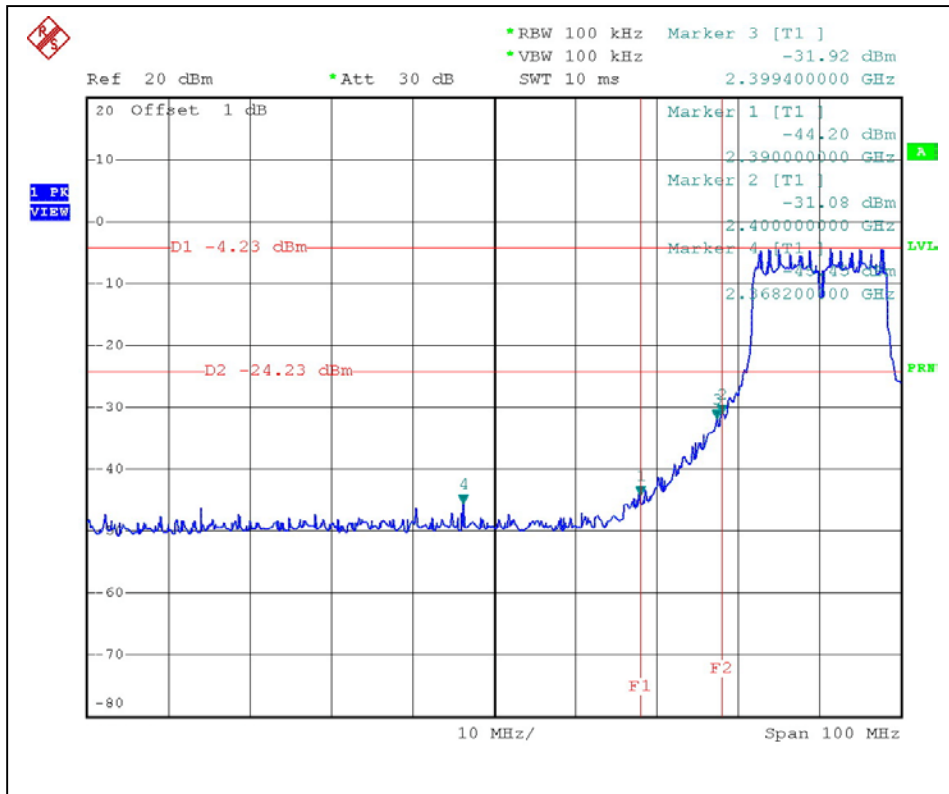
The band edge emission plot of DSSS technique on the following first page show 39.97dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 102.9dBuV/m, so the maximum field strength in restrict band is $102.9-39.97=62.93$ dBuV/m which is under 74 dBuV/m limit.

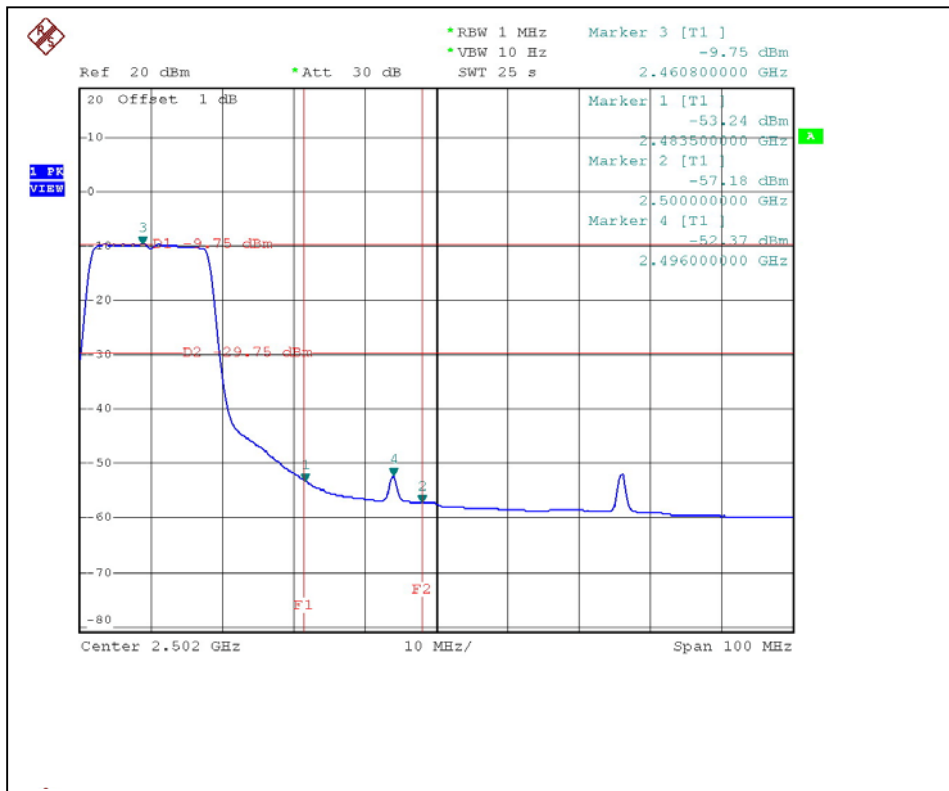
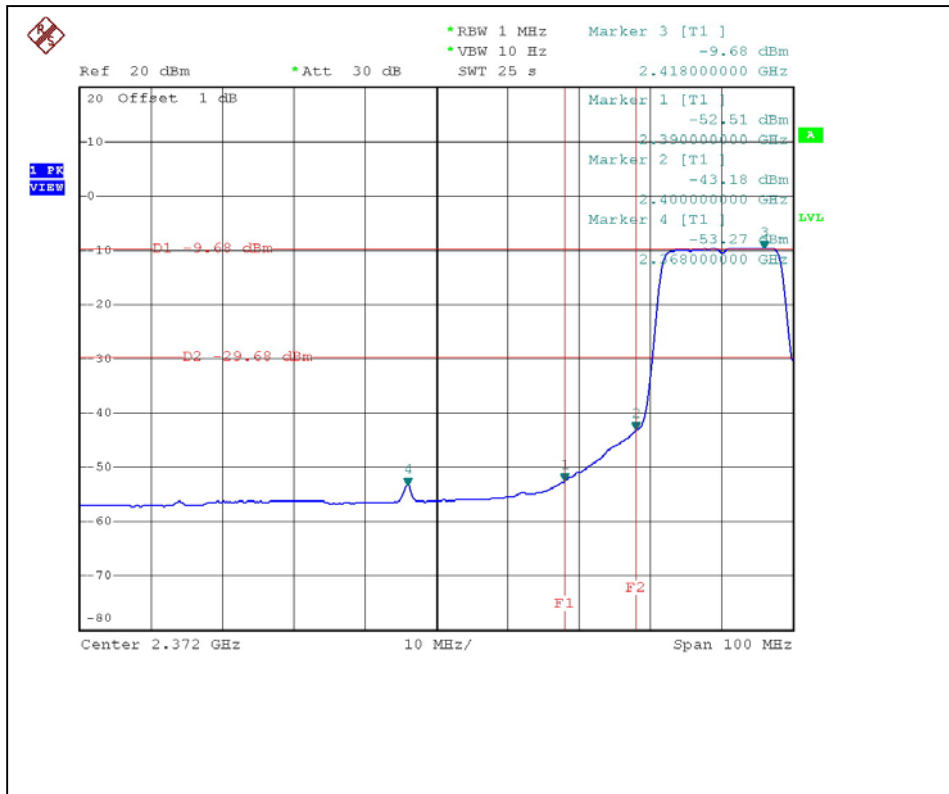
The band edge emission plot of DSSS technique on the following first page shows 4079dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 101.7dBuV/m, so the maximum field strength in restrict band is $101.7-40.79=60.91$ dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):

The band edge emission plot of DSSS technique on the following second page shows 42.83dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 92.9dBuV/m, so the maximum field strength in restrict band is $92.9-42.83=50.07$ dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 43.49dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 92.0dBuV/m, so the maximum field strength in restrict band is $92.0-43.49=48.51$ dBuV/m which is under 54 dBuV/m limit.







3.12.10 TEST RESULTS (ANTENNA 2 – OFDM)

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):

The band edge emission plot of DSSS technique on the following first page show 40.38dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 104.3dBuV/m, so the maximum field strength in restrict band is $104.3 - 40.38 = 63.92$ dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of DSSS technique on the following first page shows 39.33dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 104.3dBuV/m, so the maximum field strength in restrict band is $104.3 - 39.33 = 64.97$ dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):

The band edge emission plot of DSSS technique on the following second page shows 43.07dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 95.0dBuV/m, so the maximum field strength in restrict band is $95.0 - 43.07 = 51.93$ dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 43.01dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 94.7dBuV/m, so the maximum field strength in restrict band is $94.7 - 43.01 = 51.69$ dBuV/m which is under 54 dBuV/m limit.