4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2006

NOTE:

1. The measurement uncertainty is less than +/- 2.6dB, 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.

4.6.3 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=10Hz) are attached on the following pages.

4.6.4 EUT OPERATING CONDITION

Same as Item 4.3.5

4.6.5 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.

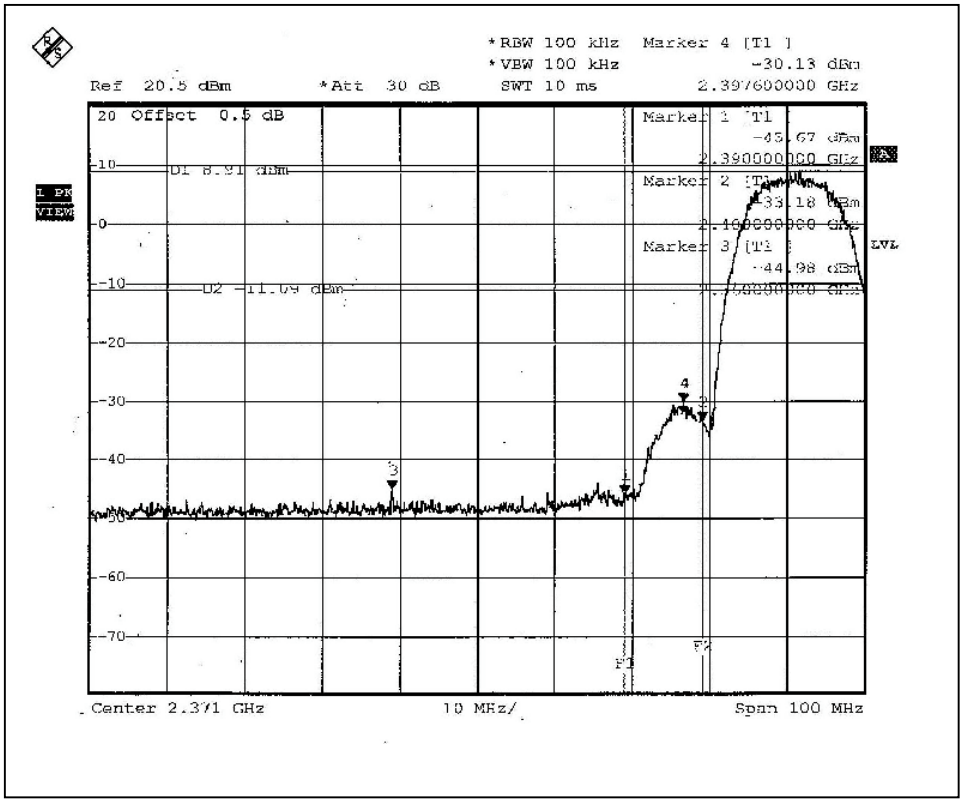
NOTE (Peak):
The band edge emission plot of DSSS technique on the following first page show 54.58dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 114.9dBuV/m, so the maximum field strength in restrict band is 114.9-54.58=60.32dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of DSSS technique on the following first page shows 54.01dB 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 114.9dBuV/m, so the maximum field strength in restrict band is 114.9-54.01=60.89dBuV/m which is under 74 dBuV/m limit.

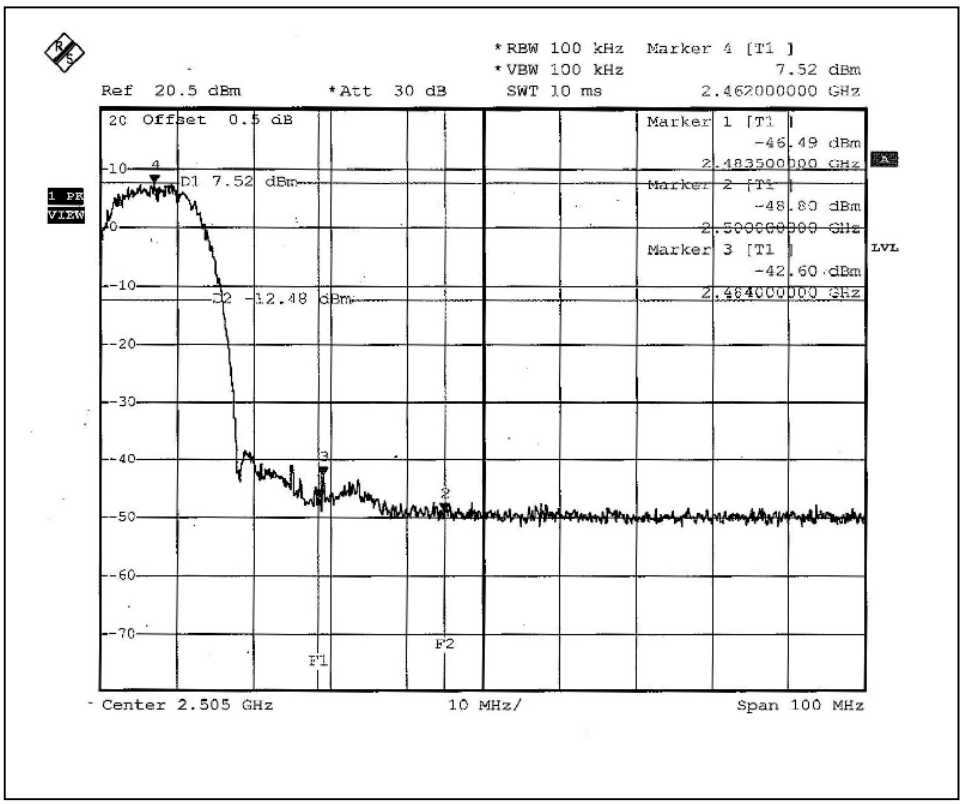
NOTE (Average):
The band edge emission plot of DSSS technique on the following second page shows 56.08dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 107.8dBuV/m, so the maximum field strength in restrict band is 107.8-56.08=51.72dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 54.48dB 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 107.20dBuV/m, so the maximum field strength in restrict band is 107.20-54.48=52.72dBuV/m which is under 54 dBuV/m limit.

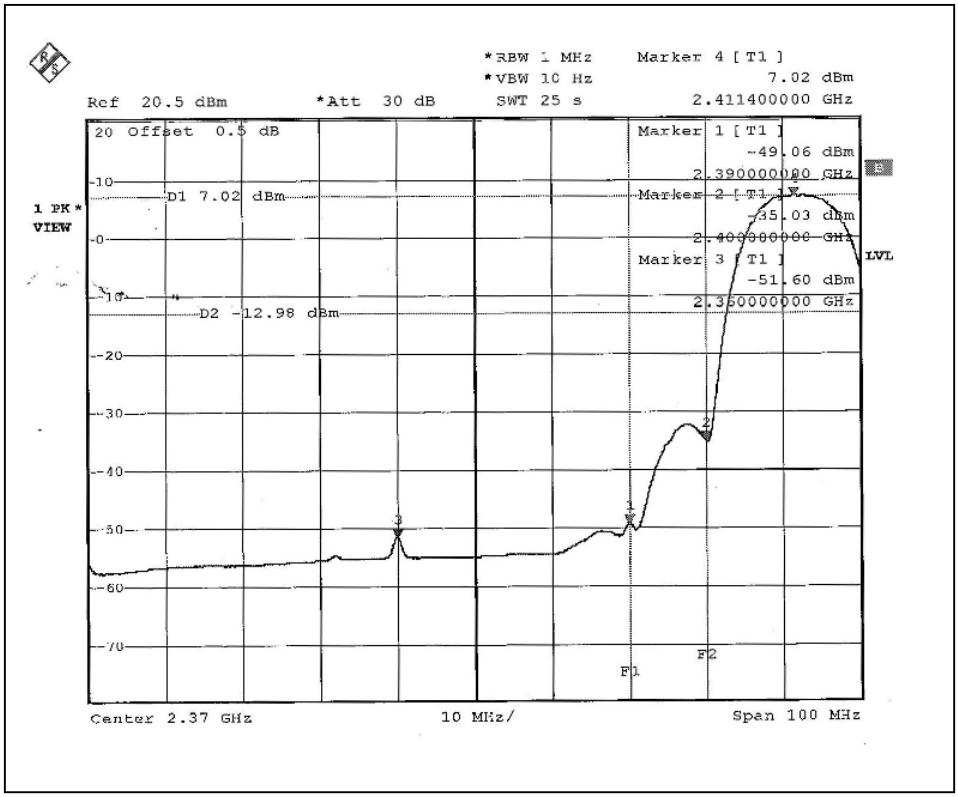
CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
-30.13 dBm
2.397600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1
-45.67 dBm
2.390000000 GHz
Marker 2 [T1
-33.18 dBm
2.400000000 GHz
Marker 3 [T1
-44.98 dBm
2.484000000 GHz
D1 8.91 dBm
D2 -11.09 dBm
1 PK VIEW
LVL
Center 2.371 GHz
10 MHz/
Span 100 MHz

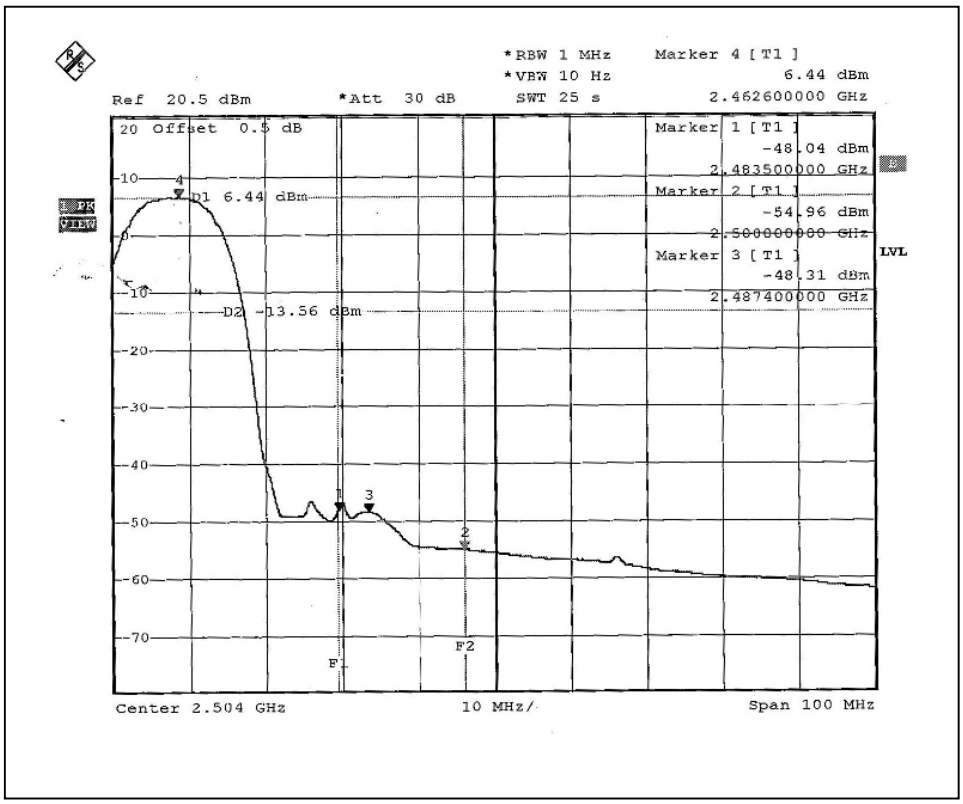
CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
7.52 dBm
2.462000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-46.49 dBm
2.483500000 GHz
Marker 2 [T1]
-48.80 dBm
2.500000000 GHz
Marker 3 [T1]
-42.60 dBm
2.484000000 GHz
D1 7.52 dBm
D2 -12.48 dBm
1 PK VIEW
LVL
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz

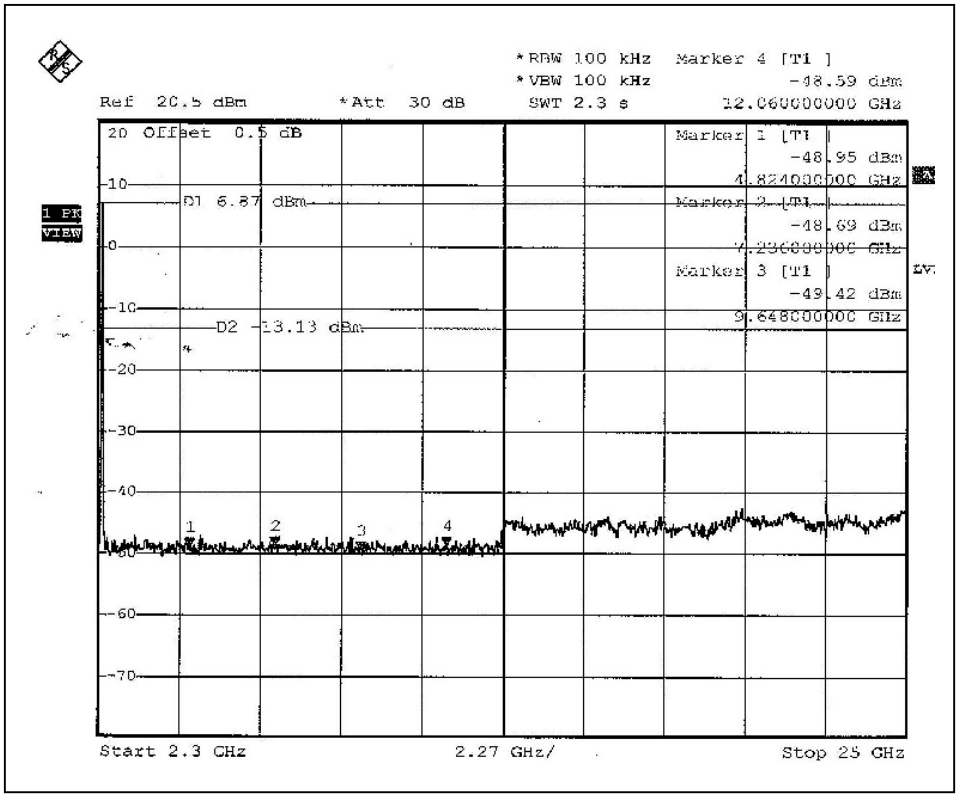
CH1


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
7.02 dBm
2.411400000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.06 dBm
2.390000000 GHz
Marker 2 [T1]
-35.03 dBm
2.400000000 GHz
Marker 3 [T1]
-51.60 dBm
2.360000000 GHz
D1 7.02 dBm
D2 -12.98 dBm
1 PK *
VIEW
LVL
F1
F2
Center 2.37 GHz
10 MHz/
Span 100 MHz

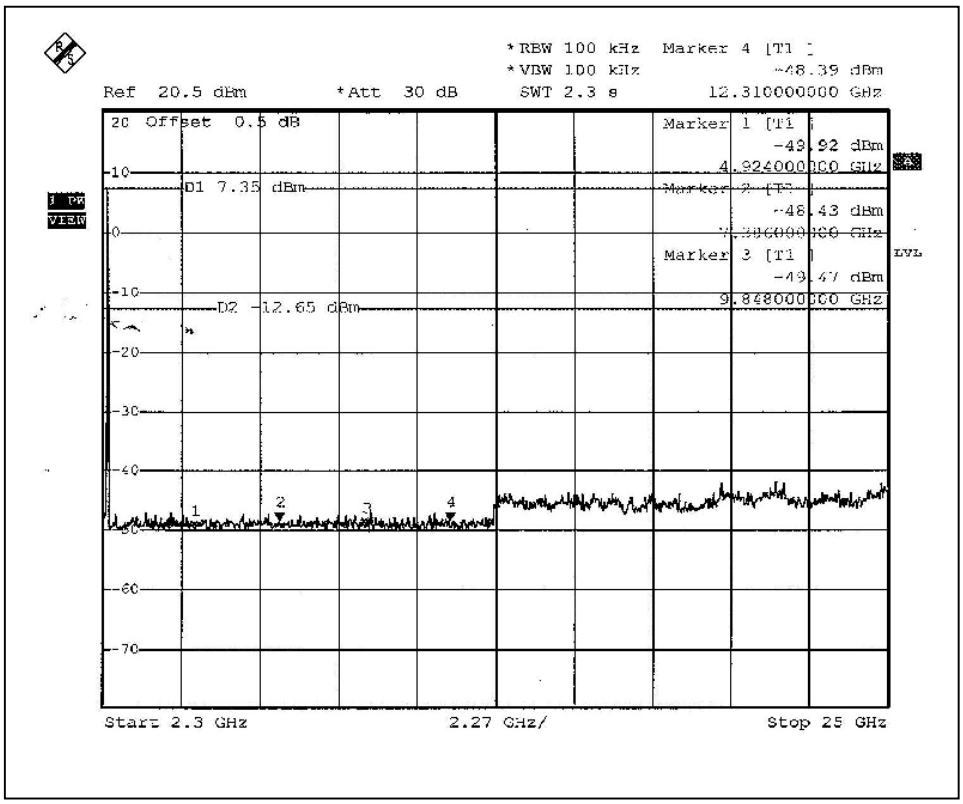
CH11


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
6.44 dBm
2.462600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-48.04 dBm
2.483500000 GHz
Marker 2 [T1]
-54.96 dBm
2.500000000 GHz
Marker 3 [T1]
-48.31 dBm
2.487400000 GHz
D1 6.44 dBm
D2 -13.56 dBm
1 PK
VIEW
LVL
F1
F2
Center 2.504 GHz
10 MHz/
Span 100 MHz

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-48.59 dBm
12.060000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-48.95 dBm
4.824000000 GHz
Marker 2 [T1]
-48.69 dBm
7.236000000 GHz
Marker 3 [T1]
-49.42 dBm
9.648000000 GHz
D1 6.87 dBm
D2 -13.13 dBm
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-48.39 dBm
12.310000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.92 dBm
4.824000000 GHz
Marker 2 [T1]
-48.43 dBm
7.236000000 GHz
Marker 3 [T1]
-49.47 dBm
9.648000000 GHz
D1 7.35 dBm
D2 -12.65 dBm
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

4.6.6 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.

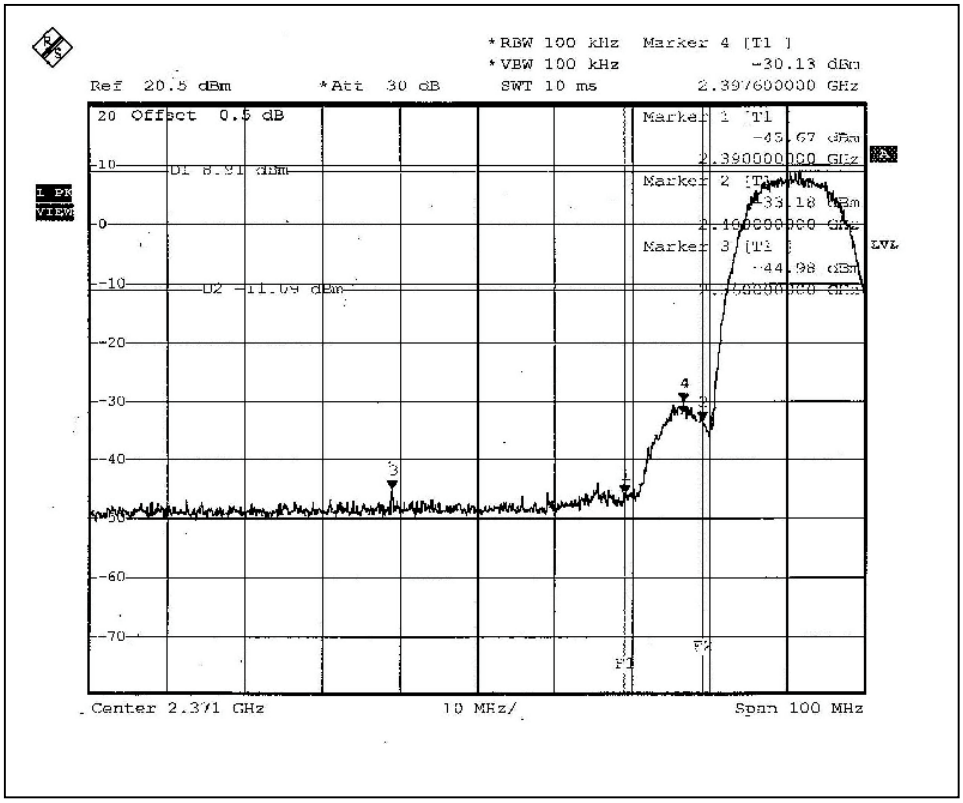
NOTE (Peak):
The band edge emission plot of DSSS technique on the following first page show 54.58dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 109.5dBuV/m, so the maximum field strength in restrict band is 109.5-54.58=54.92dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of DSSS technique on the following first page shows 54.01dB 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 108.5dBuV/m, so the maximum field strength in restrict band is 108.5-54.01=54.49dBuV/m which is under 74 dBuV/m limit.

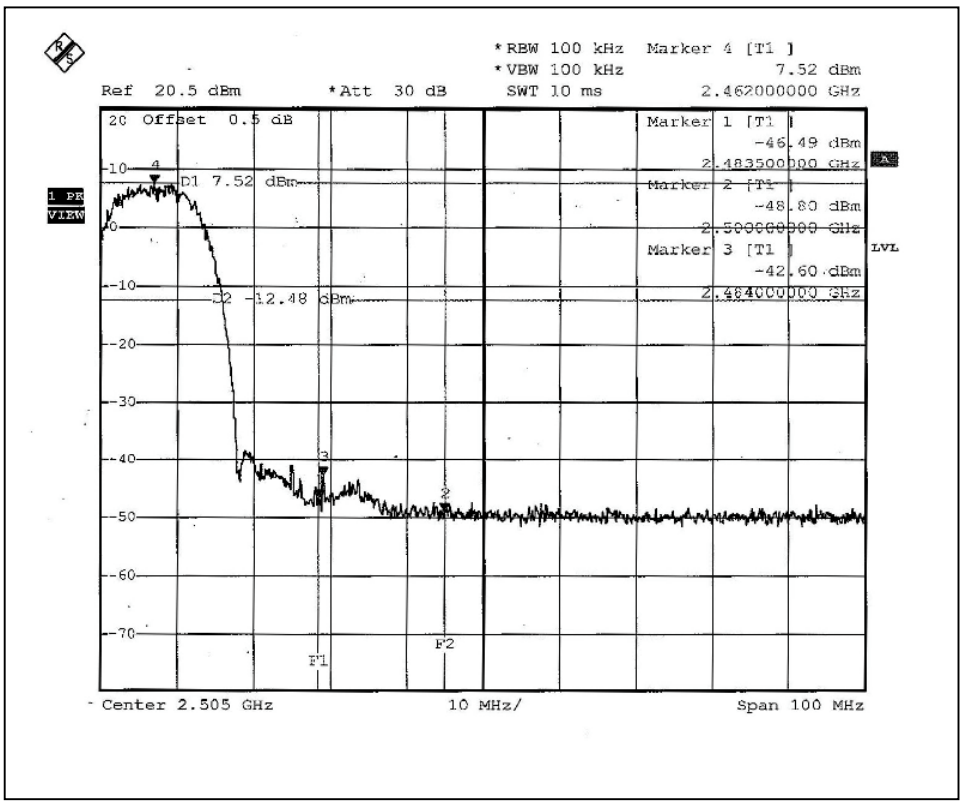
NOTE (Average):
The band edge emission plot of DSSS technique on the following second page shows 56.08dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 102.6dBuV/m, so the maximum field strength in restrict band is 102.6-56.08=46.52dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 54.48dB 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 101.10dBuV/m, so the maximum field strength in restrict band is 101.10-54.48=46.62dBuV/m which is under 54 dBuV/m limit.

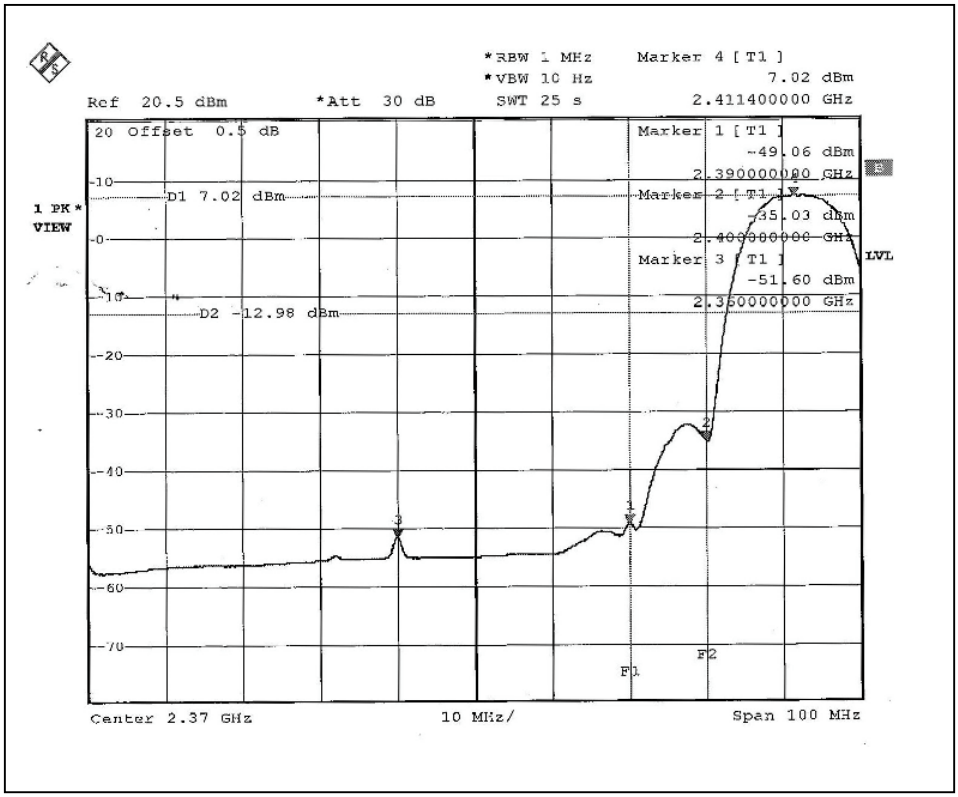
CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
-30.13 dBm
2.397600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1
-45.67 dBm
2.390000000 GHz
Marker 2 [T1
-33.18 dBm
Marker 3 [T1
-44.98 dBm
D1 8.91 dBm
D2 -11.09 dBm
1 PK VIEW
LVL
Center 2.371 GHz
10 MHz/
Span 100 MHz

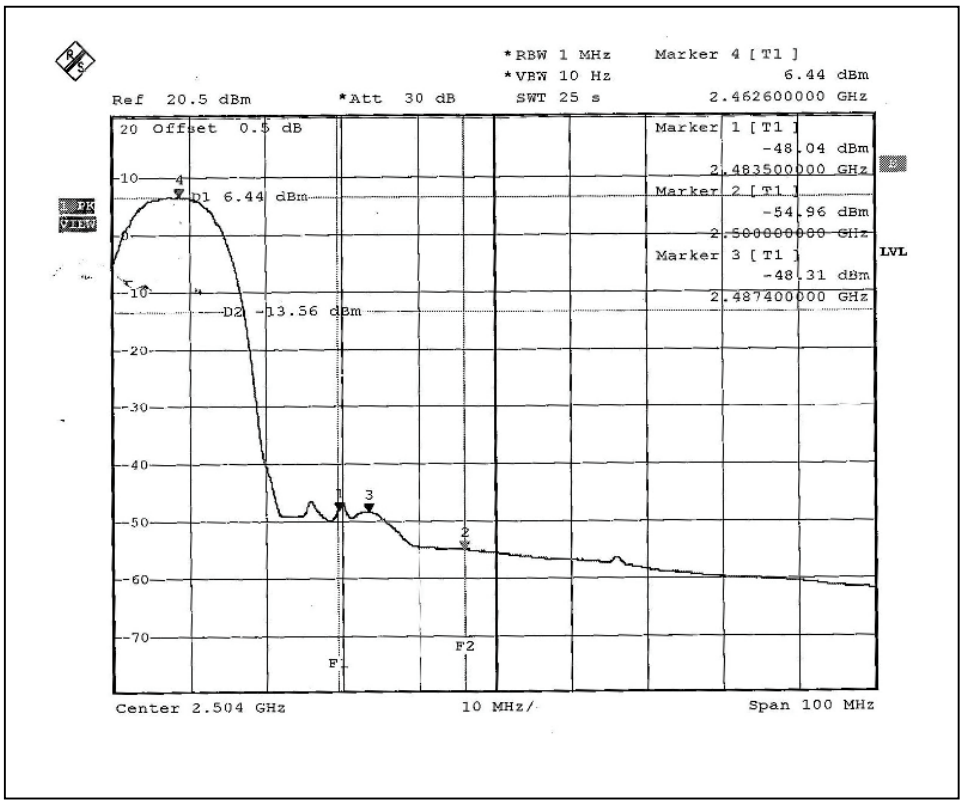
CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
7.52 dBm
2.462000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1
-46.49 dBm
2.483500000 GHz
Marker 2 [T1
-48.80 dBm
2.500000000 GHz
Marker 3 [T1
-42.60 dBm
2.484000000 GHz
D1 7.52 dBm
D2 -12.48 dBm
1 PK VIEW
LVL
Center 2.505 GHz
10 MHz/
Span 100 MHz

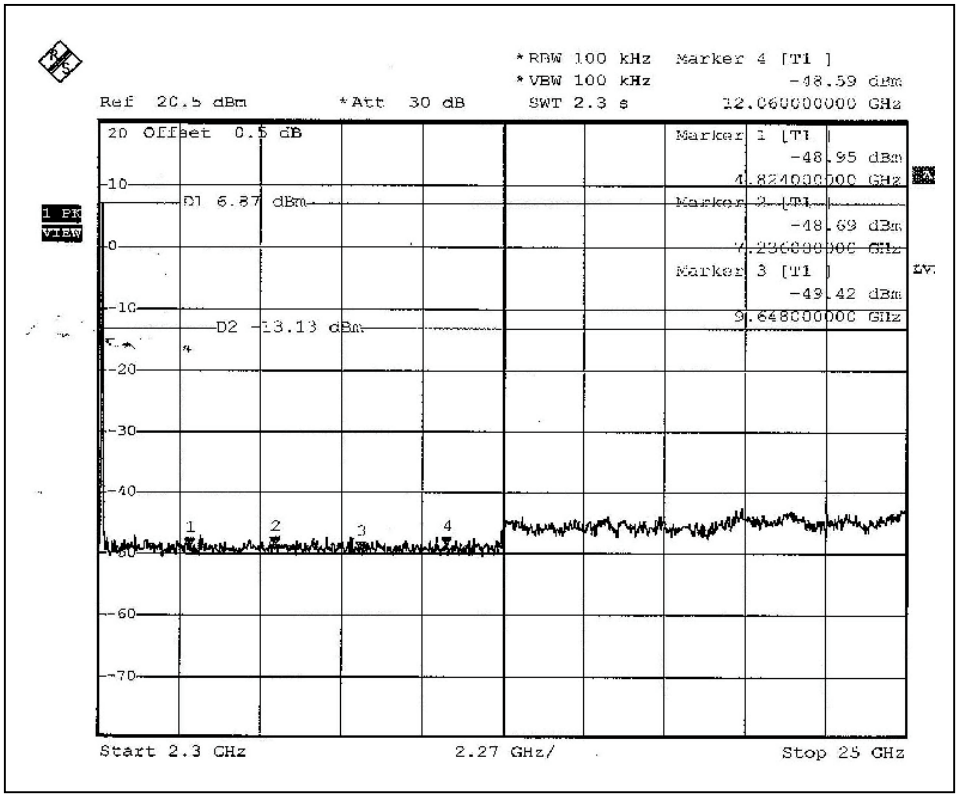
CH1


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
7.02 dBm
2.411400000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.06 dBm
2.390000000 GHz
Marker 2 [T1]
-35.03 dBm
2.400000000 GHz
Marker 3 [T1]
-51.60 dBm
2.360000000 GHz
D1 7.02 dBm
D2 -12.98 dBm
1 PK *
VIEW
LVL
F1
F2
Center 2.37 GHz
10 MHz/
Span 100 MHz

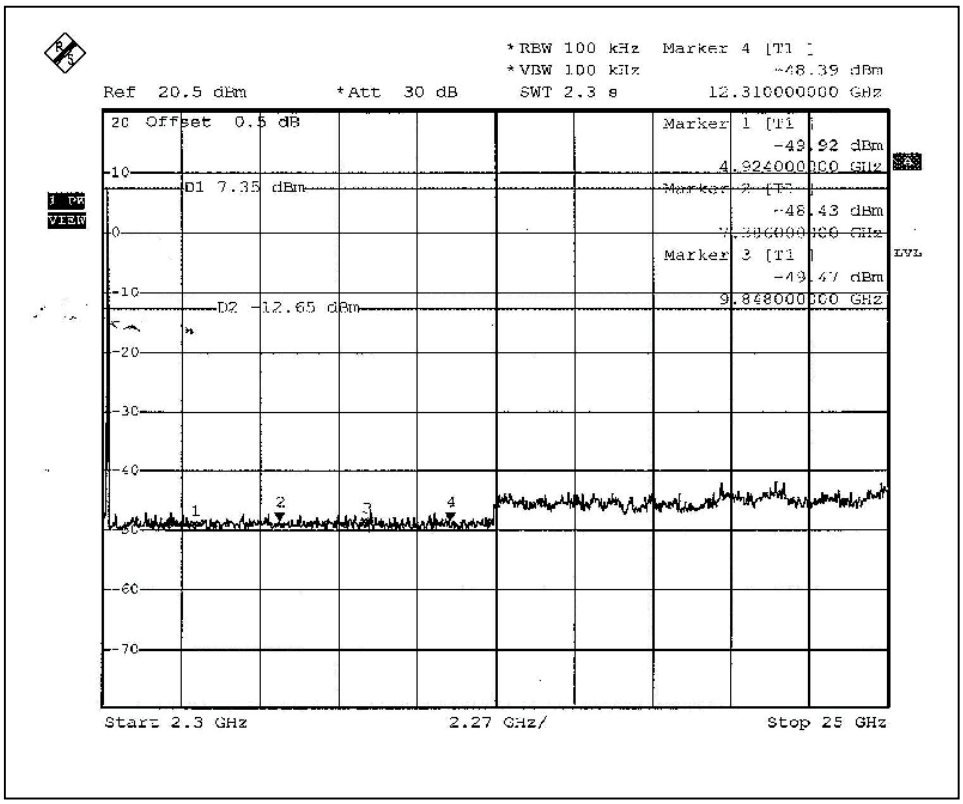
CH11


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
6.44 dBm
2.462600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-48.04 dBm
2.483500000 GHz
Marker 2 [T1]
-54.96 dBm
2.500000000 GHz
Marker 3 [T1]
-48.31 dBm
2.487400000 GHz
D1 6.44 dBm
D2 -13.56 dBm
1 PK
VIEW
LVL
F1
F2
Center 2.504 GHz
10 MHz/
Span 100 MHz

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-48.59 dBm
12.060000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-48.95 dBm
4.824000000 GHz
Marker 2 [T1]
-48.69 dBm
7.236000000 GHz
Marker 3 [T1]
-49.42 dBm
9.648000000 GHz
D1 6.87 dBm
D2 -13.13 dBm
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-48.39 dBm
12.310000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.92 dBm
4.924000000 GHz
Marker 2 [T1]
-48.43 dBm
7.386000000 GHz
Marker 3 [T1]
-49.47 dBm
9.848000000 GHz
D1 7.35 dBm
D2 -12.65 dBm
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

4.6.7 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.

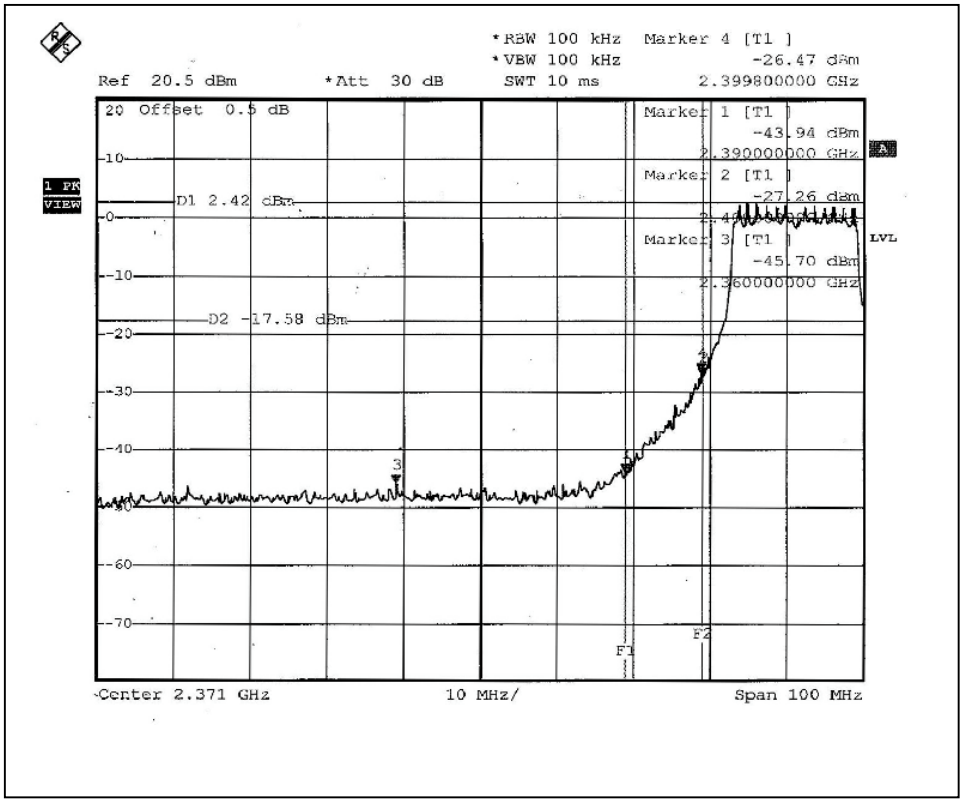
NOTE (Peak):
The band edge emission plot of OFDM technique on the following first page show 46.36dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 109.6dBuV/m, so the maximum field strength in restrict band is 109.6-46.36=63.24dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of OFDM technique on the following first page shows 44.99dB 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 110.7dBuV/m, so the maximum field strength in restrict band is 110.7-44.99=65.71dBuV/m which is under 74 dBuV/m limit.

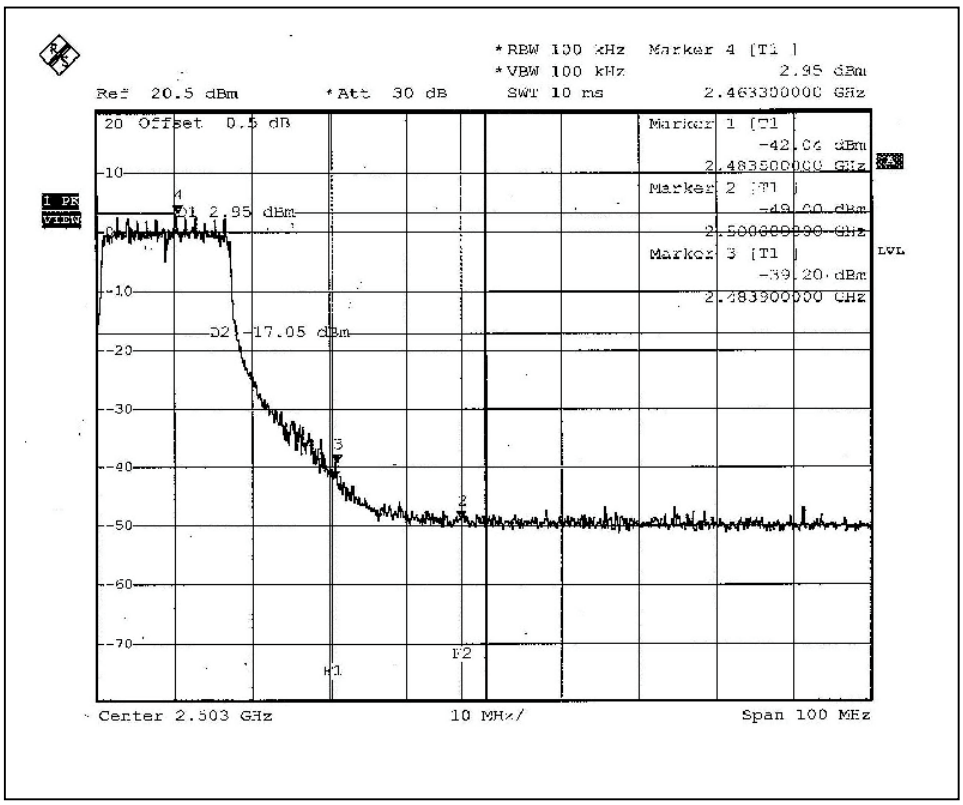
NOTE (Average):
The band edge emission plot of OFDM technique on the following second page shows 49.24dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 101.50dBuV/m, so the maximum field strength in restrict band is 101.50-49.24=52.26dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 50.28dB 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 102.70dBuV/m, so the maximum field strength in restrict band is 102.70-50.28=52.42dBuV/m which is under 54 dBuV/m limit.

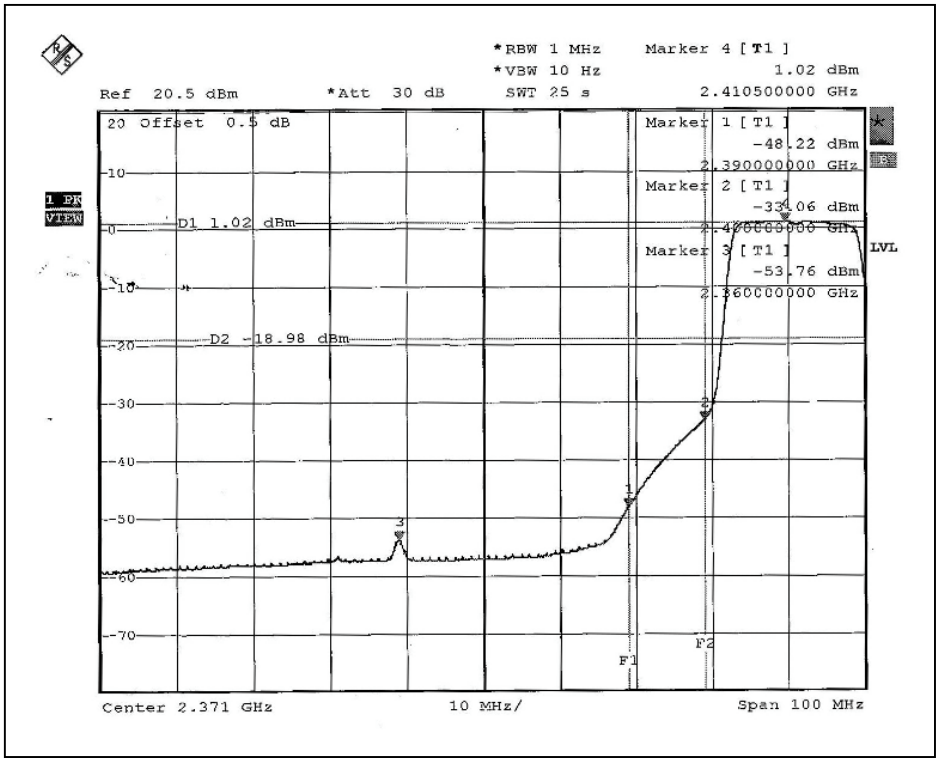
CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
-26.47 dBm
2.399800000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-43.94 dBm
2.390000000 GHz
Marker 2 [T1]
-27.26 dBm
Marker 3 [T1]
-45.70 dBm
2.360000000 GHz
1 PK
VIEW
D1 2.42 dBm
D2 -17.58 dBm
LVL
Center 2.371 GHz
10 MHz/
Span 100 MHz

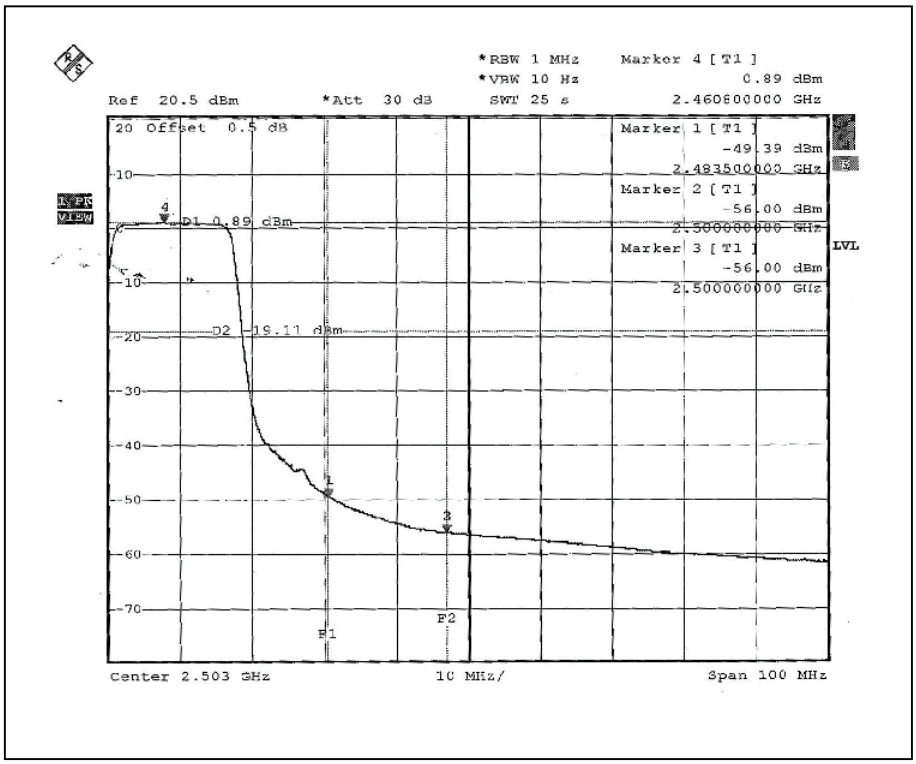
CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
2.95 dBm
2.463300000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1
-42.06 dBm
2.483500000 GHz
Marker 2 [T1
-49.00 dBm
2.500000000 GHz
Marker 3 [T1
-39.20 dBm
2.483900000 GHz
1 PK
VIEW
D1 2.95 dBm
D2 -17.05 dBm
LVL
Center 2.503 GHz
10 MHz/
Span 100 MHz

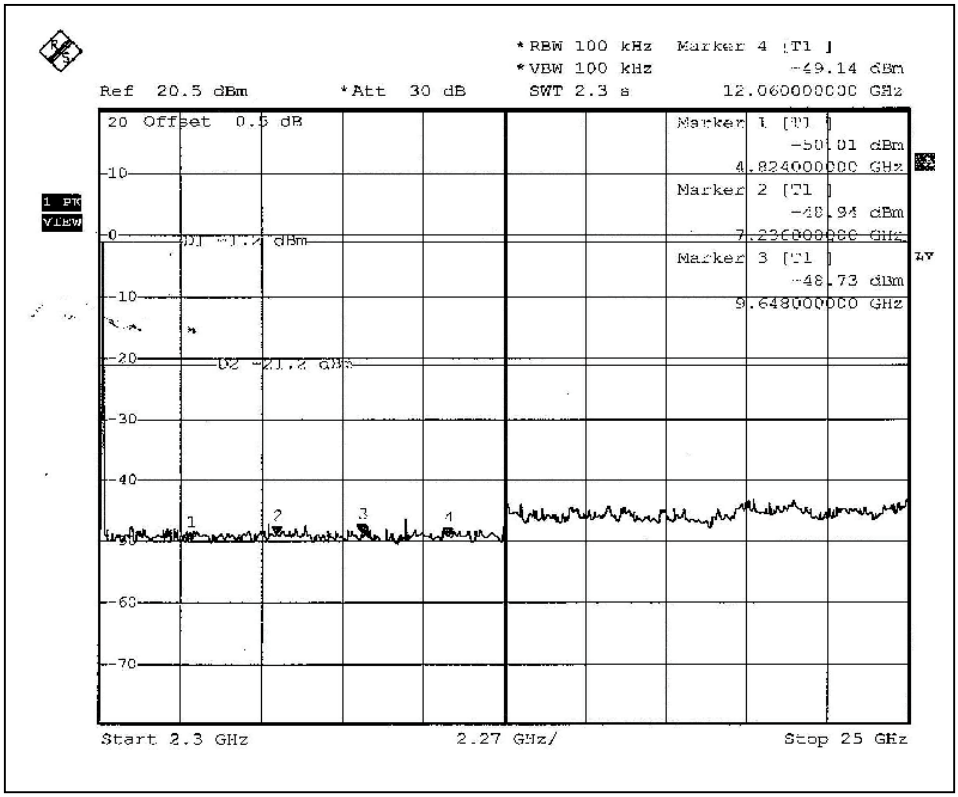
CH1


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
1.02 dBm
2.410500000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-48.22 dBm
2.390000000 GHz
Marker 2 [T1]
-33.06 dBm
2.400000000 GHz
Marker 3 [T1]
-53.76 dBm
2.360000000 GHz
1 PK VIEW
D1 1.02 dBm
D2 -18.98 dBm
LVL
Center 2.371 GHz
10 MHz/
Span 100 MHz

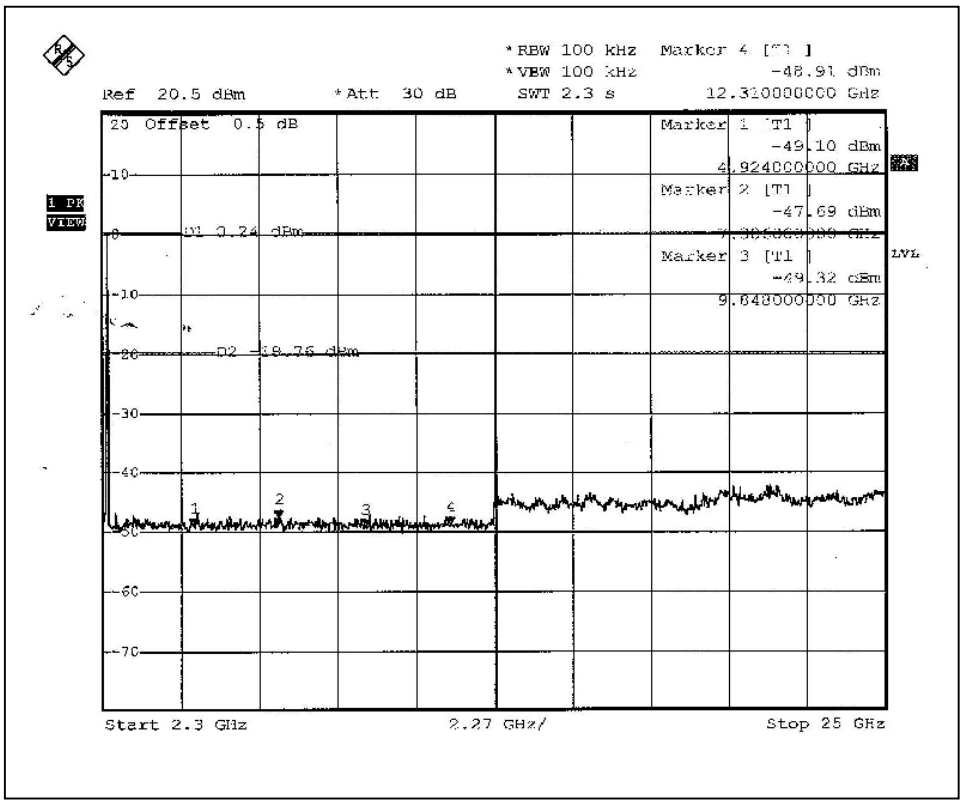
CH11


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
0.89 dBm
2.460600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.39 dBm
2.483500000 GHz
Marker 2 [T1]
-56.00 dBm
2.500000000 GHz
Marker 3 [T1]
-56.00 dBm
2.500000000 GHz
1 PK VIEW
D1 0.89 dBm
D2 -19.11 dBm
LVL
Center 2.503 GHz
10 MHz/
Span 100 MHz

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-49.14 dBm
12.060000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-50.01 dBm
4.824000000 GHz
Marker 2 [T1]
-48.94 dBm
7.236000000 GHz
Marker 3 [T1]
-48.73 dBm
9.648000000 GHz
1 PK
VIEW
D1 -1.2 dBm
D2 -21.2 dBm
LVL
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-48.91 dBm
12.320000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.10 dBm
4.924000000 GHz
Marker 2 [T1]
-47.69 dBm
Marker 3 [T1]
-49.32 dBm
9.848000000 GHz
1 PK
VIEW
D1 0.24 dBm
D2 -18.76 dBm
LVL
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

802.11g Turbo OFDM modulation

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.

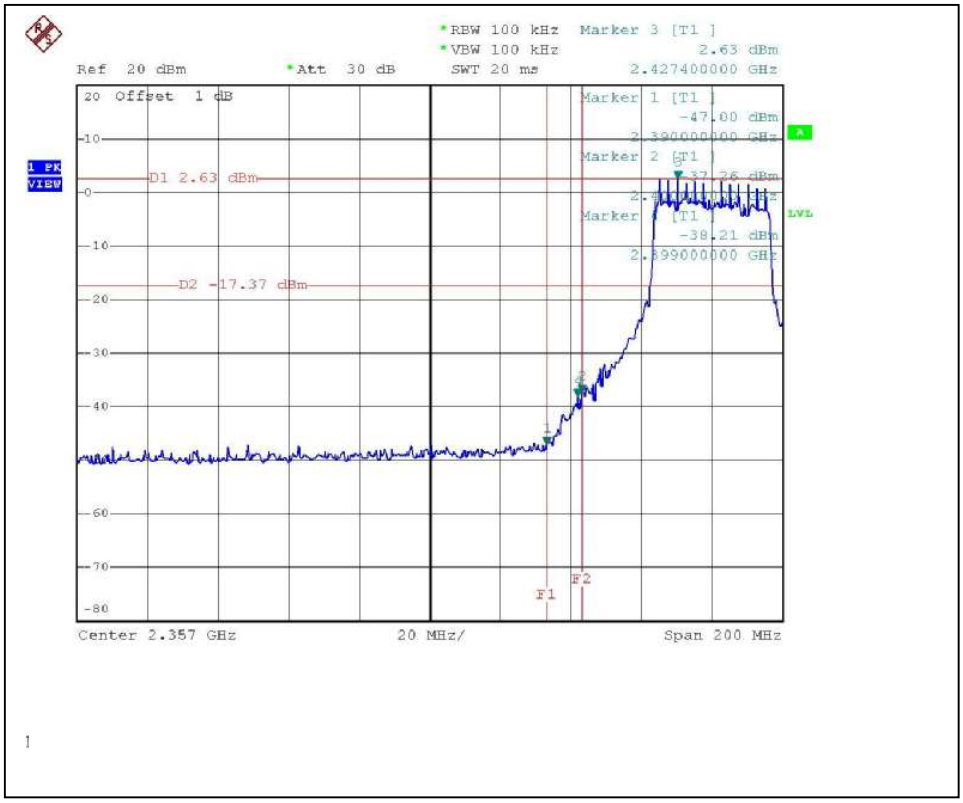
NOTE (Peak):
The band edge emission plot of OFDM technique on the following first page show 49.63dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2 is 103.2dBuV/m, so the maximum field strength in restrict band is 103.2-49.63=53.57dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of OFDM technique on the following first page shows 50.23dB 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 6 at the item 4.2 is 103.2dBuV/m, so the maximum field strength in restrict band is 103.2-50.23=52.97dBuV/m which is under 74 dBuV/m limit.

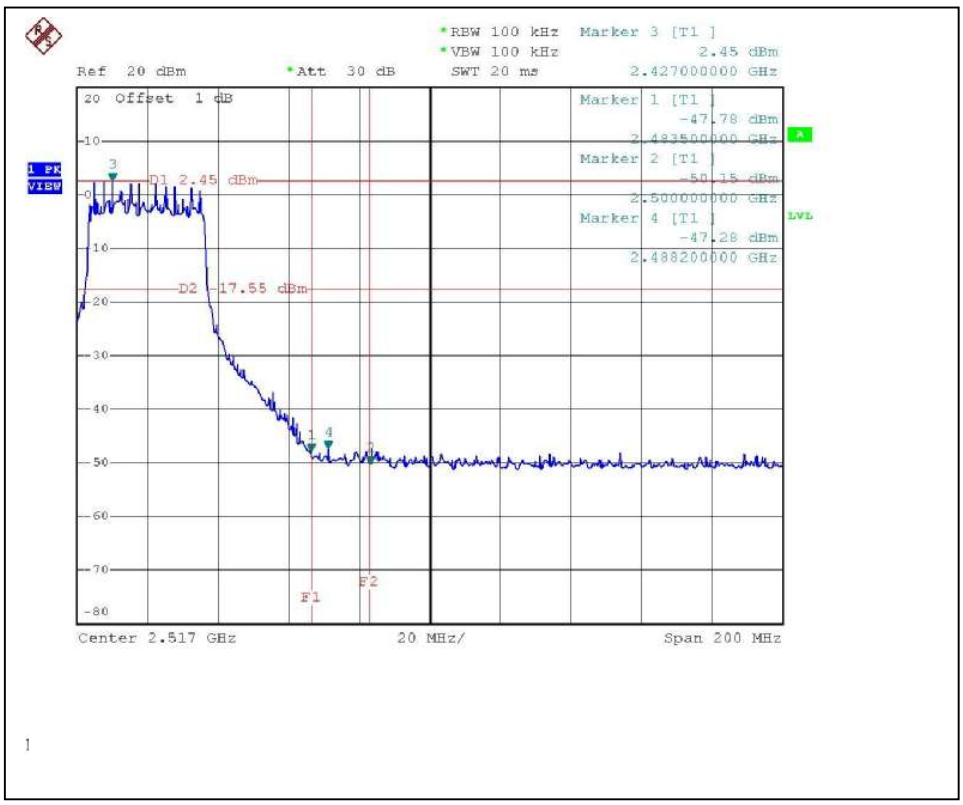
NOTE (Average):
The band edge emission plot of OFDM technique on the following second page shows 49.04dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2 is 95.0dBuV/m, so the maximum field strength in restrict band is 95.0-49.04=45.96dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 51.29dB 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 6 at the item 4.2 is 95.0dBuV/m, so the maximum field strength in restrict band is 95.0-51.29=43.71dBuV/m which is under 54 dBuV/m limit.

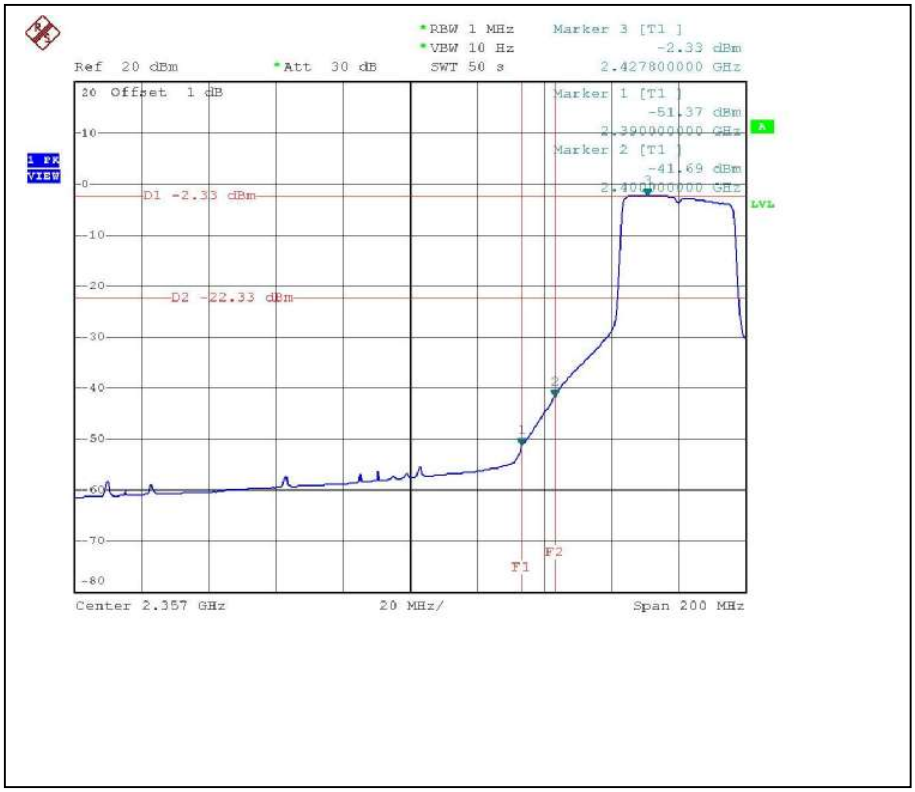
CH6


*RBW 100 kHz
*VBW 100 kHz
Ref 20 dBm
*Att 30 dB
SWT 20 ms
Marker 3 [T1]
2.63 dBm
2.427400000 GHz
20 Offset 1 dB
Marker 1 [T1]
-47.00 dBm
Marker 2 [T1]
-37.36 dBm
Marker 4 [T1]
-38.21 dBm
D1 2.63 dBm
D2 -17.37 dBm
F1
F2
Center 2.357 GHz
20 MHz/
Span 200 MHz

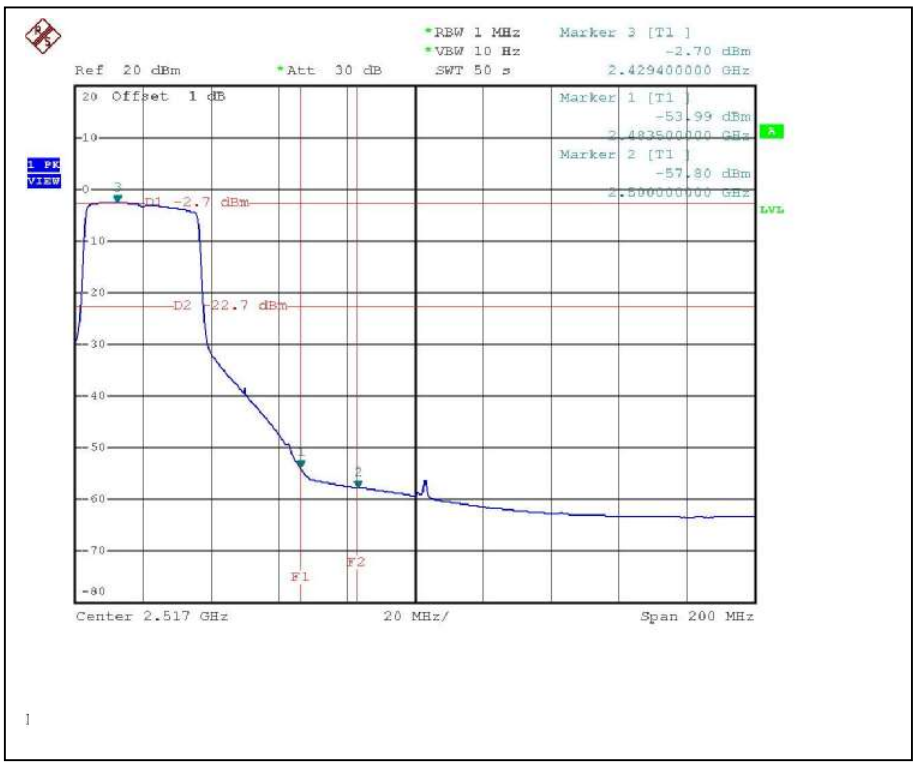
CH6


*RBW 100 kHz
*VBW 100 kHz
Ref 20 dBm
*Att 30 dB
SWT 20 ms
Marker 3 [T1]
2.45 dBm
2.427000000 GHz
20 Offset 1 dB
Marker 1 [T1]
-47.78 dBm
Marker 2 [T1]
-50.15 dBm
Marker 4 [T1]
-47.28 dBm
2.488200000 GHz
D1 2.45 dBm
D2 -17.55 dBm
F1
F2
Center 2.517 GHz
20 MHz/
Span 200 MHz

CH6


RBW 1 MHz
VBW 10 Hz
SWT 50 s
Marker 3 [T1]
-2.33 dBm
2.427800000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
-51.37 dBm
2.390000000 GHz
Marker 2 [T1]
-41.69 dBm
2.400000000 GHz
D1 -2.33 dBm
D2 -22.33 dBm
F1
F2
Center 2.357 GHz
20 MHz/
Span 200 MHz

CH6


RBW 1 MHz
VBW 10 Hz
SWT 50 s
Marker 3 [T1]
-2.70 dBm
2.429400000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
-53.99 dBm
2.483500000 GHz
Marker 2 [T1]
-57.80 dBm
2.500000000 GHz
D1 -2.7 dBm
D2 -22.7 dBm
F1
F2
Center 2.517 GHz
20 MHz/
Span 200 MHz

4.6.8 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.

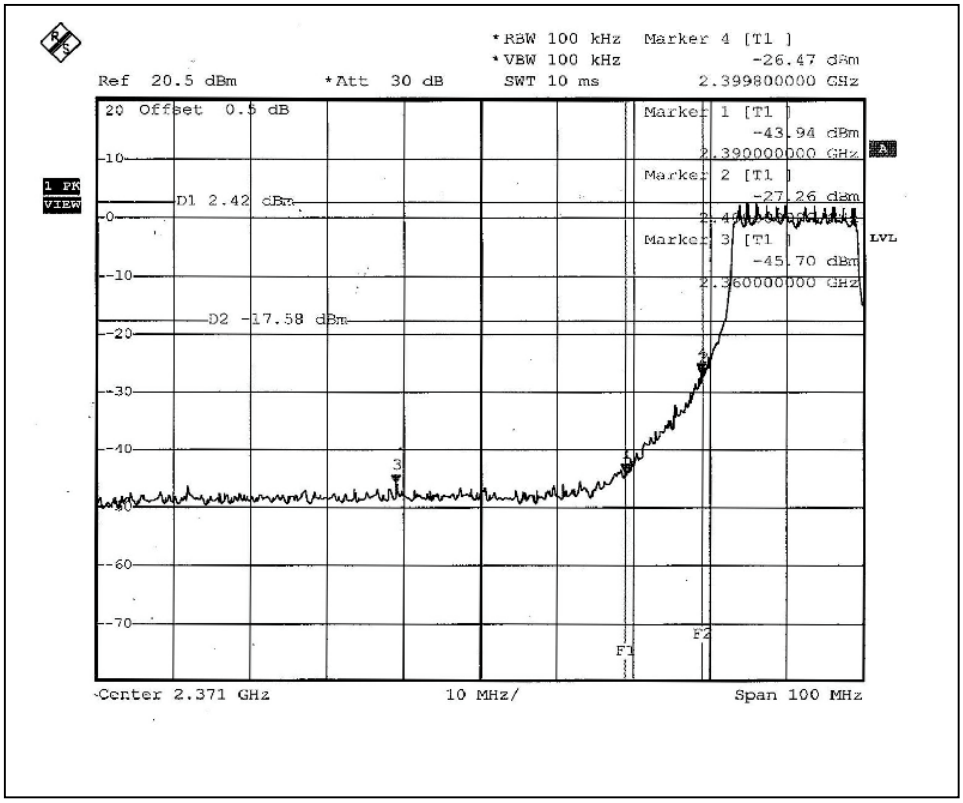
NOTE (Peak):
The band edge emission plot of OFDM technique on the following first page show 46.36dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 104.3dBuV/m, so the maximum field strength in restrict band is 104.3-46.36=57.94dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of OFDM technique on the following first page shows 44.99dB 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 103.1dBuV/m, so the maximum field strength in restrict band is 103.1-44.99=58.11dBuV/m which is under 74 dBuV/m limit.

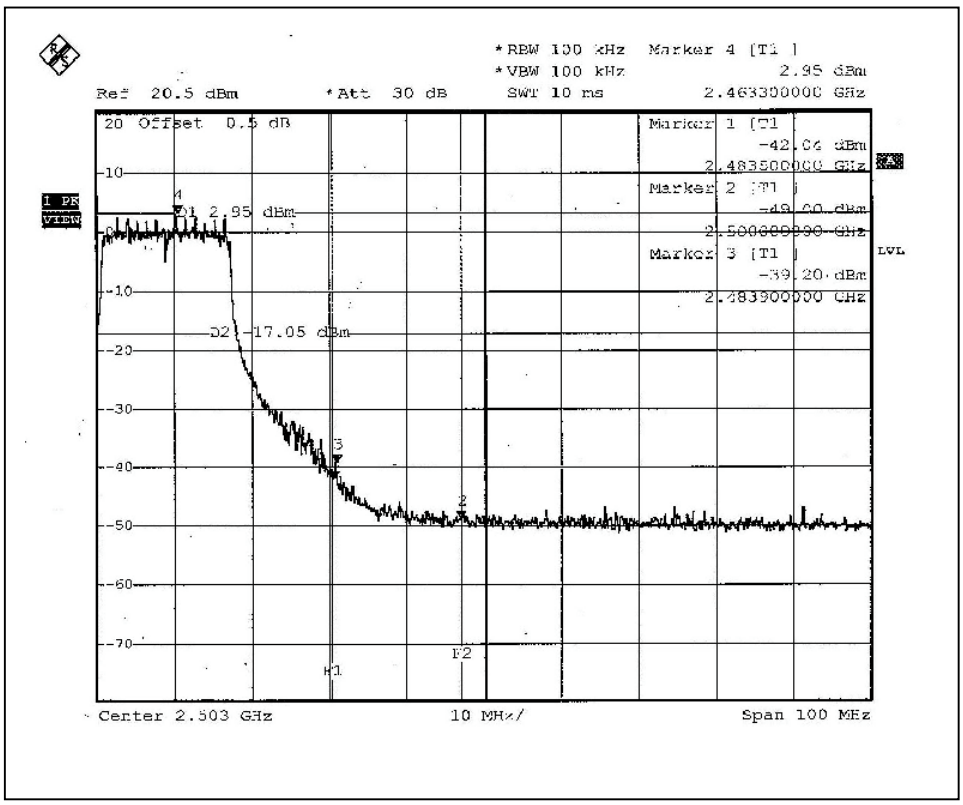
NOTE (Average):
The band edge emission plot of OFDM technique on the following second page shows 49.24dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 95.80dBuV/m, so the maximum field strength in restrict band is 95.80-49.24=46.56dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 50.28dB 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 95.30dBuV/m, so the maximum field strength in restrict band is 95.30-50.28=45.02dBuV/m which is under 54 dBuV/m limit.

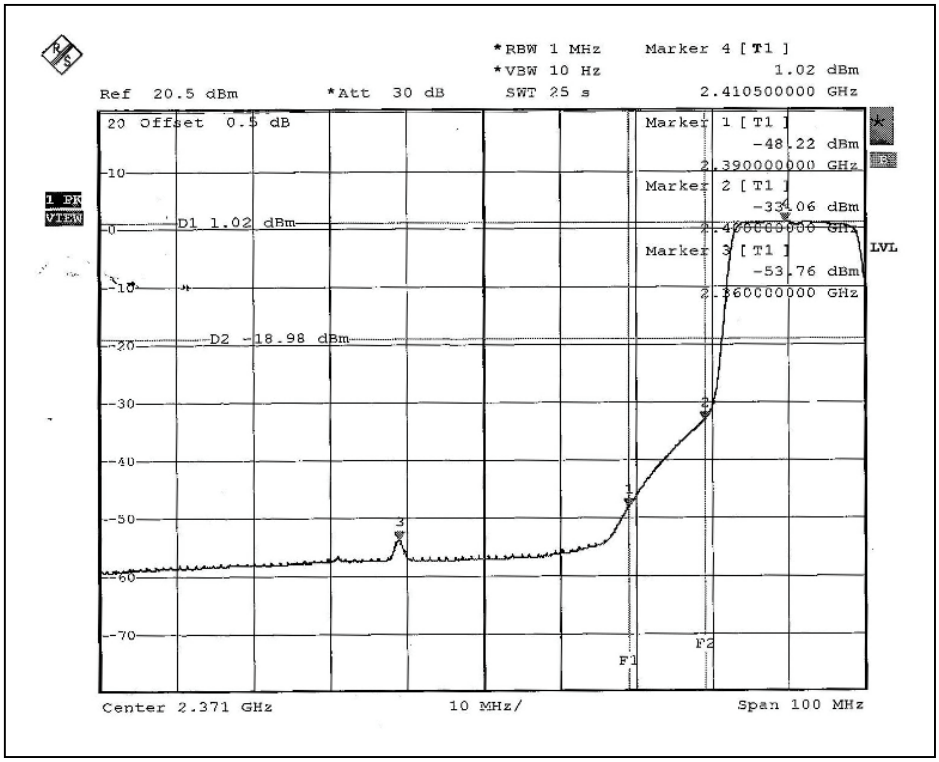
CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
-26.47 dBm
2.399800000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-43.94 dBm
2.390000000 GHz
Marker 2 [T1]
-27.26 dBm
Marker 3 [T1]
-45.70 dBm
2.360000000 GHz
1 PK
VIEW
D1 2.42 dBm
D2 -17.58 dBm
LVL
Center 2.371 GHz
10 MHz/
Span 100 MHz

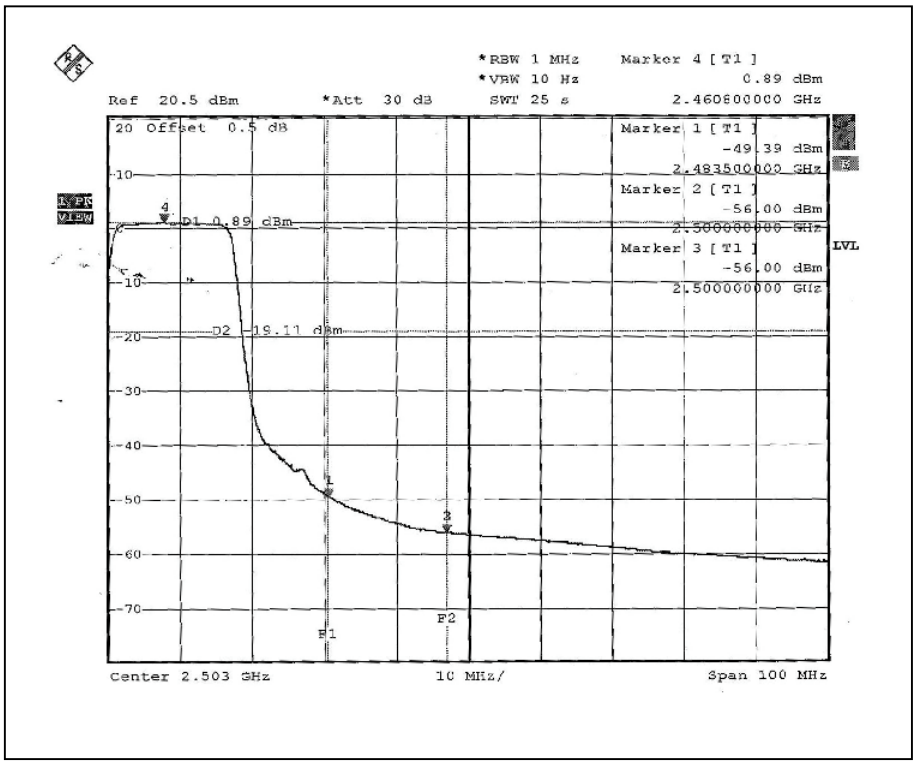
CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
2.95 dBm
2.463300000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1
-42.06 dBm
2.483500000 GHz
Marker 2 [T1
-49.00 dBm
2.500000000 GHz
Marker 3 [T1
-39.20 dBm
2.483900000 GHz
1 PK
VIEW
D1 2.95 dBm
D2 -17.05 dBm
LVL
Center 2.503 GHz
10 MHz/
Span 100 MHz

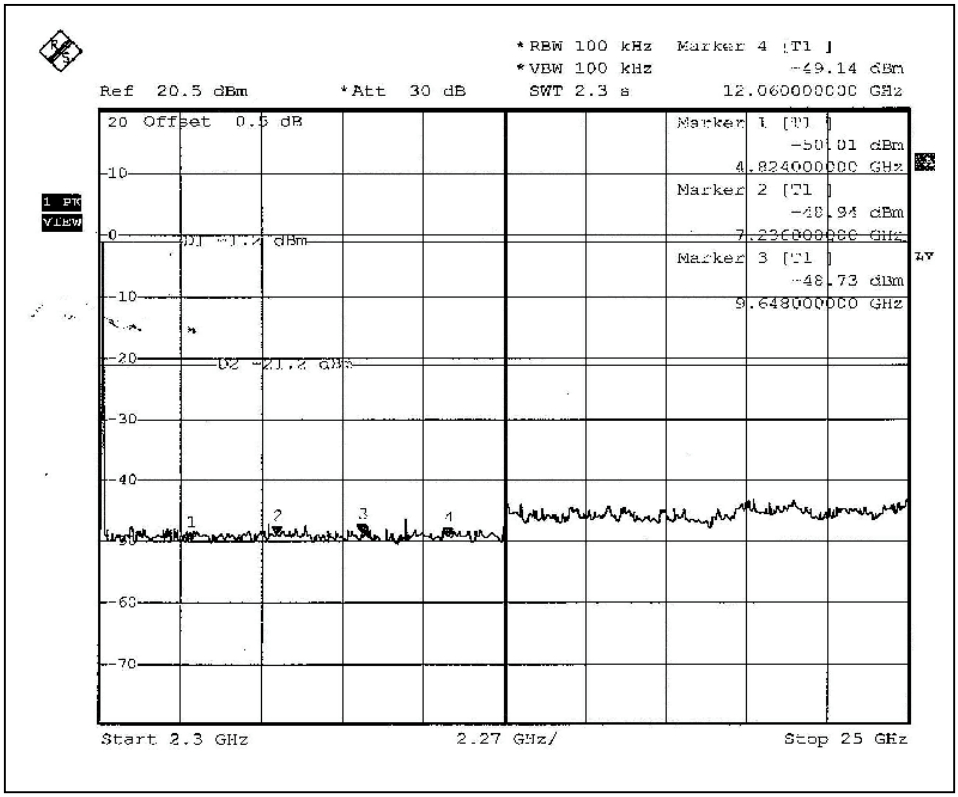
CH1


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
1.02 dBm
2.410500000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-48.22 dBm
2.390000000 GHz
Marker 2 [T1]
-33.06 dBm
2.400000000 GHz
Marker 3 [T1]
-53.76 dBm
2.360000000 GHz
D1 1.02 dBm
D2 -18.98 dBm
LVL
Center 2.371 GHz
10 MHz/
Span 100 MHz

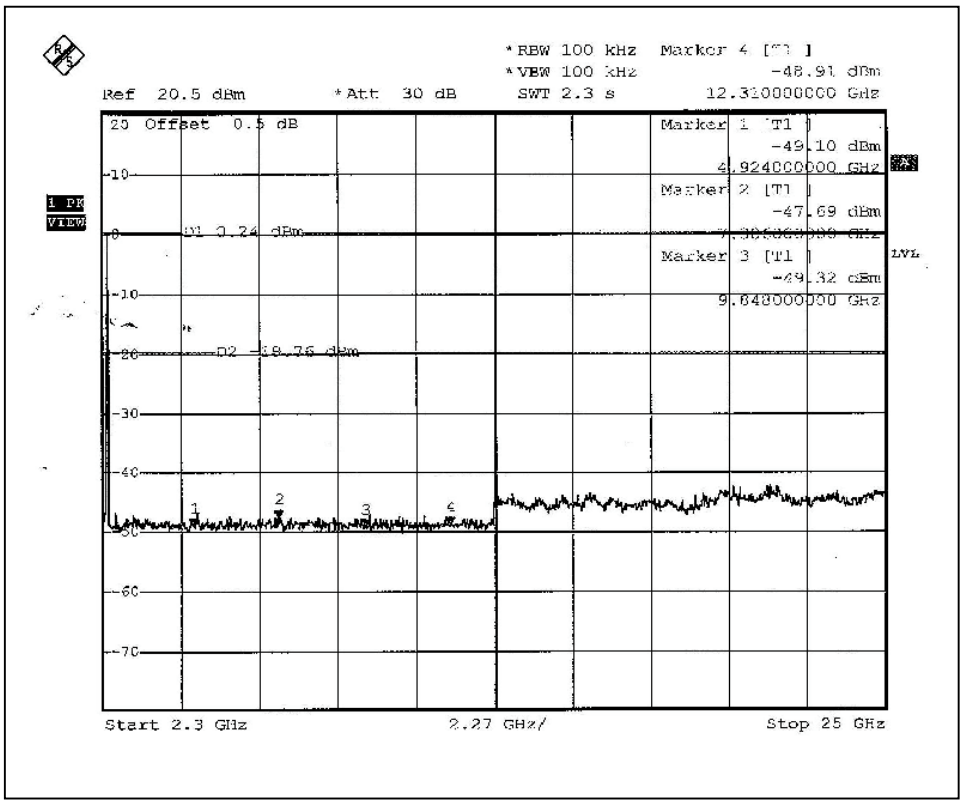
CH11


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 4 [T1]
0.89 dBm
2.460600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.39 dBm
2.483500000 GHz
Marker 2 [T1]
-56.00 dBm
2.500000000 GHz
Marker 3 [T1]
-56.00 dBm
2.500000000 GHz
D1 0.89 dBm
D2 -19.11 dBm
LVL
Center 2.503 GHz
10 MHz/
Span 100 MHz

CH1


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-49.14 dBm
12.060000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-50.01 dBm
4.824000000 GHz
Marker 2 [T1]
-48.94 dBm
7.236000000 GHz
Marker 3 [T1]
-48.73 dBm
9.648000000 GHz
1 PK
VIEW
D1 -1.2 dBm
D2 -21.2 dBm
LVL
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 2.3 s
Marker 4 [T1]
-48.91 dBm
12.120000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.10 dBm
4.824000000 GHz
Marker 2 [T1]
-47.69 dBm
7.236000000 GHz
Marker 3 [T1]
-49.32 dBm
9.648000000 GHz
1 PK
VIEW
D1 0.24 dBm
D2 -19.76 dBm
LVL
Start 2.3 GHz
2.27 GHz/
Stop 25 GHz

802.11g Turbo OFDM modulation

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.

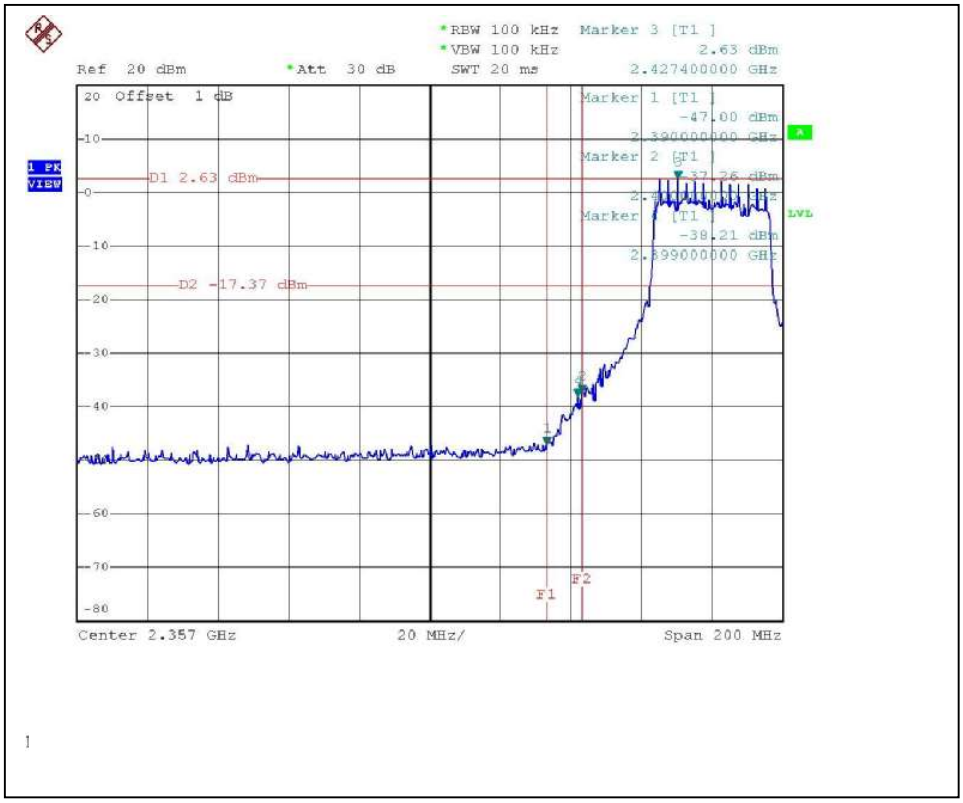
NOTE (Peak):
The band edge emission plot of OFDM technique on the following first page show 49.63dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2 is 98.2dBuV/m, so the maximum field strength in restrict band is 98.2-49.63=48.57dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of OFDM technique on the following first page shows 50.23dB 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 6 at the item 4.2 is 98.2dBuV/m, so the maximum field strength in restrict band is 98.2-50.23=47.97dBuV/m which is under 74 dBuV/m limit.

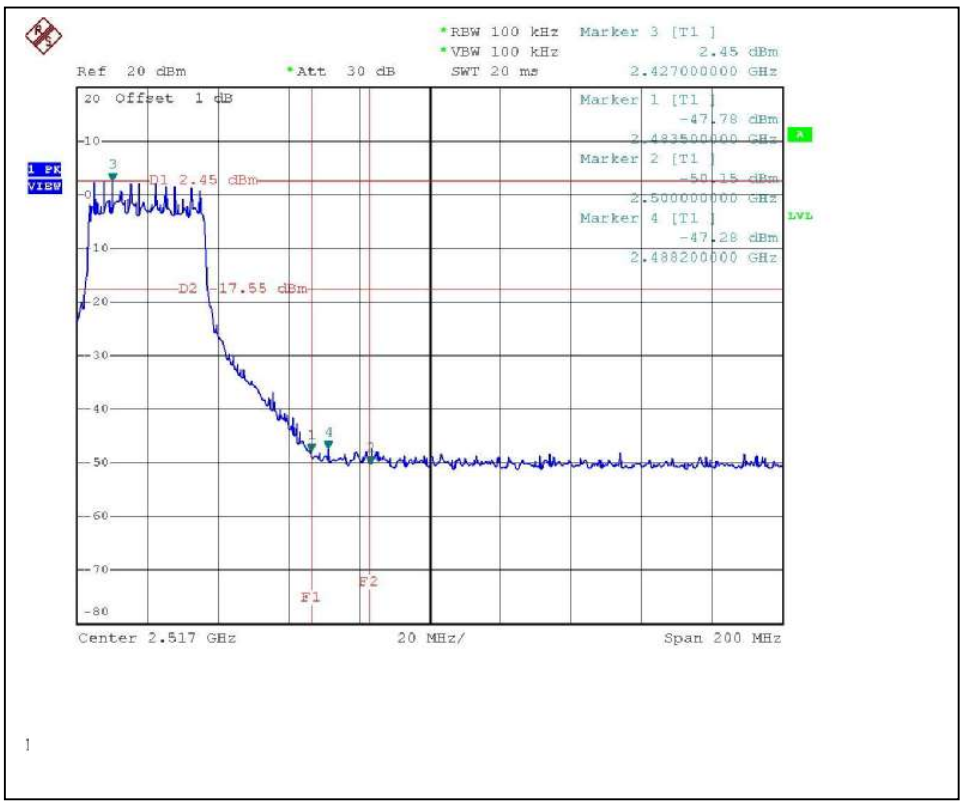
NOTE (Average):
The band edge emission plot of OFDM technique on the following second page shows 49.04dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2 is 90.0dBuV/m, so the maximum field strength in restrict band is 90.0-49.04=40.96dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 51.29dB 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 6 at the item 4.2 is 90.0dBuV/m, so the maximum field strength in restrict band is 90.0-51.29=38.71dBuV/m which is under 54 dBuV/m limit.

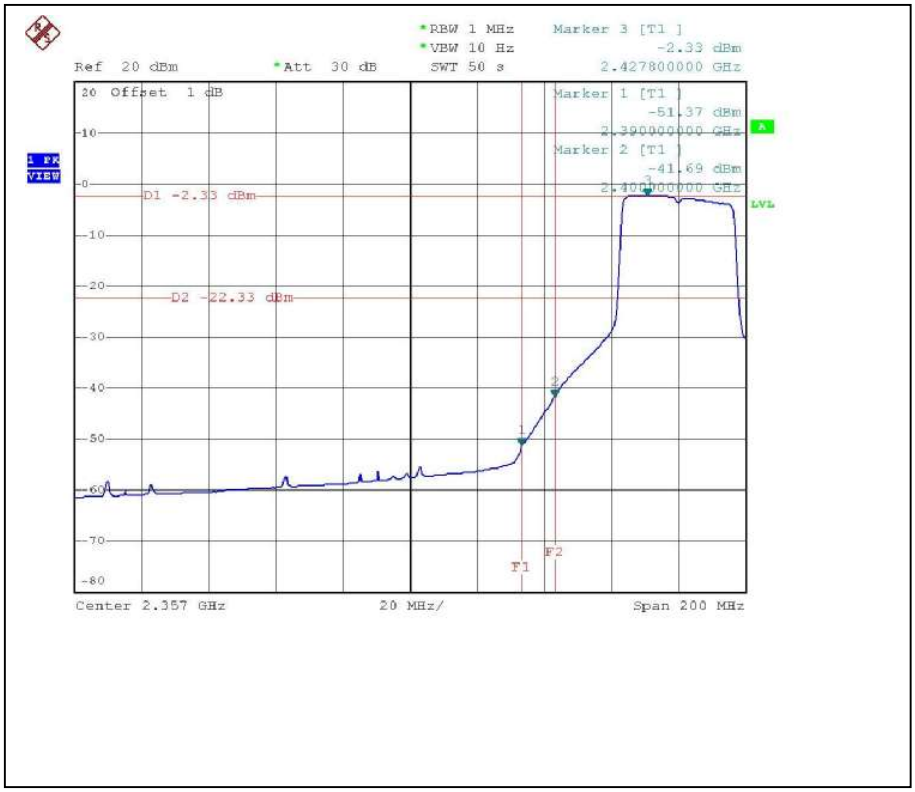
CH6


*RBW 100 kHz
*VBW 100 kHz
Ref 20 dBm
*Att 30 dB
SWT 20 ms
Marker 3 [T1]
2.63 dBm
2.427400000 GHz
20 Offset 1 dB
Marker 1 [T1]
-47.00 dBm
2.390000000 GHz
Marker 2 [T1]
-37.36 dBm
Marker 4 [T1]
-38.21 dBm
2.399000000 GHz
1 PK VIEW
D1 2.63 dBm
D2 -17.37 dBm
F1
F2
Center 2.357 GHz
20 MHz/
Span 200 MHz

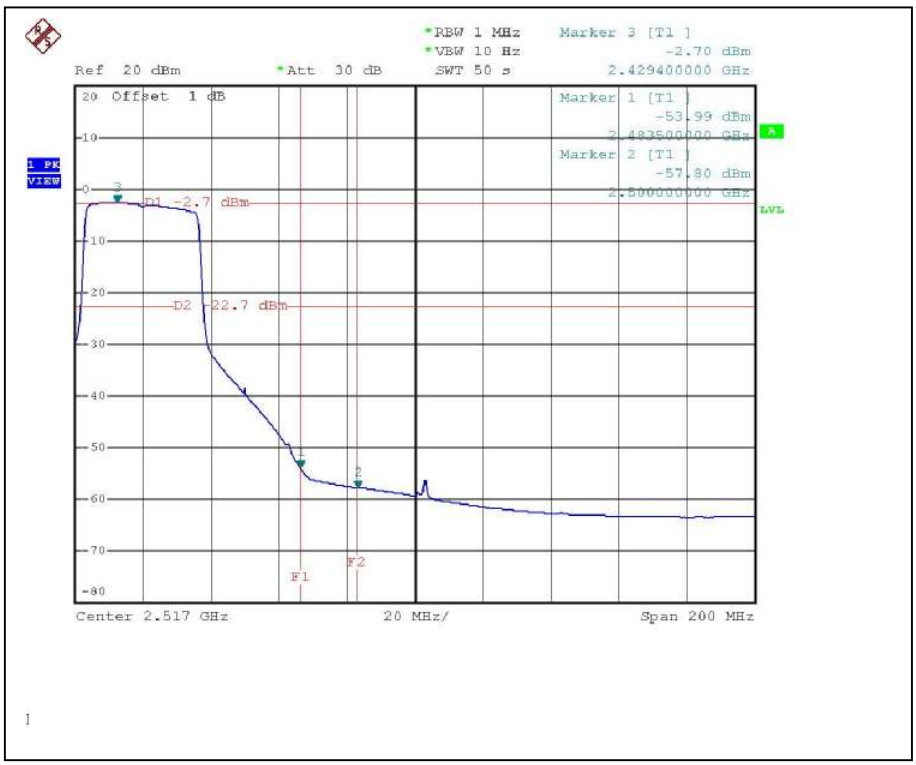
CH6


*RBW 100 kHz
*VBW 100 kHz
Ref 20 dBm
*Att 30 dB
SWT 20 ms
Marker 3 [T1]
2.45 dBm
2.427000000 GHz
20 Offset 1 dB
Marker 1 [T1]
-47.78 dBm
2.483500000 GHz
Marker 2 [T1]
-50.15 dBm
2.500000000 GHz
Marker 4 [T1]
-47.28 dBm
2.488200000 GHz
1 PK VIEW
D1 2.45 dBm
D2 -17.55 dBm
F1
F2
Center 2.517 GHz
20 MHz/
Span 200 MHz

CH6


RBW 1 MHz
VBW 10 Hz
SWT 50 s
Marker 3 [T1]
-2.33 dBm
2.427800000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
-51.37 dBm
2.390000000 GHz
Marker 2 [T1]
-41.69 dBm
2.400000000 GHz
D1 -2.33 dBm
D2 -22.33 dBm
F1
F2
Center 2.357 GHz
20 MHz/
Span 200 MHz

CH6


RBW 1 MHz
VBW 10 Hz
SWT 50 s
Marker 3 [T1]
-2.70 dBm
2.429400000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
-53.99 dBm
2.483500000 GHz
Marker 2 [T1]
-57.80 dBm
2.500000000 GHz
D1 -2.7 dBm
D2 -22.7 dBm
F1
F2
Center 2.517 GHz
20 MHz/
Span 200 MHz

4.7 ANTENNA REQUIREMENT

4.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.7.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are Dipole Antenna with R-SMA connector and printed antenna without connector.

Antenna 1: The maximum Gain of the antenna is 2.0dBi.
Antenna 2: The maximum Gain of the antenna is 0dBi.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST

6 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

USA	FCC, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB, GOST-ASIA (MOU)
Russia	CERTIS (MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Email: service@adt.com.tw
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.