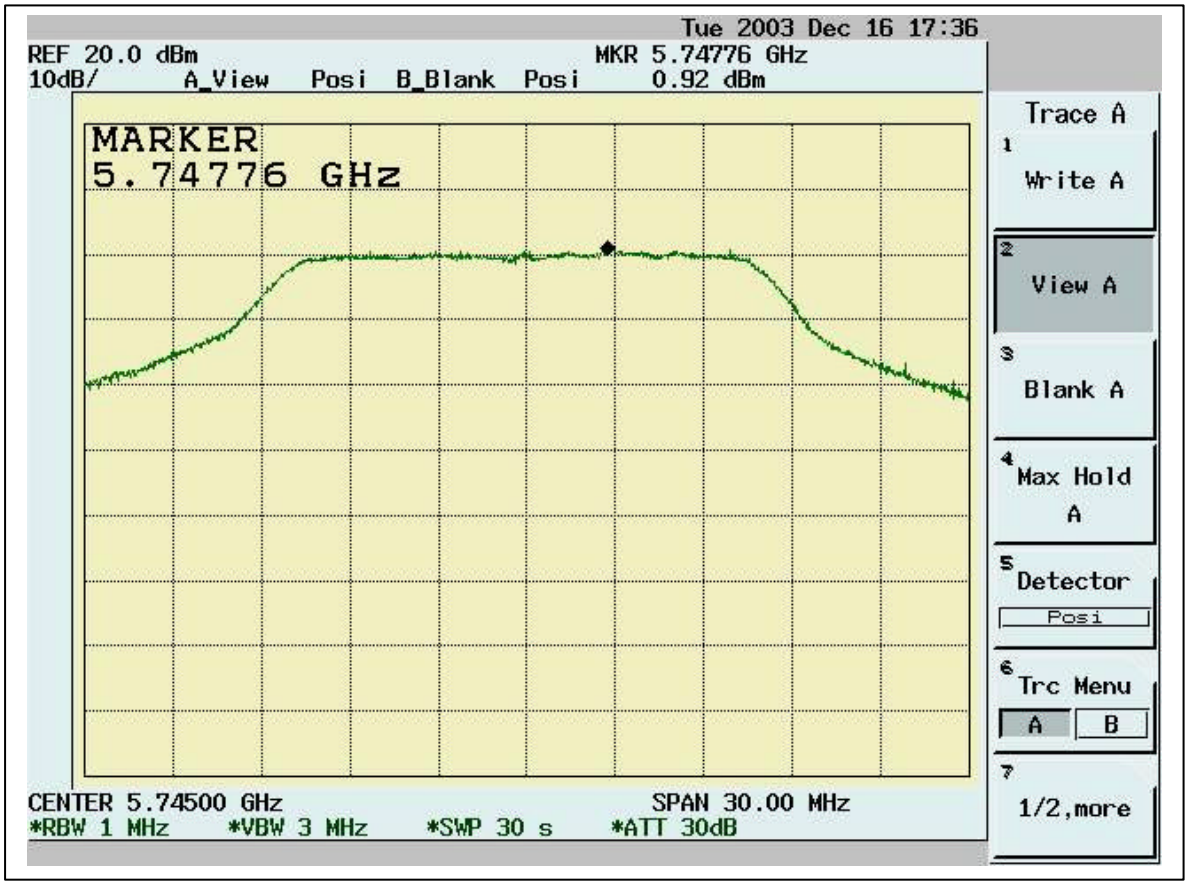
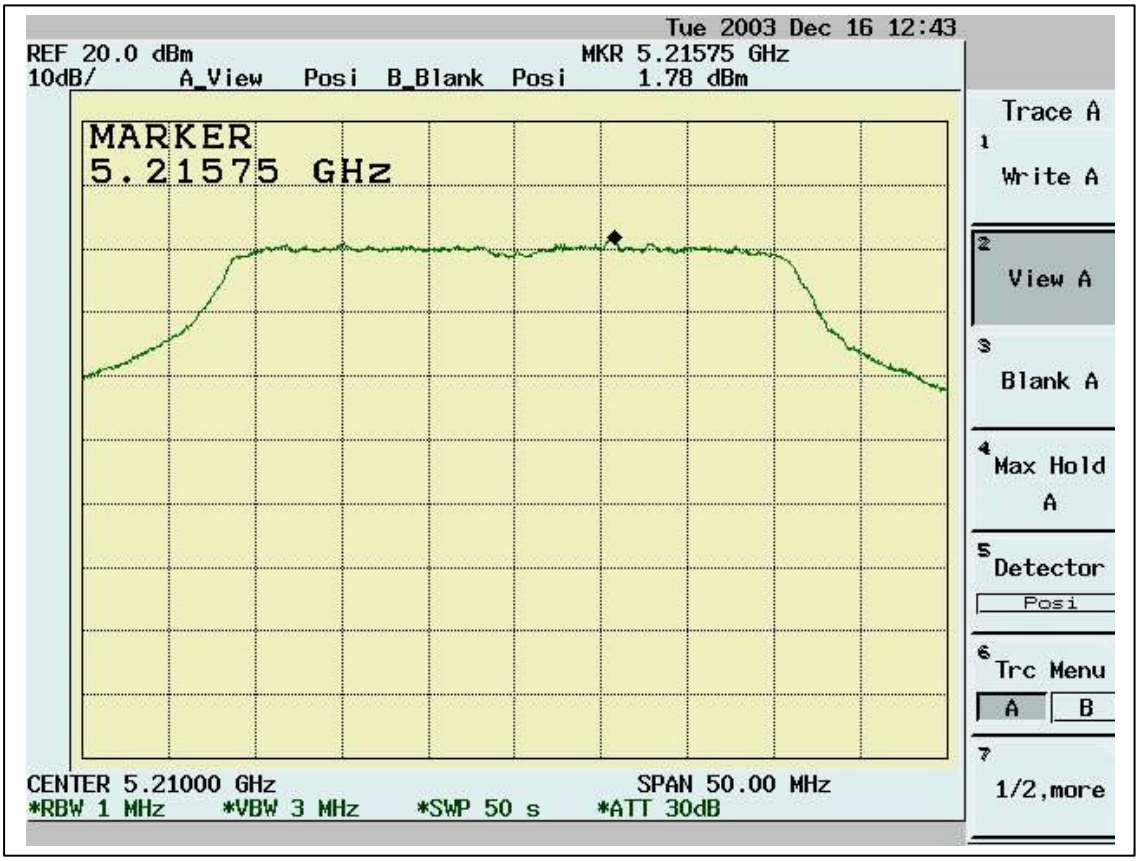
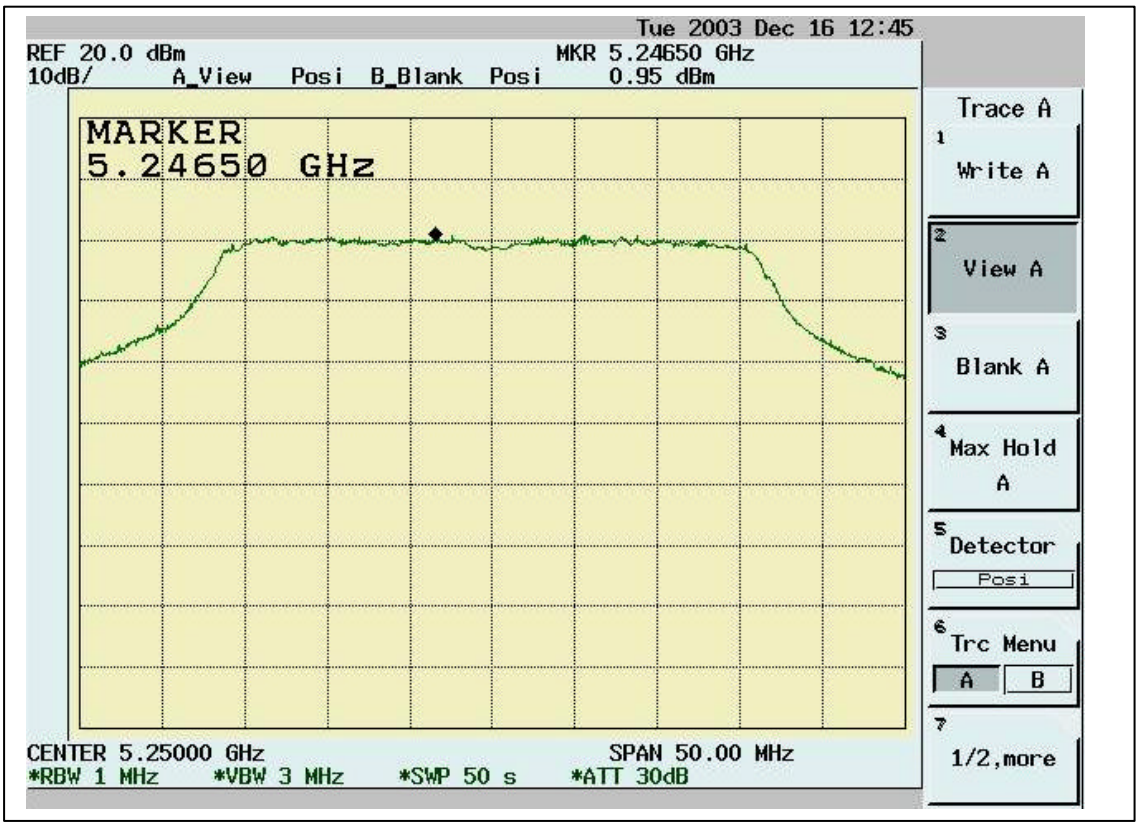
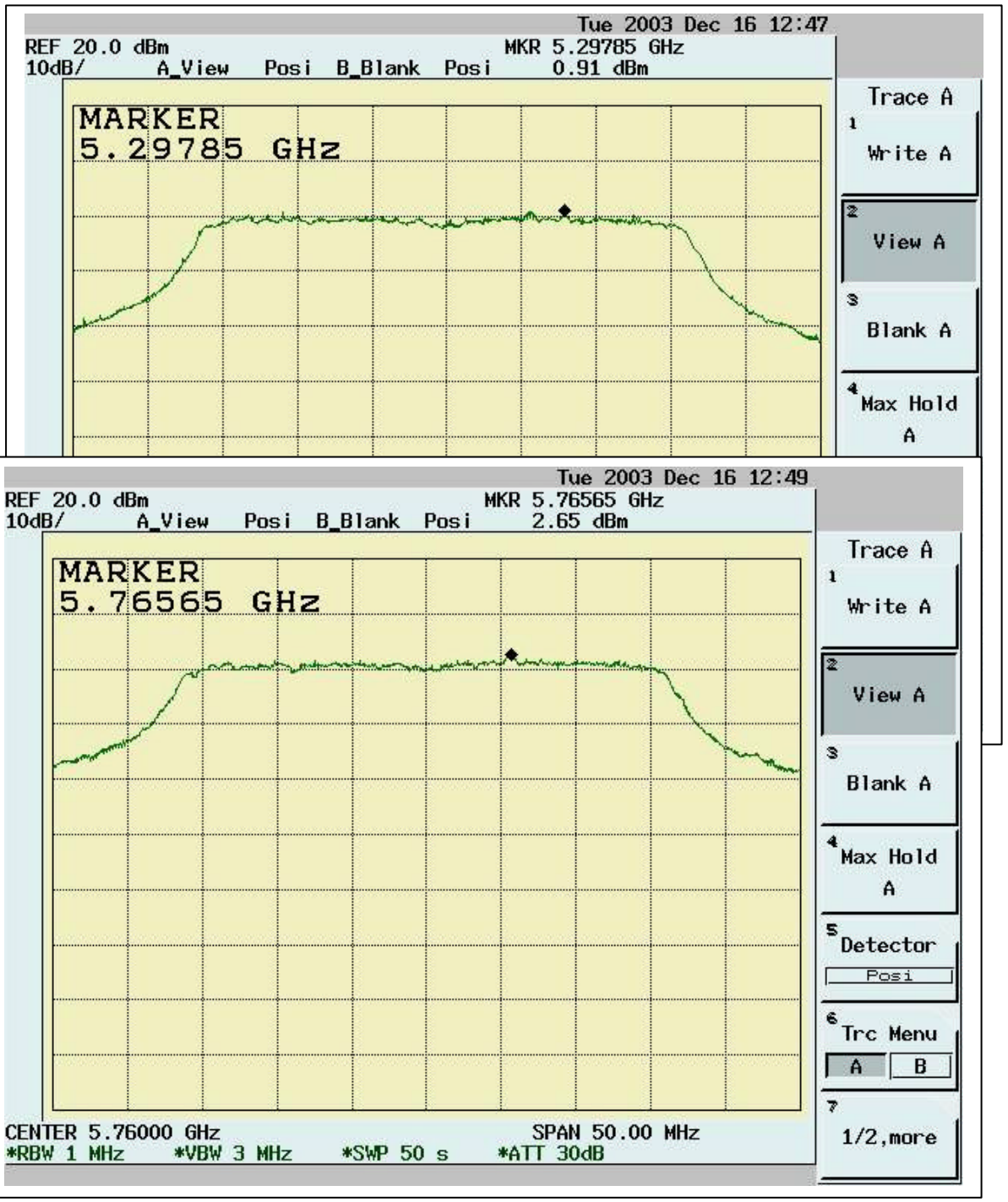
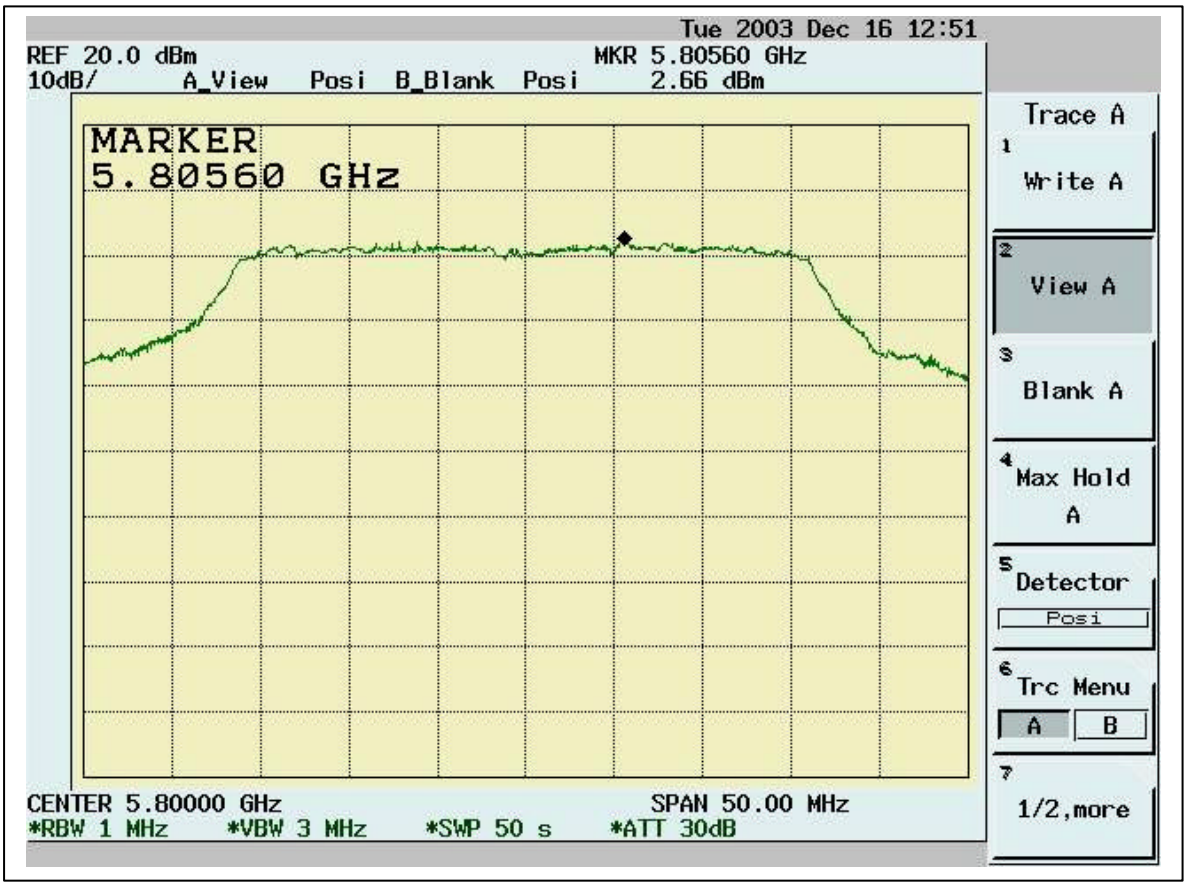

Tue 2003 Dec 16 17:36
REF 20.0 dBm
MKR 5.74776 GHz
10dB/ A_View Posi B_Blank Posi 0.92 dBm
MARKER
5.74776 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.74500 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 30 s *ATT 30dB


Tue 2003 Dec 16 17:46
REF 20.0 dBm
MKR 5.80770 GHz
10dB/ A_View Posi B_Blank Posi 2.60 dBm
MARKER
5.80770 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.80500 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 30 s *ATT 30dB


Tue 2003 Dec 16 12:43
REF 20.0 dBm
MKR 5.21575 GHz
10dB/ A_View Posi B_Blank Posi 1.78 dBm
MARKER
5.21575 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.21000 GHz
SPAN 50.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 50 s *ATT 30dB


Tue 2003 Dec 16 12:45
REF 20.0 dBm
MKR 5.24650 GHz
10dB/ A_View Posi B_Blank Posi 0.95 dBm
MARKER
5.24650 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.25000 GHz
SPAN 50.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 50 s *ATT 30dB


Tue 2003 Dec 16 12:47
REF 20.0 dBm
MKR 5.29785 GHz
10dB/ A_View Posi B_Blank Posi 0.91 dBm
MARKER
5.29785 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
Tue 2003 Dec 16 12:49
REF 20.0 dBm
MKR 5.76565 GHz
10dB/ A_View Posi B_Blank Posi 2.65 dBm
MARKER
5.76565 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.76000 GHz
SPAN 50.00 MHz
*RBW 1 MHz *VBW 3 MHz *SWP 50 s *ATT 30dB


Tue 2003 Dec 16 12:51
REF 20.0 dBm
MKR 5.80560 GHz
10dB/ A_View Posi B_Blank Posi 2.66 dBm
MARKER
5.80560 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.80000 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 detector 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)

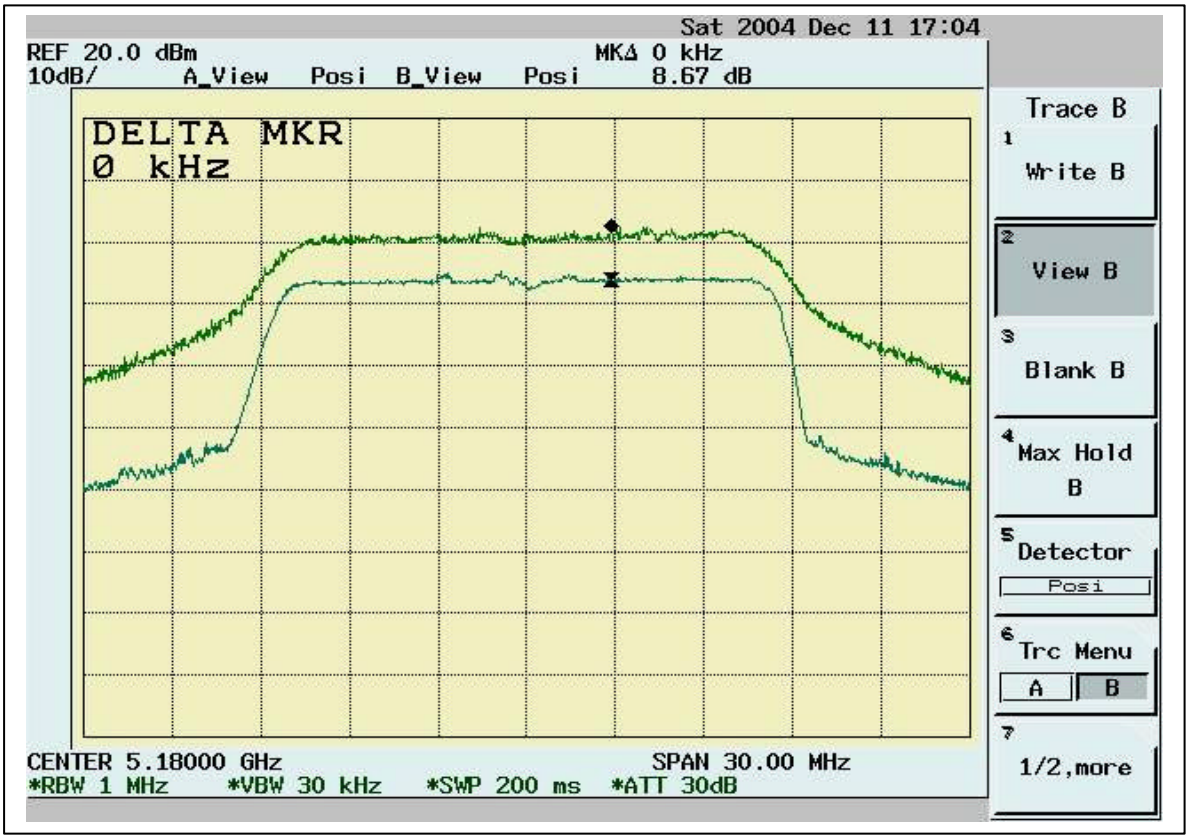
Peak Power Excursion

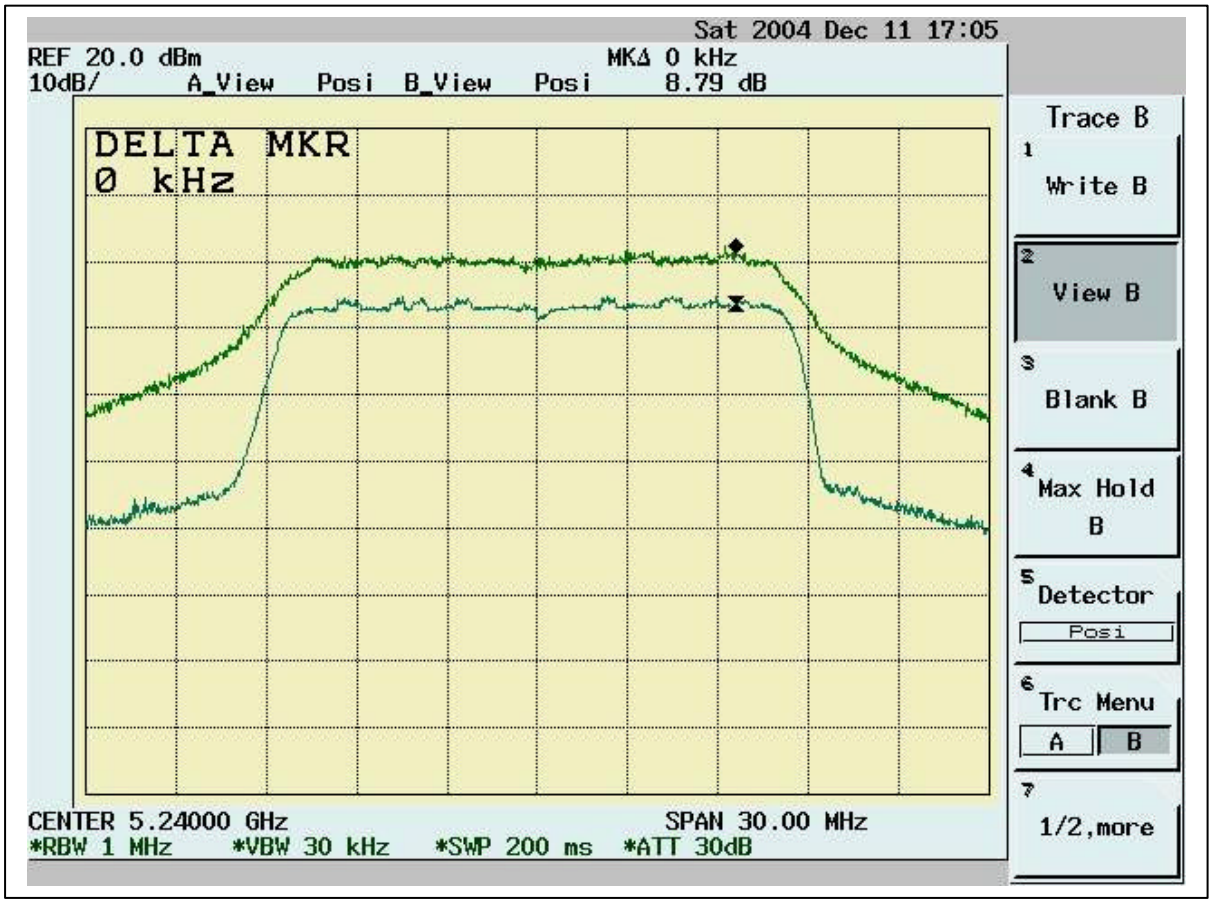
Chennel	Frequency (MHz)	Peak Power Excursion (dB)	Limit (dB)	Pass/Fail
1	5180	8.67	13	Pass
4	5240	8.79	13	Pass
5	5260	8.51	13	Pass
8	5320	9.08	13	Pass
9	5745	8.67	13	Pass
12	5805	8.35	13	Pass

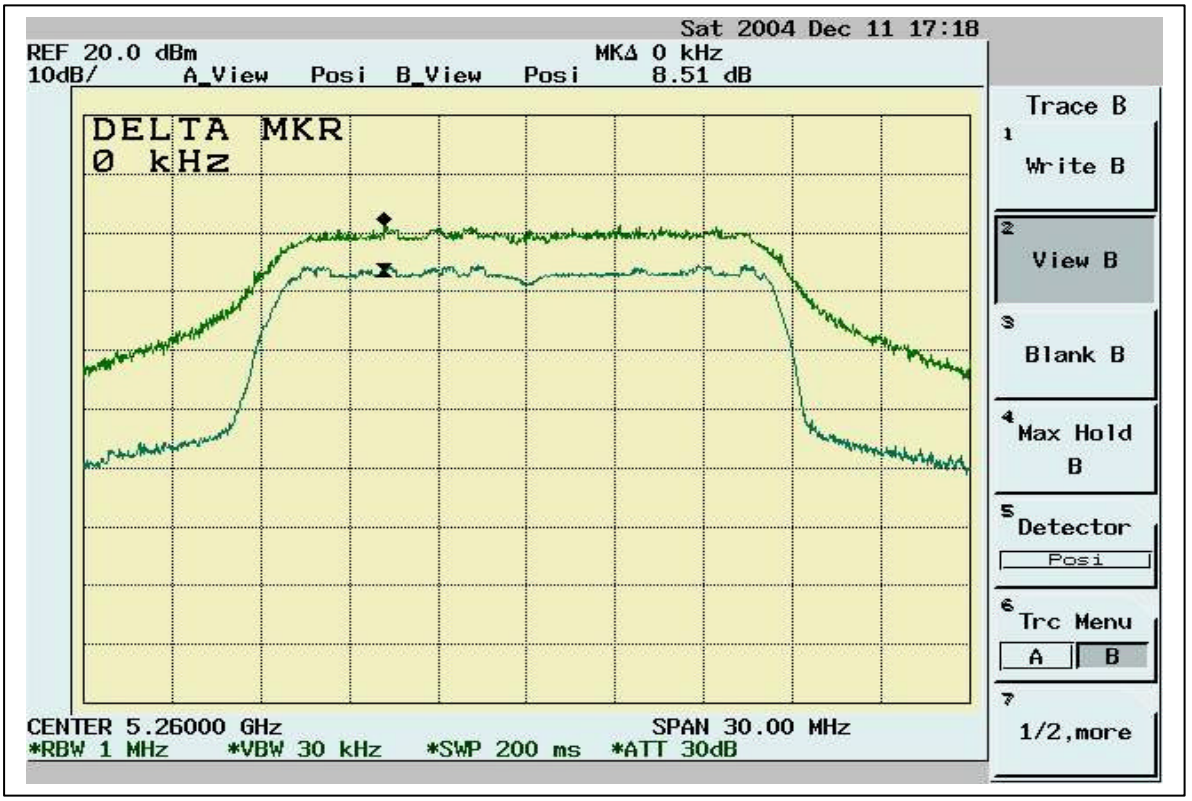
6.3.4 Test Data: (Turbo Mode)

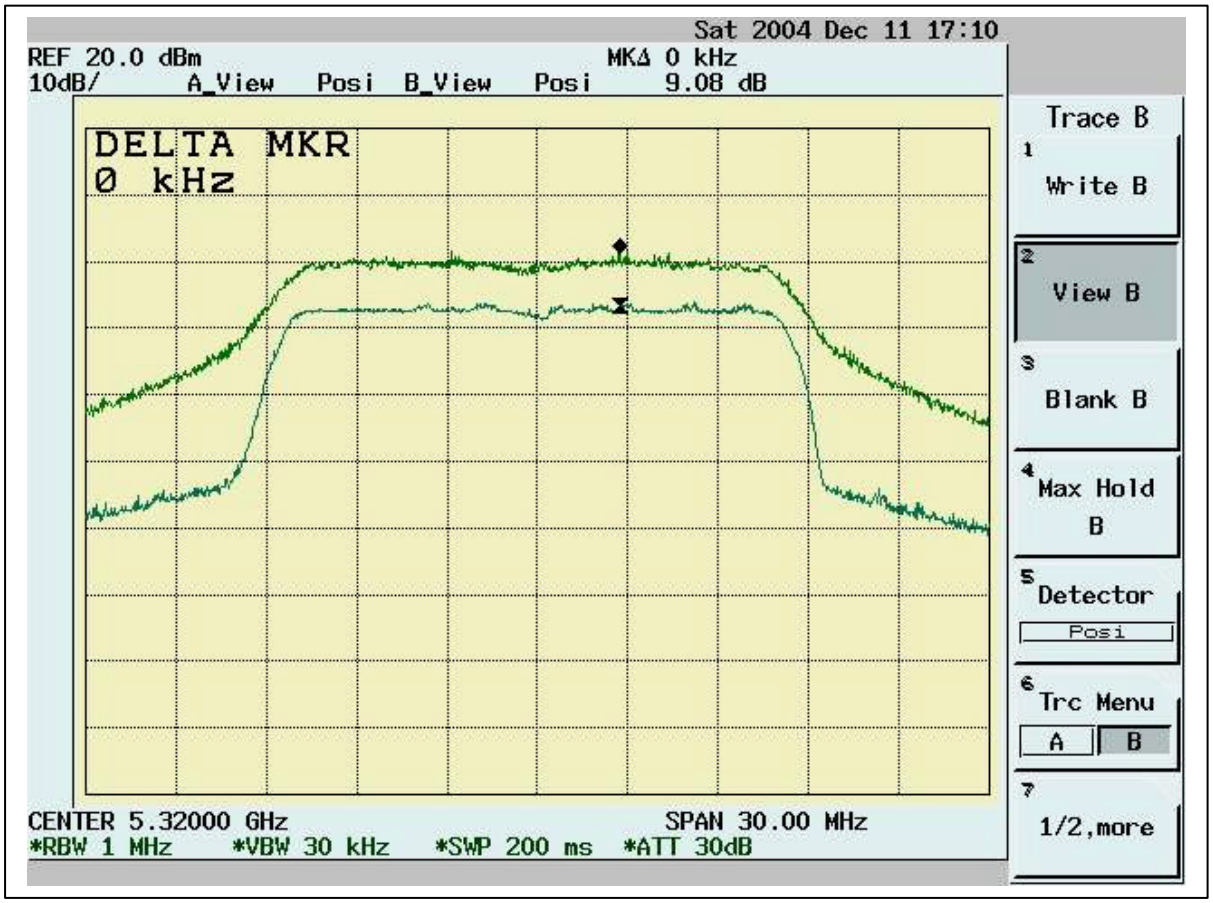
Peak Power Excursion

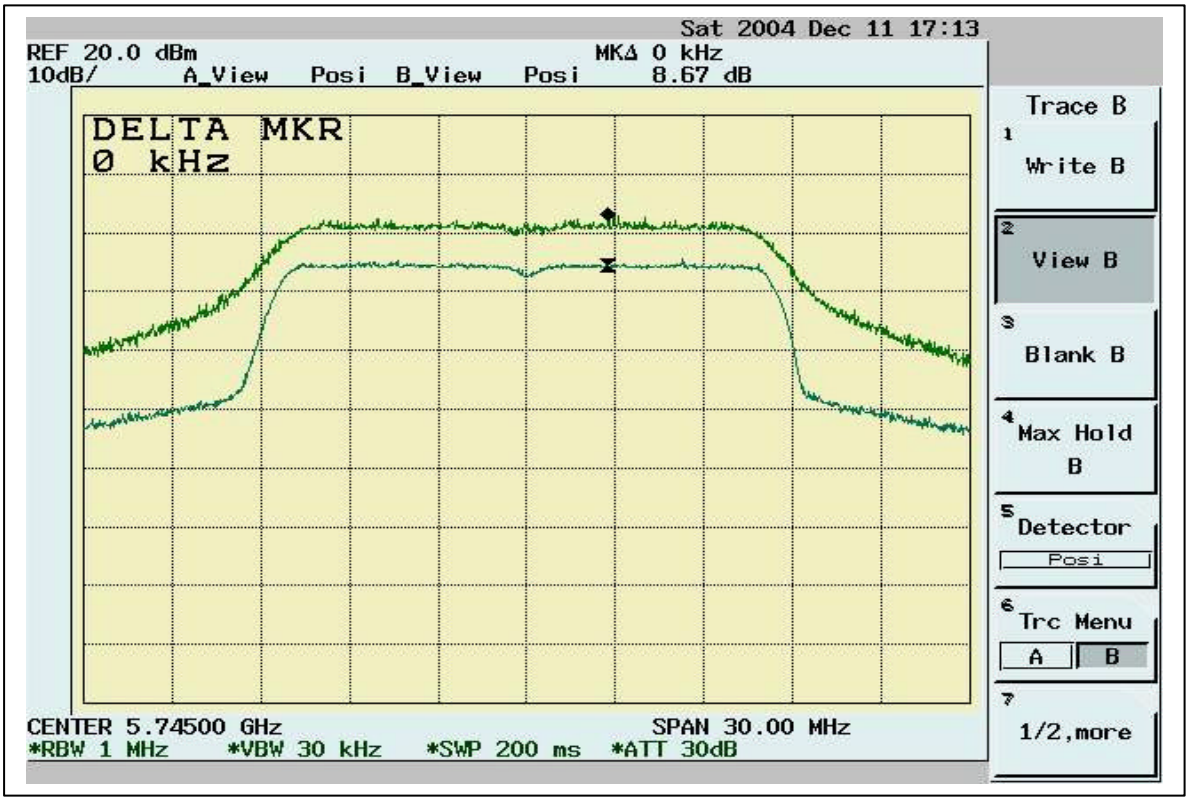
Chennel	Frequency (MHz)	Peak Power Excursion (dB)	Limit (dB)	Pass/Fail
1	5210	8.87	13	Pass
2	5250	7.13	13	Pass
3	5290	8.10	13	Pass
4	5760	8.80	13	Pass
5	5800	8.38	13	Pass

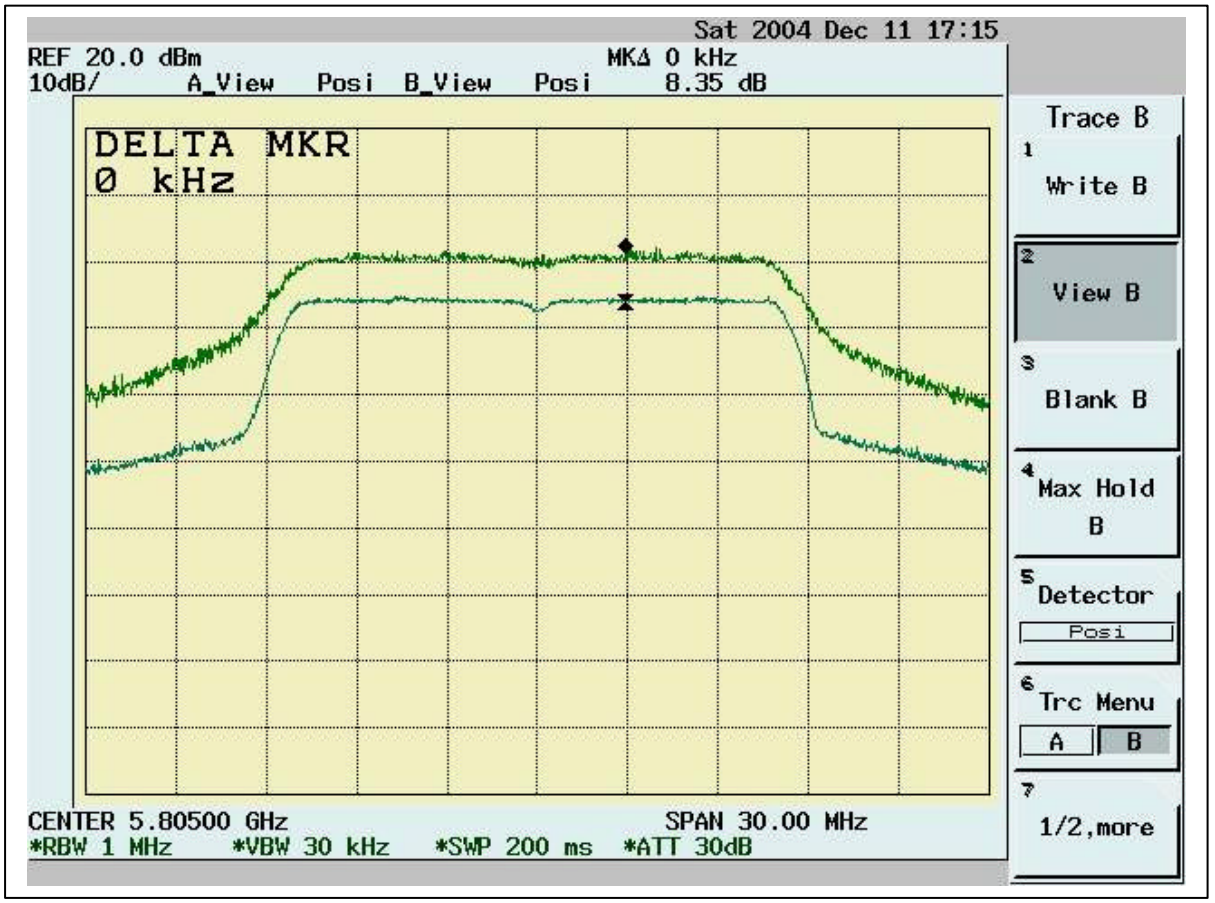

Sat 2004 Dec 11 17:04
REF 20.0 dBm
10dB/
A_View Posi B_View Posi
MKΔ 0 kHz
8.67 dB
DELTA MKR
0 kHz
CENTER 5.18000 GHz
SPAN 30.00 MHz
*RBW 1 MHz
*VBW 30 kHz
*SWP 200 ms
*ATT 30dB
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more

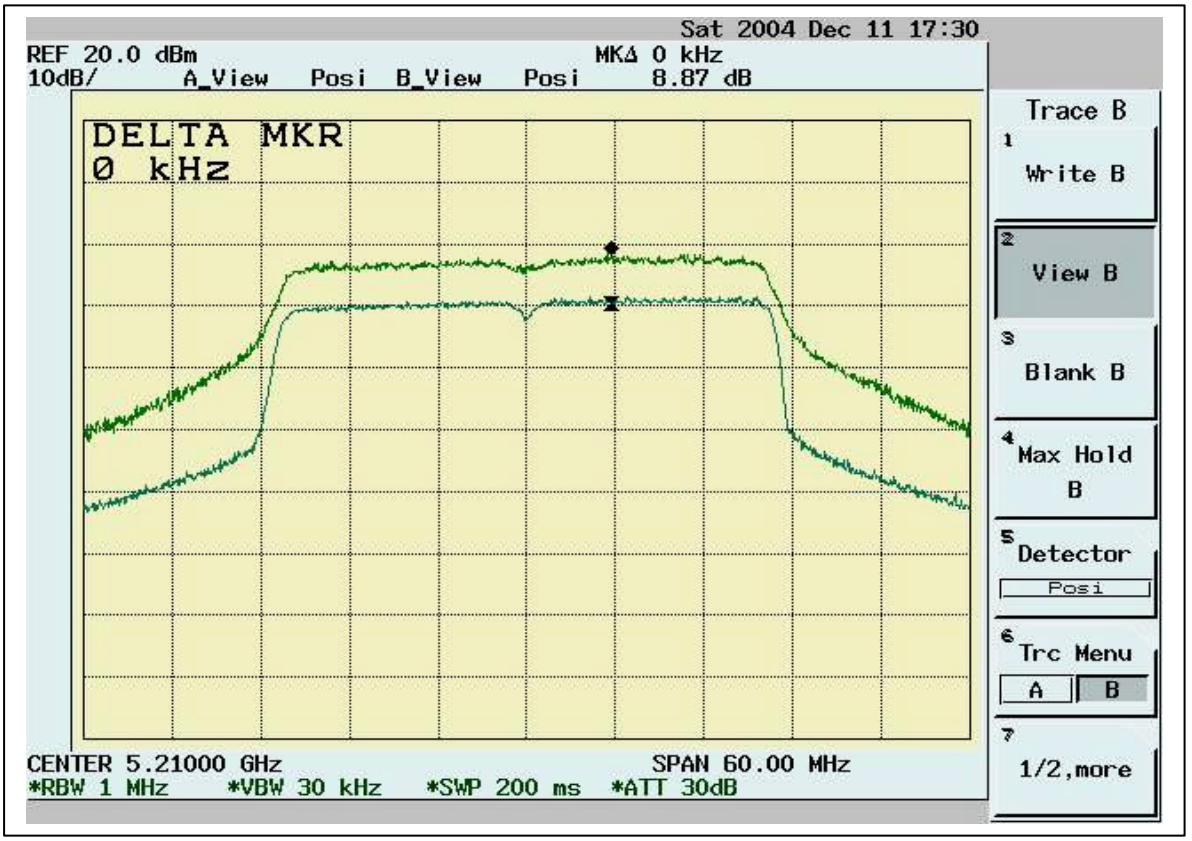

Sat 2004 Dec 11 17:05
REF 20.0 dBm
10dB/
A_View Posi B_View Posi
MKΔ 0 kHz
8.79 dB
DELTA MKR
0 kHz
CENTER 5.24000 GHz
SPAN 30.00 MHz
*RBW 1 MHz
*VBW 30 kHz
*SWP 200 ms
*ATT 30dB
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more

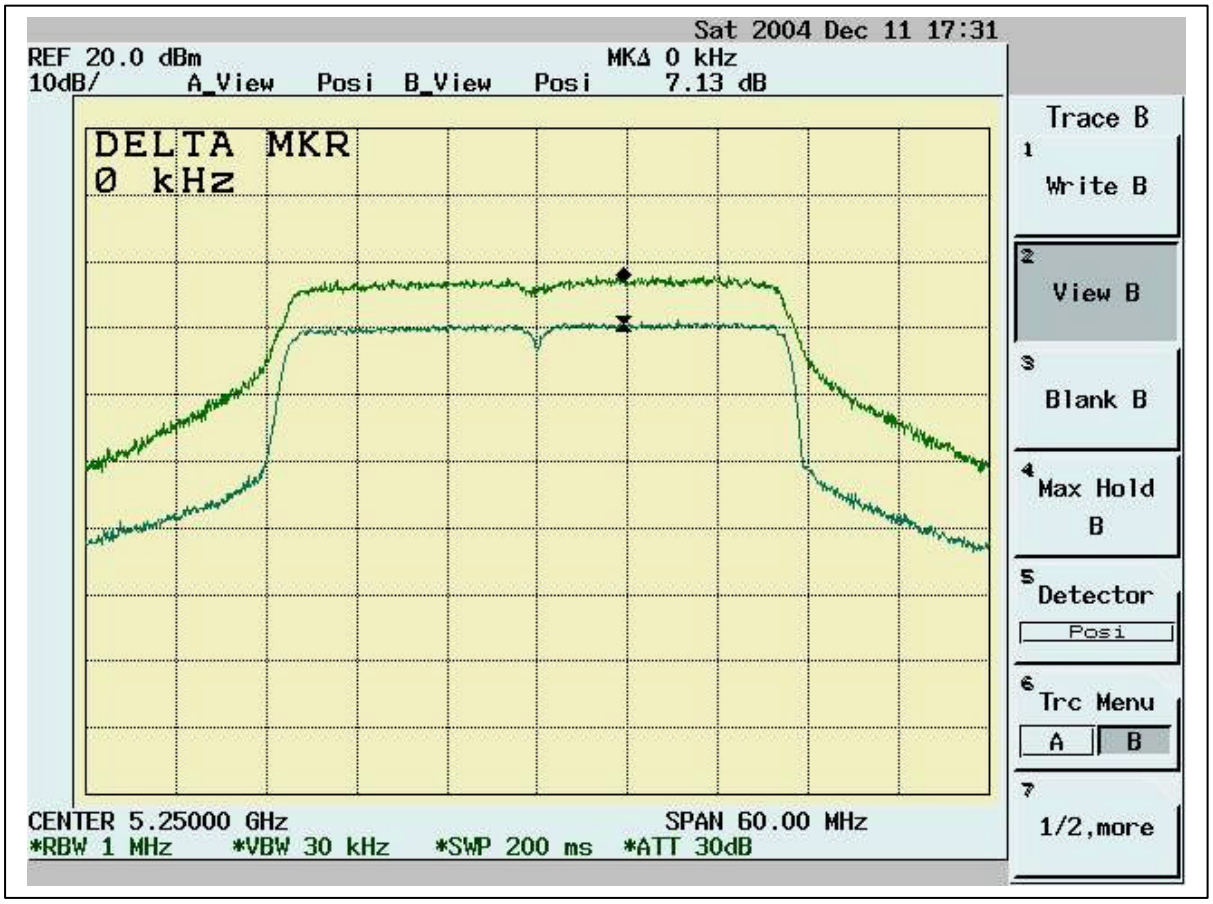

Sat 2004 Dec 11 17:18
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.51 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.26000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB

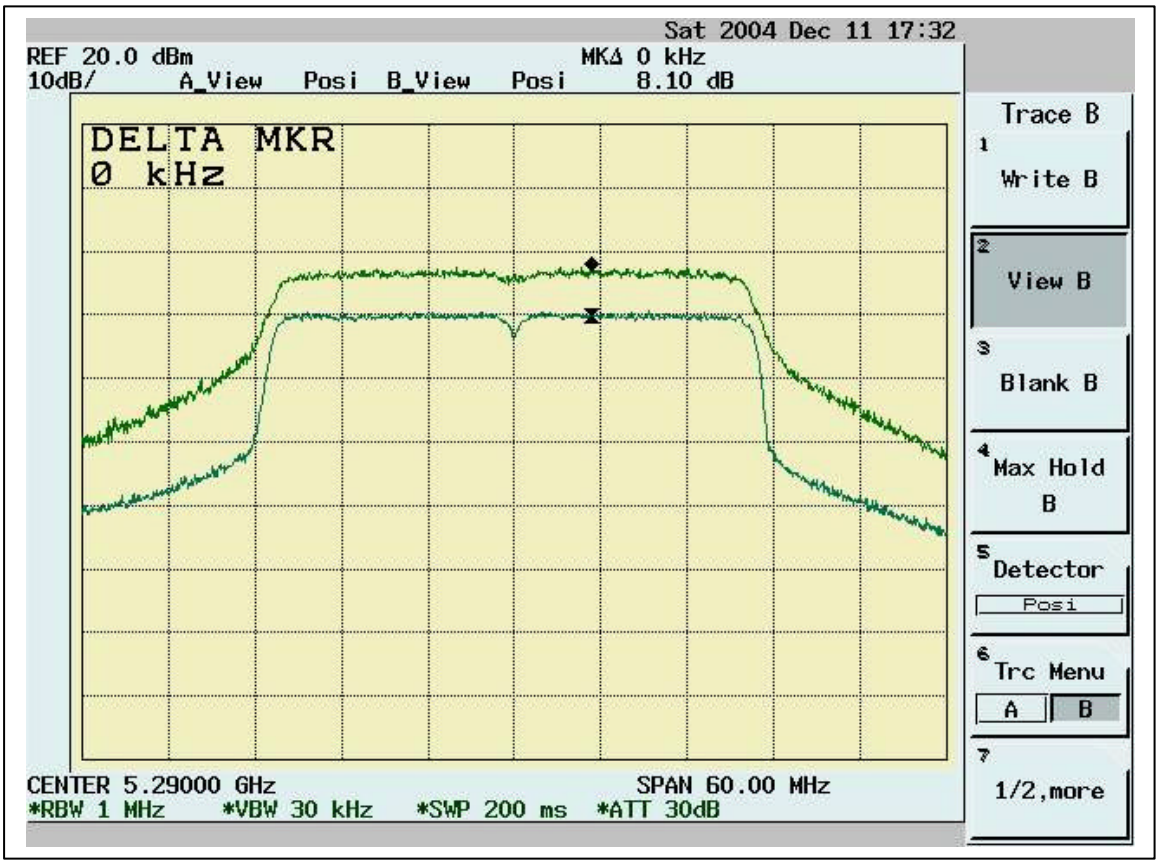

Sat 2004 Dec 11 17:10
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 9.08 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.32000 GHz
SPAN 30.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB

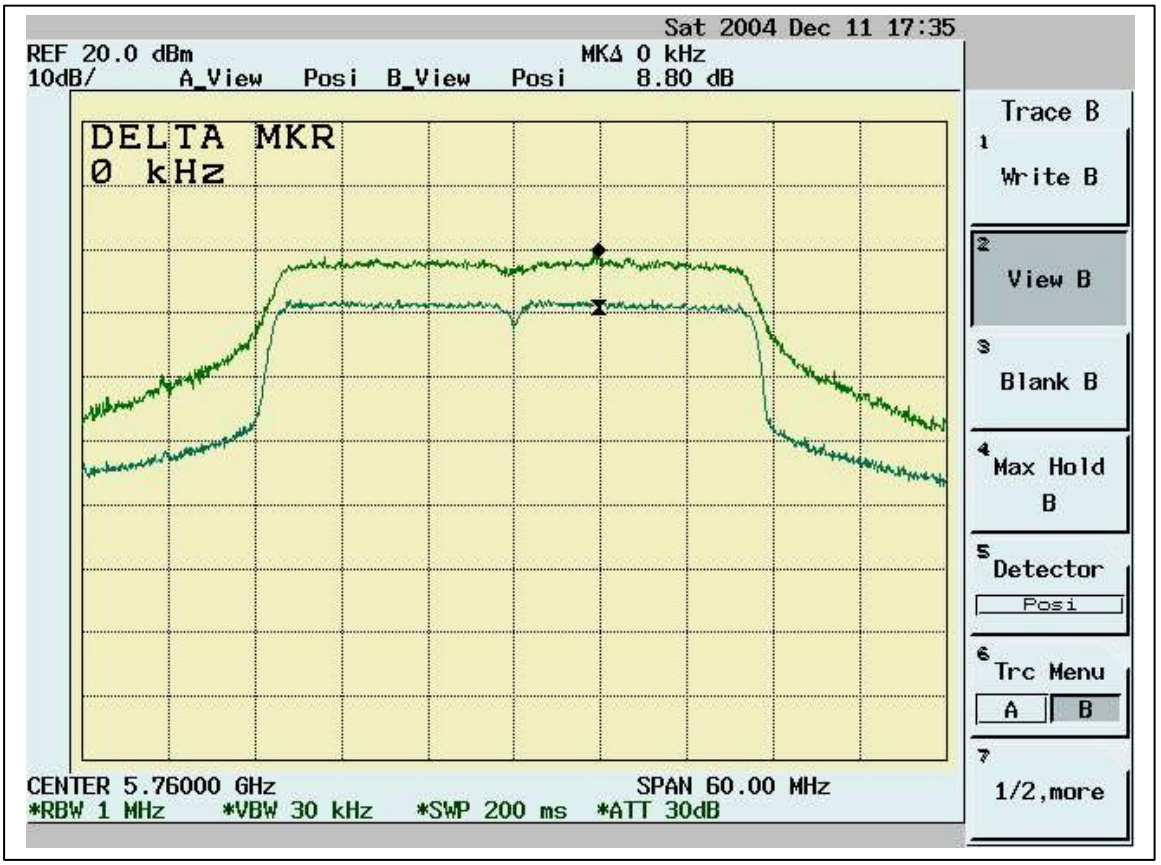

Sat 2004 Dec 11 17:13
REF 20.0 dBm
10dB/
A_View Posi B_View Posi
MKΔ 0 kHz
8.67 dB
DELTA MKR
0 kHz
CENTER 5.74500 GHz
SPAN 30.00 MHz
*RBW 1 MHz
*VBW 30 kHz
*SWP 200 ms
*ATT 30dB
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more

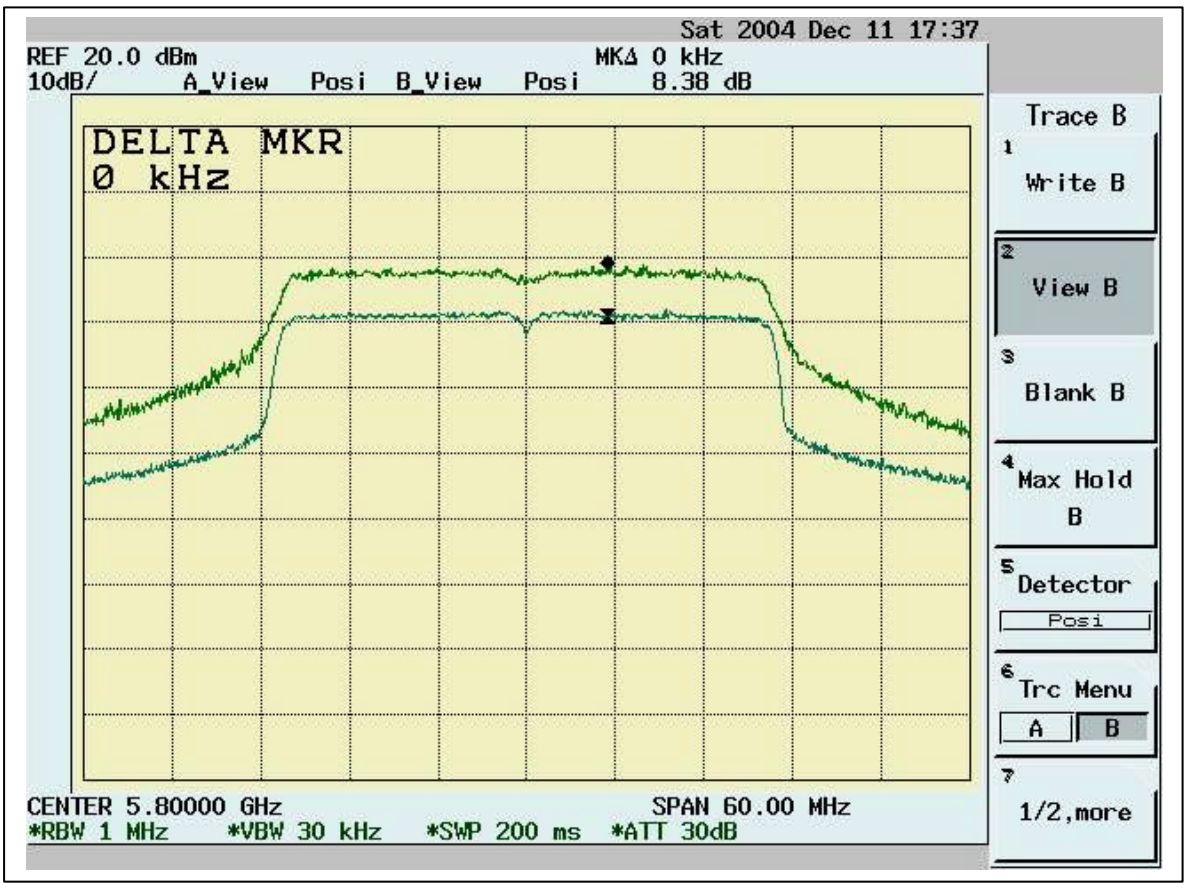

Sat 2004 Dec 11 17:15
REF 20.0 dBm
10dB/
A_View Posi B_View Posi
MKΔ 0 kHz
8.35 dB
DELTA MKR
0 kHz
CENTER 5.80500 GHz
SPAN 30.00 MHz
*RBW 1 MHz
*VBW 30 kHz
*SWP 200 ms
*ATT 30dB
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more


Sat 2004 Dec 11 17:30
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.87 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
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


Sat 2004 Dec 11 17:31
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 7.13 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.25000 GHz
SPAN 60.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB


Sat 2004 Dec 11 17:32
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.10 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.29000 GHz
SPAN 60.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB


Sat 2004 Dec 11 17:35
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.80 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.76000 GHz
SPAN 60.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB


Sat 2004 Dec 11 17:37
REF 20.0 dBm
MKΔ 0 kHz
10dB/ A_View Posi B_View Posi 8.38 dB
DELTA MKR
0 kHz
Trace B
1 Write B
2 View B
3 Blank B
4 Max Hold B
5 Detector
Posi
6 Trc Menu
A B
7 1/2,more
CENTER 5.80000 GHz
SPAN 60.00 MHz
*RBW 1 MHz *VBW 30 kHz *SWP 200 ms *ATT 30dB

6.4 Powerline Conducted Emissions [Section 15.207 & 15.407 (b)(5)]

6.4.1 EUT Configuration

The EUT was set up on the non-conductive table that is 1.0 by 1.5 meter, 80cm above ground. The wall of the shielded room was located 40cm to the rear of the EUT.

Power to the EUT was provided through the LISN. The impedance vs. frequency characteristic of the LISN is complied with the limit shown on the figure 1 of ANSI C63.4-2001.

Both lines (neutral and hot) were connected to the LISN in series at testing. A coaxial-type connector which provides one 50 ohms terminating impedance was provided for connecting the test instrument. The excess length of the power cord was folded back and forth at the center of the lead so as to form a bundle not exceeding 40cm in length.

Any changes made to the configuration, or modifications made to the EUT, during testing are noted in the following test record.

If the EUT is a Personal Computer or a peripheral of personal computer, and the personal computer has an auxiliary AC outlet which can be used for providing power to an external monitor, then all measurements will be made with the monitor power from first the computer-mounted AC outlet and then a floor-mounted AC outlet.

6.4.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. The main power line conducted EMI tests were run on the hot and neutral conductors of the power cord and the results were recorded. The effect of varying the position of the interface cables has been investigated to find the configuration that produces maximum emission.

At the frequencies where the peak values of the emissions were higher than 6dß below the applicable limits, the emissions were also measured with the quasi-peak detectors. At the frequencies where the quasi-peak values of the emissions were higher than 6dß below the applicable average limits, the emissions were also measured with the average detectors.

The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

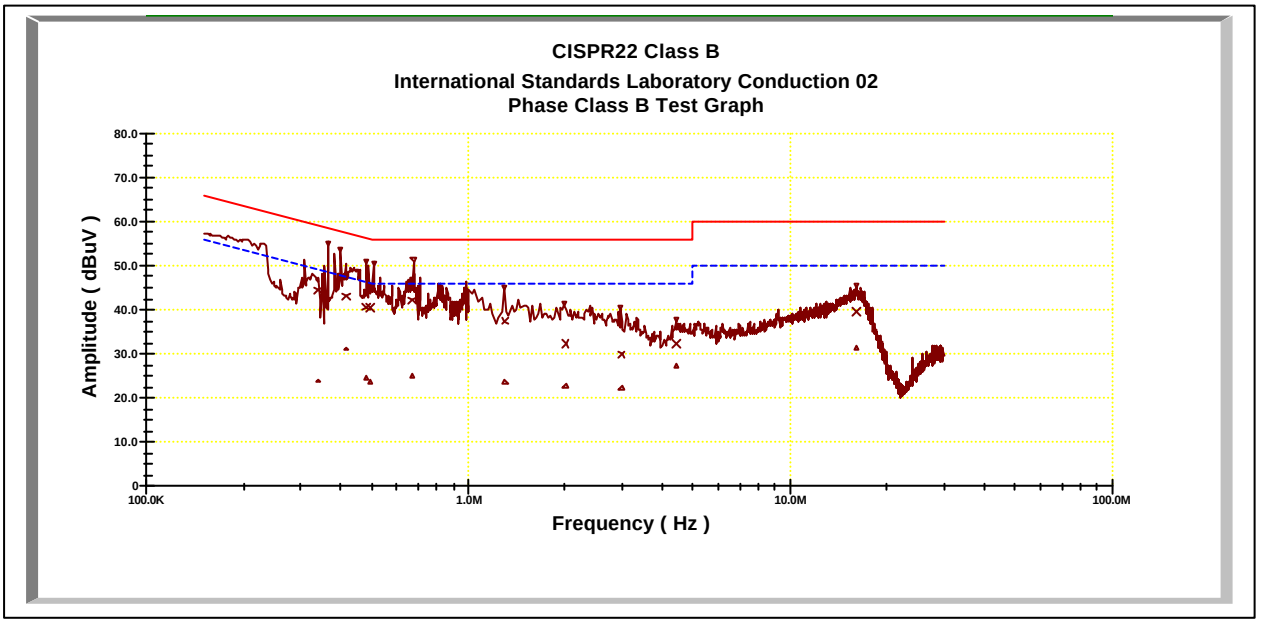
6.4.3 EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range:	150 KHz--30MHz
Detector Function:	Quasi-Peak/Average
Bandwidth (RBW):	9KHz

6.4.4 Test Data:

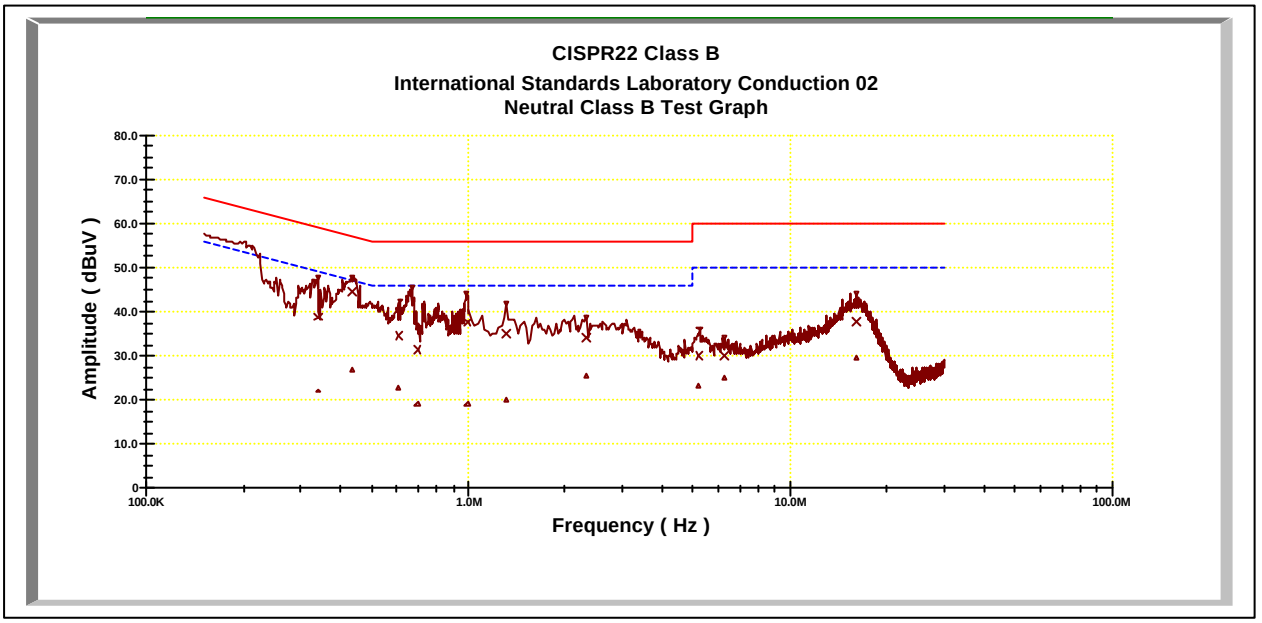
Power Line Conducted Emissions (Hot)

	Corrective Factor		Quasi-Peak			Average		
Frequency (MHz)	LISN Loss (dB)	Cable Loss (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
0.33968	0.10	0.02	44.35	60.58	-16.23	23.80	50.58	-26.78
0.41718	0.10	0.03	42.99	58.37	-15.38	31.08	48.37	-17.28
0.48263	0.11	0.03	40.60	56.50	-15.89	24.50	46.50	-21.99
0.49673	0.12	0.03	40.60	56.09	-15.50	23.78	46.09	-22.32
0.66888	0.14	0.04	42.04	56.00	-13.96	24.75	46.00	-21.25
1.30088	0.41	0.08	37.44	56.00	-18.56	23.53	46.00	-22.47
2.00268	0.20	0.10	32.14	56.00	-23.86	22.75	46.00	-23.25
2.99232	0.25	0.11	29.83	56.00	-26.17	22.32	46.00	-23.68
4.44697	0.32	0.12	32.41	56.00	-23.59	27.38	46.00	-18.62
16.0402	0.74	0.29	39.64	60.00	-20.36	31.16	50.00	-18.84



Power Line Conducted Emissions (Neutral)

	Corrective Factor		Quasi-Peak			Average		
Frequency (MHz)	LISN Loss (dB)	Cable Loss (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)	Corrected Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
0.3411	0.10	0.02	38.85	60.54	-21.69	21.99	50.54	-28.55
0.43746	0.11	0.03	44.45	57.79	-13.33	26.83	47.79	-20.95
0.60821	0.13	0.04	34.70	56.00	-21.30	22.84	46.00	-23.16
0.69373	0.15	0.05	31.48	56.00	-24.52	18.86	46.00	-27.14
0.99191	0.20	0.07	37.52	56.00	-18.48	19.13	46.00	-26.87
1.31702	0.27	0.08	35.10	56.00	-20.90	20.05	46.00	-25.95
2.32265	0.20	0.10	34.00	56.00	-22.00	25.47	46.00	-20.53
5.21177	0.22	0.13	30.14	60.00	-29.86	23.14	50.00	-26.86
6.26249	0.24	0.14	30.09	60.00	-29.91	24.89	50.00	-25.11
16.0904	0.42	0.29	37.65	60.00	-22.35	29.34	50.00	-20.66



* NOTE: During the test, the EMI receiver was set to Max. Hold then switch the EUT between Main antenna , Aux antenna Channel 1 , 4, 5, 8 ,9,12 of Normal
Mode and Channel 1, 2, 3,4,5 of Turbo Mode to get the maximum reading of all these channels.
Margin = Amplitude + Insertion Loss- Limit
A margin of -8dB means that the emission is 8dB below the limit

6.5 Radiated Emission Measurement [Section 15.209 & 15.407(b)(5)]

6.5.1 EUT Configuration

The equipment under test was set up on the 10 meter chamber with measurement distance of 3 meters. The EUT was placed on a non-conductive table 80cm above ground.

Any changes made to the configuration, or modifications made to the EUT, during testing are noted in the following test record.

6.5.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. We found the maximum readings by varying the height of antenna and then rotating the turntable. Both polarization of antenna, horizontal and vertical, are measured.

30M to 1GHz: The highest emissions between 30 MHz to 1000 MHz were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in quasi-peak mode to determine the precise amplitude of the emissions. While doing so, the interconnecting cables and major parts of the system were moved around, the antenna height was varied between one and four meters, its polarization was varied between vertical and horizontal, and the turntable was slowly rotated, to maximize the emission.

1GHz – 40GHz: The highest emissions were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in peak mode to determine the precise amplitude of the emission. While doing so, the interconnecting cables and major parts of the system were moved around, the antenna height was varied between one and four meters, its polarization was varied between vertical and horizontal, and the turntable was slowly rotated, to maximize the emission. During test the EMI receiver and spectrum was setup according to para. 6.5.3.

For the test of 2^{nd} to 10^{th} harmonics frequencies , the equipment setup was also refer to para.6.5.3. The frequencies were tested using Peak mode first, if the test data is higher than the emissions limit, an additional measurement using Average mode will be performed and the average reading will be compared to the limit and record in test report.

6.5.3 EMI Receiver/Spectrum Analyzer Configuration

Frequency Range Tested:	30MHz~1000MHz
Detector Function:	Quasi-Peak Mode
Resolution Bandwidth (RBW):	120KHz
Video Bandwidth (VBW)	1MHz

Frequency Range Tested:	1GHz – 40 GHz
Detector Function:	Peak Mode
Resolution Bandwidth (RBW):	1MHz
Video Bandwidth (VBW)	1MHz

Frequency Range Tested:	30MHz – 40 GHz
Detector Function:	Average Mode
Resolution Bandwidth (RBW):	1MHz
Video Bandwidth (VBW)	10 Hz