Band Edge measurement for radiated emission in Ristricted Band(Radiated)

Average Mode (Channel 11)

5.6 RF Exposure Measurement [Section 15.247(b)(4) & 1.1307(b)]

Refer to SAR Test Report attached

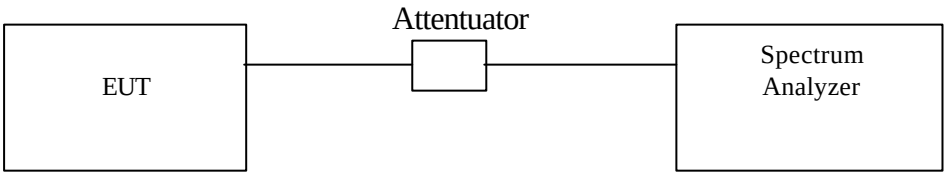
5.7 DSSS Peak Power Spectral Density [Section 15.247(d)]

5.7.1 Test Procedure

1. The Transmitter output of EUT was connected to the spectrum analyzer.
   Equipment mode: Spectrum analyzer
   Detector function: Peak mode
   SPAN:1.5MHz
   RBW: 3KHz
   VBW: 30KHz
   Center frequency: fundamental frequency tested.
   Sweep time= 500 sec.
   Cable loss=0.5dB

2. Using Peak Search to read the peak power after Maximun Hold function is completed.

5.7.2 Test Setup



5.7.3 Test Data:

Table Maxmum Peak Output Power Density

Chennel	Frequency (MHz)	Peak Power Output (dBm/3KHz)	Limit (dBm/3KHz)	Pass/Fail
1	2412.5	-7.96	8	Pass
6	2437.5	-8.68	8	Pass
11	2462.5	-9.13	8	Pass

Note: Two RF output(MAIN & AUX) have been test,the worse data shown above.
Cable Lose=0.5dB


Wed 2003 Mar 12 15:50
REF 20.0 dBm
MKR 2.410997 GHz
10dB/ A_View Posi B_Blank Norm -8.46 dBm
MARKER
2.410997 GHz
Marker
1 Normal
2 Delta
3 Peak Menu
4 Sig Track ON OFF
5 MKR Trace A B
6 Marker OFF
7 1/2,more
CENTER 2.411370 GHz
SPAN 1.500 MHz
*RBW 3 kHz *VBW 30 kHz *SWP 500 s *ATT 30dB


Wed 2003 Mar 12 16:27
REF 20.0 dBm
MKR 2.436372 GHz
10dB/ A_View Posi B_Blank Norm -9.18 dBm
MARKER
2.436372 GHz
Marker
1 Normal
2 Delta
3 Peak Menu
4 Sig Track ON OFF
5 MKR Trace A B
6 Marker OFF
7 1/2,more
CENTER 2.436340 GHz
SPAN 1.500 MHz
*RBW 3 kHz *VBW 30 kHz *SWP 500 s *ATT 30dB


Wed 2003 Mar 12 16:36
REF 20.0 dBm
MKR 2.460998 GHz
10dB/ A_View Posi B_Blank Norm -9.63 dBm
MARKER
2.460998 GHz
Marker
1 Normal
2 Delta
3 Peak Menu
4 Sig Track ON OFF
5 MKR Trace A B
6 Marker OFF
7 1/2,more
CENTER 2.461305 GHz
SPAN 1.500 MHz
*RBW 3 kHz *VBW 30 kHz *SWP 500 s *ATT 30dB

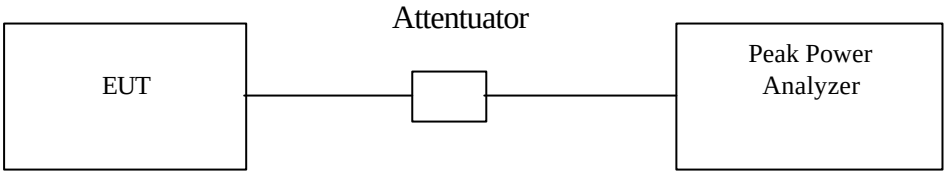
6. TEST RESULTS (802.11a)

6.1 Maximum Peak Output Power [Section 15.407 (a)(1)(2)(3)]

6.1.1 Test Procedure

3. The Transmitter output of EUT was connected to the peak power analyzer through an attenuator.

6.1.2 Test Setup



6.1.3 Test Data: (Normal Mode)

Maximum Peak Output Power

Chennel	Frequency (MHz)	Peak Power Output (dBm)	26 dBc Bandwidth (MHz)	Limit (dBm)	Pass/Fail
1	5180	16.41	28.35	17	Pass
4	5240	16.35	28.07	17	Pass
5	5260	18.71	29.54	24	Pass
8	5320	18.22	28.35	24	Passs

6.1.4 Test Data: (Turbo Mode)

Maximum Peak Output Power

Chennel	Frequency (MHz)	Peak Power Output (dBm)	26 dBc Bandwidth (MHz)	Limit (dBm)	Pass/Fail
1	5210	16.25	49.08	17	Pass
2	5250	16.37	48.00	17	Pass
3	5290	17.48	48.48	24	Pass


Mon 2003 Mar 17 17:03
REF 20.0 dBm
DL 26.0 dB
MKR 5.18284 GHz
10dB/
A_View
Posi
B_Blank
Norm
26.04 dB
WINDOW WIDTH
28.35 MHz
Window
1 Window
ON
OFF
2 Window Position
3 Window Width
5 Window Sweep
ON
OFF
7 Marker Couple
ON
OFF
CENTER 5.18000 GHz
SPAN 35.00 MHz
*RBW 300 kHz
*VBW 1 MHz
*SWP 200 ms
*ATT 30dB


Mon 2003 Mar 17 17:05
REF 20.0 dBm
DL 26.0 dB
MKR 5.24280 GHz
10dB/
A_View
Posi
B_Blank
Norm
25.95 dB
WINDOW WIDTH
28.07 MHz
Window
1 Window
ON
OFF
2 Window Position
3 Window Width
5 Window Sweep
ON
OFF
7 Marker Couple
ON
OFF
CENTER 5.24000 GHz
SPAN 35.00 MHz
*RBW 300 kHz
*VBW 1 MHz
*SWP 200 ms
*ATT 30dB


Mon 2003 Mar 17 17:07
REF 20.0 dBm
DL 26.0 dB
MKR 5.26392 GHz
10dB/
A_View
Posi
B_Blank
Norm
26.01 dB
WINDOW WIDTH
29.54 MHz
CENTER 5.26000 GHz
SPAN 35.00 MHz
*RBW 300 kHz
*VBW 1 MHz
*SWP 200 ms
*ATT 30dB
ON
ON
ON


Mon 2003 Mar 17 17:10
REF 20.0 dBm
DL 26.0 dB
MKR 5.32294 GHz
10dB/
A_View
Posi
B_Blank
Norm
26.02 dB
WINDOW WIDTH
28.35 MHz
Window
1 Window
ON OFF
2 Window Position
3 Window Width
5 Window Sweep
ON OFF
7 Marker Couple
ON OFF
CENTER 5.32000 GHz
SPAN 35.00 MHz
*RBW 300 kHz
*VBW 1 MHz
*SWP 200 ms
*ATT 30dB


Mon 2003 Mar 17 17:12
REF 20.0 dBm
DL 26.0 dB
MKR 5.22248 GHz
10dB/
A_View
Posi
B_Blank
Norm
25.95 dB
WINDOW WIDTH
49.08 MHz
Window
1 Window
ON OFF
2 Window Position
3 Window Width
5 Window Sweep
ON OFF
7 Marker Couple
ON OFF
CENTER 5.21000 GHz
SPAN 60.00 MHz
*RBW 300 kHz
*VBW 1 MHz
*SWP 200 ms
*ATT 30dB


Mon 2003 Mar 17 17:15
REF 20.0 dBm
DL 26.0 dB
MKR 5.26494 GHz
10dB/
A_View
Posi
B_Blank
Norm
25.96 dB
WINDOW WIDTH
48.00 MHz
Window
1 Window
ON
OFF
2 Window Position
3 Window Width
5 Window Sweep
ON
OFF
7 Marker Couple
ON
OFF
CENTER 5.25000 GHz
SPAN 60.00 MHz
*RBW 300 kHz
*VBW 1 MHz
*SWP 200 ms
*ATT 30dB


Mon 2003 Mar 17 17:17
REF 20.0 dBm
DL 26.0 dB
MKR 5.30242 GHz
10dB/
A_View
Posi
B_Blank
Norm
26.02 dB
WINDOW WIDTH
48.48 MHz
Window
1 Window
ON OFF
2 Window Position
3 Window Width
5 Window Sweep
ON OFF
7 Marker Couple
ON OFF
CENTER 5.29000 GHz
SPAN 60.00 MHz
*RBW 300 kHz
*VBW 1 MHz
*SWP 200 ms
*ATT 30dB

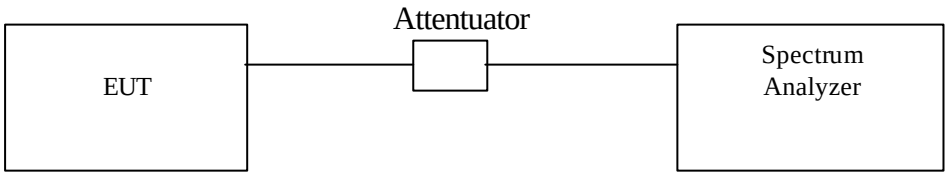
6.2 Peak Power Spectral Density [Section 15.407(a)(1)(2)(3)]

6.2.1 Test Procedure

1. The Transmitter output of EUT was connected to the spectrum analyzer.
   Equipment mode: Spectrum analyzer
   Detector function: Peak mode
   SPAN: 30MHz or 50MHz
   RBW: 1MHz
   VBW: 3MHz
   Center frequency: fundamental frequency tested.
   Sweep time= 30 or 50 sec.
   Cable loss=0.5dB

2. Using Peak Search to read the peak power after Maximun Hold function is completed.

6.2.2 Test Setup



6.2.3 Test Data: (Normal Mode)

Table 7.3.1 Maxmum Peak Output Power Density

Chennel	Frequency (MHz)	Peak Power Output (dBm/MHz)	Limit (dBm/MHz)	Pass/Fail
1	5180	0.63	4	Pass
4	5240	0.95	4	Pass
5	5260	3.98	11	Pass
8	5320	5.28	11	Pass

@ Cable Lose=0.5dB

6.2.4 Test Data: (Turbo Mode)

Table 7.3.1 Maxmum Peak Output Power Density

Chennel	Frequency (MHz)	Peak Power Output (dBm/MHz)	Limit (dBm/MHz)	Pass/Fail
1	5210	0.16	4	Pass
2	5250	0.87	4	Pass
3	5290	1.71	11	Pass

@ Cable Lose=0.5dB


Tue 2003 Mar 18 15:45
REF 20.0 dBm
MKR 5.18279 GHz
10dB/ A_View Posi B_Blank Norm 0.13 dBm
MARKER
5.18279 GHz
Marker
1 Fixed MKR
ON OFF
2 MKR Step
AUTO MNL
5 Multi Marker
7 2/2,more
CENTER 5.18000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 30 s *ATT 30dB


Tue 2003 Mar 18 15:47
REF 20.0 dBm
MKR 5.24297 GHz
10dB/ A_View Posi B_Blank Norm 0.45 dBm
MARKER
5.24297 GHz
Marker
1 Fixed MKR
ON OFF
2 MKR Step
AUTO MNL
5 Multi Marker
7 2/2,more
CENTER 5.24000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 30 s *ATT 30dB


Thu 2003 Mar 13 13:31
REF 20.0 dBm
MKR 5.26267 GHz
10dB/ A_View Posi B_Blank Norm 3.48 dBm
MARKER
5.26267 GHz
Marker
1 Normal
2 Delta
3 Peak Menu
4 Sig Track ON OFF
5 MKR Trace A B
6 Marker OFF
7 1/2,more
CENTER 5.26000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 30 s *ATT 30dB


Thu 2003 Mar 13 13:33
REF 20.0 dBm
MKR 5.32309 GHz
10dB/ A_View Posi B_Blank Norm 4.78 dBm
MARKER
5.32309 GHz
Marker
1 Normal
2 Delta
3 Peak Menu
4 Sig Track ON OFF
5 MKR Trace A B
6 Marker OFF
7 1/2,more
CENTER 5.32000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 30 s *ATT 30dB


Fri 2003 Mar 14 12:43
REF 20.0 dBm
MKR 5.21560 GHz
10dB/ A_View Posi B_Blank Norm -0.34 dBm
MARKER
5.21560 GHz
Marker
1 Fixed MKR
ON OFF
2 MKR Step
AUTO MNL
5 Multi Marker
7 2/2,more
CENTER 5.21000 GHz
SPAN 50.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 50 s *ATT 30dB


Fri 2003 Mar 14 12:45
REF 20.0 dBm
MKR 5.25565 GHz
10dB/ A_View Posi B_Blank Norm 0.37 dBm
MARKER
5.25565 GHz
Marker
1 Fixed MKR
ON OFF
2 MKR Step
AUTO MNL
5 Multi Marker
7 2/2,more
CENTER 5.25000 GHz
SPAN 50.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 50 s *ATT 30dB

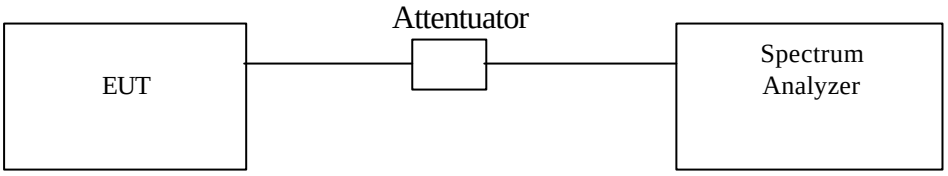

Fri 2003 Mar 14 12:48
REF 20.0 dBm
MKR 5.29555 GHz
10dB/ A_View Posi B_Blank Norm 1.21 dBm
MARKER
5.29555 GHz
Marker
1 Fixed MKR
ON OFF
2 MKR Step
AUTO MNL
5 Multi Marker
7 2/2,more
CENTER 5.29000 GHz
SPAN 50.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 50 s *ATT 30dB

6.3 Peak Power Excursion Measurement [Section 15.407(a)(6)]

6.3.1 Test Procedure

1. The Transmitter output of EUT was connected to the spectrum analyzer.
2. Frequency SPAN of Spectrum: 30MHz or 50MHz.
3. Trace 1 : RBW: 1MHz, VBW: 1MHz. Using peak detector and Max -hold
4. Trace 2 : RBW: 1MHz, VBW:30KHz. Using peak detectro and Max-hold
5. Record the largest difference between Trace 1 and Trace 2.

6.3.2 Test Setup



6.3.3 Test Data: (Normal Mode)

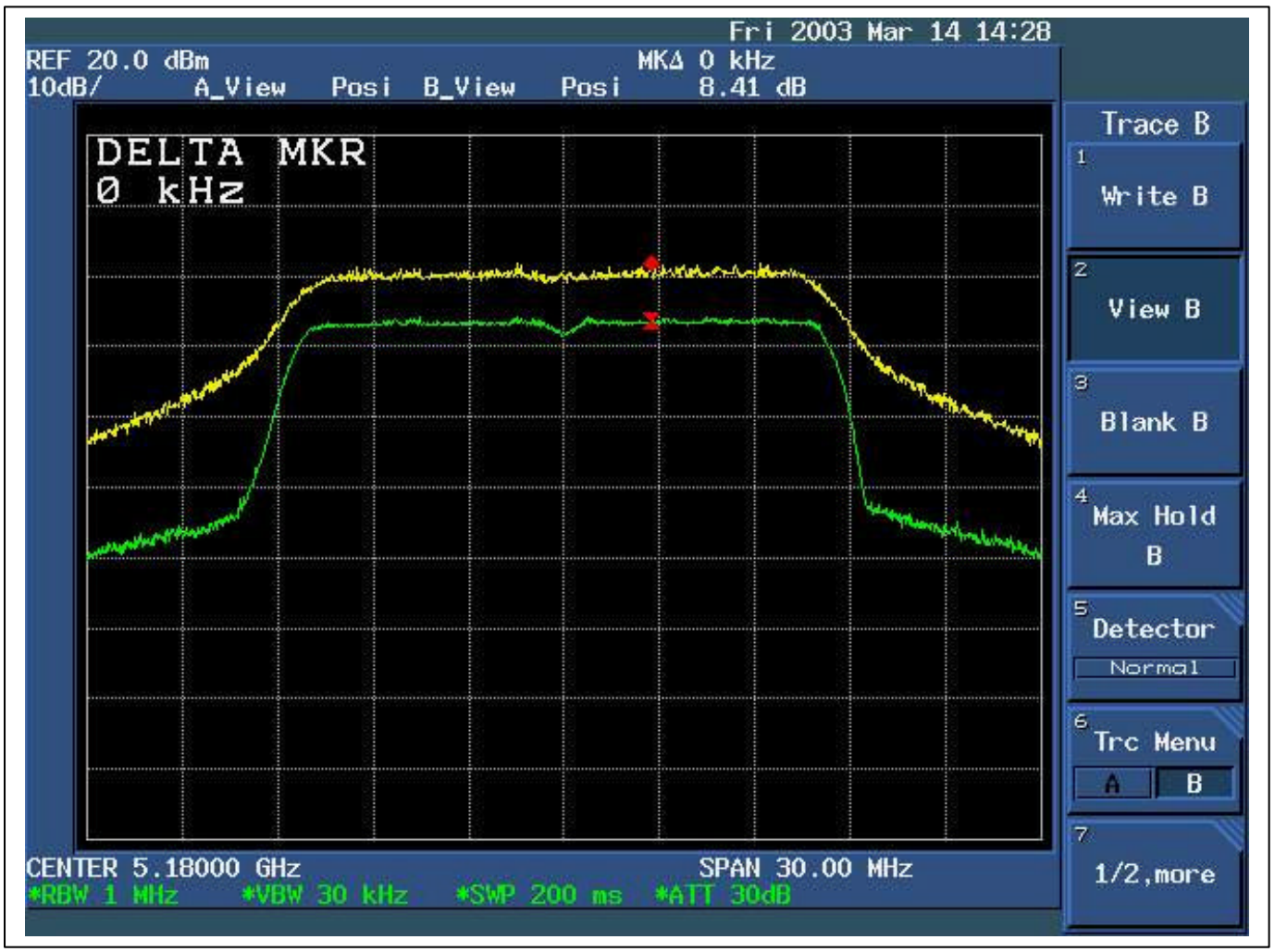
Table 7.3.1 Maxmum Peak Output Power Density

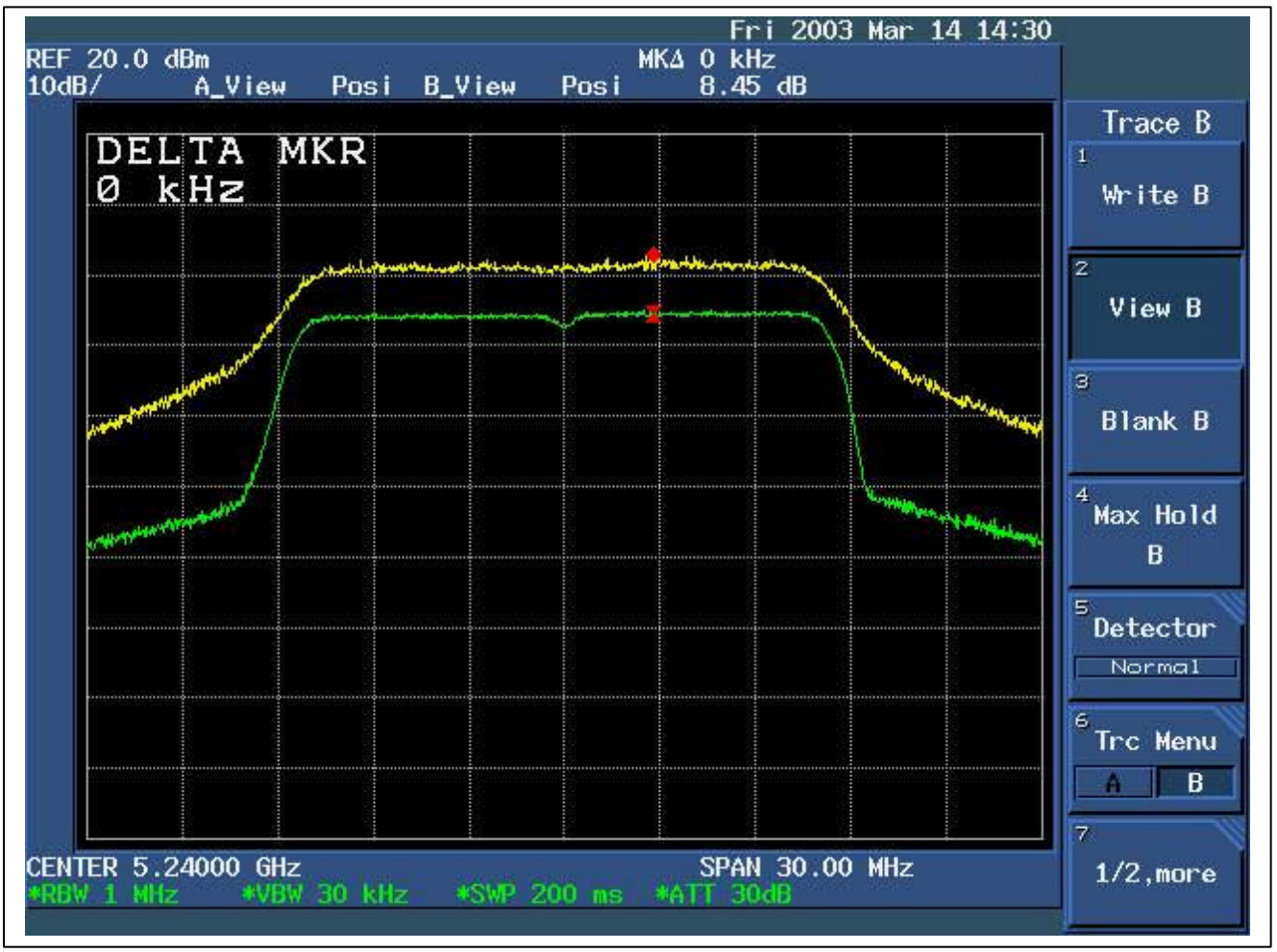
Chennel	Frequency (MHz)	Peak Power Excursion (dB)	Limit (dB)	Pass/Fail
1	5180	8.41	13	Pass
4	5240	8.45	13	Pass
5	5260	8.99	13	Pass
8	5320	7.65	13	

6.3.4 Test Data: (Turbo Mode)

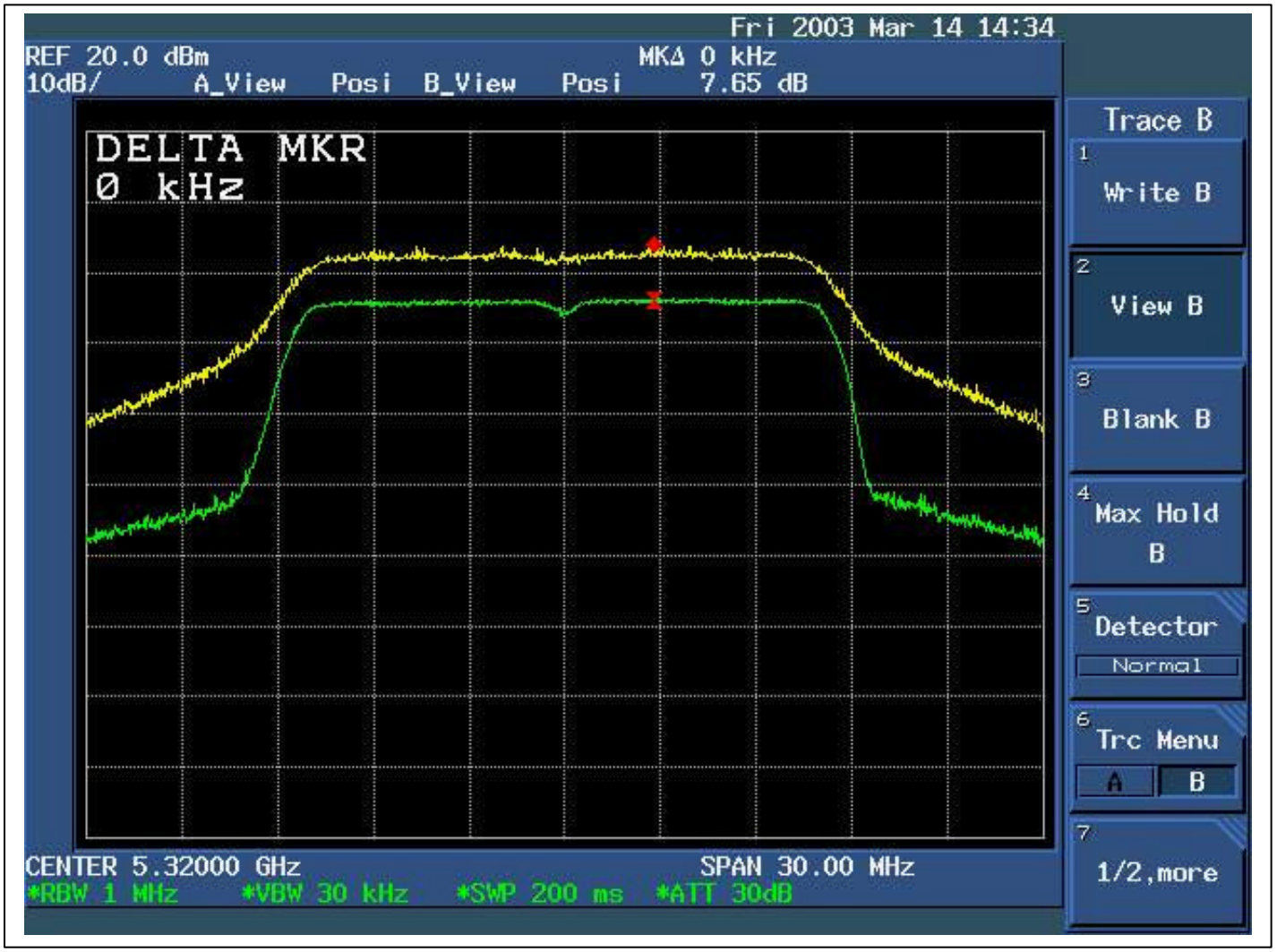
Table 7.3.1 Maxmum Peak Output Power Density

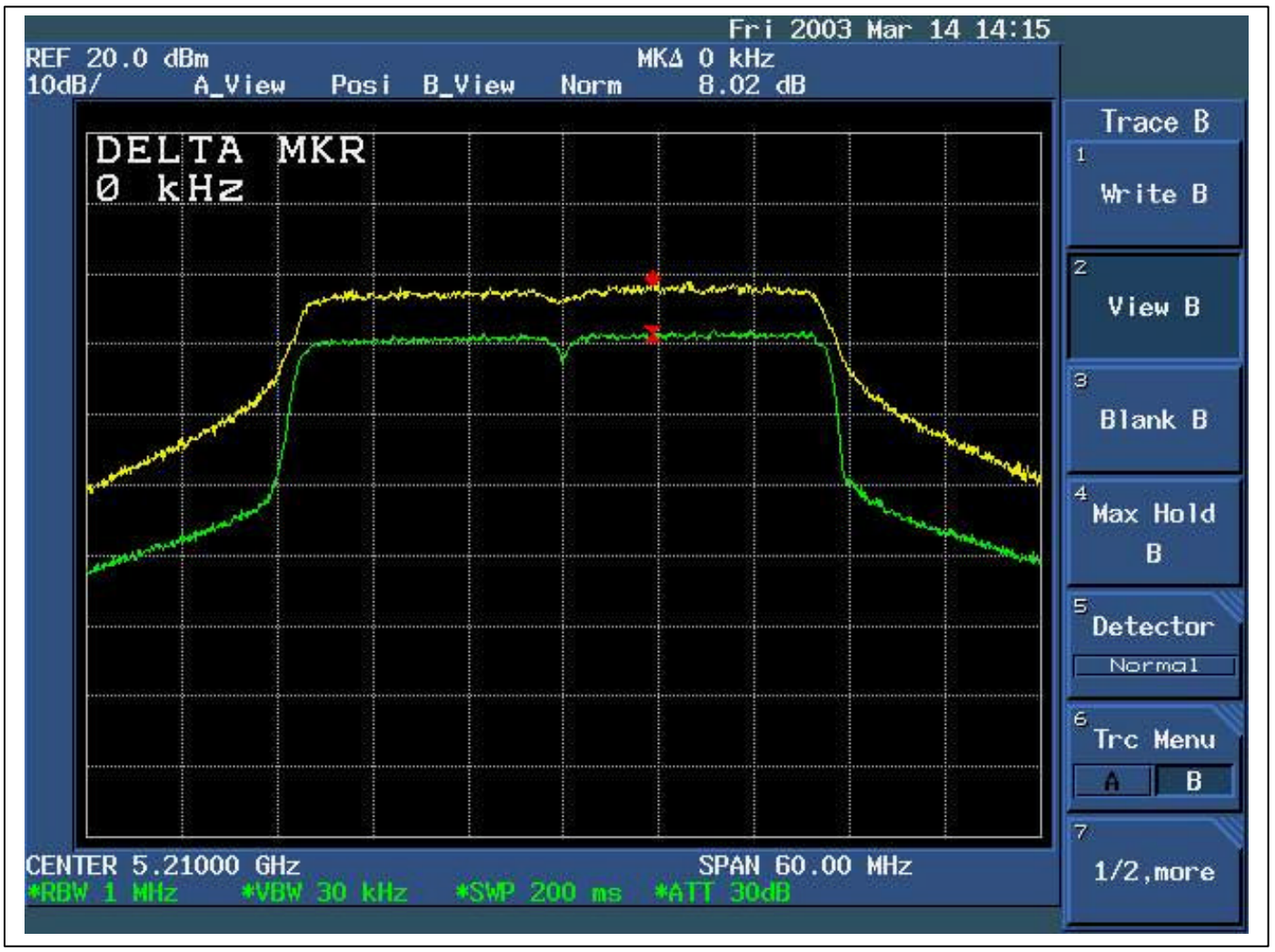
Chennel	Frequency (MHz)	Peak Power Excursion (dB)	Limit (dB)	Pass/Fail
1	5210	8.02	13	Pass
2	5250	8.00	13	Pass
3	5290	7.54	13	Pass


Fri 2003 Mar 14 14:28
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.41 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Normal
6 Trc Menu
A B
7 1/2,more
CENTER 5.18000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB


Fri 2003 Mar 14 14:30
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.45 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Normal
6 Trc Menu
A B
7 1/2,more
CENTER 5.24000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB


Fri 2003 Mar 14 14:32
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.99 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Normal
6 Trc Menu
A B
7 1/2,more
CENTER 5.26000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB


Fri 2003 Mar 14 14:34
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 7.65 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Normal
6 Trc Menu
A B
7 1/2,more
CENTER 5.32000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB


Fri 2003 Mar 14 14:15
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Norm 8.02 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Normal
6 Trc Menu
A B
7 1/2,more
CENTER 5.21000 GHz
SPAN 60.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB