5. TEST TYPES AND RESULTS (FOR PART 802.11a)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Dec. 04, 2004
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 04, 2004
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 27, 2004
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 03, 2004
Terminator(for KYORITSU)	50	3	Apr. 11, 2004
Software	Cond-V2e	NA	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in ADT Shielded Room No. A.
3. The VCCI Con A Registration No. is C-817.

5.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

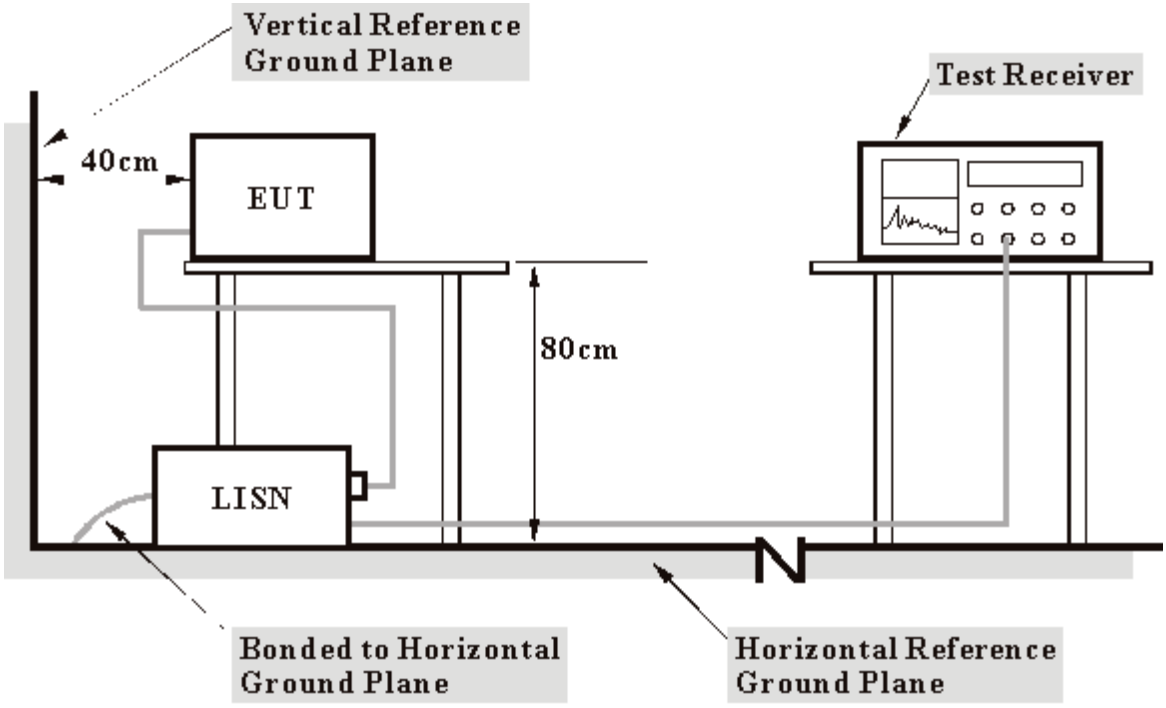
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.1.6 EUT OPERATING CONDITIONS

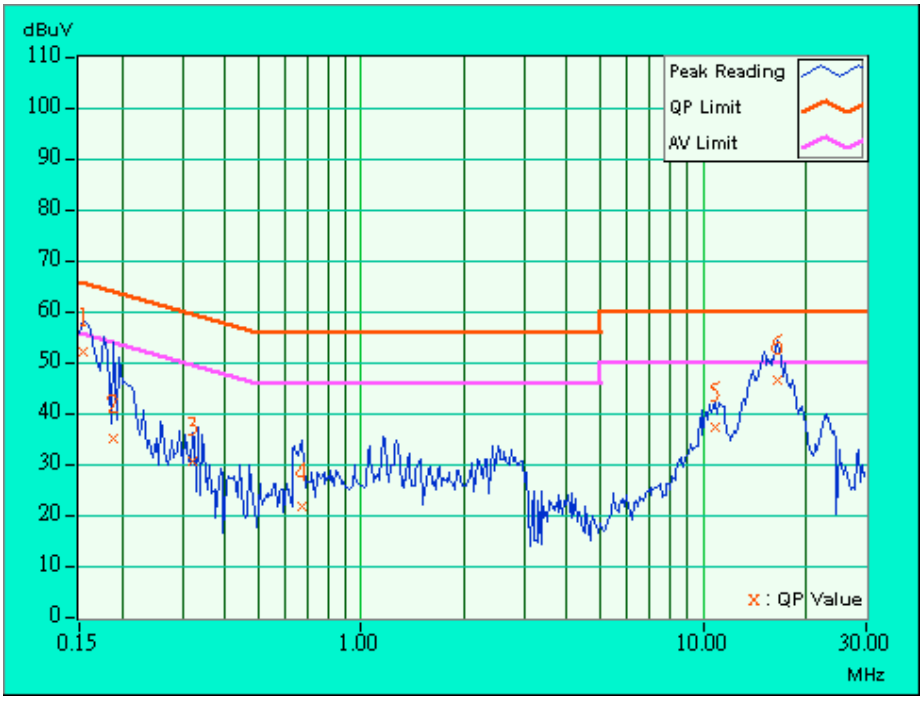
Same as 4.1.6.

5.1.7 TEST RESULTS

EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a, With Adapter		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.154	0.20	51.05	-	51.25	-	65.79	55.79	-14.54	-
2	0.189	0.20	34.06	-	34.26	-	64.08	54.08	-29.82	-
3	0.322	0.20	29.45	-	29.65	-	59.66	49.66	-30.01	-
4	0.670	0.24	20.65	-	20.89	-	56.00	46.00	-35.11	-
5	10.809	0.85	36.25	-	37.10	-	60.00	50.00	-22.90	-
6	16.426	1.13	45.60	-	46.73	-	60.00	50.00	-13.27	-

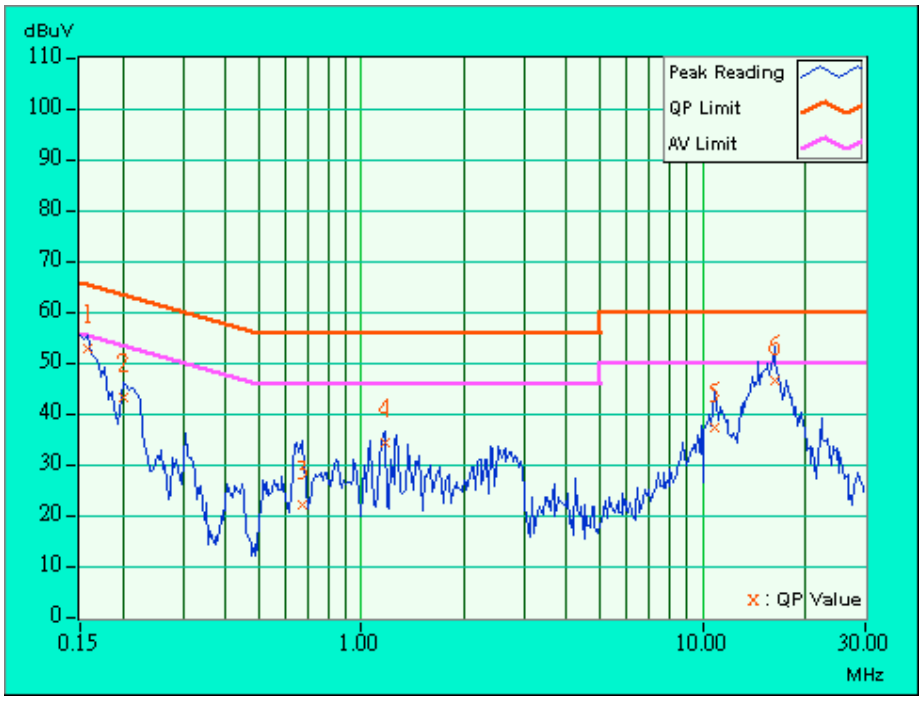
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a, With Adapter		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.20	51.92	-	52.12	-	65.58	55.58	-13.46	-
2	0.201	0.20	42.39	-	42.59	-	63.58	53.58	-20.99	-
3	0.670	0.24	21.37	-	21.61	-	56.00	46.00	-34.39	-
4	1.170	0.30	33.58	-	33.88	-	56.00	46.00	-22.12	-
5	10.832	0.73	36.61	-	37.34	-	60.00	50.00	-22.66	-
6	16.234	0.90	45.66	-	46.56	-	60.00	50.00	-13.44	-

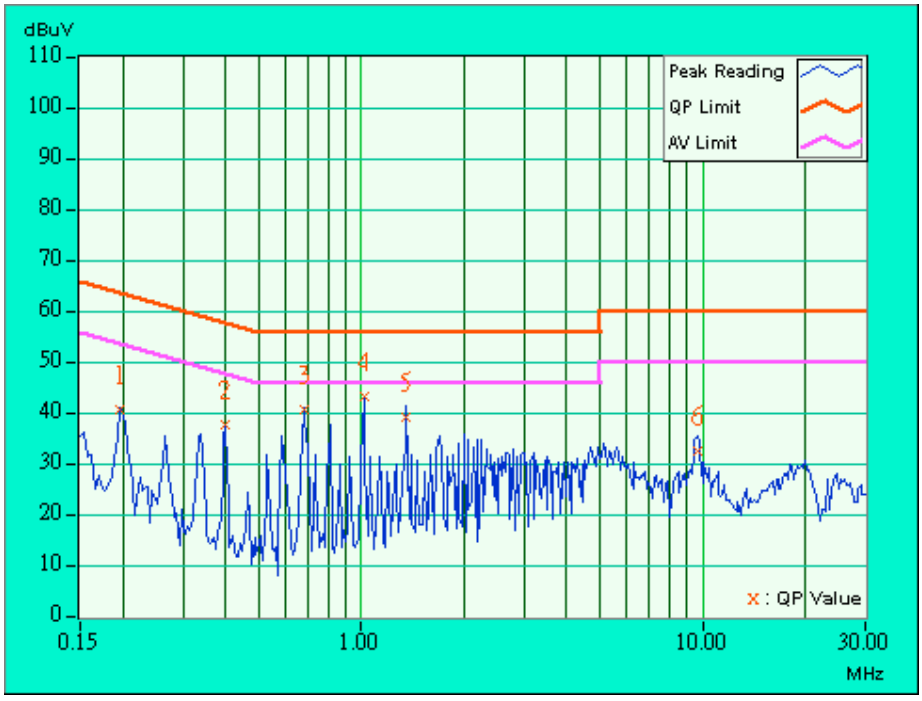
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a, With POE		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.20	39.93	-	40.13	-	63.74	53.74	-23.61	-
2	0.400	0.20	36.84	-	37.04	-	57.85	47.85	-20.81	-
3	0.677	0.25	40.03	-	40.28	-	56.00	46.00	-15.72	-
4	1.017	0.30	42.40	-	42.70	-	56.00	46.00	-13.30	-
5	1.353	0.30	38.48	-	38.78	-	56.00	46.00	-17.22	-
6	9.695	0.78	31.63	-	32.41	-	60.00	50.00	-27.59	-

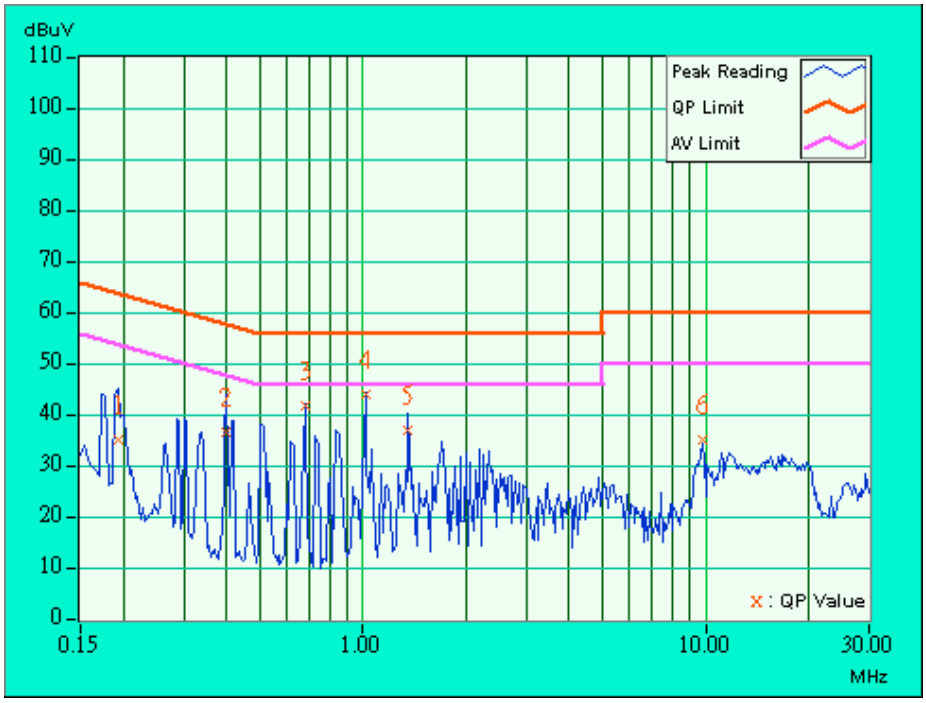
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a, With POE		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.193	0.20	34.48	-	34.68	-	63.91	53.91	-29.23	-
2	0.400	0.20	35.95	-	36.15	-	57.85	47.85	-21.70	-
3	0.677	0.25	40.99	-	41.24	-	56.00	46.00	-14.76	-
4	1.017	0.30	43.22	-	43.52	-	56.00	46.00	-12.48	-
5	1.357	0.30	36.24	-	36.54	-	56.00	46.00	-19.46	-
6	9.837	0.69	34.36	-	35.05	-	60.00	50.00	-24.95	-

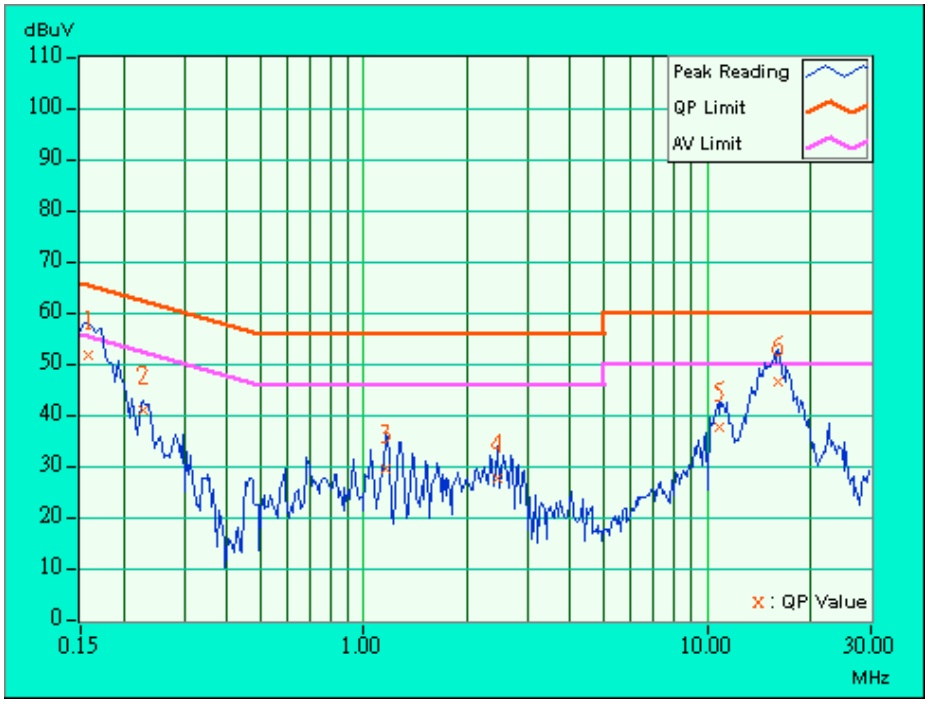
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a and draft 802.11g, With Adapter		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.20	50.55	-	50.75	-	65.58	55.58	-14.83	-
2	0.228	0.20	40.16	-	40.36	-	62.52	52.52	-22.16	-
3	1.162	0.30	28.43	-	28.73	-	56.00	46.00	-27.27	-
4	2.459	0.32	26.65	-	26.97	-	56.00	46.00	-29.03	-
5	10.789	0.85	36.61	-	37.46	-	60.00	50.00	-22.54	-
6	16.160	1.12	45.58	-	46.70	-	60.00	50.00	-13.30	-

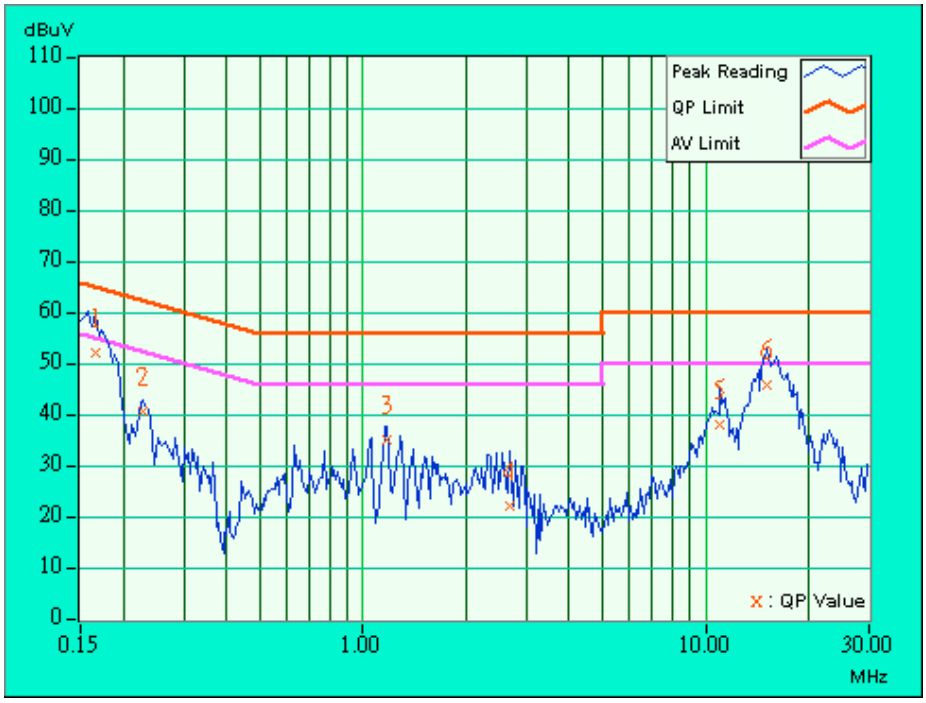
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a and draft 802.11g, With Adapter		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.166	0.20	51.19	-	51.39	-	65.18	55.18	-13.79	-
2	0.228	0.20	39.95	-	40.15	-	62.52	52.52	-22.37	-
3	1.170	0.30	34.18	-	34.48	-	56.00	46.00	-21.52	-
4	2.673	0.33	21.44	-	21.77	-	56.00	46.00	-34.23	-
5	11.023	0.74	37.38	-	38.12	-	60.00	50.00	-21.88	-
6	15.121	0.90	45.20	-	46.10	-	60.00	50.00	-13.90	-

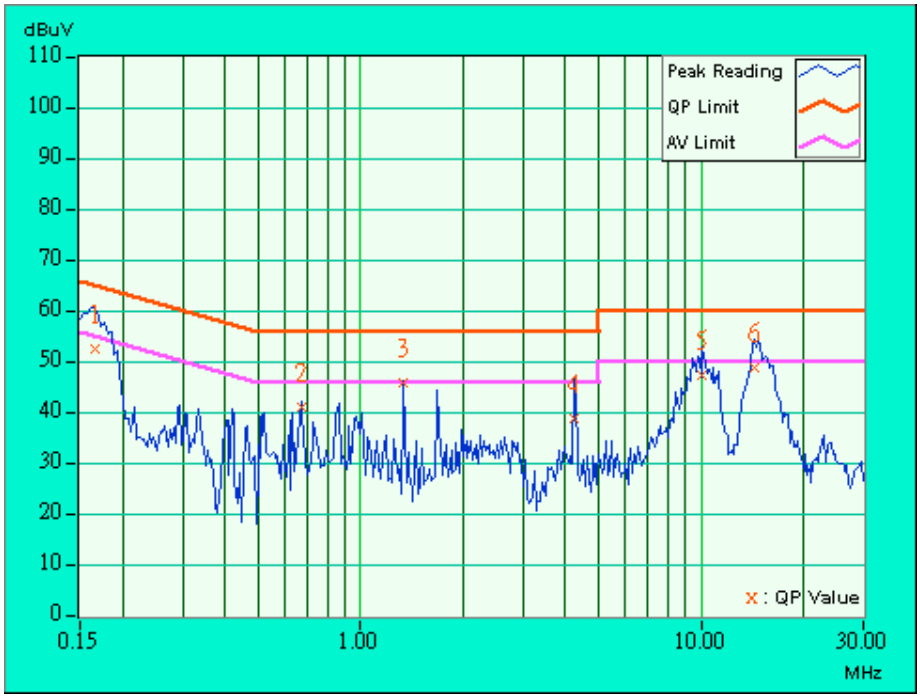
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a and draft 802.11g, With POE		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.166	0.20	51.63	-	51.83	-	65.18	55.18	-13.35	-
2	0.670	0.24	39.91	-	40.15	-	56.00	46.00	-15.85	-
3	**1.338**	**0.30**	**44.92**	**-**	**45.22**	**-**	**56.00**	**46.00**	**-10.78**	**-**
4	4.258	0.42	37.91	-	38.33	-	56.00	46.00	-17.67	-
5	10.016	0.80	46.29	-	47.09	-	60.00	50.00	-12.91	-
6	14.379	1.06	47.67	-	48.73	-	60.00	50.00	-11.27	-

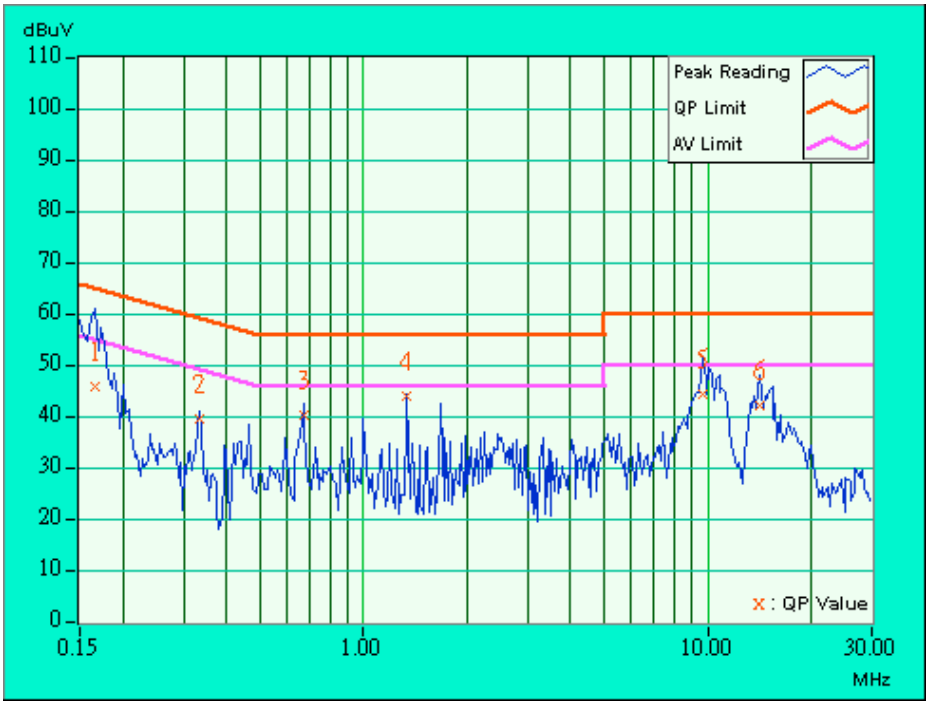
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



EUT	IronPoint 200		
MODEL	IP200	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	27deg. C, 69RH, 973 hPa	**TESTED BY**	Larry Peng
TEST MODE	802.11a and draft 802.11g, With POE		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.166	0.20	45.02	-	45.22	-	65.18	55.18	-19.96	-
2	0.334	0.20	38.66	-	38.86	-	59.36	49.36	-20.50	-
3	0.670	0.24	39.47	-	39.71	-	56.00	46.00	-16.29	-
4	1.338	0.30	43.26	-	43.56	-	56.00	46.00	-12.44	-
5	9.625	0.68	43.67	-	44.35	-	60.00	50.00	-15.65	-
6	14.262	0.87	41.42	-	42.29	-	60.00	50.00	-17.71	-

NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit value



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

5.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	**EIRP Limit (dBm)**	**Equivalent Field Strength at 3m (dBμV/m)** *note 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5725~5825	-27 *note 1	68.3
	-17 *note 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

$$E=\frac{1000000\sqrt{30P}}{3} \quad \mu V/m, \quad \text{where P is the eirp (Watts)}$$

5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8594ER	3829U04676	Aug. 30, 2004
ADVANTEST Spectrum Analyzer	R3271A	85060311	Jun. 16, 2004
CHASE RF Pre_Amplifier	CPA9232	1057	May. 10, 2004
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2004
ROHDE & SCHWARZ Test Receiver	ESVS 10	849231 /019	Sep. 30, 2004
CHASE Broadband Antenna	CBL6111c	2730	Jul 30, 2004
Schwarzbeck Horn_Antenna	3115	5619	Jul. 17, 2004
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170192	Feb. 16, 2005
SCHWARZBECK Tunable Dipole Antenna	UHAP	897	Mar. 07, 2005
SCHWARZBECK Tunable Dipole Antenna	VHAP	880	Mar. 07, 2005
RF Switches (ARNITSU)	CS-201	1565157	Dec. 01, 2004
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Feb. 10. 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Dec. 01, 2004
Software	AS60P8	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Tunable Dipole Antenna)and the calibrations are traceable to NML/ROC and NIST/USA.
2. * = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. C.
5. The FCC Site Registration No. is 656396.
6. The VCCI Site Registration No. is R-1626.
7. The CANADA Site Registration No. is IC 4824-3.

5.2.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

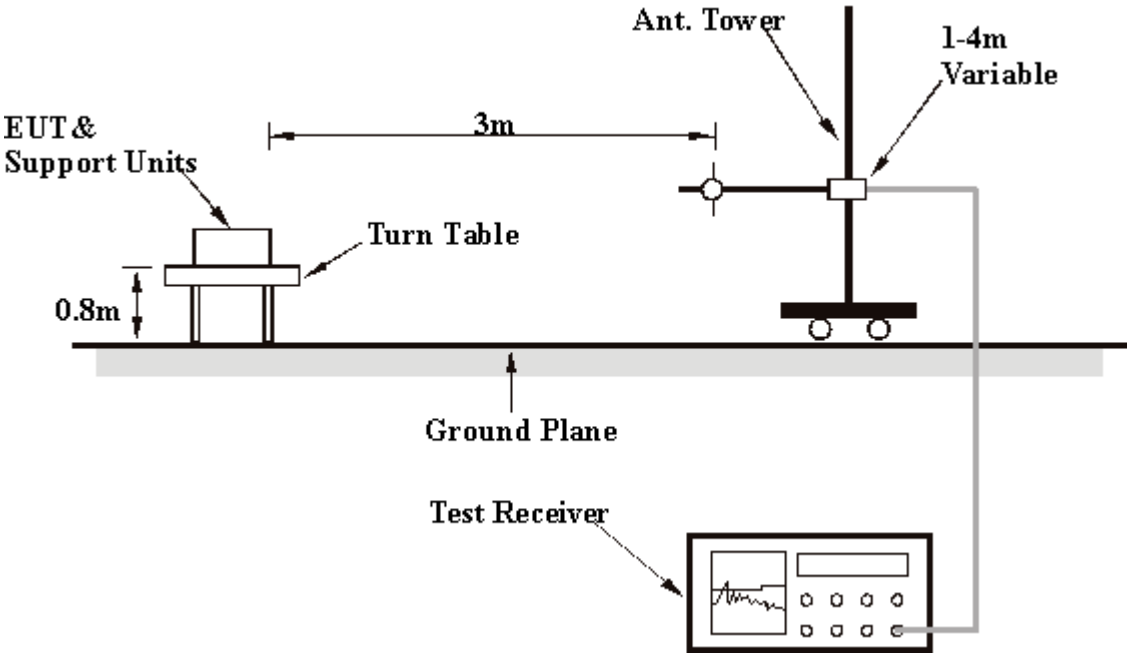
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

5.2.5 DEVIATION FROM TEST STANDARD

No deviation

5.2.6 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.2.7 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.2.8 TEST RESULTS

EUT	IronPoint 200	MODEL	IP200
FREQUENCY RANGE	30 - 1000MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	29 deg. C, 56%RH, 973 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TEST MODE	With Adapter	TESTED BY	Eic Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	45.50	26.1 QP	40.00	-13.90	1.25 H	331	15.20	11.00
2	125.13	28.8 QP	43.50	-14.70	1.15 H	337	16.70	12.00
3	220.34	22.7 QP	46.00	-23.30	1.52 H	324	13.20	9.40
4	250.01	30.0 QP	46.00	-16.00	1.44 H	341	17.00	13.00
5	264.19	30.8 QP	46.00	-15.20	1.48 H	241	16.70	14.00
6	351.55	36.5 QP	46.00	-9.50	1.17 H	29	21.00	15.50
7	375.20	30.2 QP	46.00	-15.80	1.28 H	0	14.00	16.20
8	395.68	36.3 QP	46.00	-9.70	1.00 H	212	19.40	16.90
9	479.54	30.3 QP	46.00	-15.70	1.22 H	13	11.50	18.90
10	499.91	32.5 QP	46.00	-13.50	1.06 H	114	13.20	19.30
11	527.53	42.0 QP	46.00	-4.00	2.00 H	194	22.40	19.60
12	625.23	32.2 QP	46.00	-13.80	1.34 H	56	10.50	21.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	43.25	28.2 QP	40.00	-11.80	1.47 V	322	16.10	12.10
2	60.58	30.7 QP	40.00	-9.30	1.41 V	196	25.50	5.20
3	70.25	24.0 QP	40.00	-16.00	1.16 V	7	18.10	5.90
4	125.02	32.1 QP	43.50	-11.40	1.19 V	93	20.10	12.00
5	220.04	29.9 QP	46.00	-16.10	1.26 V	64	20.50	9.40
6	250.29	27.9 QP	46.00	-18.10	1.35 V	25	14.80	13.00
7	352.33	29.9 QP	46.00	-16.10	1.23 V	50	14.40	15.50
8	375.01	29.0 QP	46.00	-17.00	1.39 V	114	12.80	16.20
9	395.56	33.3 QP	46.00	-12.70	1.09 V	93	16.30	16.90
10	499.62	35.2 QP	46.00	-10.80	1.02 V	244	15.90	19.30
11	528.34	40.3 QP	46.00	-5.70	1.00 V	56	20.70	19.60

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT	IronPoint 200	MODEL	IP200
FREQUENCY RANGE	30 - 1000MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	29 deg. C, 56%RH, 973 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TEST MODE	With POE	TESTED BY	Eic Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	50.69	27.5 QP	40.00	-12.50	1.96 H	58	19.40	8.20
2	68.29	24.0 QP	40.00	-16.00	1.08 H	57	18.30	5.70
3	124.59	27.6 QP	43.50	-15.90	1.52 H	309	15.60	12.00
4	220.00	29.4 QP	46.00	-16.60	1.48 H	54	20.00	9.40
5	220.11	26.3 QP	46.00	-19.70	1.77 H	47	16.90	9.40
6	250.03	28.0 QP	46.00	-18.00	1.88 H	5	15.00	13.00
7	352.01	29.8 QP	46.00	-16.20	1.88 H	5	14.30	15.50
8	374.98	31.9 QP	46.00	-14.10	1.14 H	147	15.70	16.20
9	500.12	34.3 QP	46.00	-11.70	1.18 H	160	15.00	19.30
10	527.68	37.2 QP	46.00	-8.80	1.58 H	98	17.60	19.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	51.02	31.3 QP	40.00	-8.70	1.58 V	54	23.20	8.00
2	55.89	30.1 QP	40.00	-9.90	1.08 V	68	23.70	6.40
3	69.03	36.7 QP	40.00	-3.30	1.68 V	199	30.90	5.80
4	72.00	31.5 QP	40.00	-8.50	1.02 V	96	25.20	6.30
5	124.97	27.3 QP	43.50	-16.20	1.09 V	269	15.30	12.00
6	250.00	26.2 QP	46.00	-19.80	1.47 V	54	13.20	13.00
7	264.02	29.4 QP	46.00	-16.60	1.09 V	69	15.30	14.10
8	374.36	32.1 QP	46.00	-13.90	1.78 V	7	15.90	16.20
9	396.21	32.0 QP	46.00	-14.00	1.00 V	356	15.00	17.00
10	500.02	34.3 QP	46.00	-11.70	1.38 V	68	15.00	19.30
11	527.89	40.6 QP	46.00	-5.40	1.08 V	354	21.00	19.60
12	625.32	33.3 QP	46.00	-12.70	1.58 V	55	11.60	21.70

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

5.2.9 TEST RESULTS
STANDARD SECTION 15.407

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal Mode	**CHANNEL**	1
FREQUENCY RANGE	1000MHz~25000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	54.2 PK	74.00	-19.80	1.46 H	329	17.10	37.00
1	#5088.00	46.2 AV	54.00	-7.80	1.46 H	329	9.20	37.00
2	#5120.00	55.0 PK	74.00	-19.00	1.08 H	326	18.00	37.00
2	#5120.00	46.6 AV	54.00	-7.40	1.08 H	326	9.60	37.00
3	#5150.00	54.6 PK	74.00	-19.40	1.40 H	208	17.60	37.00
3	#5150.00	44.6 AV	54.00	-9.40	1.40 H	208	7.60	37.00
4	*5180.00	95.3 PK			1.48 H	69	58.30	37.00
4	*5180.00	87.1 AV			1.48 H	69	50.10	37.00
5	#5440.00	52.1 PK	74.00	-21.90	1.37 H	151	15.10	37.00
5	#5440.00	44.9 AV	54.00	-9.10	1.37 H	151	7.90	37.00
6	10360.00	49.7 PK	68.30	-18.60	1.07 H	46	5.00	44.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	63.2 PK	74.00	-10.80	1.01 V	43	26.20	37.00
1	#5088.00	51.0 AV	54.00	-3.00	1.01 V	43	14.00	37.00
2	#5120.00	58.3 PK	74.00	-15.70	1.85 V	65	21.30	37.00
2	#5120.00	51.6 AV	54.00	-2.40	1.85 V	65	14.60	37.00
3	#5150.00	59.6 PK	74.00	-14.40	1.39 V	66	22.60	37.00
3	#5150.00	50.3 AV	54.00	-3.70	1.39 V	66	13.30	37.00
4	*5180.00	103.3 PK			1.25 V	54	66.20	37.00
4	*5180.00	95.7 AV			1.25 V	54	58.60	37.00
5	#5440.00	60.3 PK	74.00	-13.70	1.36 V	332	23.30	37.00
5	#5440.00	52.2 AV	54.00	-1.80	1.36 V	332	15.20	37.00
6	10360.00	53.9 PK	68.30	-14.40	1.35 V	222	9.20	44.70

NOTE:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal Mode	**CHANNEL**	4
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	51.0 PK	74.00	-23.00	1.21 H	5	13.90	37.00
1	#5088.00	43.0 AV	54.00	-11.00	1.21 H	5	6.00	37.00
2	#5150.00	50.6 PK	74.00	-23.40	1.30 H	65	13.50	37.00
3	*5240.00	96.4 PK			1.33 H	200	59.40	37.00
3	*5240.00	87.9 AV			1.33 H	200	50.90	37.00
4	#5440.00	53.3 PK	74.00	-20.70	1.05 H	22	16.20	37.00
4	#5440.00	45.1 AV	54.00	-8.90	1.05 H	22	8.10	37.00
5	10480.00	49.9 PK	68.30	-18.40	1.35 H	69	4.90	45.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	57.2 PK	74.00	-16.80	1.07 V	57	20.10	37.00
1	#5088.00	47.7 AV	54.00	-6.30	1.07 V	57	10.60	37.00
2	#5150.00	55.2 PK	74.00	-18.80	1.36 V	307	18.20	37.00
2	#5150.00	47.3 AV	54.00	-6.70	1.36 V	307	10.20	37.00
3	*5240.00	102.9 PK			1.35 V	68	65.90	37.00
3	*5240.00	96.0 AV			1.35 V	68	59.00	37.00
4	#5440.00	57.6 PK	74.00	-16.40	1.32 V	256	20.60	37.00
4	#5440.00	49.4 AV	54.00	-4.60	1.32 V	256	12.40	37.00
5	10480.00	54.6 PK	68.30	-13.70	1.20 V	249	9.70	45.00

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal Mode	**CHANNEL**	5
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5056.00	44.60 PK	74.00	-29.40	1.52 H	32	7.60	37.00
2	#5120.00	51.20 PK	74.00	-22.80	1.21 H	54	14.20	37.00
2	#5120.00	44.70 AV	54.00	-9.30	1.21 H	54	7.60	37.00
3	*5260.00	102.00 PK			1.36 H	241	65.00	37.00
3	*5260.00	92.70 AV			1.36 H	241	55.60	37.00
4	#5376.00	52.00 PK	74.00	-22.00	1.11 H	2	15.00	37.00
4	#5376.00	45.70 AV	54.00	-8.30	1.11 H	2	8.70	37.00
5	#5440.00	51.00 PK	74.00	-23.00	1.45 H	21	14.00	37.00
5	#5440.00	45.70 AV	54.00	-8.30	1.45 H	21	8.60	37.00
6	10520.00	49.00 PK	68.30	-19.30	1.02 H	241	3.80	45.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5056.00	52.90 PK	74.00	-21.10	1.17 V	111	15.80	37.00
1	#5056.00	48.90 AV	54.00	-5.10	1.17 V	111	11.80	37.00
2	#5120.00	58.70 PK	74.00	-15.30	1.19 V	12	21.60	37.00
2	#5120.00	52.20 AV	54.00	-1.80	1.19 V	12	15.20	37.00
3	*5260.00	108.20 PK			1.09 V	359	71.20	37.00
3	*5260.00	99.90 AV			1.09 V	359	62.90	37.00
4	#5376.00	59.10 PK	74.00	-14.90	1.18 V	99	22.10	37.00
4	#5376.00	53.00 AV	54.00	-1.00	1.18 V	99	16.00	37.00
5	#5440.00	59.10 PK	74.00	-14.90	1.15 V	122	22.00	37.00
5	#5440.00	52.80 AV	54.00	-1.20	1.15 V	122	15.80	37.00
6	10520.00	53.80 PK	68.30	-14.50	1.19 V	160	8.60	45.20

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal Mode	**CHANNEL**	8
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	50.7 PK	74.00	-23.30	1.76 H	64	13.70	37.00
2	*5320.00	95.1 PK			1.06 H	326	58.10	37.00
2	*5320.00	88.0 AV			1.06 H	326	51.00	37.00
3	#5350.00	51.5 PK	74.00	-22.50	1.07 H	168	14.50	37.00
3	#5350.00	45.9 AV	54.00	-8.10	1.07 H	168	8.90	37.00
4	#5408.00	53.7 PK	74.00	-20.30	1.53 H	354	16.70	37.00
4	#5408.00	48.0 AV	54.00	-6.00	1.53 H	354	11.00	37.00
5	#10640.00	53.9 PK	74.00	-20.10	1.36 H	199	7.60	46.30
5	#10640.00	43.2 AV	54.00	-10.80	1.36 H	199	-3.10	37.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	55.3 PK	74.00	-18.70	1.33 V	201	18.30	37.00
1	#5120.00	46.1 AV	54.00	-7.90	1.33 V	201	9.10	37.00
2	*5320.00	102.3 PK			1.05 V	326	65.30	37.00
2	*5320.00	94.0 AV			1.05 V	326	57.00	37.00
3	#5350.00	60.8 PK	74.00	-13.20	1.09 V	357	23.80	37.00
3	#5350.00	51.9 AV	54.00	-2.10	1.09 V	357	14.90	37.00
4	#5408.00	62.4 PK	74.00	-11.60	1.58 V	52	25.40	37.00
4	**#5408.00**	**53.0 AV**	**54.00**	**-1.00**	**1.58 V**	**52**	**16.00**	**37.00**
5	#10640.00	58.1 PK	74.00	-15.90	1.22 V	5	11.90	46.30
5	#10640.00	46.4 AV	54.00	-7.60	1.22 V	5	0.10	46.30

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.247

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal Mode	**CHANNEL**	9
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 67%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	48.70 PK	74.00	-25.30	1.36 H	65	11.70	37.00
2	#5408.00	51.00 PK	74.00	-23.00	1.04 H	78	13.90	37.00
2	#5408.00	43.10 AV	54.00	-10.90	1.04 H	78	6.10	37.00
3	#5440.00	54.40 PK	74.00	-19.60	1.36 H	65	17.30	37.00
3	#5440.00	46.50 AV	54.00	-7.50	1.36 H	65	9.50	37.00
4	*5745.00	102.80 PK			1.05 H	65	65.20	37.60
4	*5745.00	94.50 AV			1.05 H	65	57.00	37.60
5	#11490.00	51.60 PK	74.00	-22.40	1.63 H	98	0.30	51.30
5	#11490.00	43.80 AV	54.00	-10.20	1.63 H	98	-7.50	51.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	54.20 PK	74.00	-19.80	1.02 V	312	17.20	37.00
1	#5120.00	48.80 AV	54.00	-5.20	1.02 V	312	11.70	37.00
2	#5408.00	58.90 PK	74.00	-15.10	1.02 V	11	21.90	37.00
2	#5408.00	50.80 AV	54.00	-3.20	1.02 V	11	13.80	37.00
3	#5440.00	61.70 PK	74.00	-12.30	1.02 V	50	24.70	37.00
3	**#5440.00**	**52.70 AV**	**54.00**	**-1.30**	**1.02 V**	**50**	**15.70**	**37.00**
4	*5745.00	109.70 PK			1.06 V	241	72.10	37.60
4	*5745.00	101.70 AV			1.06 V	241	64.10	37.60
5	#11490.00	54.90 PK	74.00	-19.10	1.55 V	24	3.50	51.30
5	#11490.00	46.90 AV	54.00	-7.10	1.55 V	24	-4.40	51.30

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.247

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal Mode	**CHANNEL**	11
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 67%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	49.60 PK	74.00	-24.40	1.01 H	25	12.60	37.00
2	#5376.00	50.60 PK	74.00	-23.40	1.55 H	62	13.50	37.00
3	#5440.00	53.90 PK	74.00	-20.10	1.00 H	1	16.90	37.00
3	#5440.00	45.90 AV	54.00	-8.10	1.00 H	1	8.90	37.00
4	*5785.00	94.50 PK			1.63 H	326	56.90	37.60
4	*5785.00	94.80 AV			1.63 H	326	57.20	37.60
5	#11570.00	50.70 PK	74.00	-23.30	1.22 H	63	-0.40	51.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	55.60 PK	74.00	-18.40	1.02 V	33	18.50	37.00
1	#5120.00	48.70 AV	54.00	-5.30	1.02 V	33	11.60	37.00
2	#5376.00	57.90 PK	74.00	-16.10	1.20 V	89	20.90	37.00
2	#5376.00	50.10 AV	54.00	-3.90	1.20 V	89	13.10	37.00
3	#5440.00	58.70 PK	74.00	-15.30	1.45 V	41	21.70	37.00
3	#5440.00	51.30 AV	54.00	-2.70	1.45 V	41	14.30	37.00
4	*5785.00	109.70 PK			1.52 V	24	72.10	37.60
4	*5785.00	101.80 AV			1.52 V	24	64.20	37.60
5	#11570.00	55.30 PK	74.00	-18.70	1.56 V	326	4.20	51.10
5	#11570.00	46.60 AV	54.00	-7.40	1.56 V	326	-4.50	51.10

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency
6. “# “ : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.247

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal Mode	**CHANNEL**	13
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 67%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	49.20 PK	74.00	-24.80	1.25 H	45	12.20	37.00
2	#5376.00	52.60 PK	74.00	-21.40	1.65 H	45	15.60	37.00
2	#5376.00	44.00 AV	54.00	-10.00	1.65 H	45	7.00	37.00
3	#5440.00	51.00 PK	74.00	-23.00	1.02 H	123	14.00	37.00
3	#5440.00	43.90 AV	54.00	-10.10	1.02 H	123	6.90	37.00
4	*5825.00	101.90 PK			1.22 H	36	64.20	37.70
4	*5825.00	95.70 AV			1.22 H	36	58.00	37.70
5	#11650.00	51.10 PK	74.00	-22.90	1.86 H	32	0.20	50.80
5	#11650.00	44.00 AV	54.00	-10.00	1.86 H	32	-6.90	50.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	53.70 PK	74.00	-20.30	1.25 V	41	16.60	37.00
1	#5120.00	46.80 AV	54.00	-7.20	1.25 V	41	9.70	37.00
2	#5376.00	56.20 PK	74.00	-17.80	1.19 V	217	19.10	37.00
2	#5376.00	49.10 AV	54.00	-4.90	1.19 V	217	12.10	37.00
3	#5440.00	57.40 PK	74.00	-16.60	1.56 V	226	20.30	37.00
3	#5440.00	50.00 AV	54.00	-4.00	1.56 V	226	12.90	37.00
4	*5825.00	111.40 PK			1.06 V	98	73.70	37.70
4	*5825.00	102.40 AV			1.06 V	98	64.60	37.70
5	#11650.00	56.10 PK	74.00	-17.90	1.75 V	41	5.30	50.80
5	#11650.00	47.20 AV	54.00	-6.80	1.75 V	41	-3.60	50.80

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo Mode	**CHANNEL**	1
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	54.6 PK	74.00	-19.40	1.09 H	8	17.60	37.00
1	#5088.00	48.2 AV	54.00	-5.80	1.09 H	8	11.20	37.00
2	#5150.00	51.9 PK	74.00	-22.10	1.06 H	113	14.90	37.00
2	#5150.00	44.6 AV	54.00	-9.40	1.06 H	113	7.60	37.00
3	*5210.00	93.7 PK			1.45 H	24	56.70	37.00
3	*5210.00	86.7 AV			1.45 H	24	49.70	37.00
4	#5440.00	49.4 PK	74.00	-24.60	1.25 H	236	12.40	37.00
5	10420.00	47.3 PK	68.30	-21.00	1.07 H	254	2.50	44.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	58.4 PK	74.00	-15.60	1.58 V	9	21.30	37.00
1	#5088.00	49.6 AV	54.00	-4.40	1.58 V	9	12.60	37.00
2	#5150.00	56.9 PK	74.00	-17.10	1.08 V	57	19.90	37.00
2	#5150.00	49.2 AV	54.00	-4.80	1.08 V	57	12.20	37.00
3	*5210.00	99.2 PK			1.54 V	24	62.20	37.00
3	*5210.00	92.2 AV			1.54 V	24	55.20	37.00
4	#5440.00	59.4 PK	74.00	-14.60	1.03 V	31	22.30	37.00
4	#5440.00	50.4 AV	54.00	-3.60	1.03 V	31	13.30	37.00
5	10420.00	51.4 PK	68.30	-16.90	1.54 V	212	6.50	44.80

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo Mode	**CHANNEL**	2
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	52.2 PK	74.00	-21.80	1.30 H	269	15.10	37.00
1	#5120.00	44.6 AV	54.00	-9.40	1.30 H	269	7.60	37.00
2	*5250.00	95.3 PK			1.41 H	29	58.30	37.00
2	*5250.00	87.1 AV			1.41 H	29	50.10	37.00
3	#5408.00	50.8 PK	74.00	-23.20	1.36 H	5	13.70	37.00
4	10500.00	50.9 PK	68.30	-17.40	1.08 H	222	5.90	45.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	51.4 PK	74.00	-22.60	1.04 V	249	14.40	37.00
1	#5120.00	46.2 AV	54.00	-7.80	1.04 V	249	9.20	37.00
2	*5250.00	100.5 PK			1.30 V	25	63.50	37.00
2	*5250.00	93.2 AV			1.30 V	25	56.20	37.00
3	#5408.00	57.2 PK	74.00	-16.80	1.06 V	329	20.20	37.00
3	#5408.00	50.4 AV	54.00	-3.60	1.06 V	329	13.40	37.00
4	10500.00	52.0 PK	68.30	-16.20	1.00 V	28	7.00	45.00

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo Mode	**CHANNEL**	3
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	51.0 PK	74.00	-23.00	1.30 H	61	13.90	37.00
1	#5088.00	44.6 AV	54.00	-9.40	1.30 H	61	7.50	37.00
2	*5290.00	95.1 PK			1.58 H	99	58.00	37.00
2	*5290.00	86.7 AV			1.58 H	99	49.60	37.00
3	#5350.00	51.2 PK	74.00	-22.80	1.33 H	119	14.10	37.00
3	#5350.00	41.0 AV	54.00	-13.00	1.33 H	119	4.00	37.00
4	#5408.00	50.4 PK	74.00	-23.60	1.54 H	26	13.40	37.00
5	10580.00	51.8 PK	68.30	-16.50	1.35 H	26	6.00	45.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5088.00	56.0 PK	74.00	-18.00	1.11 V	9	19.00	37.00
1	#5088.00	49.6 AV	54.00	-4.40	1.11 V	9	12.60	37.00
2	*5290.00	98.9 PK			1.00 V	0	61.90	37.00
2	*5290.00	91.2 AV			1.00 V	0	54.20	37.00
3	#5350.00	57.0 PK	74.00	-17.00	1.05 V	24	20.00	37.00
3	#5350.00	47.8 AV	54.00	-6.20	1.05 V	24	10.80	37.00
4	#5408.00	59.4 PK	74.00	-14.60	1.05 V	24	22.30	37.00
4	#5408.00	50.8 AV	54.00	-3.20	1.05 V	24	13.70	37.00
5	10580.00	55.1 PK	68.30	-13.20	1.52 V	329	9.40	45.70

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.247

EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo Mode	**CHANNEL**	4
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 67%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	46.60 PK	74.00	-27.40	1.65 H	25	9.60	37.00
2	#5376.00	49.50 PK	74.00	-24.50	1.59 H	325	12.50	37.00
3	#5440.00	49.90 PK	74.00	-24.10	1.11 H	9	12.90	37.00
4	*5760.00	93.60 PK			1.63 H	30	56.00	37.60
4	*5760.00	86.50 AV			1.63 H	30	49.00	37.60
5	#11520.00	50.10 PK	74.00	-23.90	1.05 H	42	-1.20	51.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	51.90 PK	74.00	-22.10	1.02 V	41	14.80	37.00
1	#5120.00	48.40 AV	54.00	-5.60	1.02 V	41	11.30	37.00
2	#5376.00	57.30 PK	74.00	-16.70	1.42 V	36	20.20	37.00
2	#5376.00	48.10 AV	54.00	-5.90	1.42 V	36	11.10	37.00
3	#5440.00	59.00 PK	74.00	-15.00	1.56 V	62	21.90	37.00
3	#5440.00	50.00 AV	54.00	-4.00	1.56 V	62	12.90	37.00
4	*5760.00	99.70 PK			1.54 V	21	62.10	37.60
4	*5760.00	92.80 AV			1.54 V	21	55.30	37.60
5	#11520.00	54.60 PK	74.00	-19.40	1.68 V	95	3.30	51.30
5	#11520.00	46.80 AV	54.00	-7.20	1.68 V	95	-4.50	51.30

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.247

EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo Mode	**CHANNEL**	5
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 56%RH, 973 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	47.20 PK	74.00	-26.80	1.35 H	26	10.20	37.00
2	#5376.00	51.30 PK	74.00	-22.70	1.55 H	201	14.20	37.00
2	#5376.00	42.60 AV	54.00	-11.40	1.55 H	201	5.60	37.00
3	#5440.00	51.20 PK	74.00	-22.80	1.02 H	32	14.20	37.00
3	#5440.00	42.90 AV	54.00	-11.10	1.02 H	32	5.90	37.00
4	*5800.00	91.70 PK			1.56 H	6	54.00	37.70
4	*5800.00	86.20 AV			1.56 H	6	48.60	37.70
5	#11600.00	49.80 PK	74.00	-24.20	1.63 H	6	-1.20	51.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5120.00	51.80 PK	74.00	-22.20	1.56 V	326	14.80	37.00
1	#5120.00	47.40 AV	54.00	-6.60	1.56 V	326	10.30	37.00
2	#5376.00	57.30 PK	74.00	-16.70	1.25 V	66	20.20	37.00
2	#5376.00	47.50 AV	54.00	-6.50	1.25 V	66	10.40	37.00
3	#5440.00	58.10 PK	74.00	-15.90	1.02 V	58	21.00	37.00
3	#5440.00	49.00 AV	54.00	-5.00	1.02 V	58	11.90	37.00
4	*5800.00	101.70 PK			1.45 V	24	64.00	37.70
4	*5800.00	93.90 AV			1.45 V	24	56.30	37.70
5	#11600.00	56.20 PK	74.00	-17.80	1.42 V	10	5.20	51.00
5	#11600.00	46.90 AV	54.00	-7.10	1.42 V	10	-4.10	51.00

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency
6. “# “ : The radiated frequency falling in the restricted band.

FOR FREQUENCY 5.15~5.35GHZ

5.3 PEAK TRANSMIT POWER MEASUREMENT

5.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35 GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825 GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

Note: Where B is the 26dB emission bandwidth in MHz.

5.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

5.3.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 300kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

5.3.4 TEST SETUP

5.3.5 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

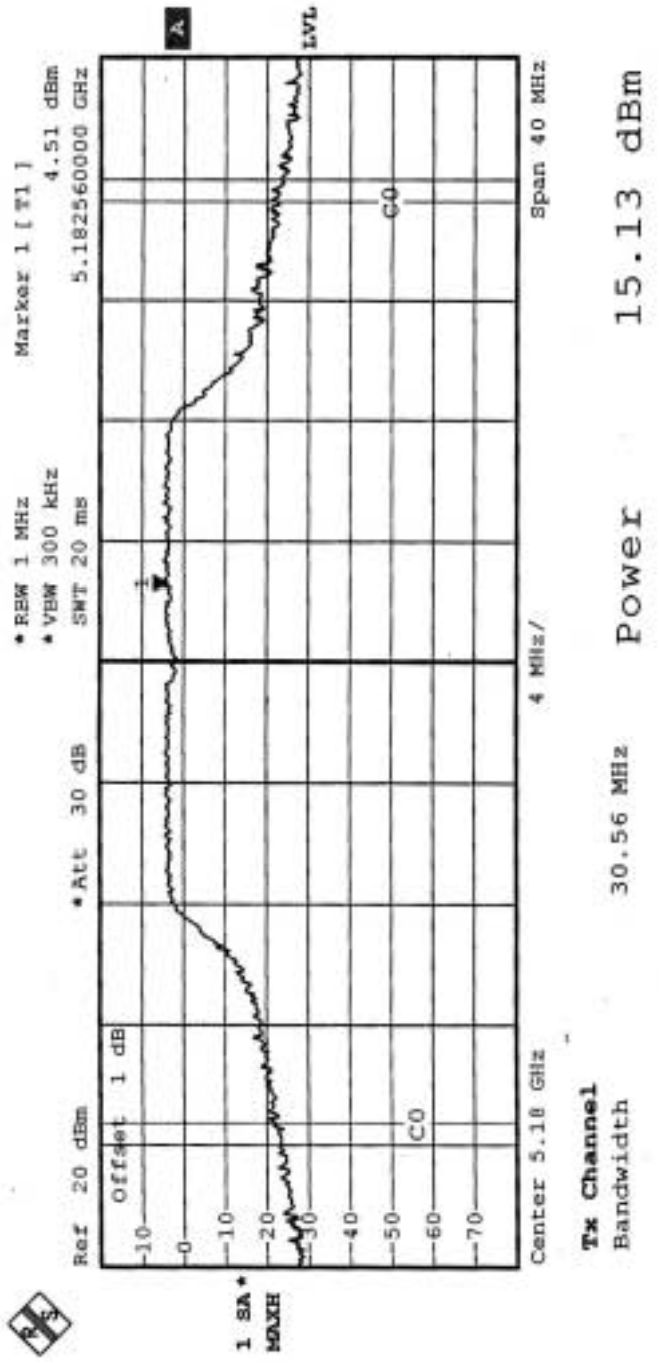
5.3.6 TEST RESULTS

EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 973 hPa	**TESTED BY**	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	15.13	17.00	30.56	PASS
4	5240	15.37	17.00	30.80	PASS
5	5260	19.90	24.00	29.52	PASS
8	5320	15.14	24.00	30.32	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

CHANNEL 1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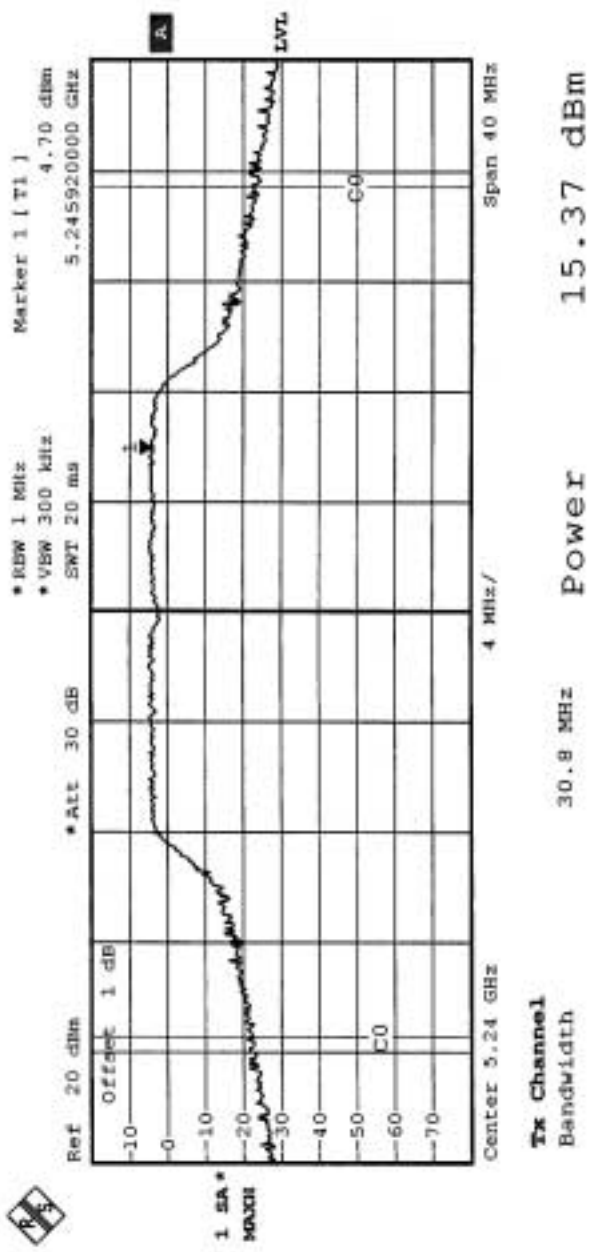
RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Center 5.18 GHz
4 MHz/
Span 40 MHz
Tx Channel
Bandwidth
30.56 MHz
Power
15.13 dBm

CHANNEL 4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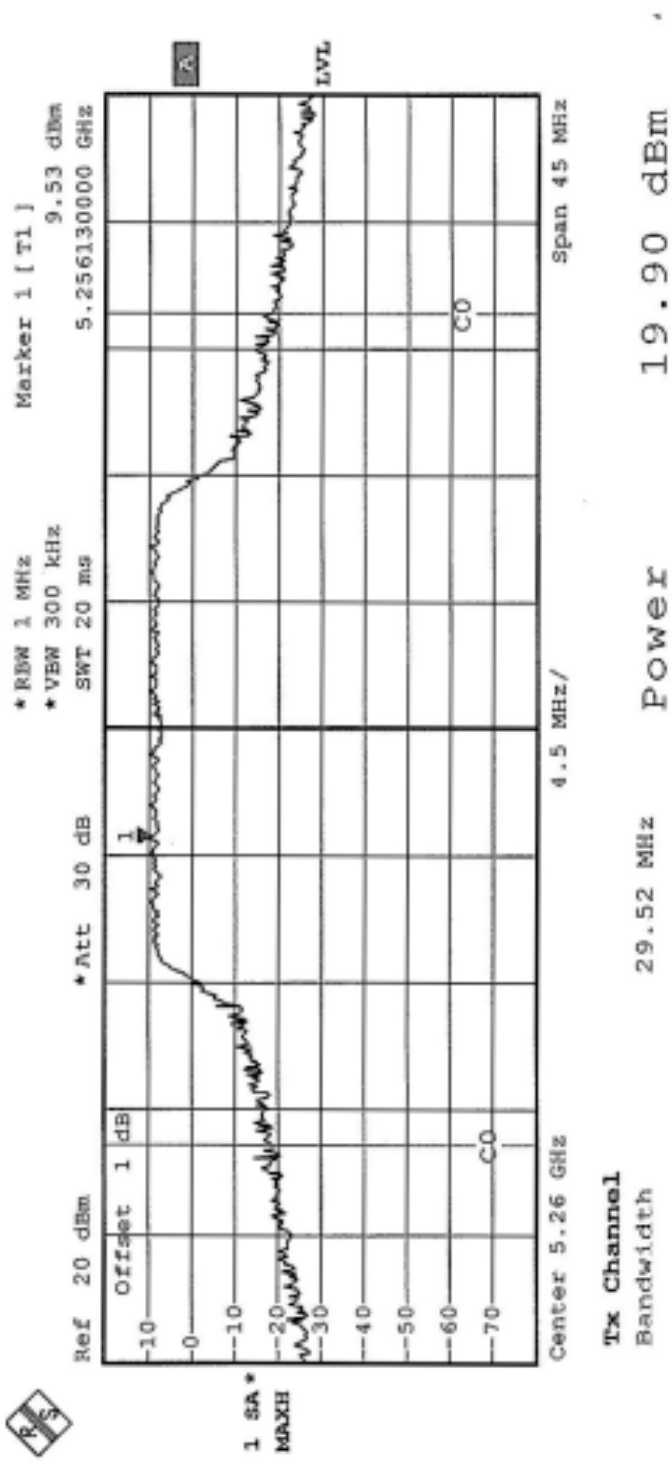
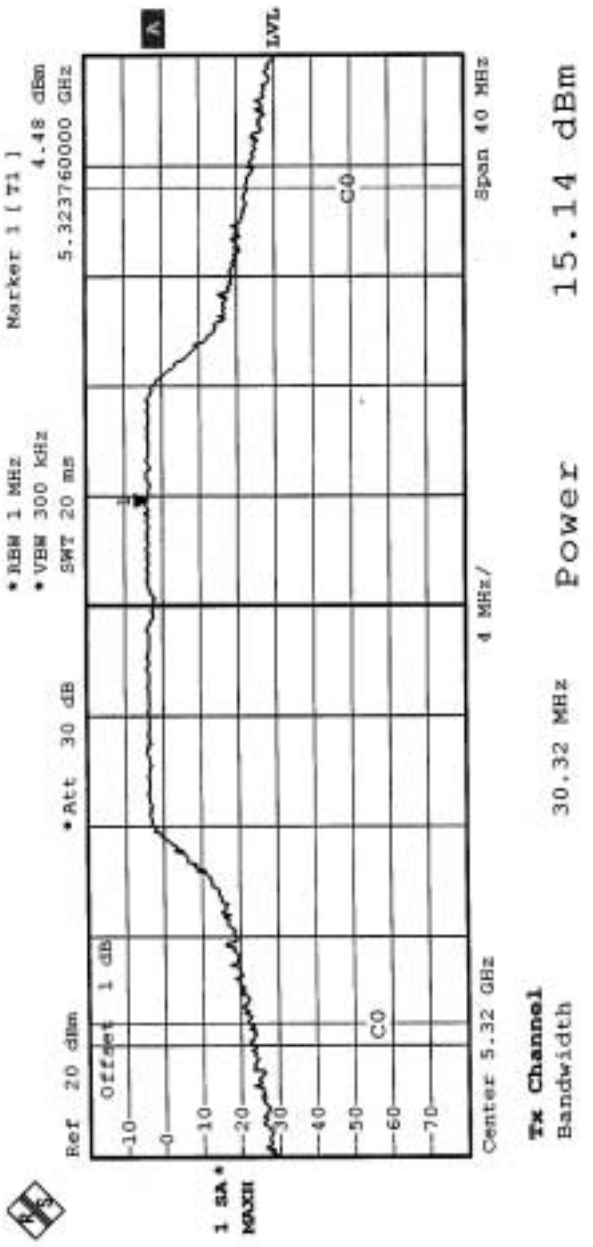
4.70 dBm
5.245920000 GHz
RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Ref 20 dBm
Offset 1 dB
Center 5.24 GHz
4 MHz/
Span 40 MHz
Tx Channel
Bandwidth
30.8 MHz
Power
15.37 dBm

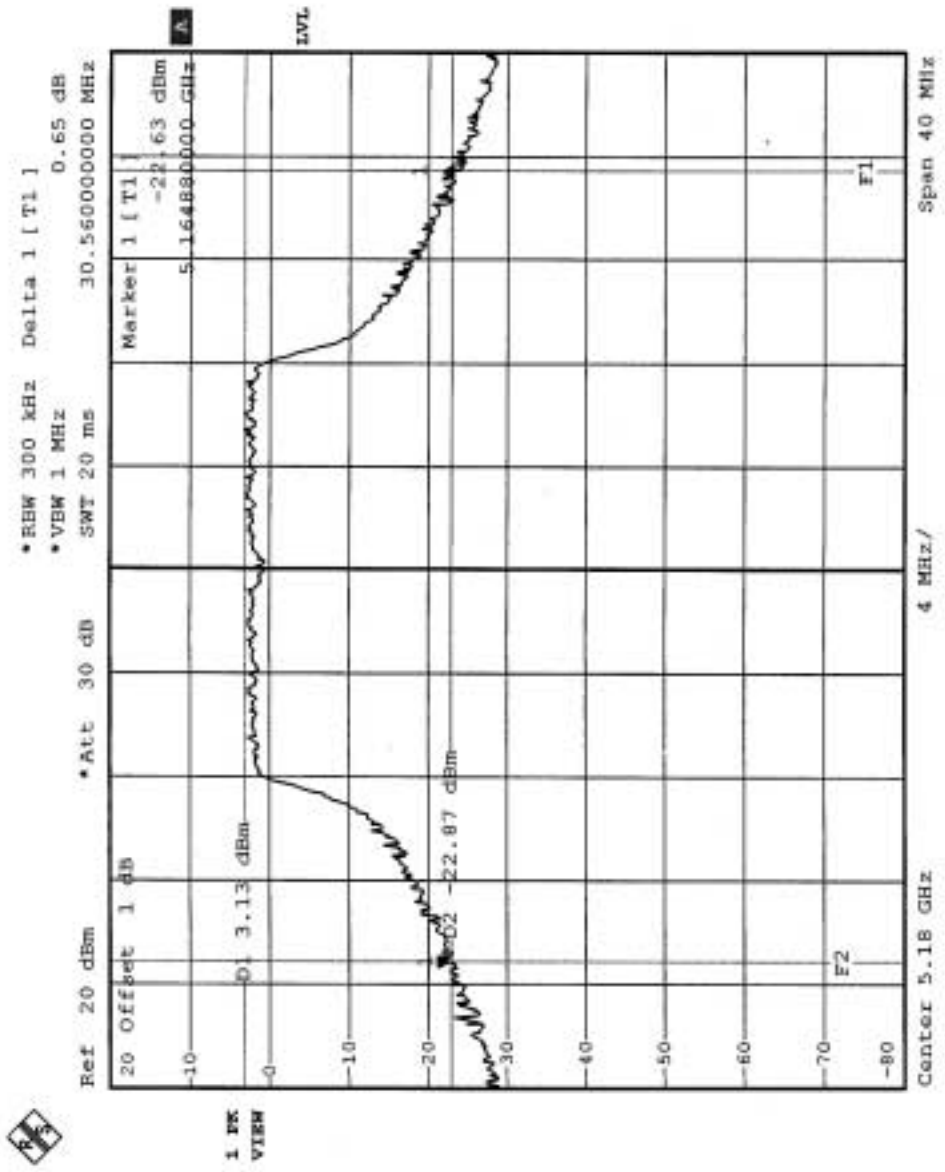
CHANNEL 5


Ref 20 dBm
Offset 1 dB
*Att 30 dB
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Marker 1 [T1]
9.53 dBm
5.256130000 GHz
Center 5.26 GHz
4.5 MHz/
Span 45 MHz
1 SA *
MAXH
Tx Channel
Bandwidth
29.52 MHz
Power
19.90 dBm

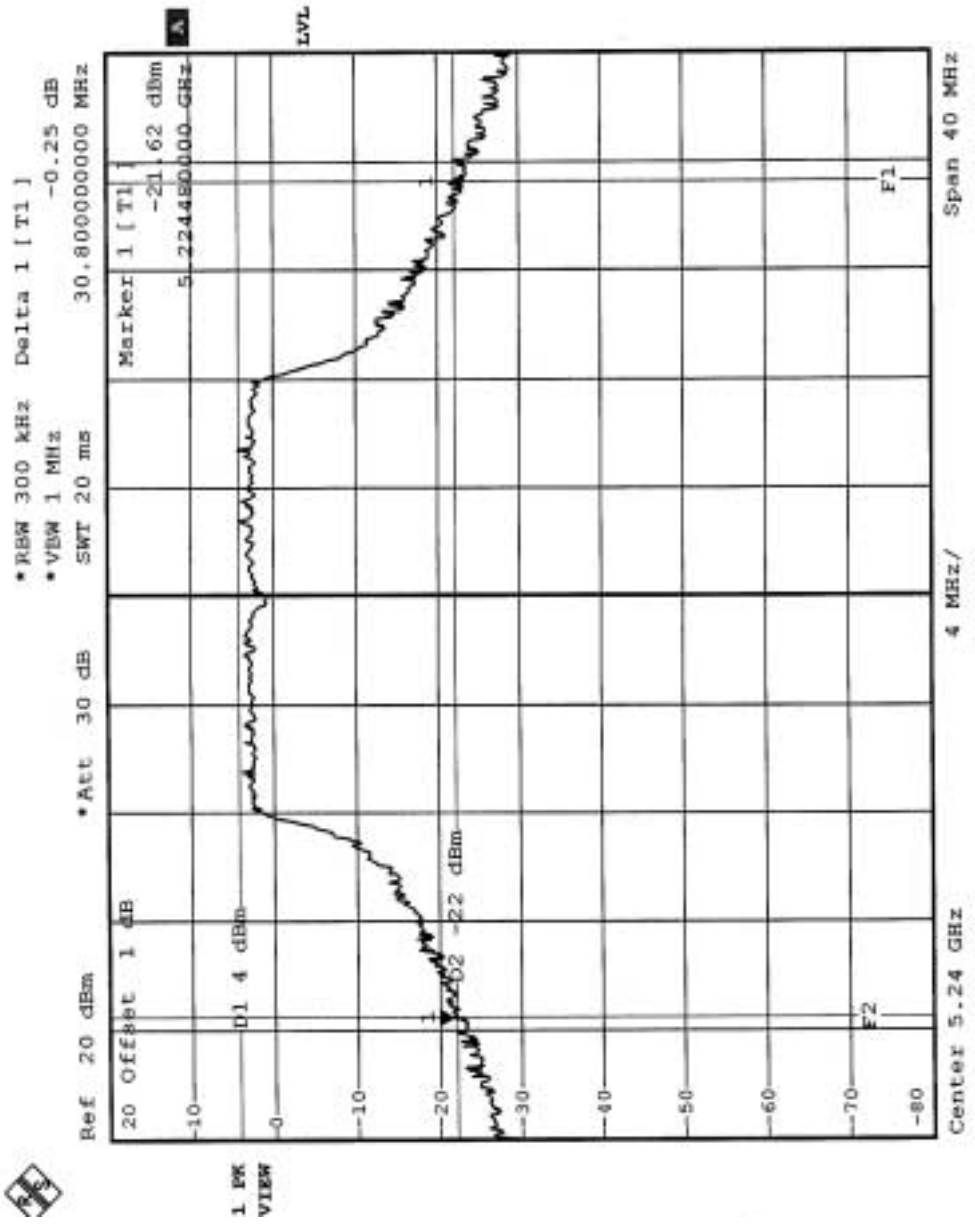
CHANNEL 8


Marker 1 [T1]
4.48 dBm
5.323760000 GHz
RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Center 5.32 GHz
4 MHz/
Span 40 MHz
Tx Channel
Bandwidth
30.32 MHz
Power
15.14 dBm
1 SA
MAXH
LVL
C0

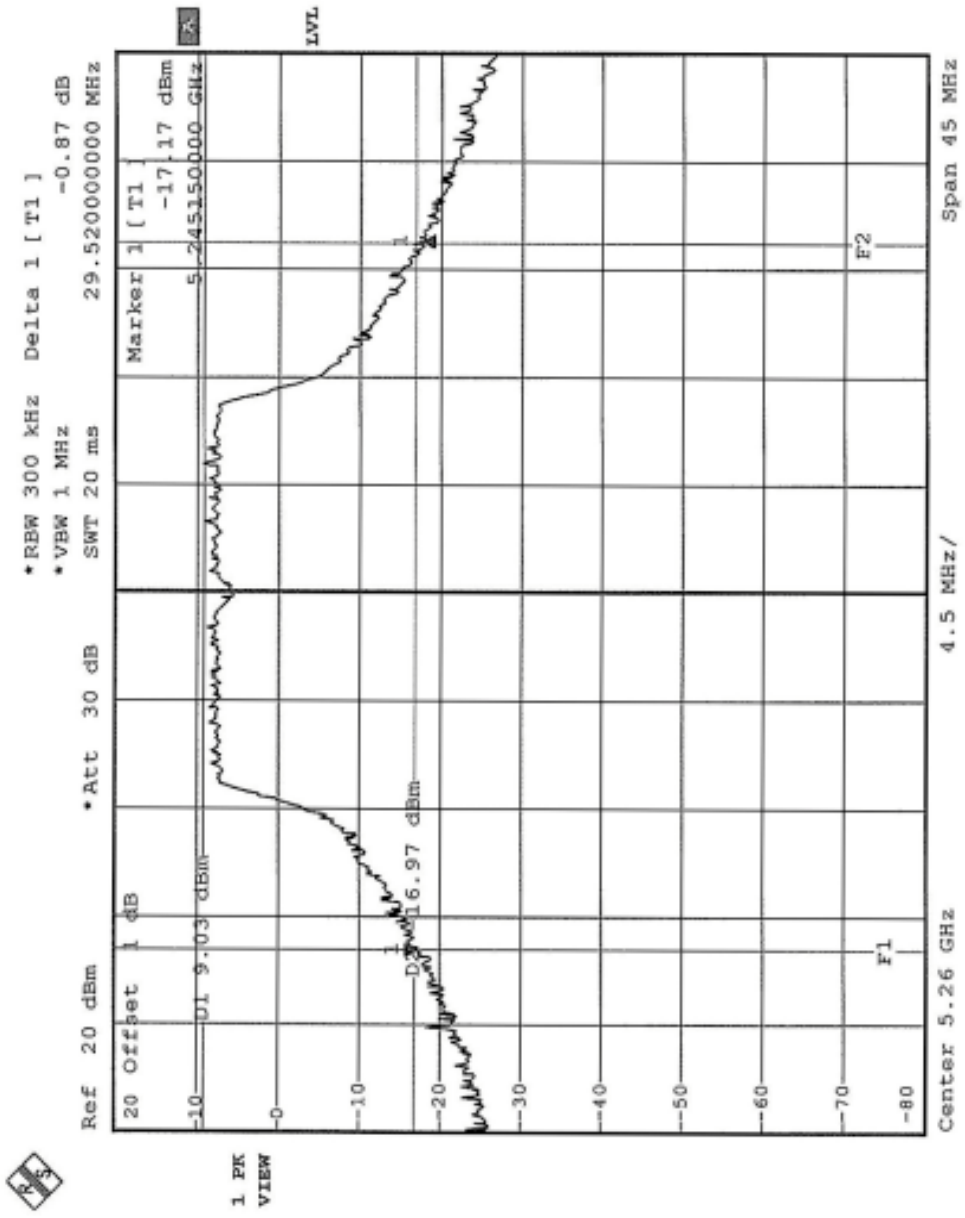
CHANNEL 1


Ref 20 dBm
20 Offset 1 dB
D1 3.13 dBm
D2 -22.87 dBm
•Att 30 dB
•RBW 300 kHz
•VBW 1 MHz
SWT 20 ms
Delta 1 [T1]
0.65 dB
30.560000000 MHz
Marker 1 [T1]
-2.63 dBm
5.164880000 GHz
Center 5.18 GHz
4 MHz/
Span 40 MHz
1 PK
VIEW

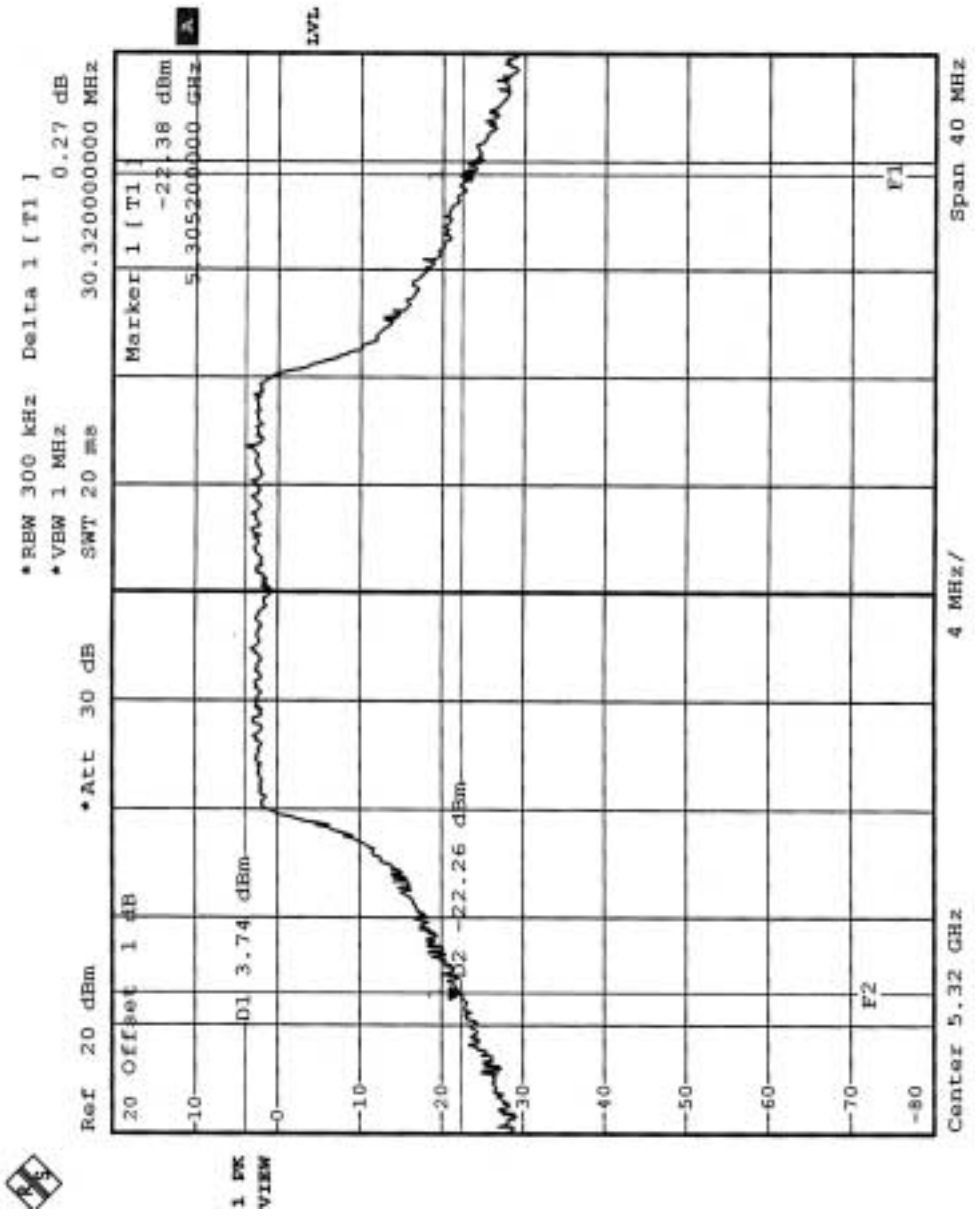
CHANNEL 4


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Delta 1 [T1]
-0.25 dB
30.800000000 MHz
Marker 1 [T1]
-21.62 dBm
5.224800000 GHz
Ref 20 dBm
Offset 1 dB
Att 30 dB
D1 4 dBm
-22 dBm
Center 5.24 GHz
4 MHz/
Span 40 MHz
F1
F2
1 PK
VIEW

CHANNEL 5


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Att 30 dB
Ref 20 dBm
Offset 1 dB
Delta 1 [T1]
-0.87 dB
29.52000000 MHz
Marker 1 [T1]
-17.17 dBm
5.24515000 GHz
D1 9.03 dBm
D2 -16.97 dBm
F1
F2
LVL
1 PK VIEW
Center 5.26 GHz
4.5 MHz/
Span 45 MHz

CHANNEL 8

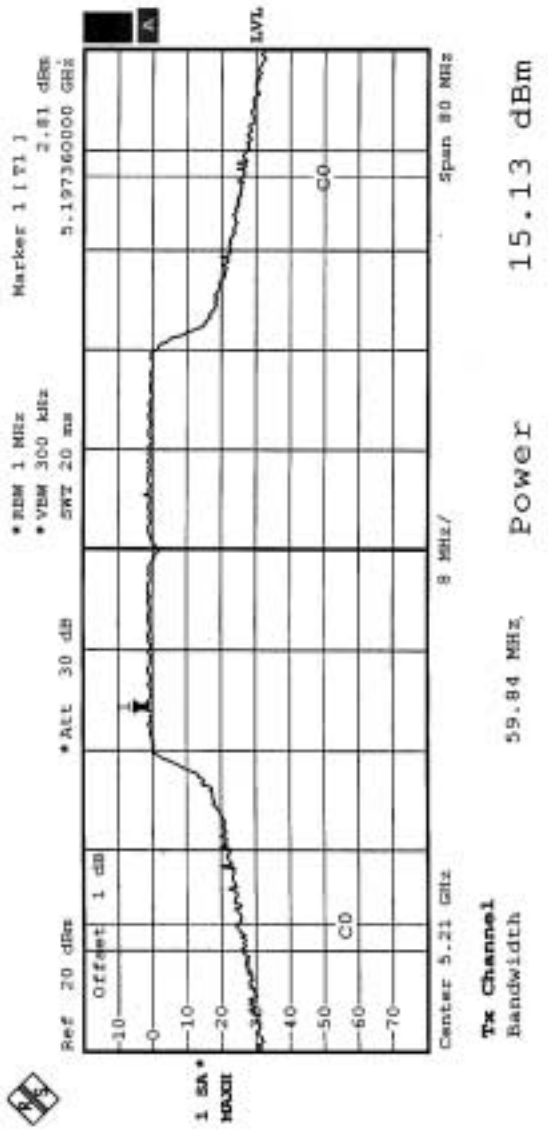

RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Delta 1 [T1]
0.27 dB
30.320000000 MHz
Marker 1 [T1]
-22.38 dBm
5.305200000 GHz
D1 3.74 dBm
D2 -22.26 dBm
Center 5.32 GHz
4 MHz/
Span 40 MHz
1 PK
VIEW

EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25eg. C, 66RH, 973 hPa	**TESTED BY**	Eric Lee

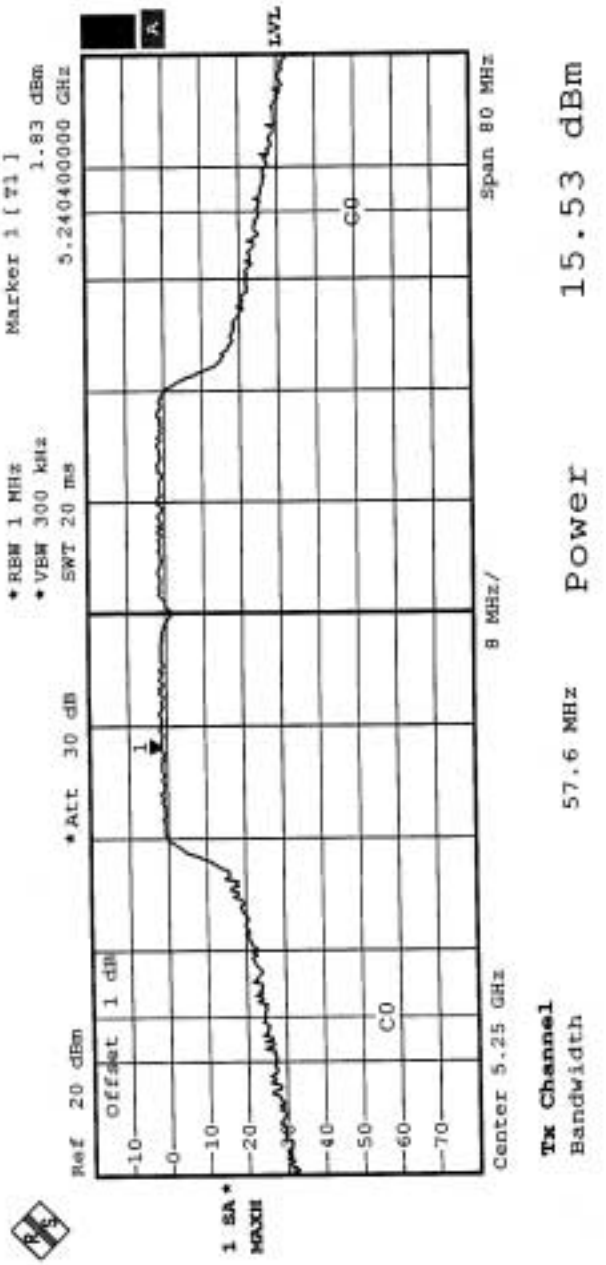
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5210	15.13	17.00	59.84	PASS
2	5250	15.53	24.00	57.60	PASS
3	5290	15.57	24.00	60.96	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

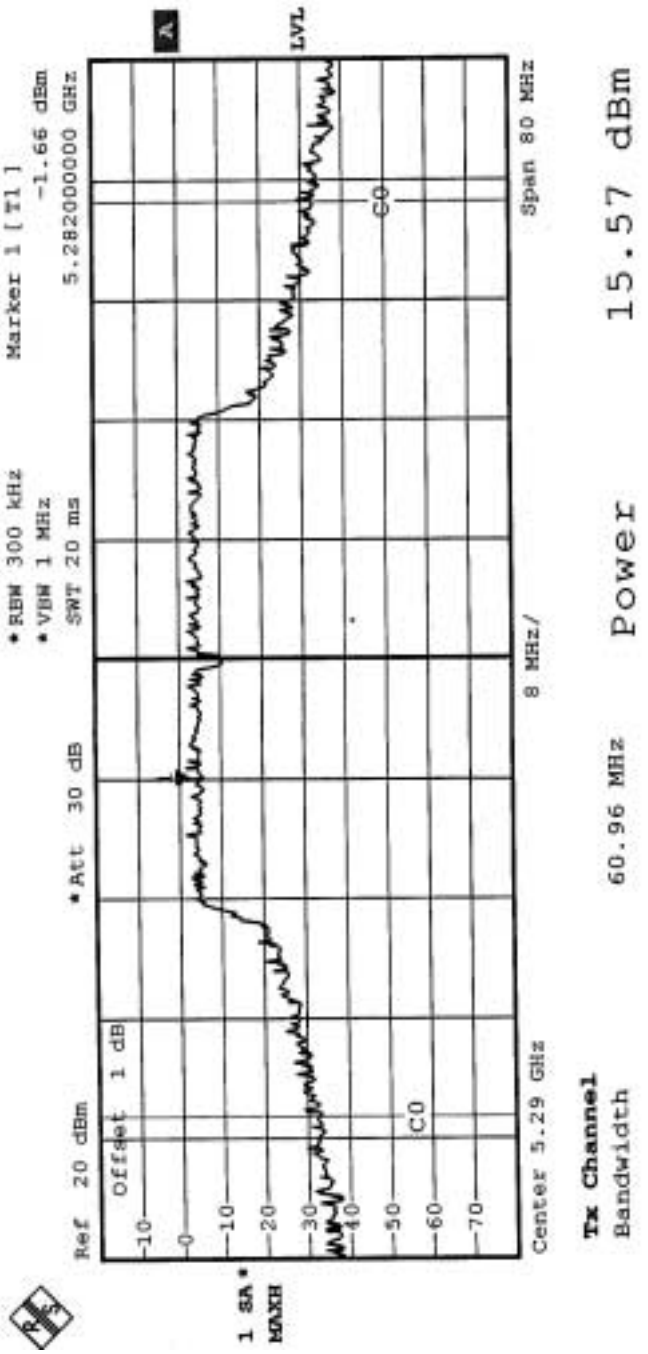
CHANNEL 1


Ref 20 dBm
Offset 1 dB
10
0
-10
-20
-30
-40
-50
-60
-70
CO
CO
Center 5.21 GHz
8 MHz/
Span 80 MHz
Marker 1 [T1]
2.81 dBm
5.197360000 GHz
RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
A
LVL
1 SA
Tx Channel
Bandwidth
59.84 MHz
Power
15.13 dBm

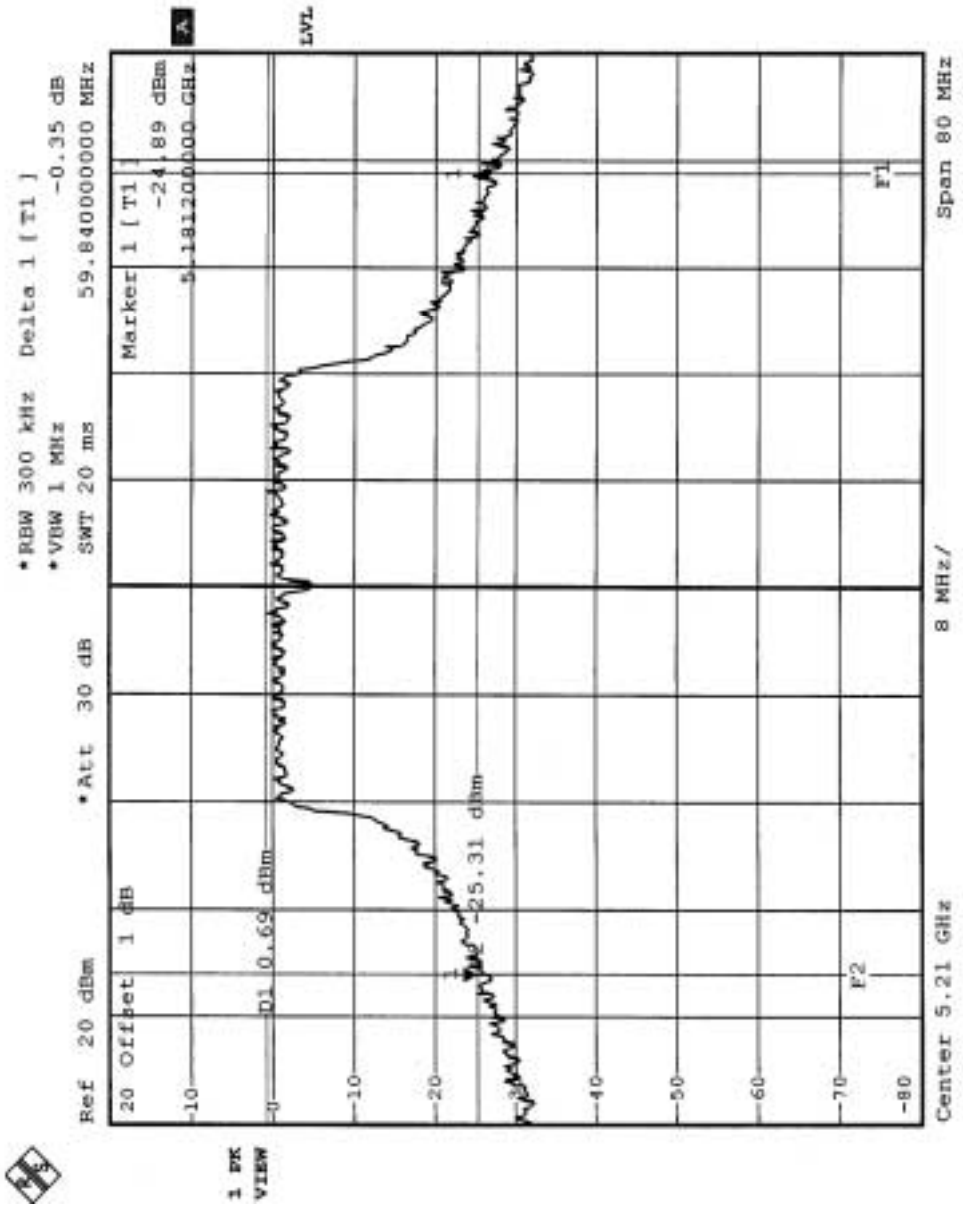
CHANNEL 2


Marker 1 [T1]
1.83 dBm
5.240400000 GHz
RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Center 5.25 GHz
8 MHz/
Span 80 MHz
Tx Channel
Bandwidth
57.6 MHz
Power
15.53 dBm
1 SA
MAXH

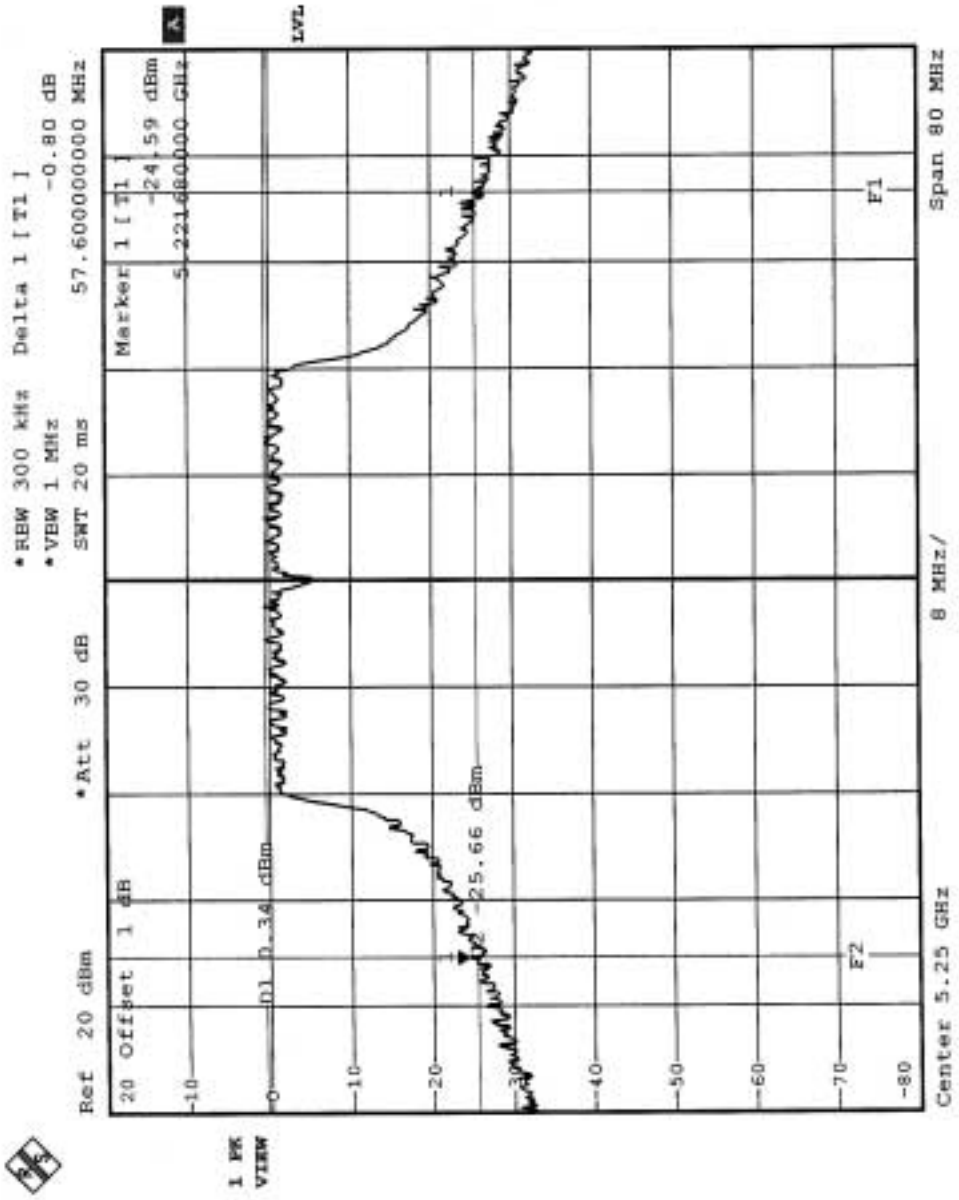
CHANNEL 3


Ref 20 dBm
Offset 1 dB
10
0
10
20
30
40
50
60
70
* Att 30 dB
* RBW 300 kHz
* VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
-1.66 dBm
5.28200000 GHz
A
LVL
Span 80 MHz
8 MHz/
Center 5.29 GHz
1 SA *
MAXH
Tx Channel
Bandwidth
60.96 MHz
Power
15.57 dBm

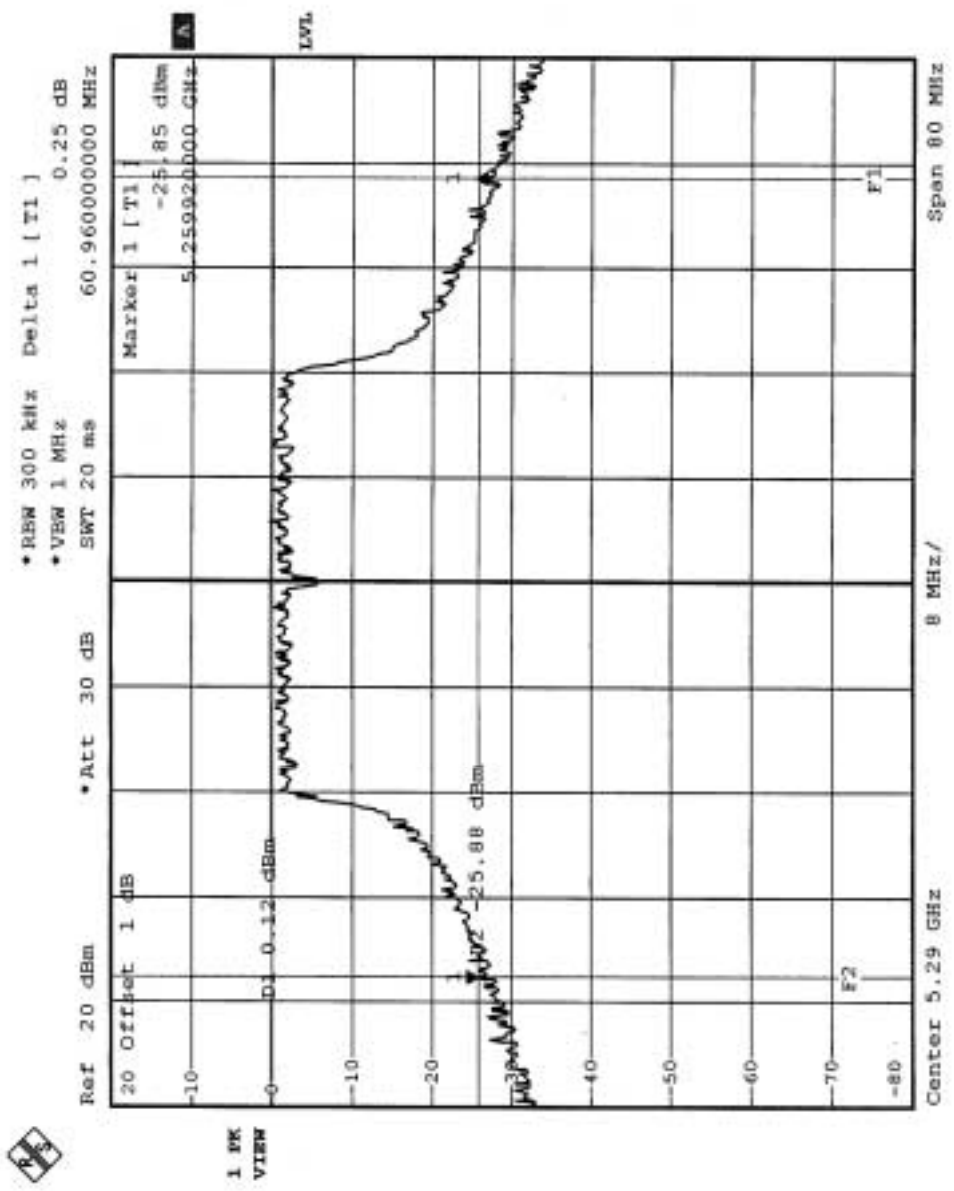
CHANNEL 1


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Att 30 dB
Ref 20 dBm
Offset 1 dB
Delta 1 [T1]
-0.35 dB
59.840000000 MHz
Marker 1 [T1]
-24.89 dBm
5.18120000 GHz
D1 0.69 dBm
-25.31 dBm
Center 5.21 GHz
8 MHz/
Span 80 MHz
1 PK
VIEW

CHANNEL 2


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Delta 1 [T1]
-0.80 dB
57.600000000 MHz
Marker 1 [T1]
-24.59 dBm
5.221600000 GHz
Ref 20 dBm
20 Offset 1 dB
Att 30 dB
1 PK
VIEW
D1 0.34 dBm
D2 -25.66 dBm
F1
F2
Center 5.25 GHz
8 MHz/
Span 80 MHz

CHANNEL 3


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Att 30 dB
Ref 20 dBm
Offset 1 dB
Delta 1 [T1]
0.25 dB
60.960000000 MHz
Marker 1 [T1]
-25.85 dBm
5.25920000 GHz
D1 0.12 dBm
-25.88 dBm
Center 5.29 GHz
8 MHz/
Span 80 MHz
1 PK
VIEW

5.4 PEAK POWER EXCURSION MEASUREMENT

5.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.725 – 5.825 GHz	13dB

5.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

5.4.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set the spectrum bandwidth span to view the entire spectrum.
3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=30KHz).
4. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP

5.4.6 EUT OPERATING CONDITIONS

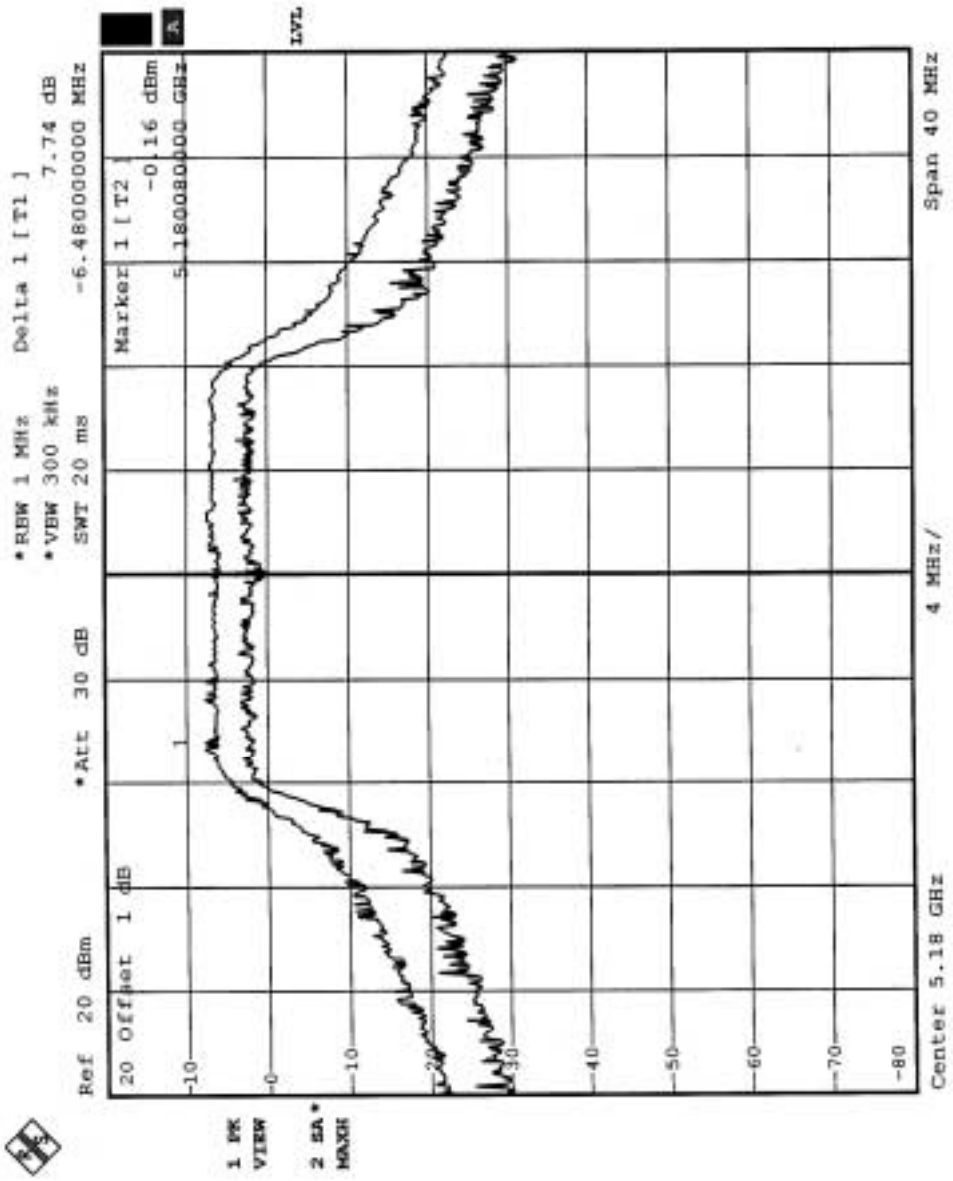
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.4.7 TEST RESULTS

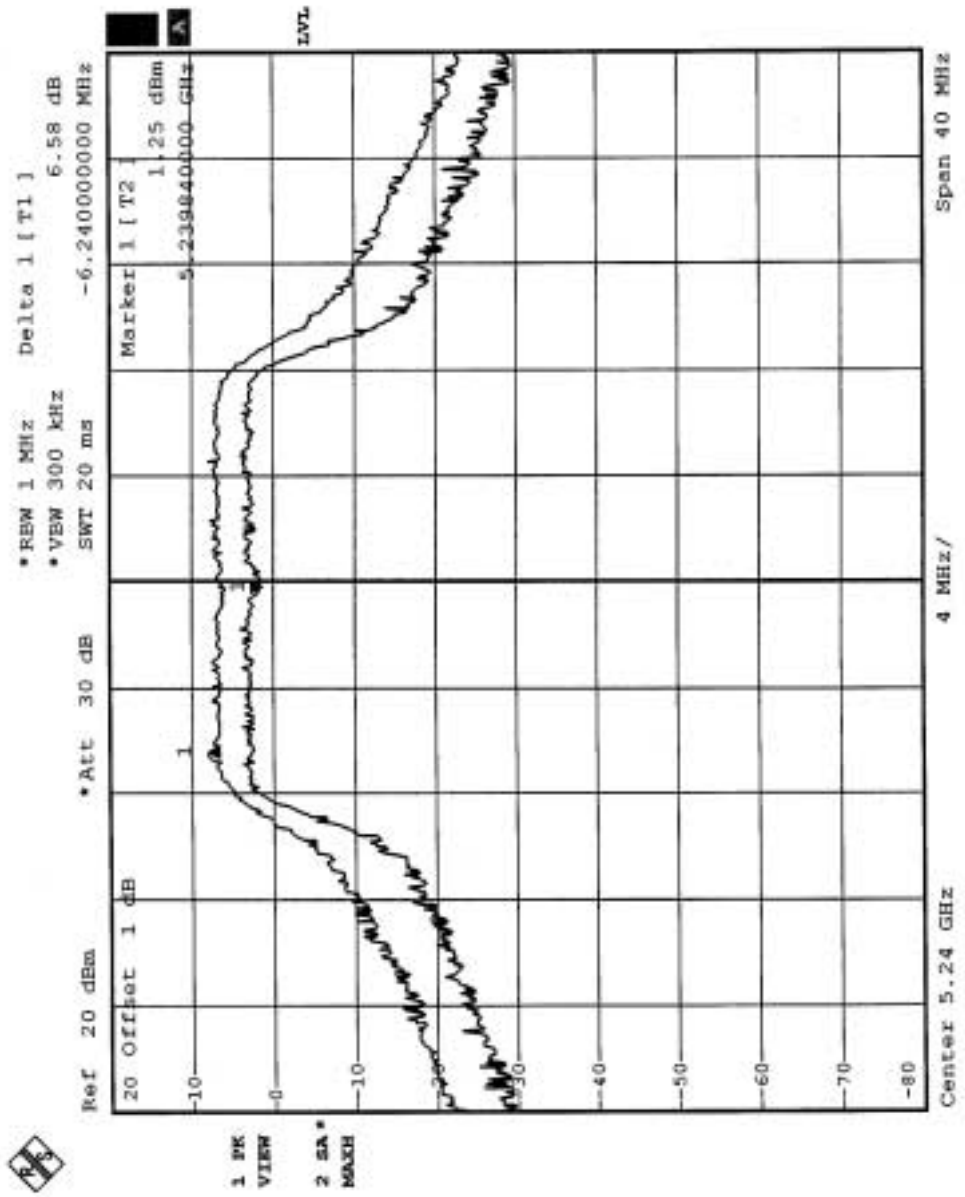
EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 973 hPa	**TESTED BY**	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	7.74	13	PASS
4	5240	6.58	13	PASS
5	5260	8.78	13	PASS
8	5320	7.36	13	PASS

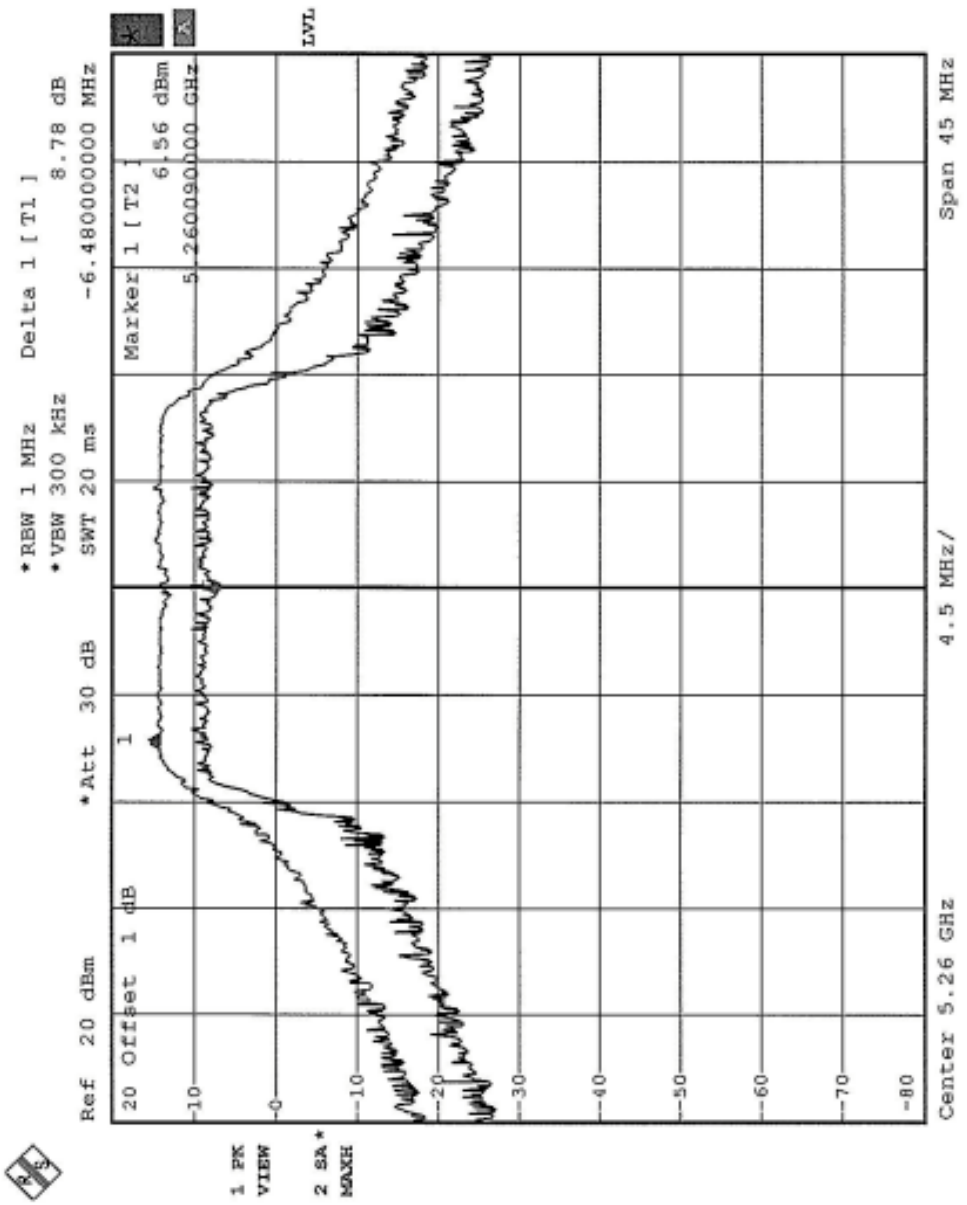
CHANNEL 1


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Delta 1 [T1]
7.74 dB
-6.480000000 MHz
Marker 1 [T2]
-0.16 dBm
5.180080000 GHz
Center 5.18 GHz
4 MHz/
Span 40 MHz
1 PK VIEW
2 SA* MAXH

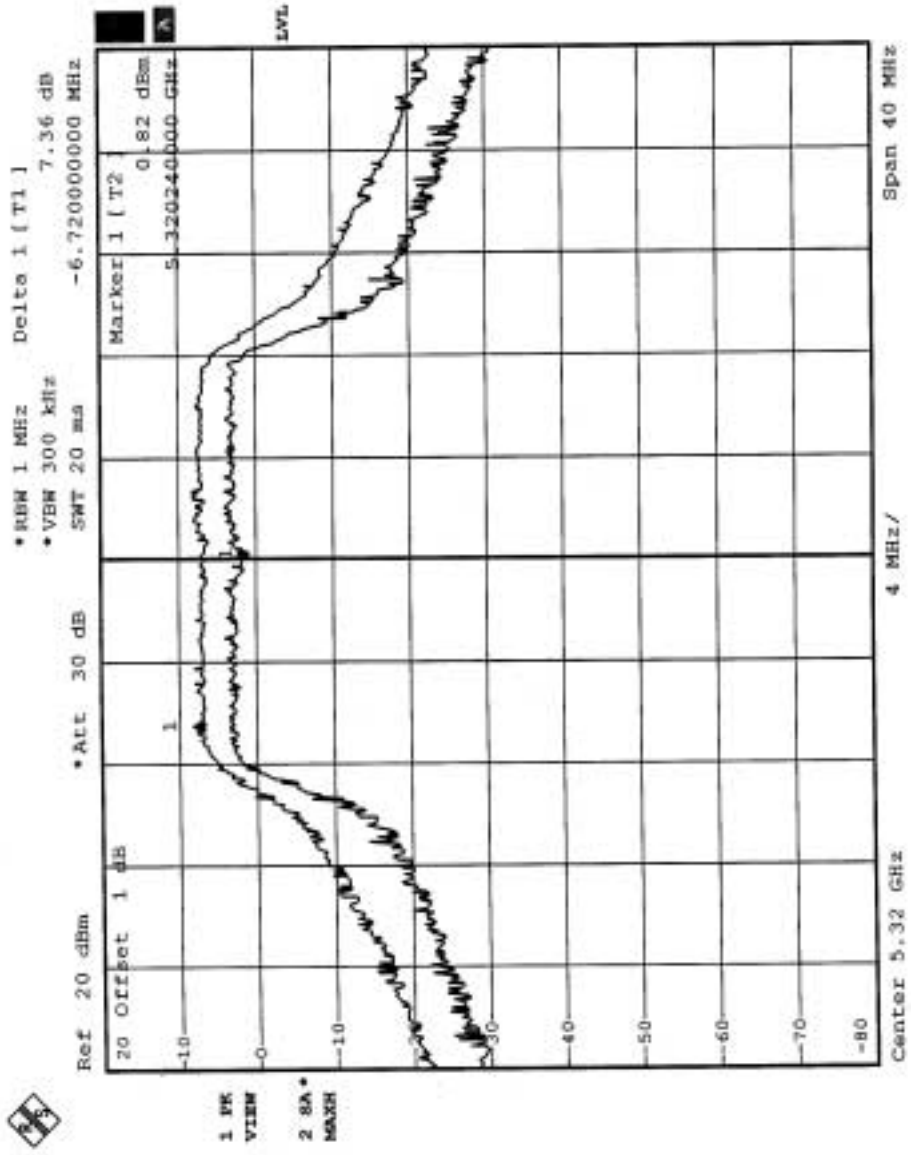
CHANNEL 4


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
6.58 dB
-6.240000000 MHz
Marker 1 [T2]
1.25 dBm
5.239840000 GHz
LVL
Center 5.24 GHz
4 MHz/
Span 40 MHz
1 PK VIEW
2 SA* MAXH

CHANNEL 5


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
1
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
8.78 dB
-6.48000000 MHz
Marker 1 [T2]
6.56 dBm
5.26090000 GHz
1 PK VIEW
2 SA* MAXH
Center 5.26 GHz
4.5 MHz/
Span 45 MHz

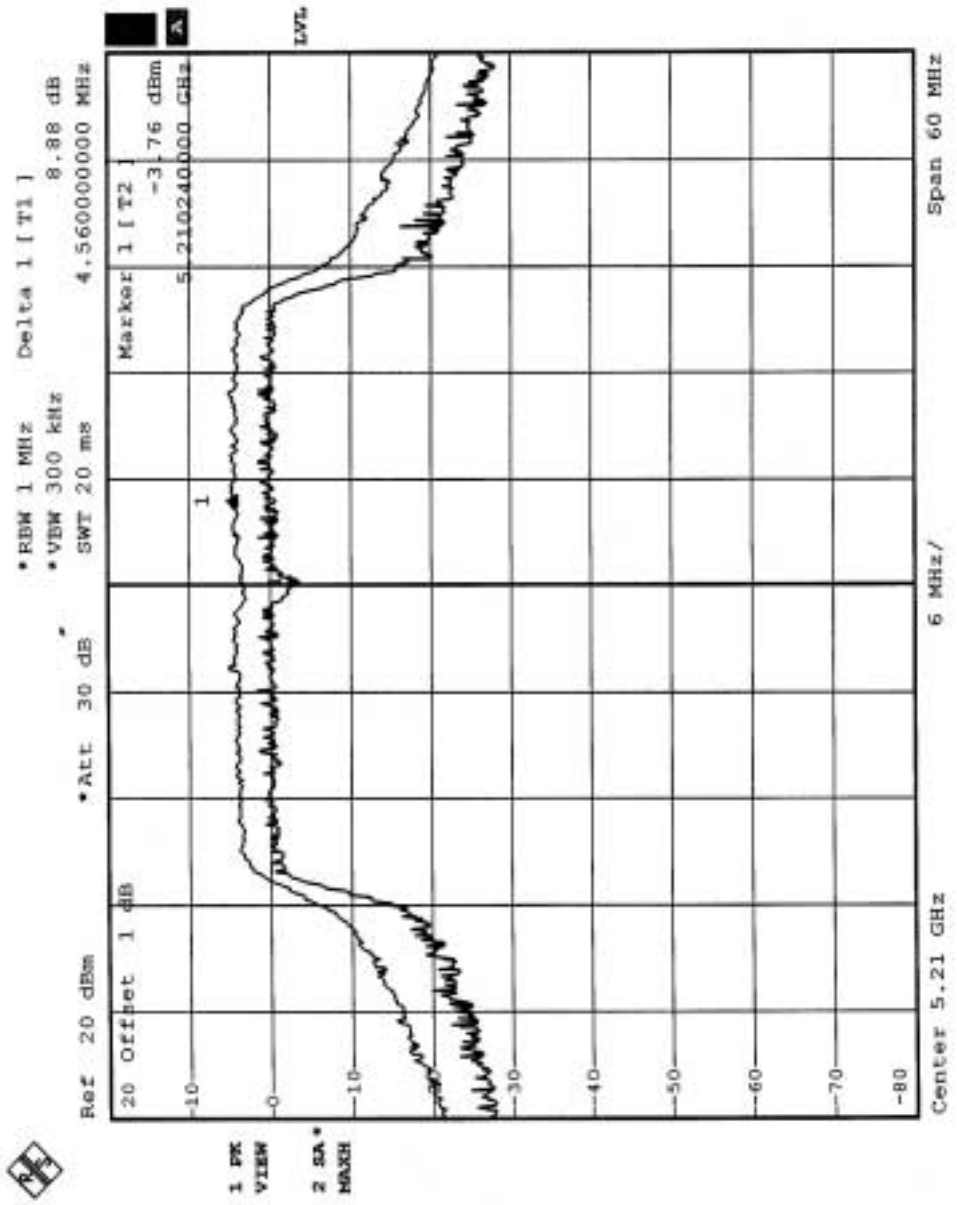
CHANNEL 8


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
7.36 dB
-6.72000000 MHz
Marker 1 [T2
0.82 dBm
5.32240000 GHz
Att 30 dB
Ref 20 dBm
Offset 1 dB
Center 5.32 GHz
4 MHz/
Span 40 MHz
1 PK VIEW
2 SA* MAXH

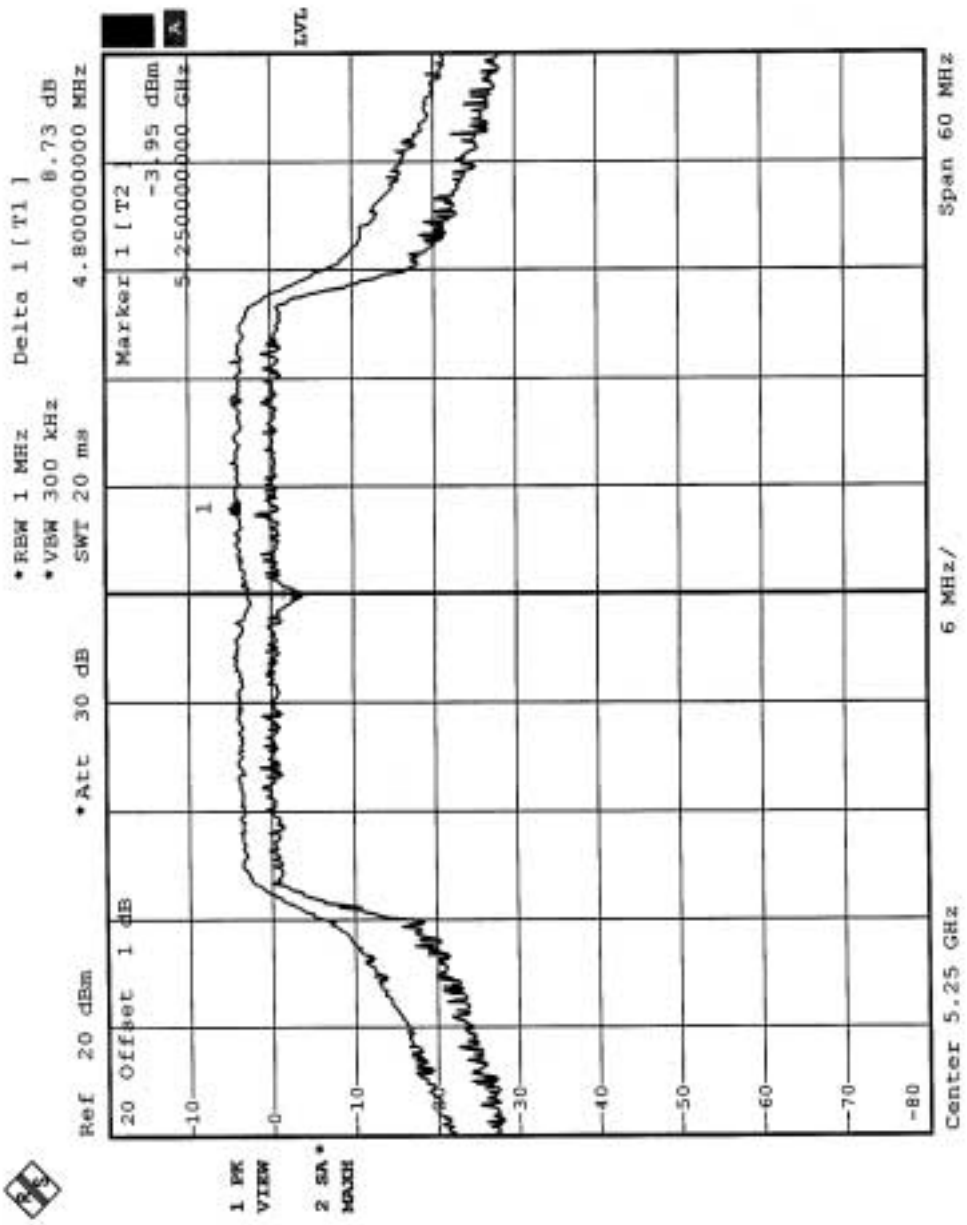
EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 973 hPa	**TESTED BY**	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5210	8.88	13	PASS
2	5250	8.73	13	PASS
3	5290	7.32	13	PASS

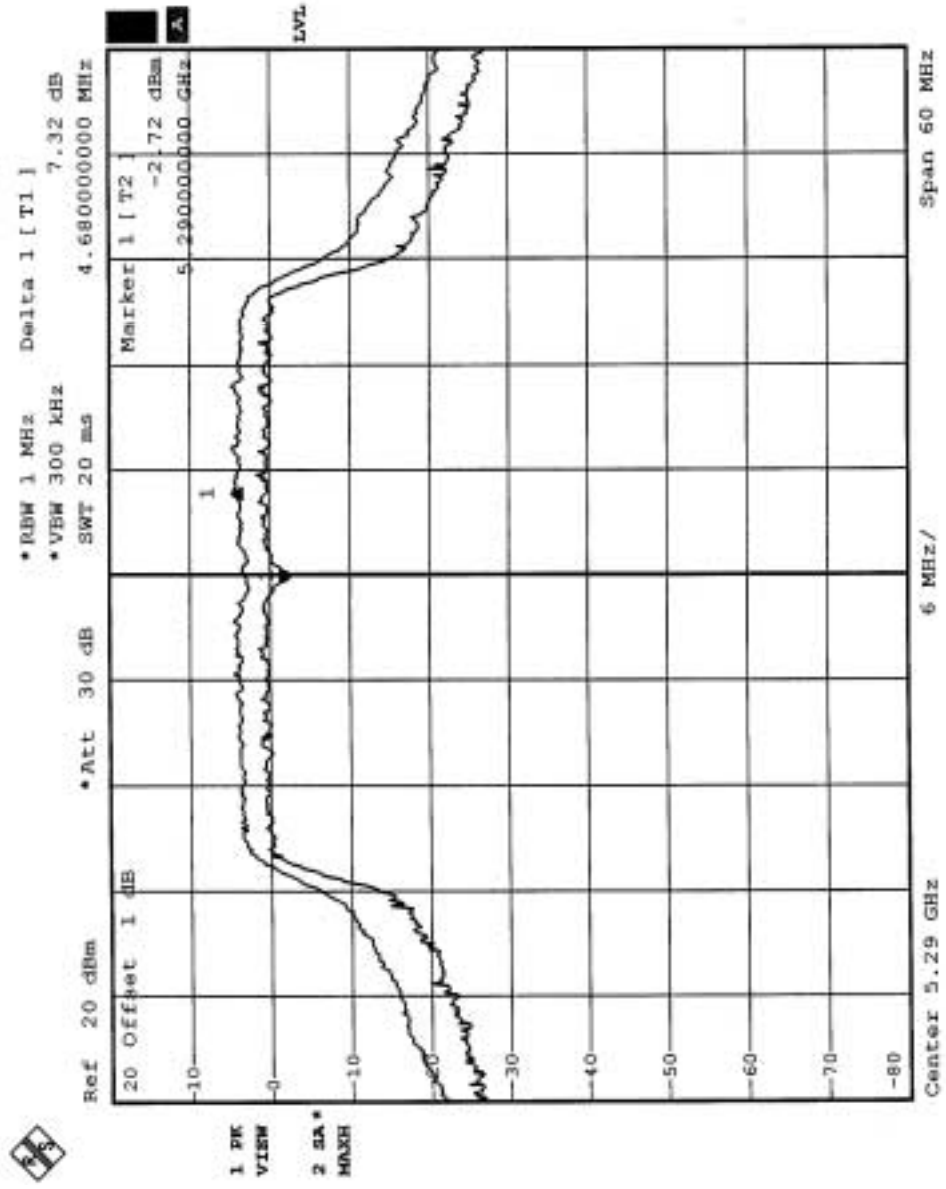
CHANNEL 1


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Delta 1 [T1]
8.88 dB
4.56000000 MHz
Marker 1 [T2]
-3.76 dBm
5.21024000 GHz
Center 5.21 GHz
6 MHz/
Span 60 MHz
1 PK VIEW
2 SA MAXH

CHANNEL 2


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Delta 1 [T1]
8.73 dB
4.800000000 MHz
Marker 1 [T2]
-3.95 dBm
5.250000000 GHz
Center 5.25 GHz
6 MHz/
Span 60 MHz
1 PK VIEW
2 SA MAXH

CHANNEL 3


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 1 dB
Ref 20 dBm
Delta 1 [T1]
7.32 dB
4.68000000 MHz
Marker 1 [T2]
-2.72 dBm
5.29000000 GHz
Center 5.29 GHz
6 MHz/
Span 60 MHz
1 PK VIEW
2 SA* MAXH

5.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	4dBm
5.25 – 5.35 GHz	11dBm
5.725 – 5.825 GHz	17dBm

5.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

5.5.3 TEST PROCEDURES

1. The transmitter output was connected to the spectrum analyzer.
2. Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP

5.5.6 EUT OPERATING CONDITIONS

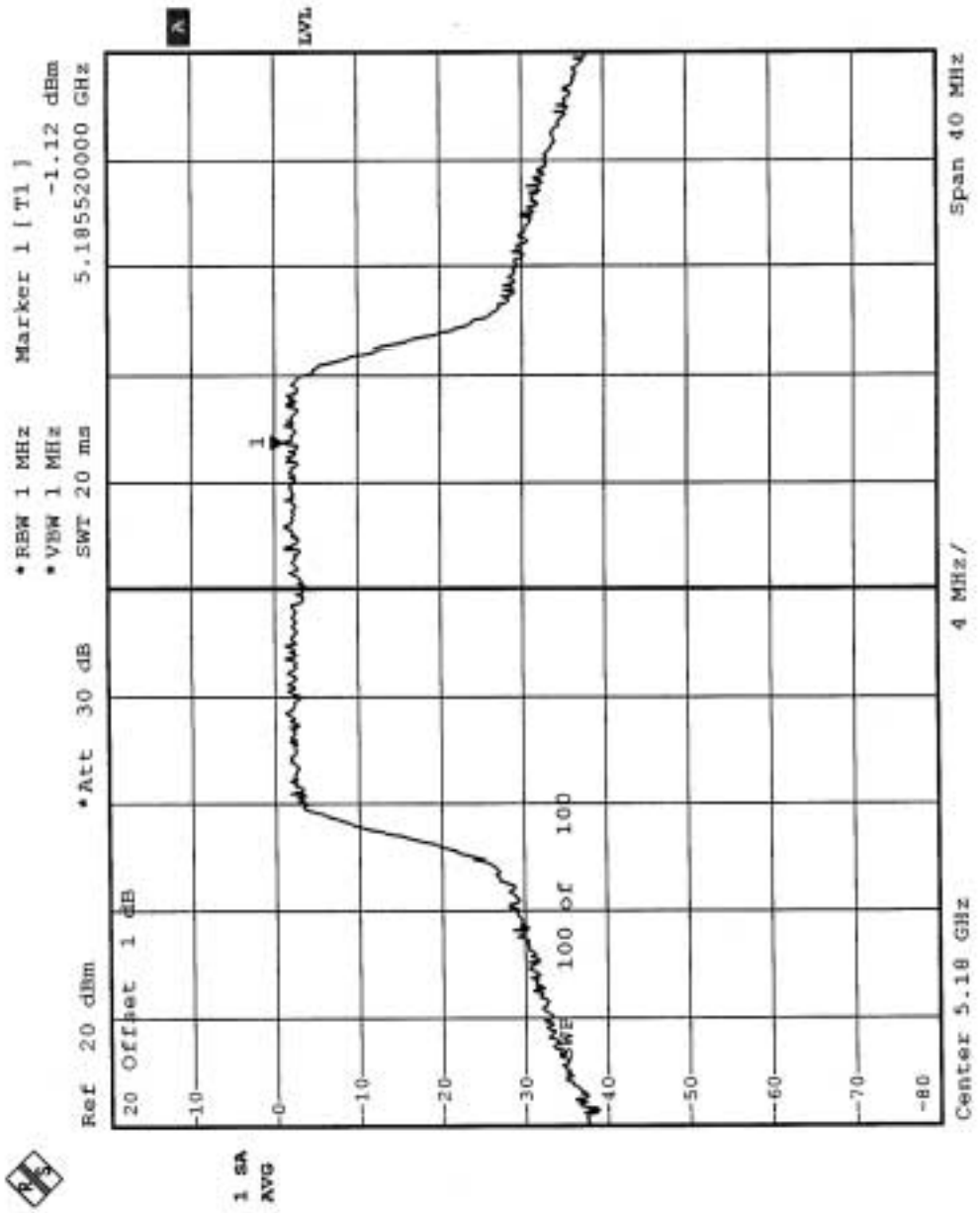
Same as 5.3.6

5.5.7 TEST RESULTS

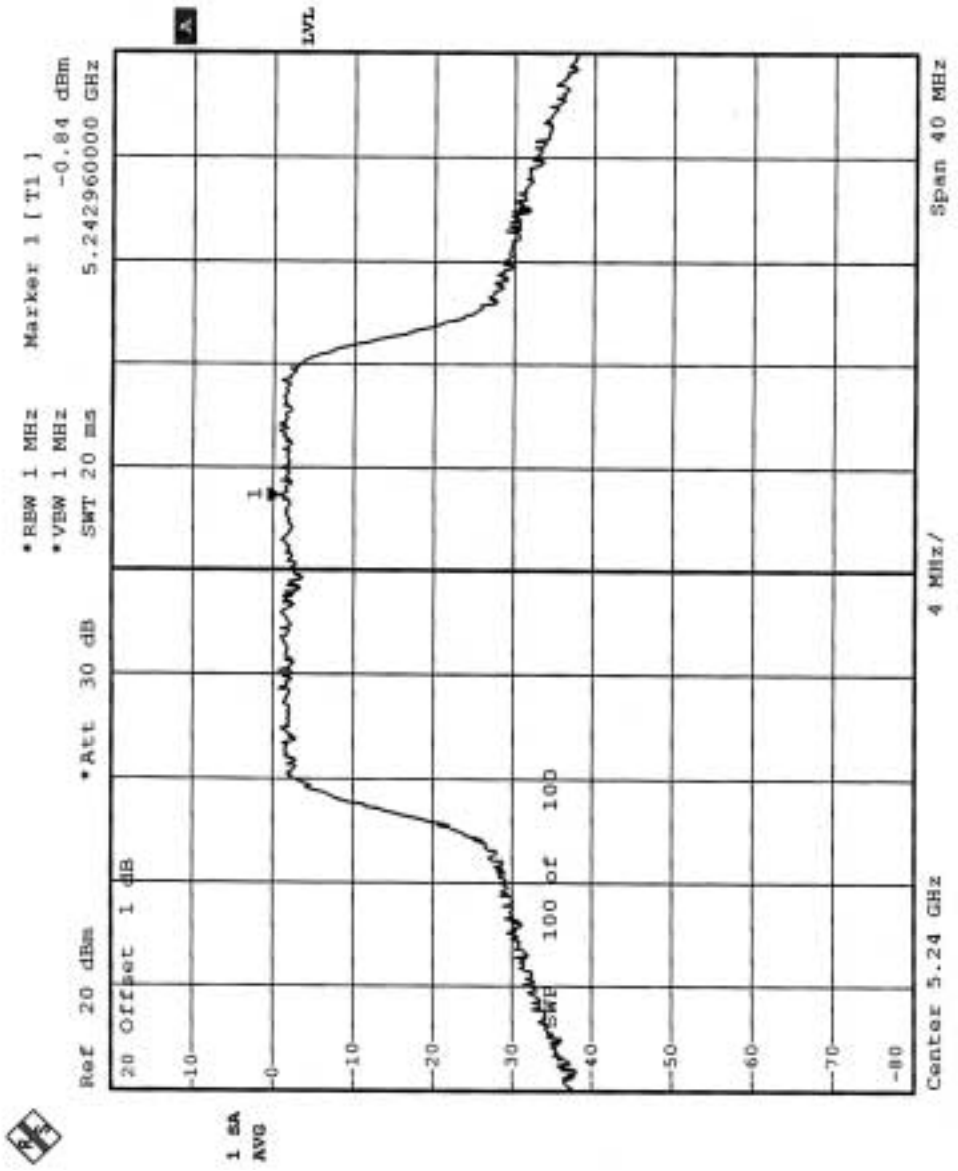
EUT	IronPoint 200	**MODEL**	IP200
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 973 hPa	**TESTED BY**	Eric Lee

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	-1.12	4	PASS
4	5240	-0.84	4	PASS
5	5260	3.93	11	PASS
8	5320	-0.23	11	PASS

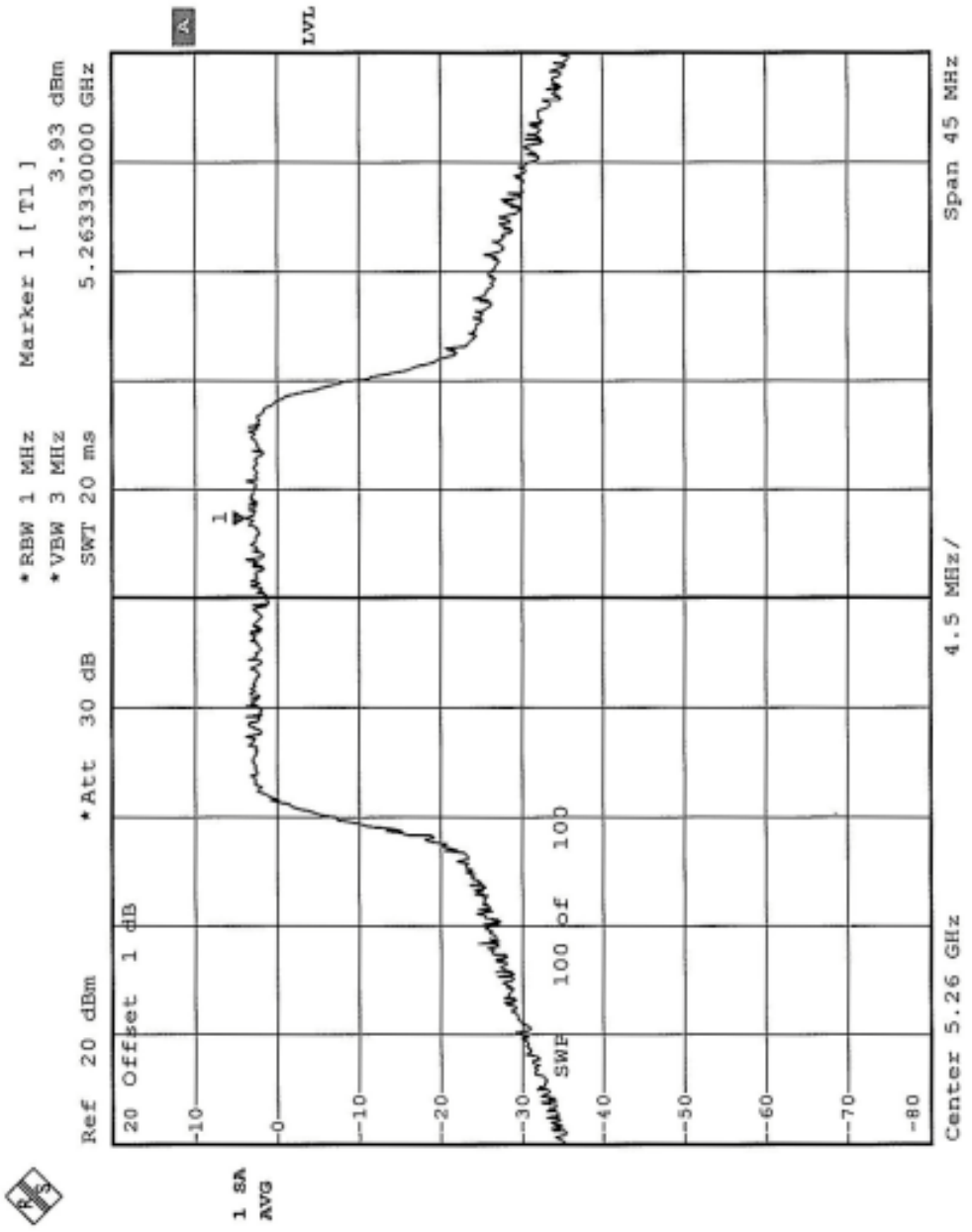
CHANNEL 1


Ref 20 dBm
20 Offset 1 dB
• Att 30 dB
• RBW 1 MHz
• VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
-1.12 dBm
5.185520000 GHz
1 SA
AVG
100 of 100
Center 5.18 GHz
4 MHz/
Span 40 MHz

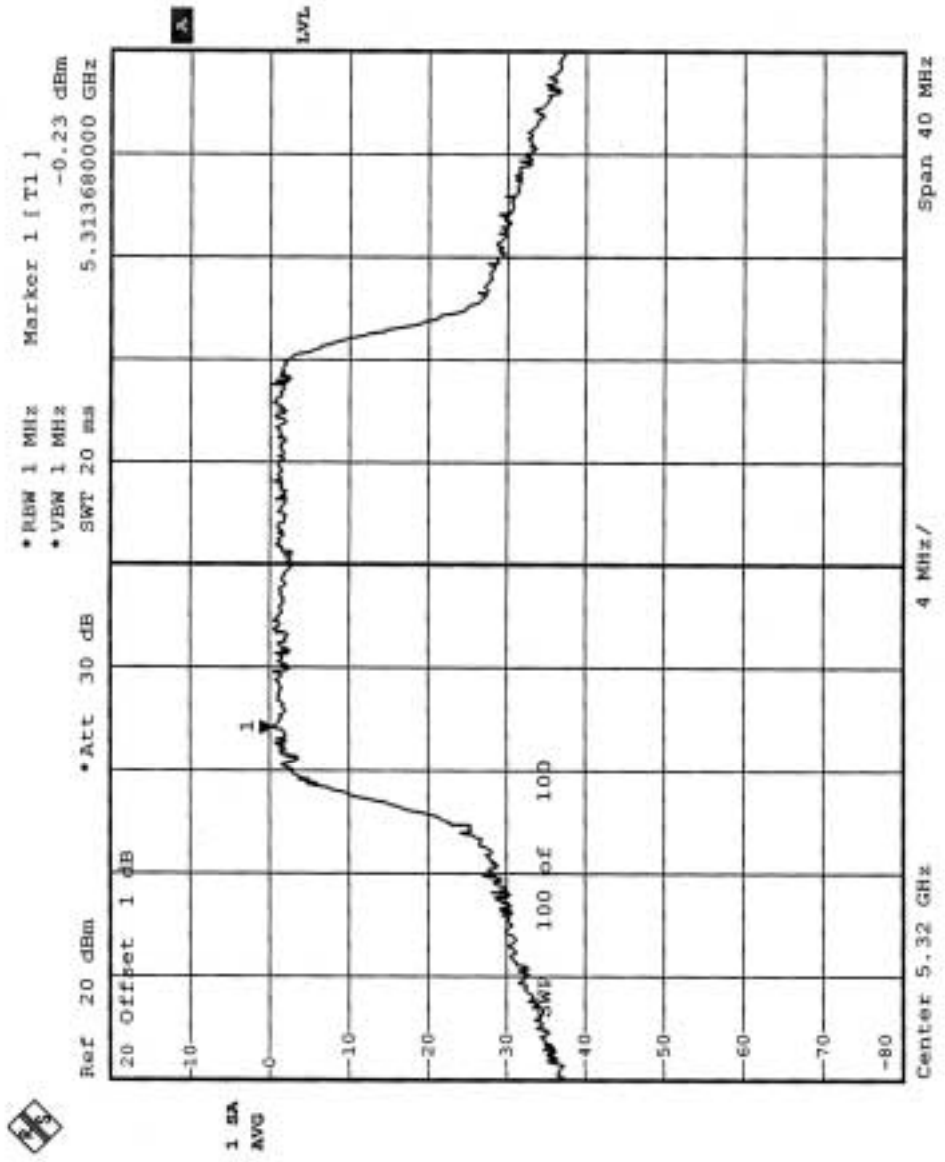
CHANNEL 4


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*VBW 1 MHz
SWT 20 ms
*RBW 1 MHz
Marker 1 [T1]
-0.84 dBm
5.24296000 GHz
Center 5.24 GHz
4 MHz/
Span 40 MHz
1 SA
AVG
100 of 100

CHANNEL 5


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*VBW 3 MHz
SWT 20 ms
*RBW 1 MHz
Marker 1 [T1]
3.93 dBm
5.26330000 GHz
SWP 100 of 100
1 SA
AVG
LVL
Center 5.26 GHz
4.5 MHz/
Span 45 MHz

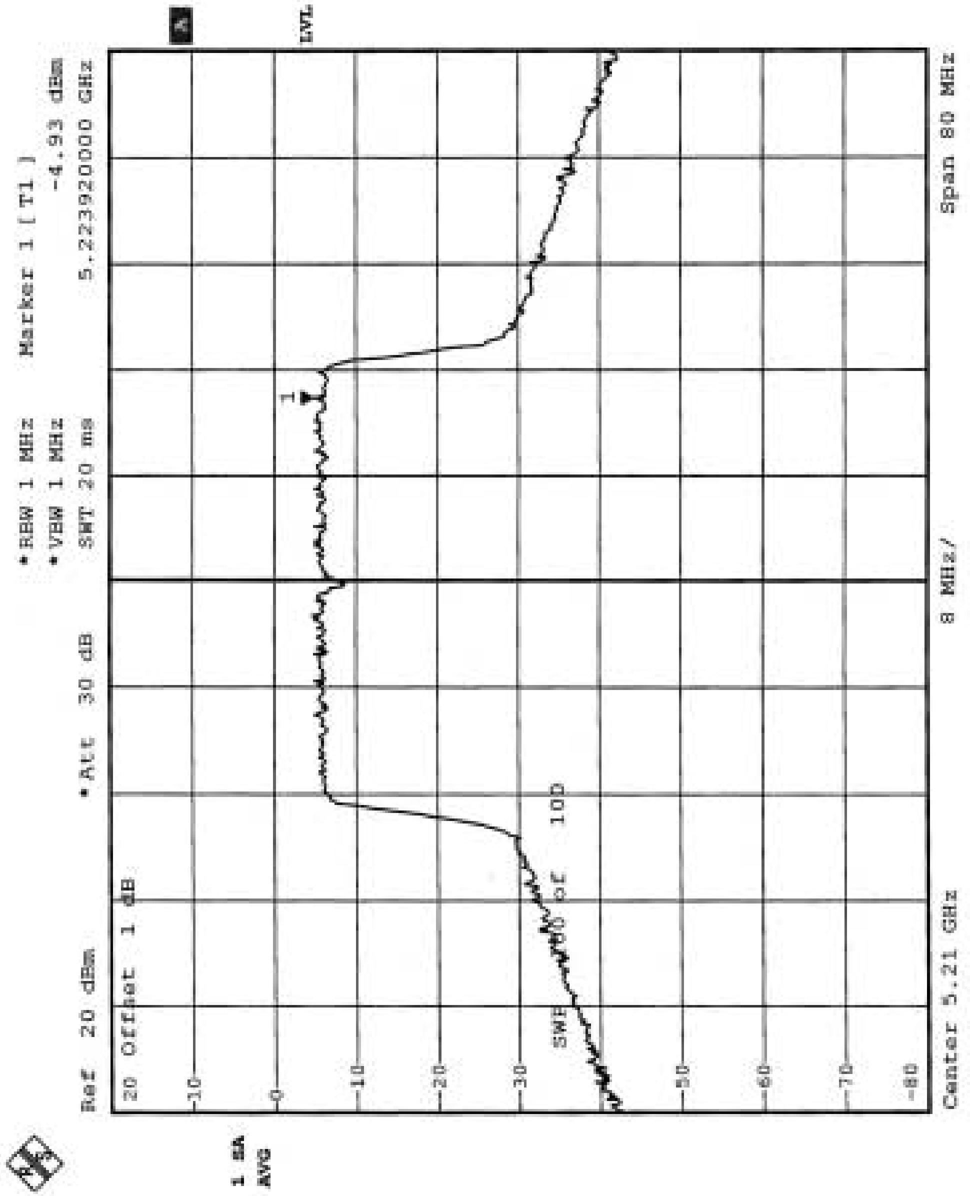
CHANNEL 8


Ref 20 dBm
20 Offset 1 dB
• Att 30 dB
• RBW 1 MHz
• VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
-0.23 dBm
5.313600000 GHz
Center 5.32 GHz
4 MHz/
Span 40 MHz
1 SA
AVG
100 of 100

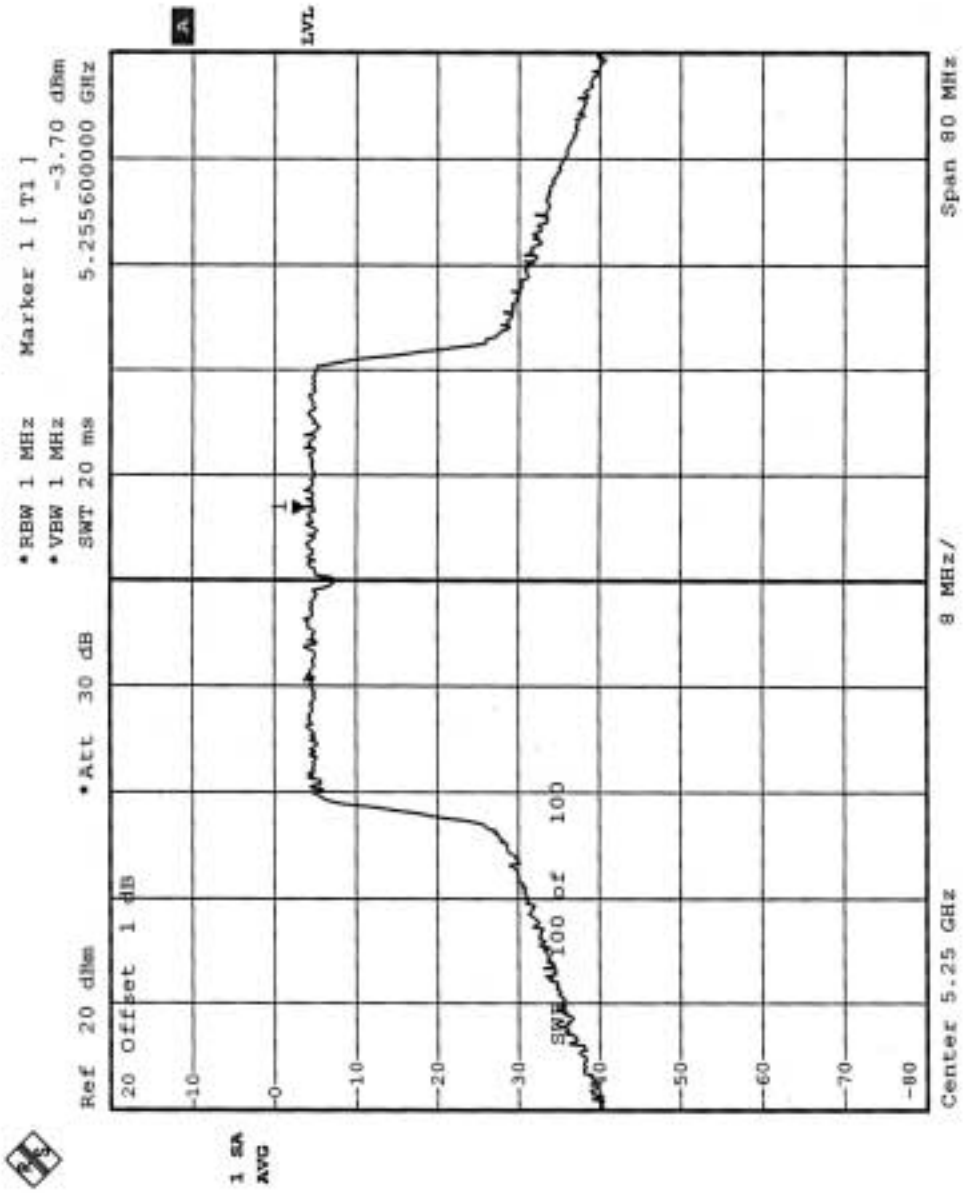
EUT	IronPoint 200	**MODEL**	IP200
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 973 hPa	**TESTED BY**	Eric Lee

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5210	-4.93	4	PASS
2	5250	-3.70	4	PASS
3	5290	-3.81	11	PASS

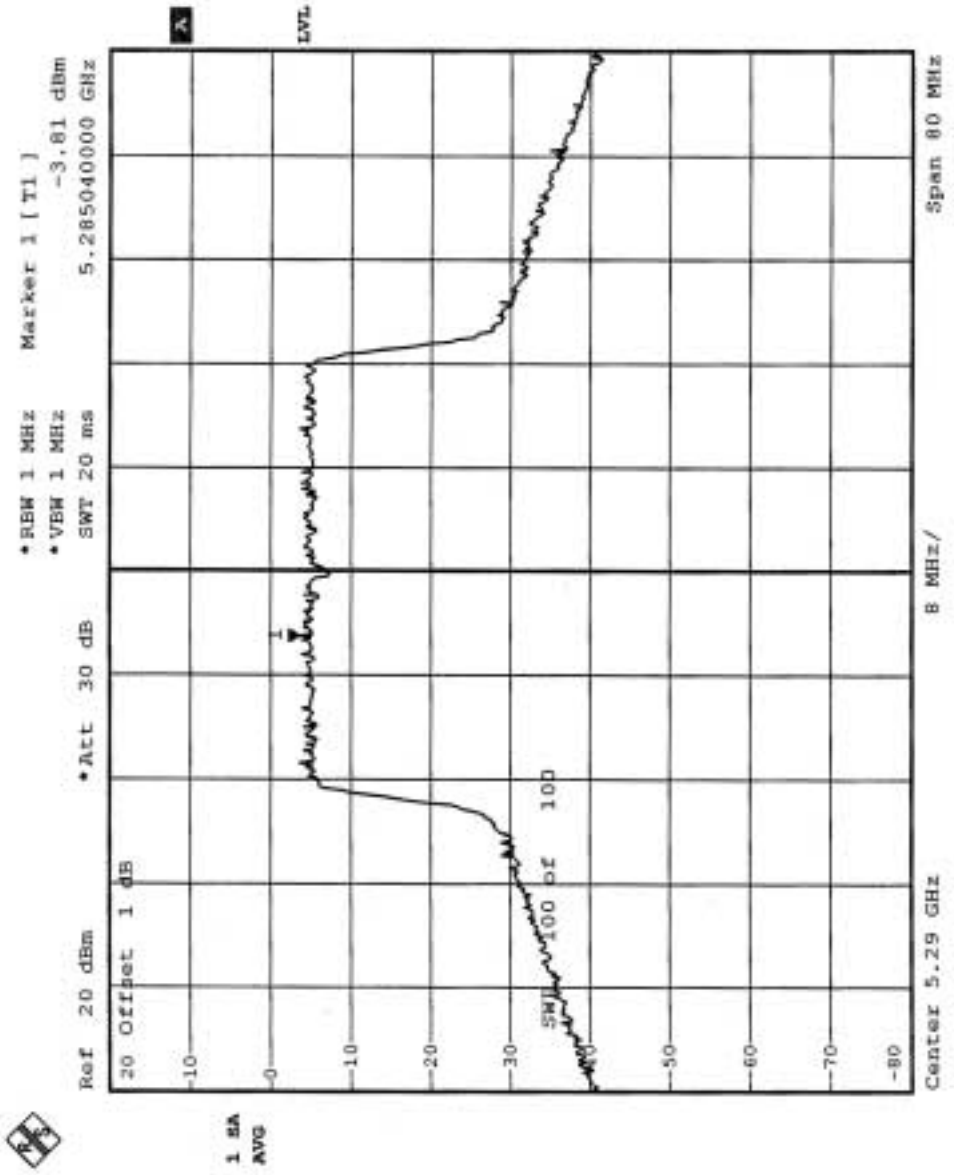
CHANNEL 1


Marker 1 [T1]
-4.93 dBm
5.22392000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 20 ms
Att 30 dB
Ref 20 dBm
Offset 1 dB
LVL
1 SA
AVG
Center 5.21 GHz
8 MHz/
Span 80 MHz

CHANNEL 2


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*VBW 1 MHz
SWT 20 ms
*RBW 1 MHz
Marker 1 [T1]
-3.70 dBm
5.25560000 GHz
Center 5.25 GHz
8 MHz/
Span 80 MHz
1 SA
AVG
CLRWR
100 of 100

CHANNEL 3


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*RBW 1 MHz
*VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
-3.81 dBm
5.285040000 GHz
Center 5.29 GHz
8 MHz/
Span 80 MHz
1 SA
AVG

5.6 FREQUENCY STABILITY

5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

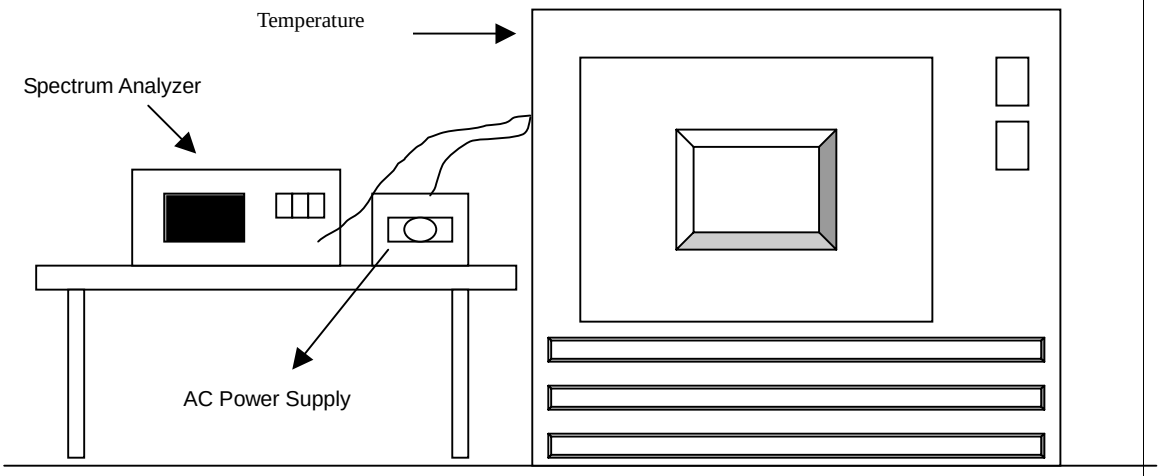
5.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6

5.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : ± 0.02%			
Temp. (℃)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0167	0.000314%	5320.0167	0.000314%	5320.0168	0.000316%
	110.0	5320.0168	0.000316%	5320.0169	0.000318%	5320.0168	0.000316%
	93.5	5320.0166	0.000312%	5320.017	0.000320%	5320.0168	0.000316%
40	126.5	5319.9974	-0.000049%	5319.9979	-0.000039%	5319.9978	-0.000041%
	110.0	5319.9976	-0.000045%	5319.9977	-0.000043%	5319.9979	-0.000039%
	93.5	5319.9975	-0.000047%	5319.9978	-0.000041%	5319.9978	-0.000041%
30	126.5	5319.9932	-0.000128%	5319.9935	-0.000122%	5319.9934	-0.000124%
	110.0	5319.9932	-0.000128%	5319.9934	-0.000124%	5319.9936	-0.000120%
	93.5	5319.9932	-0.000128%	5319.9936	-0.000120%	5319.9937	-0.000118%
20	126.5	5319.9955	-0.000085%	5319.9955	-0.000085%	5319.9955	-0.000085%
	110.0	5319.9952	-0.000090%	5319.9953	-0.000088%	5319.9953	-0.000088%
	93.5	5319.9955	-0.000085%	5319.9956	-0.000083%	5319.9954	-0.000086%
10	126.5	5319.9934	-0.000124%	5319.9936	-0.000120%	5319.9938	-0.000117%
	110.0	5319.9932	-0.000128%	5319.9935	-0.000122%	5319.9938	-0.000117%
	93.5	5319.9935	-0.000122%	5319.9935	-0.000122%	5319.9937	-0.000118%
0	126.5	5319.9945	-0.000103%	5319.9945	-0.000103%	5319.9946	-0.000102%
	110.0	5319.9944	-0.000105%	5319.9946	-0.000102%	5319.9947	-0.000100%
	93.5	5319.9944	-0.000105%	5319.9944	-0.000105%	5319.9947	-0.000100%
-10	126.5	5320.0039	0.000073%	5320.0041	0.000077%	5320.0043	0.000081%
	110.0	5320.004	0.000075%	5320.0042	0.000079%	5320.0043	0.000081%
	93.5	5320.0041	0.000077%	5320.0042	0.000079%	5320.0043	0.000081%
-20	126.5	5320.0185	0.000348%	5320.0184	0.000346%	5320.0186	0.000350%
	110.0	5320.0184	0.000346%	5320.0185	0.000348%	5320.0186	0.000350%
	93.5	5320.0185	0.000348%	5320.0186	0.000350%	5320.0186	0.000350%
-30	126.5	5320.019	0.000357%	5320.0210	0.000395%	5320.0220	0.000414%
	110.0	5320.02	0.000376%	5320.0220	0.000414%	5320.0210	0.000395%
	93.5	5320.019	0.000357%	5320.0220	0.000414%	5320.0220	0.000414%

5.7 BAND EDGES MEASUREMENT

5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

5.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW of spectrum analyzer to 1MHz and VBW of spectrum analyzer to 300Hz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

5.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

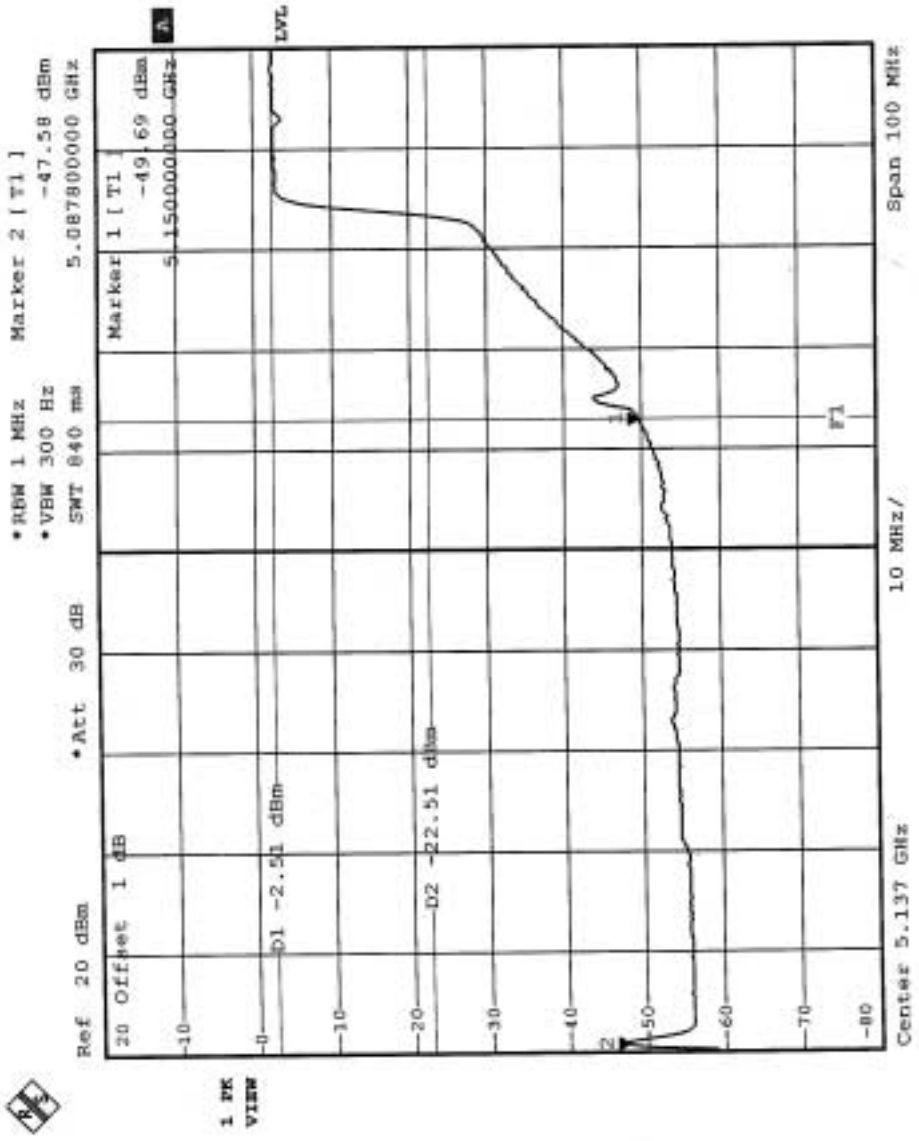
5.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Average RBW=1MHz, VBW=300Hz) are attached on the following 4 pages.

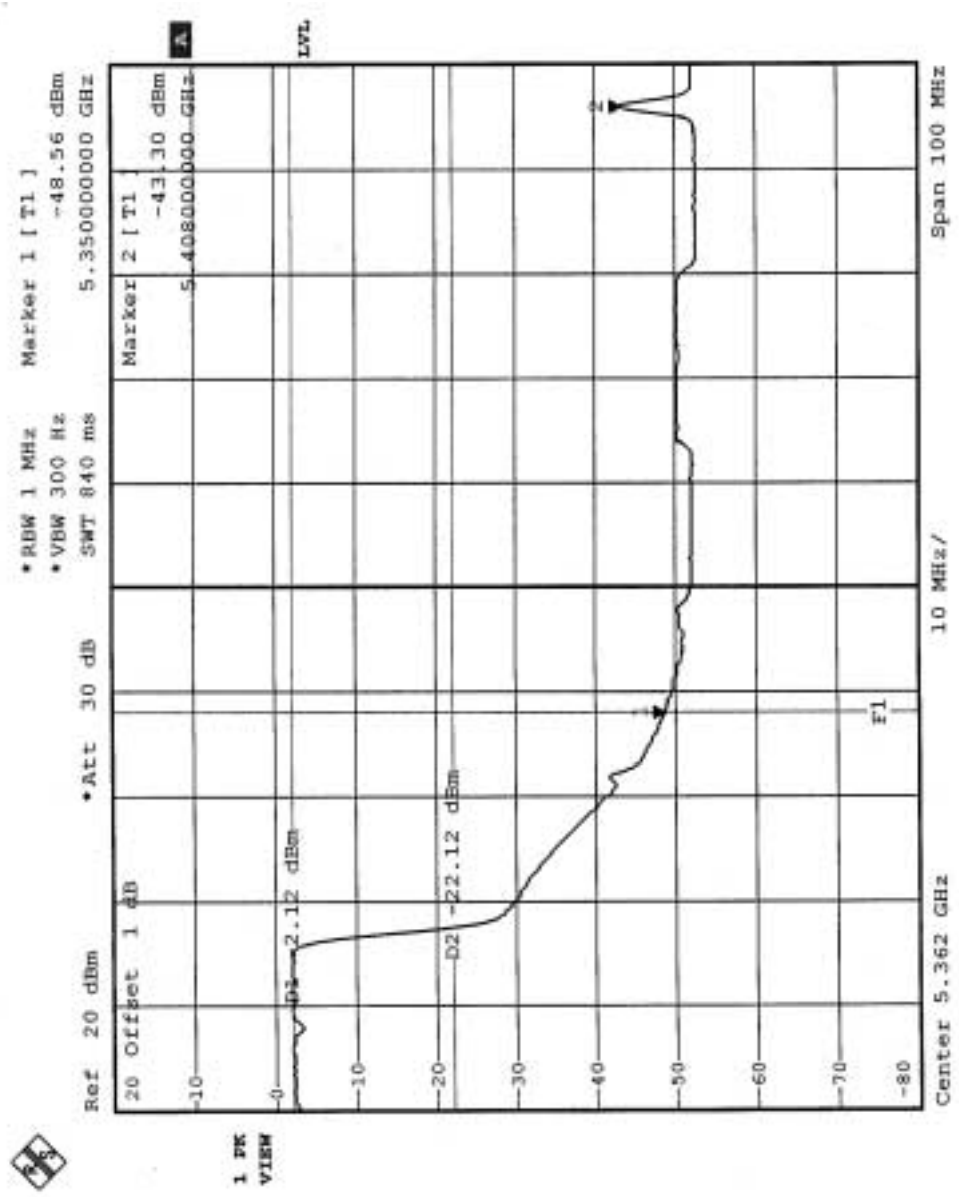
Normal Mode: Channel 1 (5180 MHz)

The band edge emission plot on the following page shows 45.07dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 95.7dBuV/m, so the maximum field strength in restrict band is 95.7-45.07=50.63dBuV/m which is under 54dBuV/m limit.



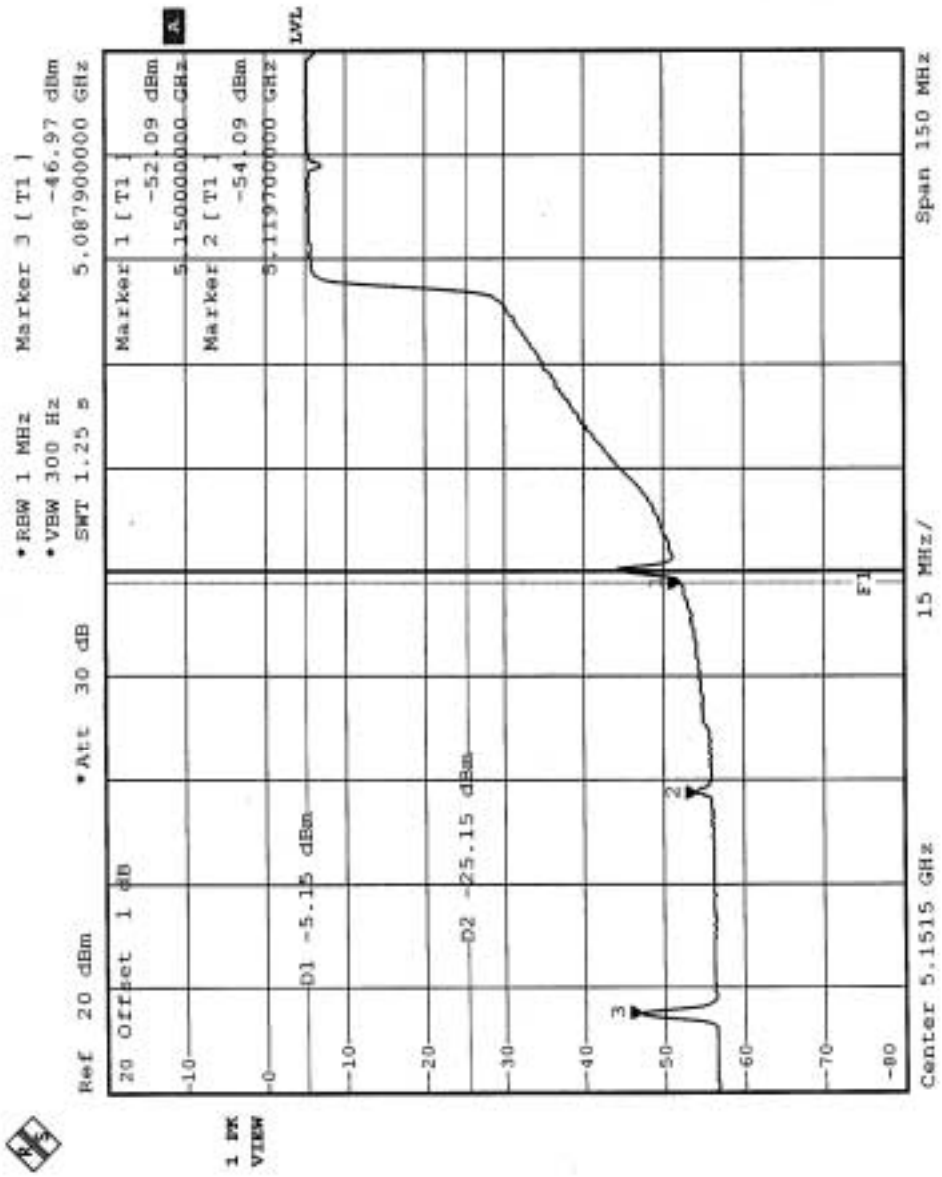
Normal Mode: Channel 8 (5320 MHz)

The band edge emission plot on the following page shows 41.18dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 94.0dBuV/m, so the maximum field strength in restrict band is 94.0-41.18=52.82dBuV/m which is under 54dBuV/m limit.



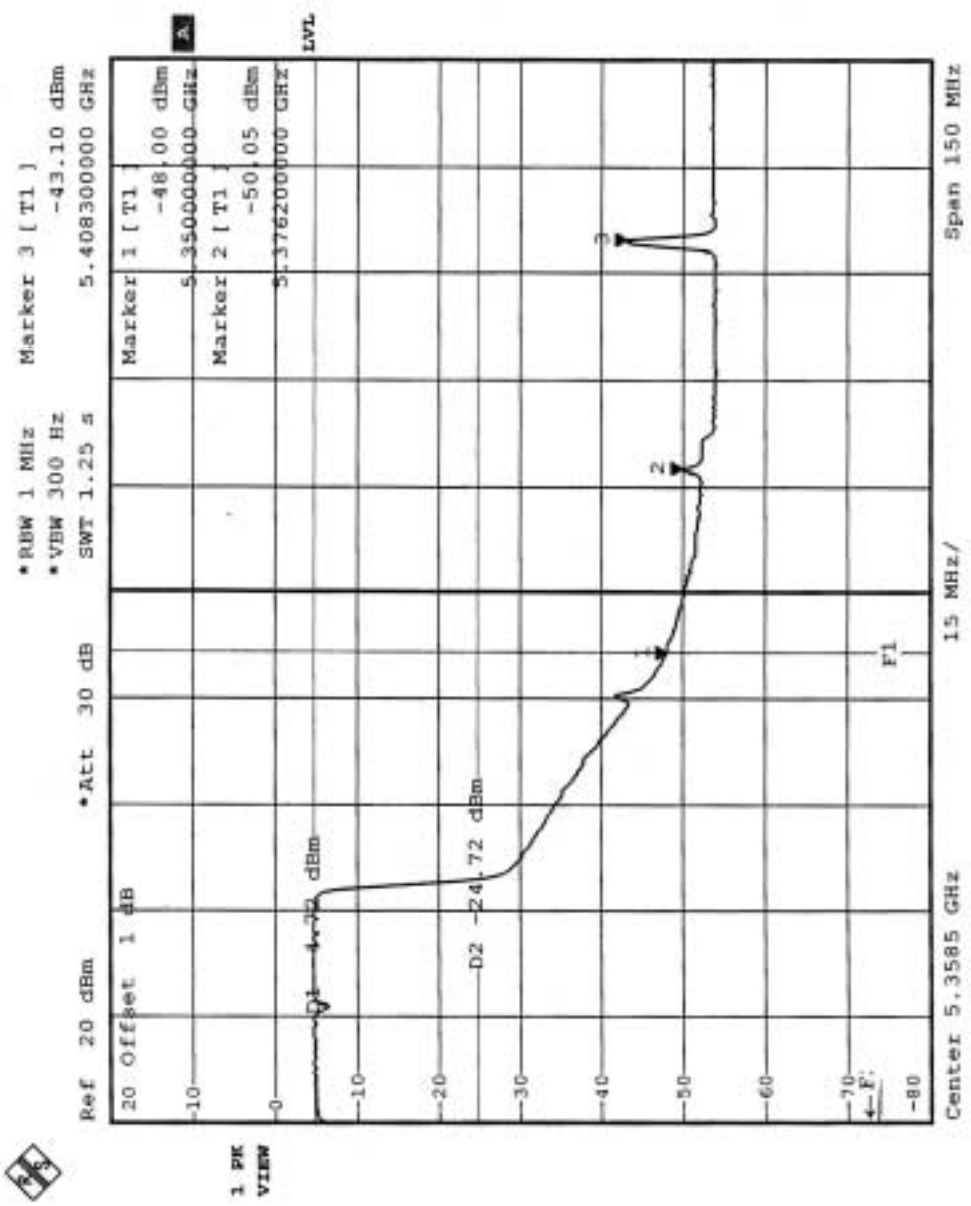
Turbo Mode: Channel 1 (5210 MHz)

The band edge emission plot on the following page shows 41.82dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (turbo mode) is 92.2dBuV/m, so the maximum field strength in restrict band is 92.2-41.82=50.38dBuV/m which is under 54dBuV/m limit.



Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 38.38dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (turbo mode) is 91.2dBuV/m, so the maximum field strength in restrict band is 91.2-38.38=52.82dBuV/m which is under 54dBuV/m limit.



FOR FREQUENCY 5.725~5.850GHz

5.8 6DB BANDWIDTH MEASUREMENT

5.8.1 LIMITS OF 6DB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.8.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

5.8.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 100 kHz VBW. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

5.8.4 DEVIATION FROM TEST STANDARD

No deviation

5.8.5 TEST SETUP

5.8.6 EUT OPERATING CONDITIONS

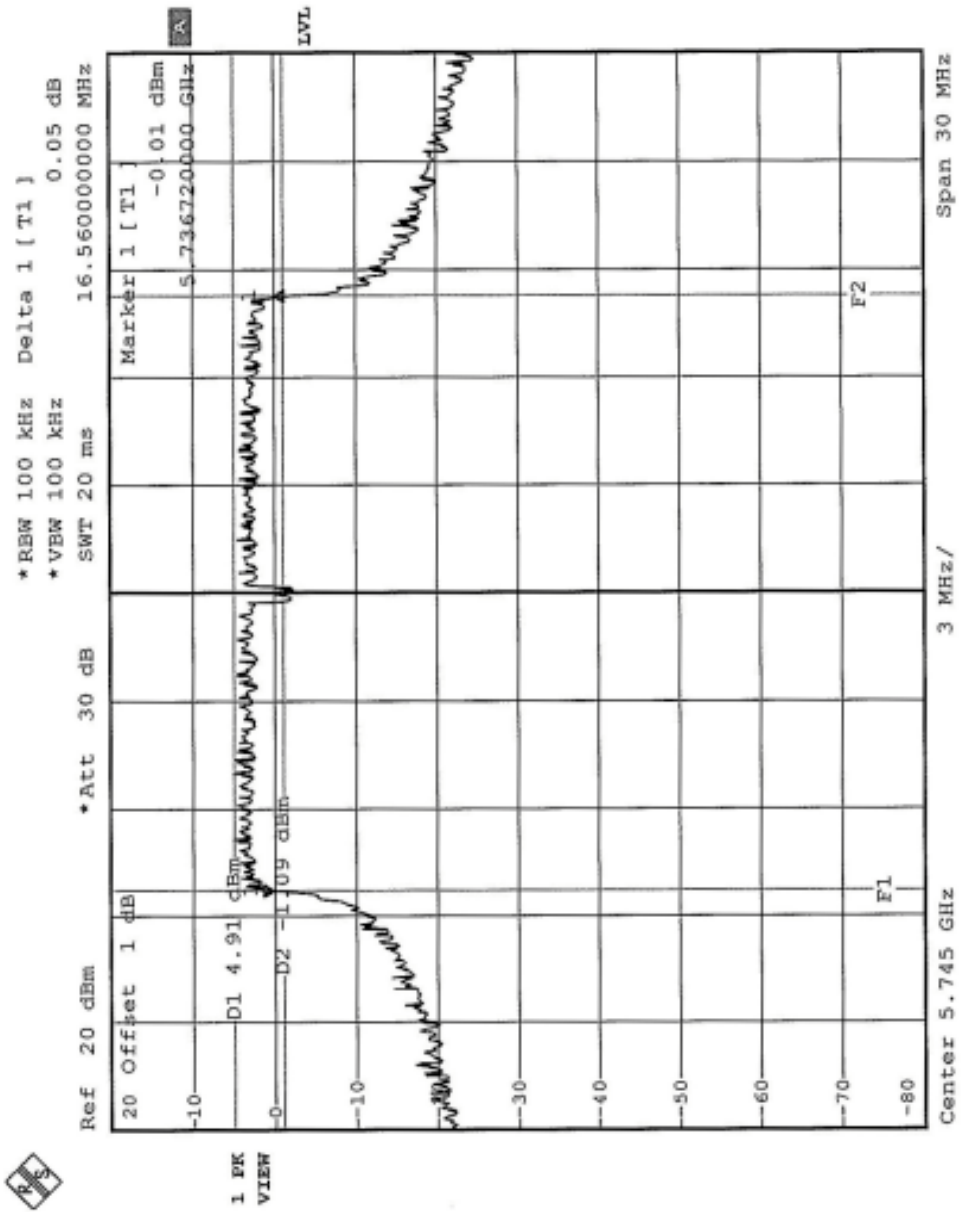
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.8.7 TEST RESULTS

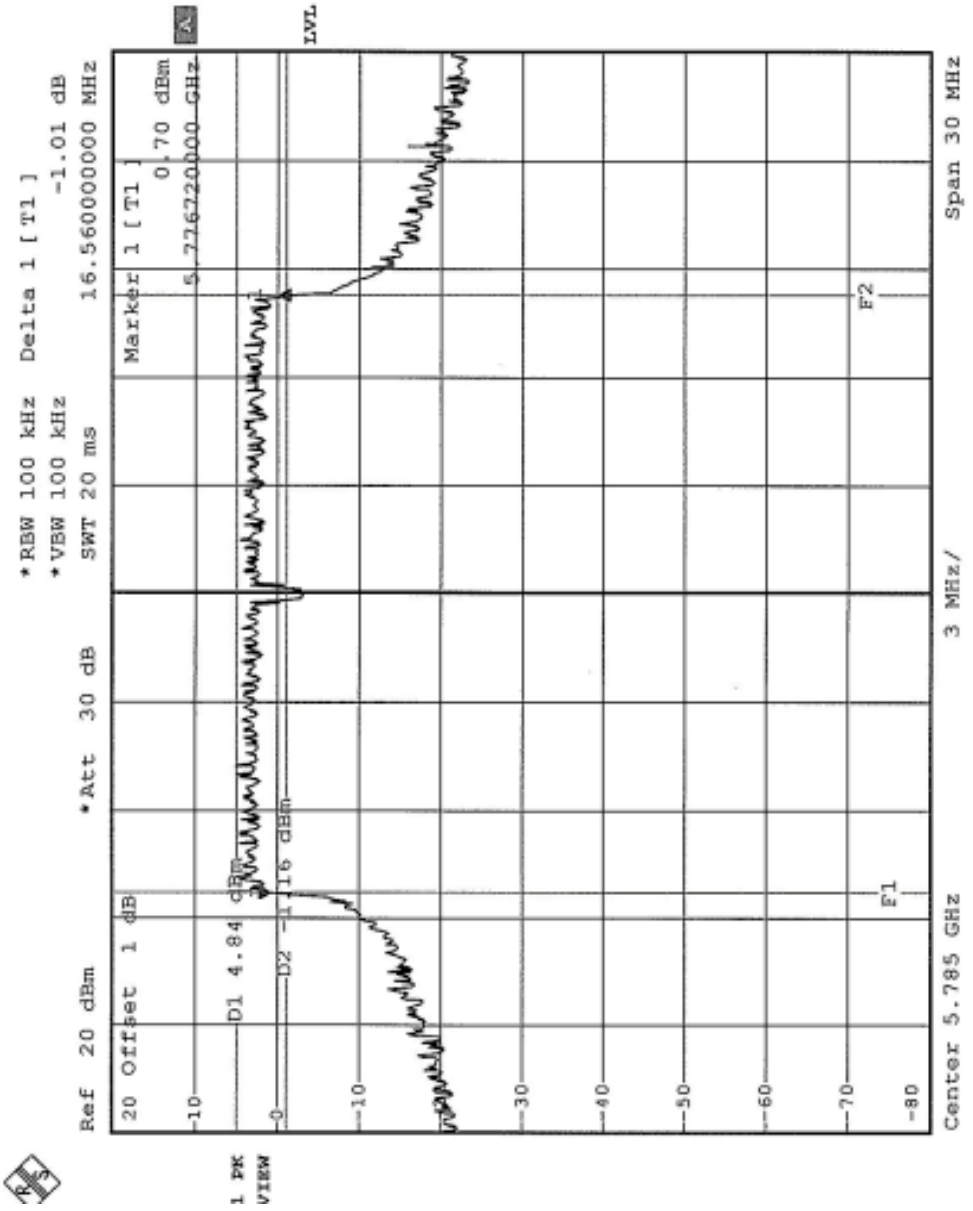
EUT	IronPoint 200	**MODEL**	IP200
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	27deg.C, 57%RH, 973 hPa
TEST MODE	Normal	**TEST BY**	Hank Chung

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
9	5745	16.56	0.5	PASS
11	5785	16.56	0.5	PASS
13	5825	16.56	0.5	PASS

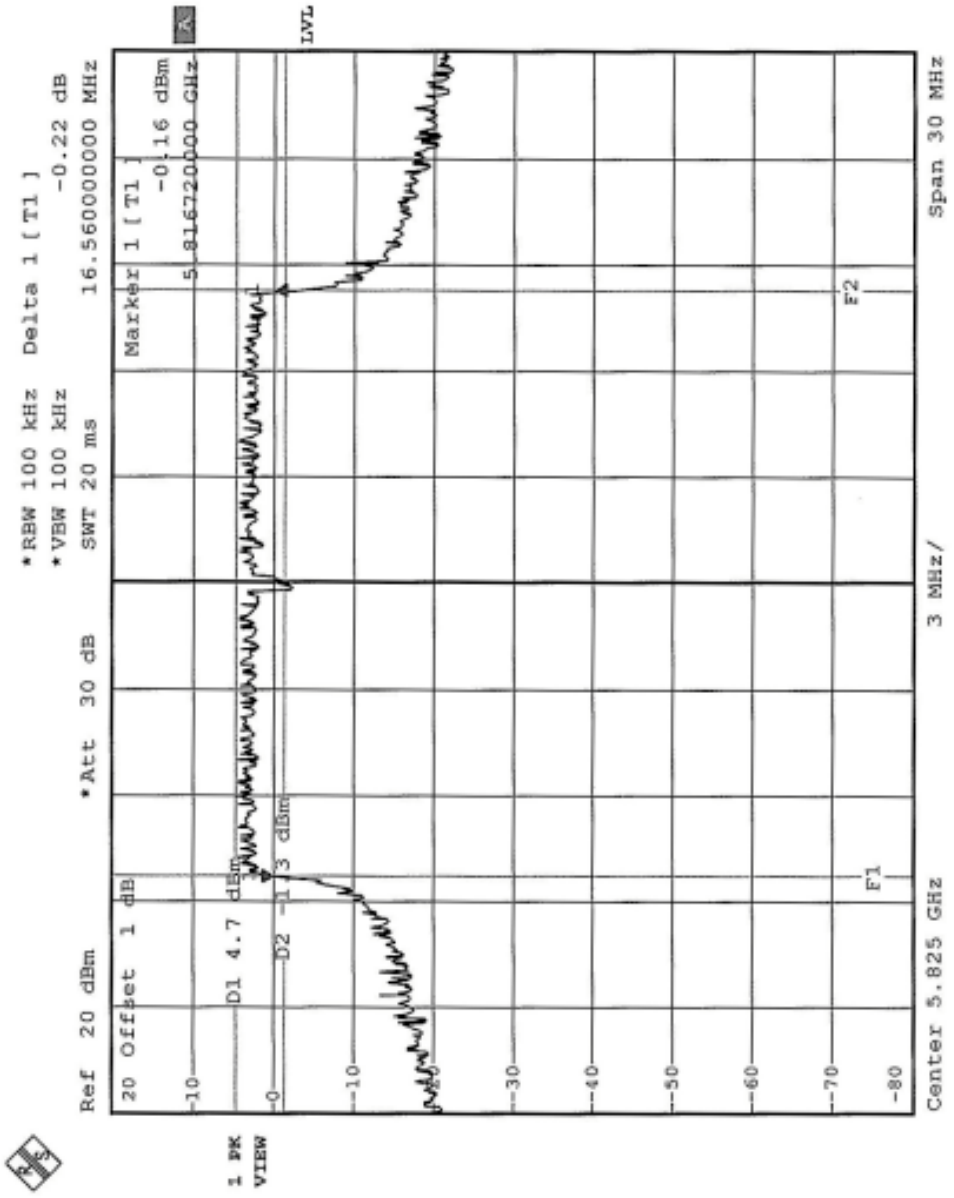
CH9


*RBW 100 kHz
*VBW 100 kHz
Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
SWT 20 ms
Delta 1 [T1]
0.05 dB
16.56000000 MHz
Marker 1 [T1]
-0.01 dBm
5.73672000 GHz
D1 4.91 dBm
D2 -1.09 dBm
F1
F2
LVL
1 PK VIEW
Center 5.745 GHz
3 MHz/
Span 30 MHz

CH11


Ref 20 dBm
Offset 1 dB
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Delta 1 [T1]
-1.01 dB
16.56000000 MHz
Marker 1 [T1]
0.70 dBm
5.77620000 GHz
D1 4.84 dBm
D2 -1.16 dBm
F1
F2
1 PK VIEW
Center 5.785 GHz
3 MHz/
Span 30 MHz

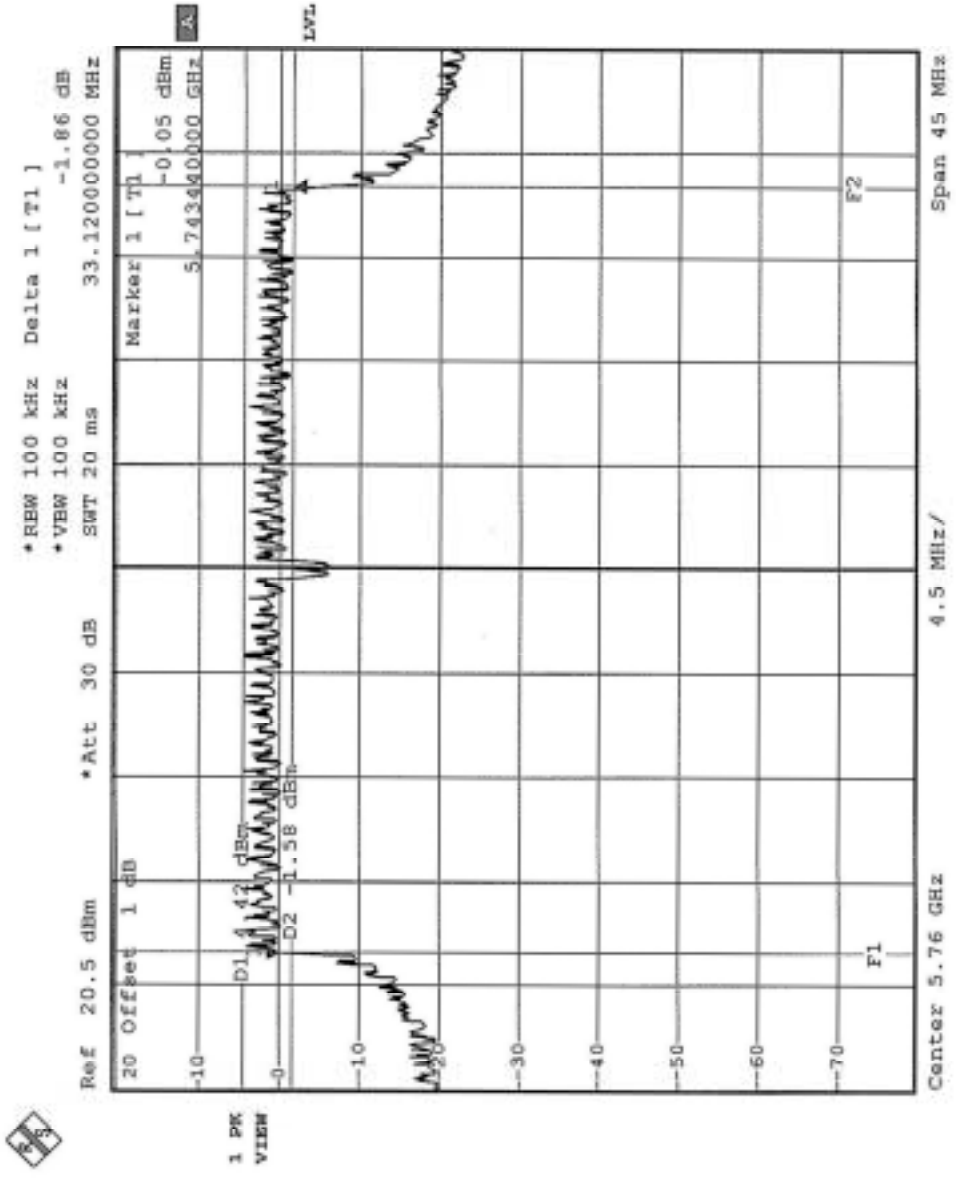
CH13


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
SWT 20 ms
*VBW 100 kHz
*RBW 100 kHz
Delta 1 [T1]
-0.22 dB
16.560000000 MHz
Marker 1 [T1]
-0.16 dBm
5.816720000 GHz
D1 4.7 dBm
D2 -1.3 dBm
F1
F2
LVL
1 PK VIEW
Center 5.825 GHz
3 MHz/
Span 30 MHz

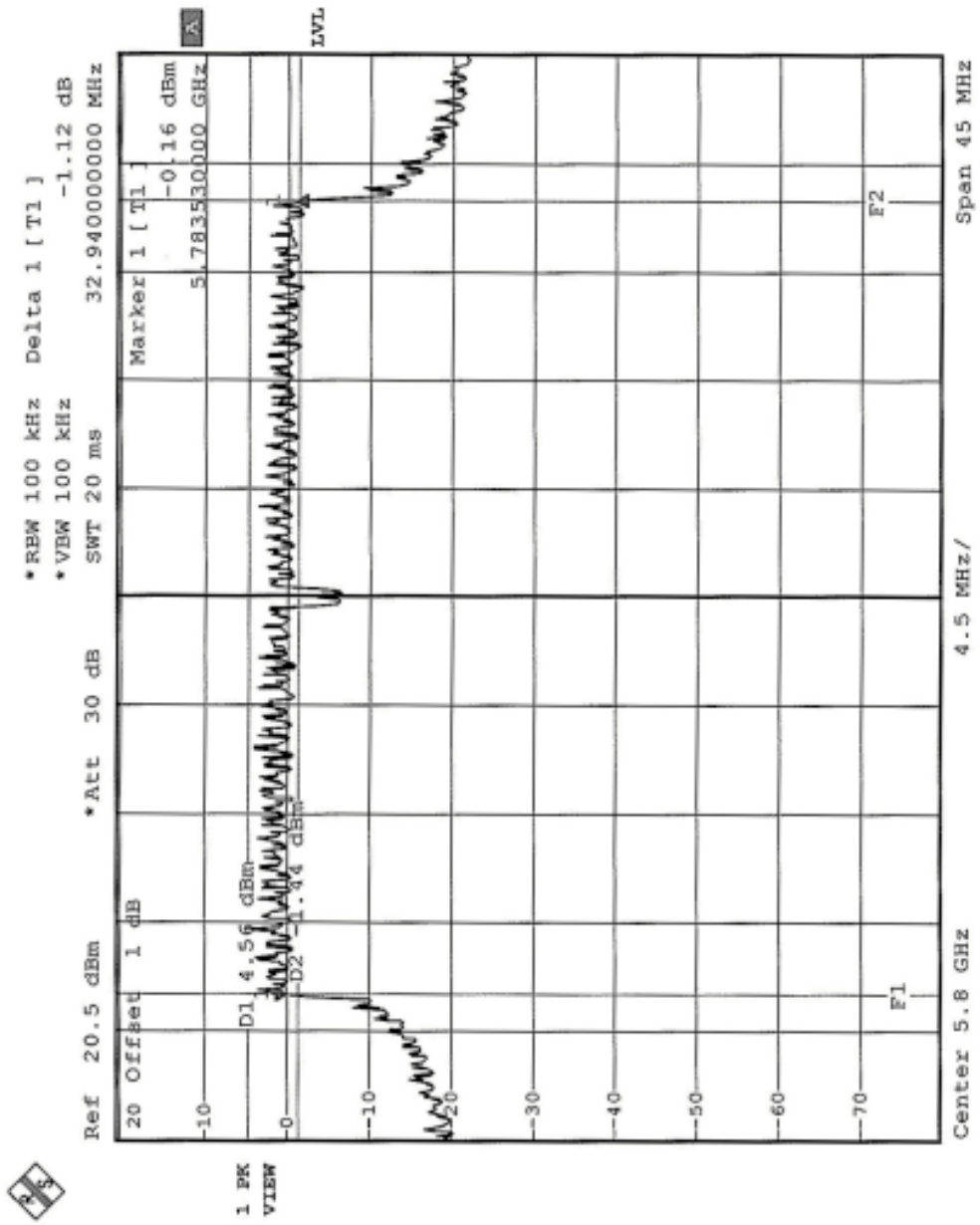
EUT	IronPoint 200	MODEL	IP200
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 56%RH, 973 hPa
TEST MODE	Turbo	TEST BY	Hank Chung

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
4	5760	33.12	0.5	PASS
5	5800	32.94	0.5	PASS

CH4


RBW 100 kHz
VBW 100 kHz
SWT 20 ms
Delta 1 [T1]
-1.86 dB
33.120000000 MHz
Marker 1 [T1]
-0.05 dBm
5.743400000 GHz
Ref 20.5 dBm
20 Offset 1 dB
Att 30 dB
D1 4.12 dBm
D2 -1.58 dBm
F1
F2
Center 5.76 GHz
4.5 MHz/
Span 45 MHz
1 PK
VIEW

CH5


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
Offset 1 dB
*Att 30 dB
SWT 20 ms
Delta 1 [T1]
-1.12 dB
32.940000000 MHz
Marker 1 [T1]
-0.16 dBm
5.783530000 GHz
LVL
Center 5.8 GHz
4.5 MHz/
Span 45 MHz
1 PK
VIEW
D1 4.56 dBm
D2 -1.44 dBm
F1
F2

5.9 MAXIMUM PEAK OUTPUT POWER

5.9.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.9.2 INSTRUMENTS

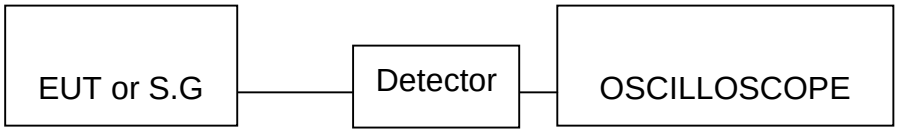
Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 2004
TEKTRONIX OSCILLOSCOPE	TDS 220	B027241	Jun. 29, 2004
NARDA DETECTOR	4503A	FSCM99899	NA

NOTE:
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.9.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same peak reading on oscilloscope. Record the power level.

5.9.4 TEST SETUP



5.9.5 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.9.6 TEST RESULTS

EUT	IronPoint 200	MODEL	IP200
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 64%RH, 973 hPa
TEST MODE	Normal	TEST BY	Hank Chung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	20.08	30	PASS
11	5785	20.4	30	PASS
13	5825	21.0	30	PASS

EUT	IronPoint 200	MODEL	IP200
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 64%RH, 973 hPa
TEST MODE	Turbo	TEST BY	Hank Chung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
4	5760	20.3	30	PASS
5	5800	20.1	30	PASS

5.9.7 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.9.8 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

5.9.9 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

5.9.10 DEVIATION FROM TEST STANDARD

No deviation

5.9.11 TEST SETUP

5.9.12 EUT OPERATING CONDITION

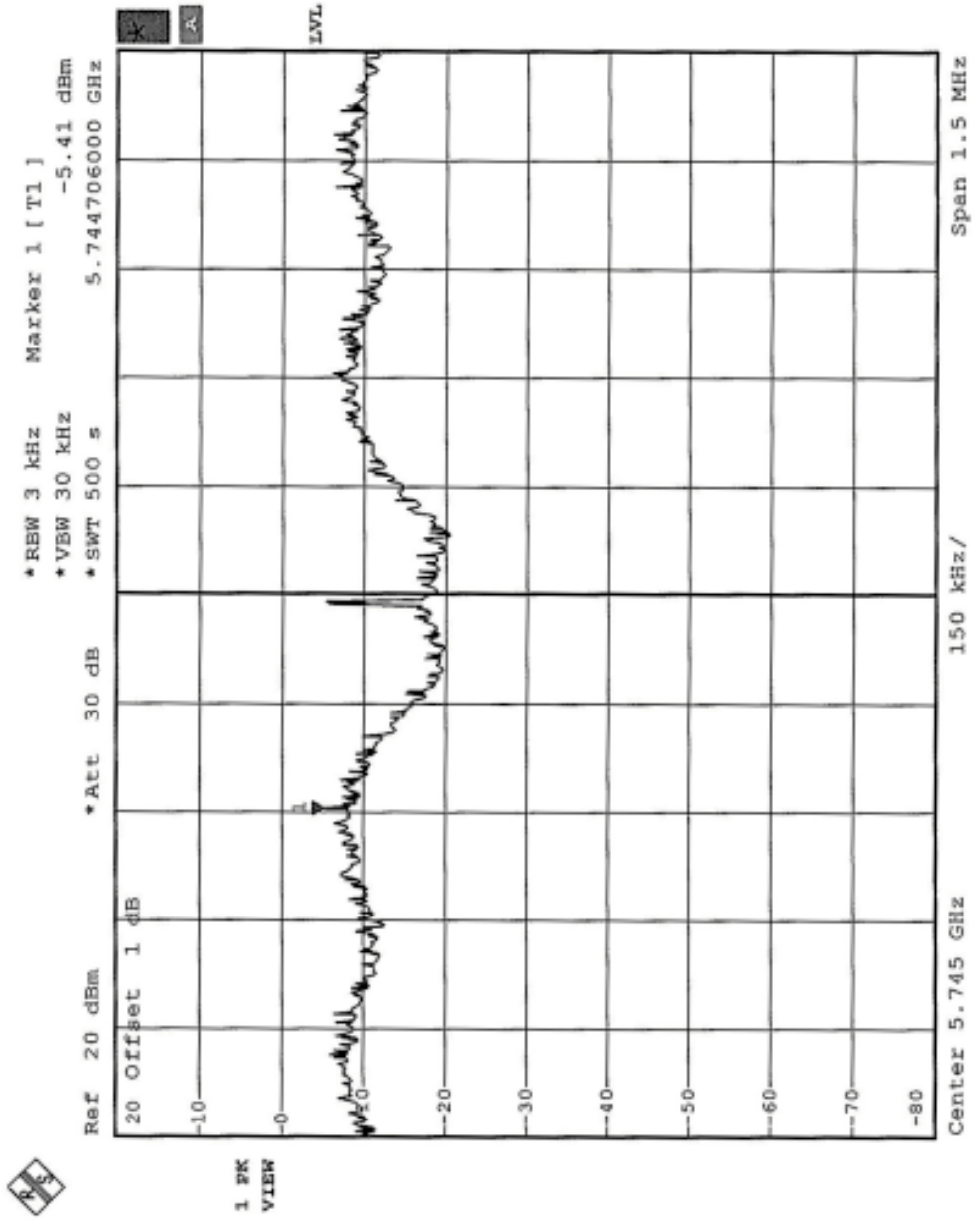
Same as Item 4.3.6

5.9.13 TEST RESULTS

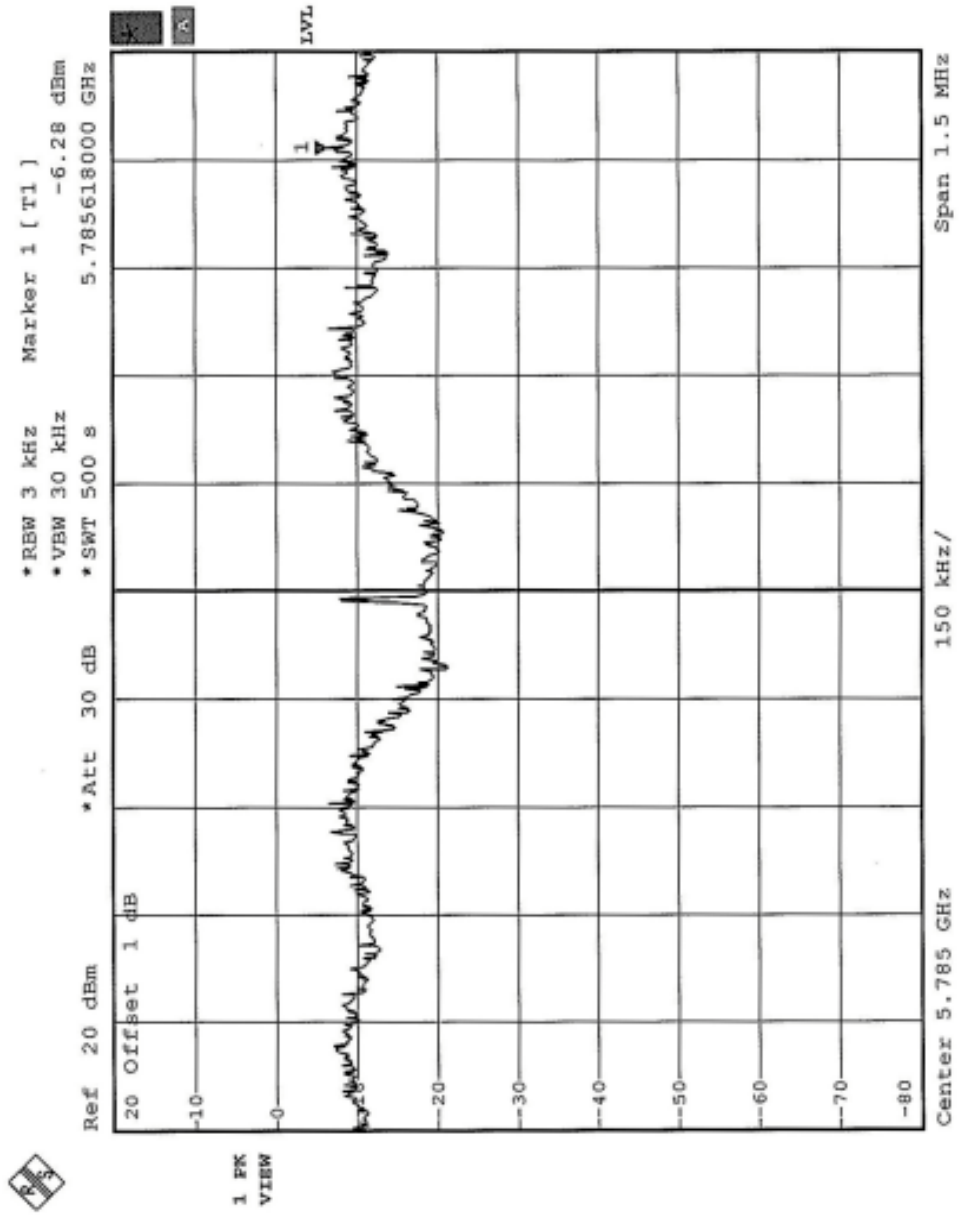
EUT	IronPoint 200	MODEL	IP200
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	57deg. C, 56%RH, 973 hPa
TEST MODE	Normal	TEST BY	Hank Chung

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
9	5745	-5.41	8	PASS
11	5785	-6.28	8	PASS
13	5825	-6.10	8	PASS

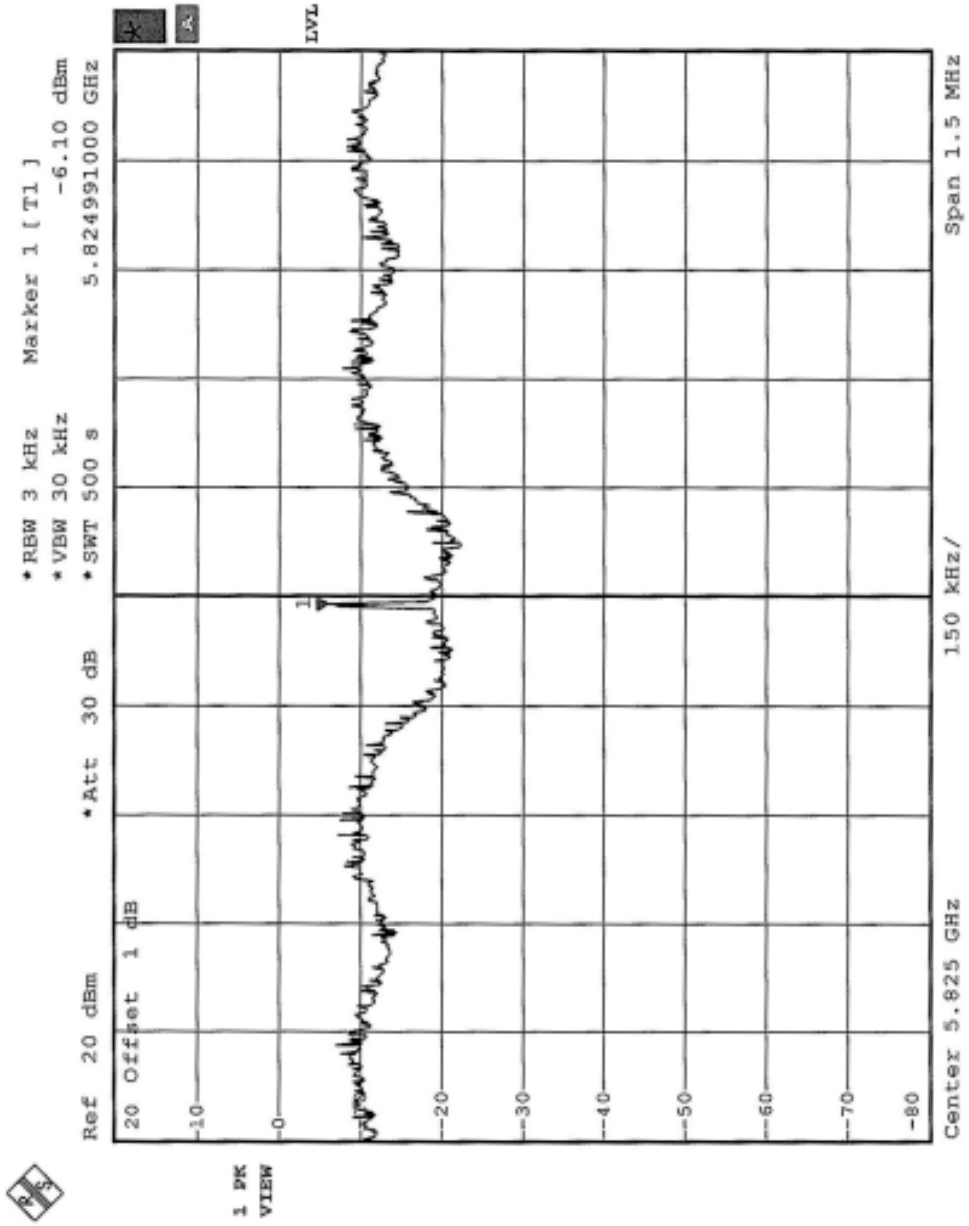
CH9


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1]
-5.41 dBm
5.744706000 GHz
Ref 20 dBm
Offset 1 dB
Att 30 dB
Center 5.745 GHz
150 kHz/
Span 1.5 MHz
1 PK
VIEW

CH11


Ref 20 dBm
Offset 1 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-6.28 dBm
5.785618000 GHz
1 PK
VIEW
LVL
Center 5.785 GHz
150 kHz/
Span 1.5 MHz

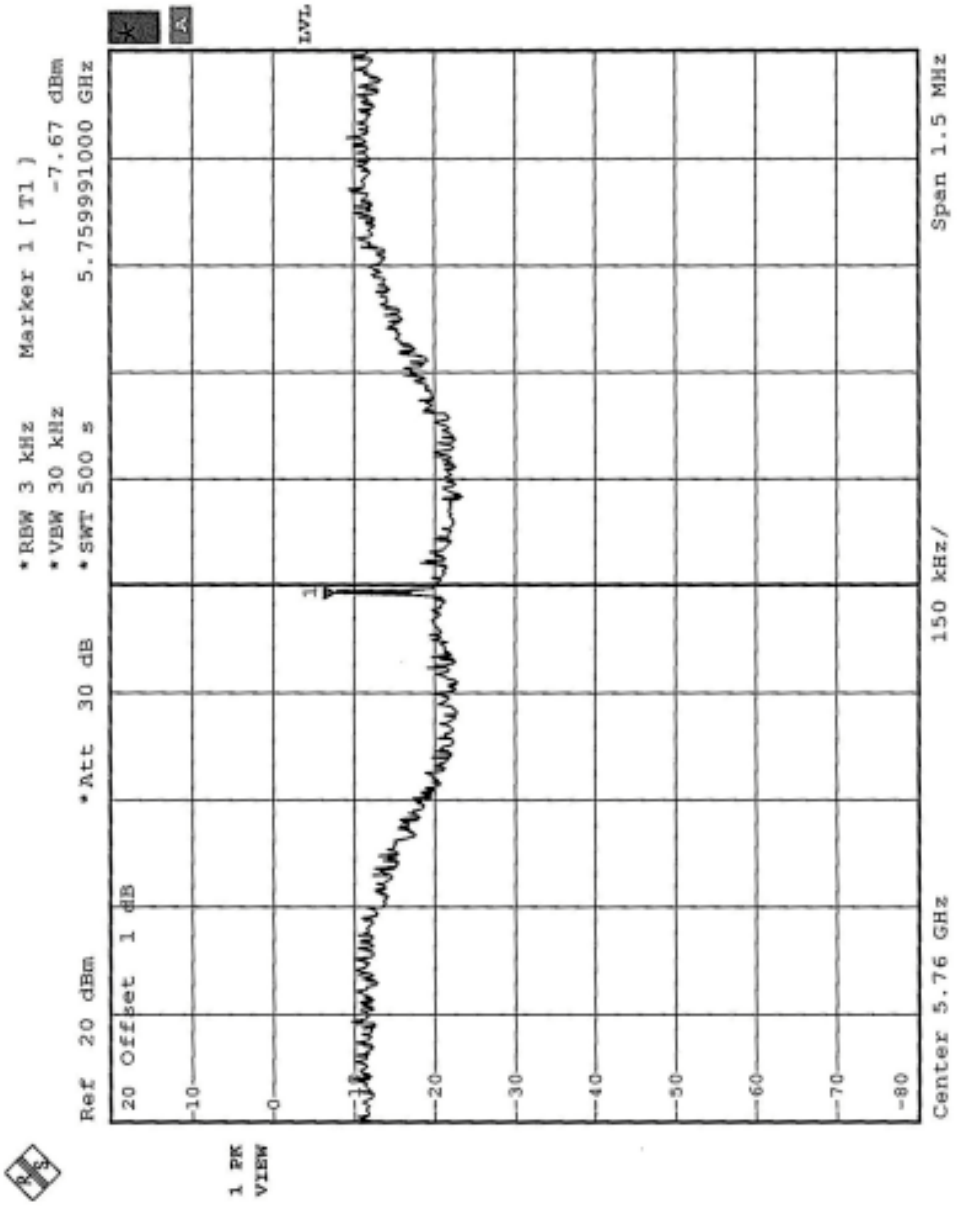
CH13


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-6.10 dBm
5.824991000 GHz
LVL
1 PK
VIEW
Center 5.825 GHz
150 kHz/
Span 1.5 MHz

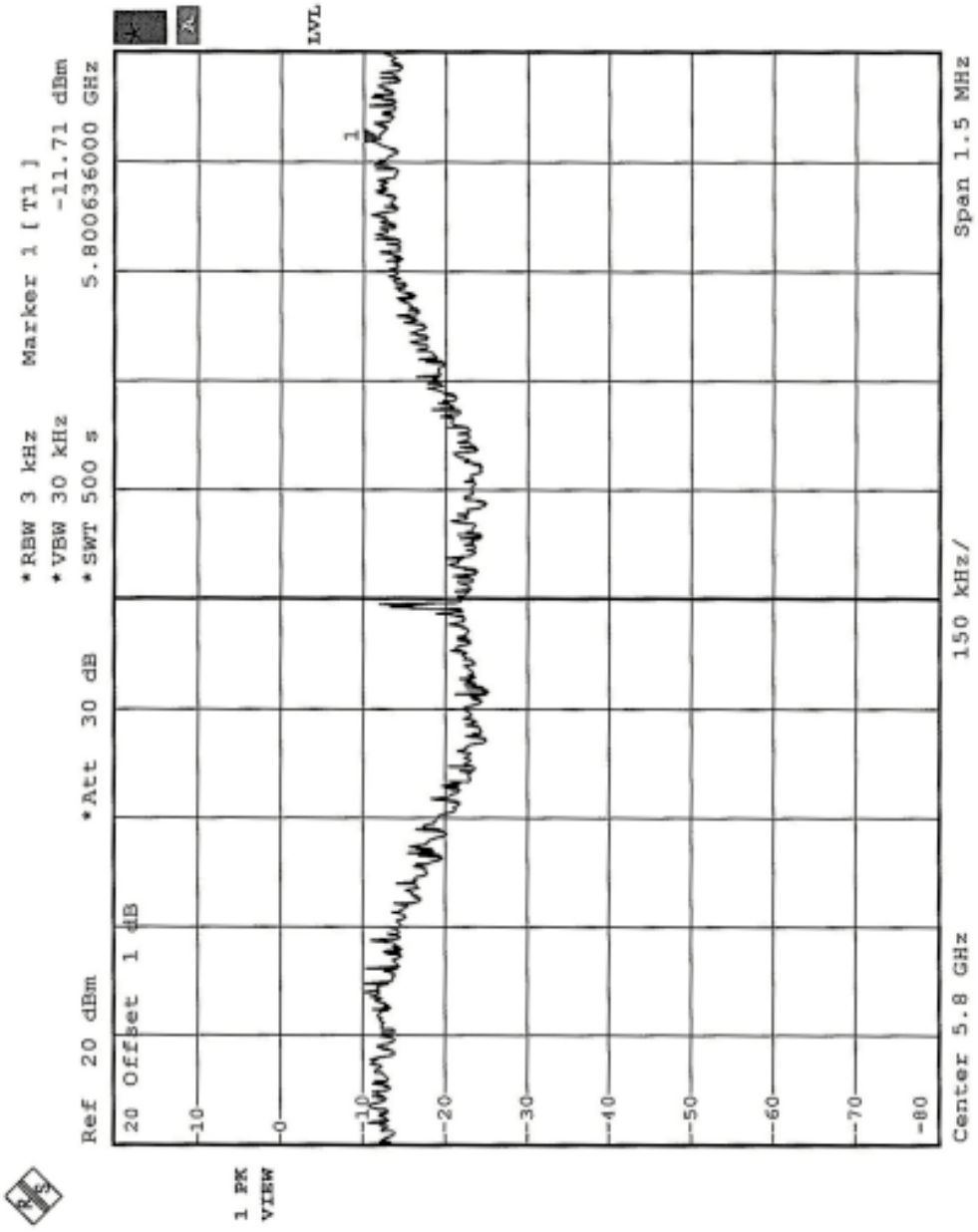
EUT	IronPoint 200	MODEL	IP200
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	57deg. C, 56%RH, 973 hPa
TEST MODE	Turbo	TEST BY	Hank Chung

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
4	5760	-7.67	8	PASS
5	5800	-11.71	8	PASS

CH4


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-7.67 dBm
5.759991000 GHz
Center 5.76 GHz
150 kHz/
Span 1.5 MHz
1 PK
VIEW

CH5


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-11.71 dBm
5.800636000 GHz
Center 5.8 GHz
150 kHz/
Span 1.5 MHz
1 PK
VIEW
LVL

5.10 BAND EDGES MEASUREMENT

5.10.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 100KHz Resolution Bandwidth).

5.10.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2004

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.

5.10.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100 kHz with suitable frequency span including 100 kHz bandwidth from band edge. The band edges was measured and recorded.

5.10.4 DEVIATION FROM TEST STANDARD

No deviation

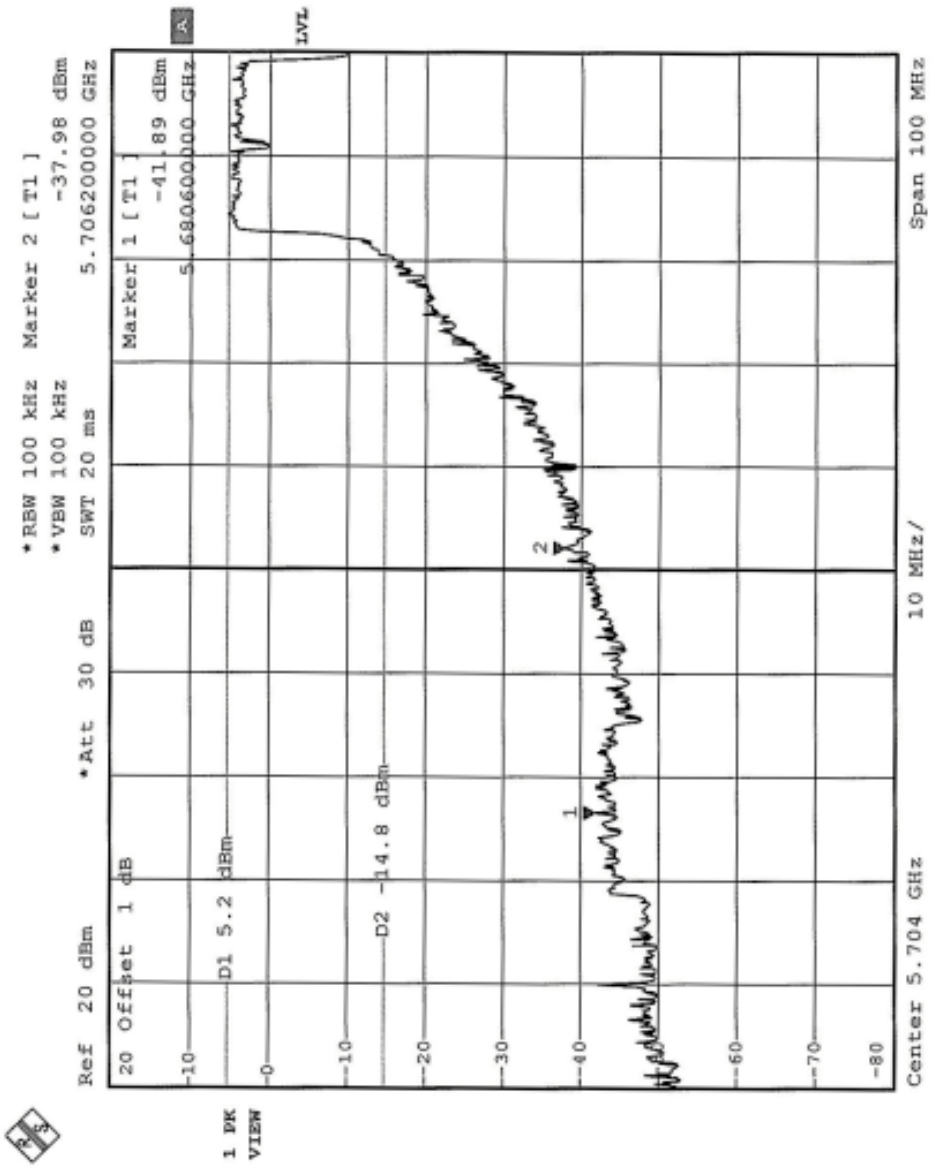
5.10.5 EUT OPERATING CONDITION

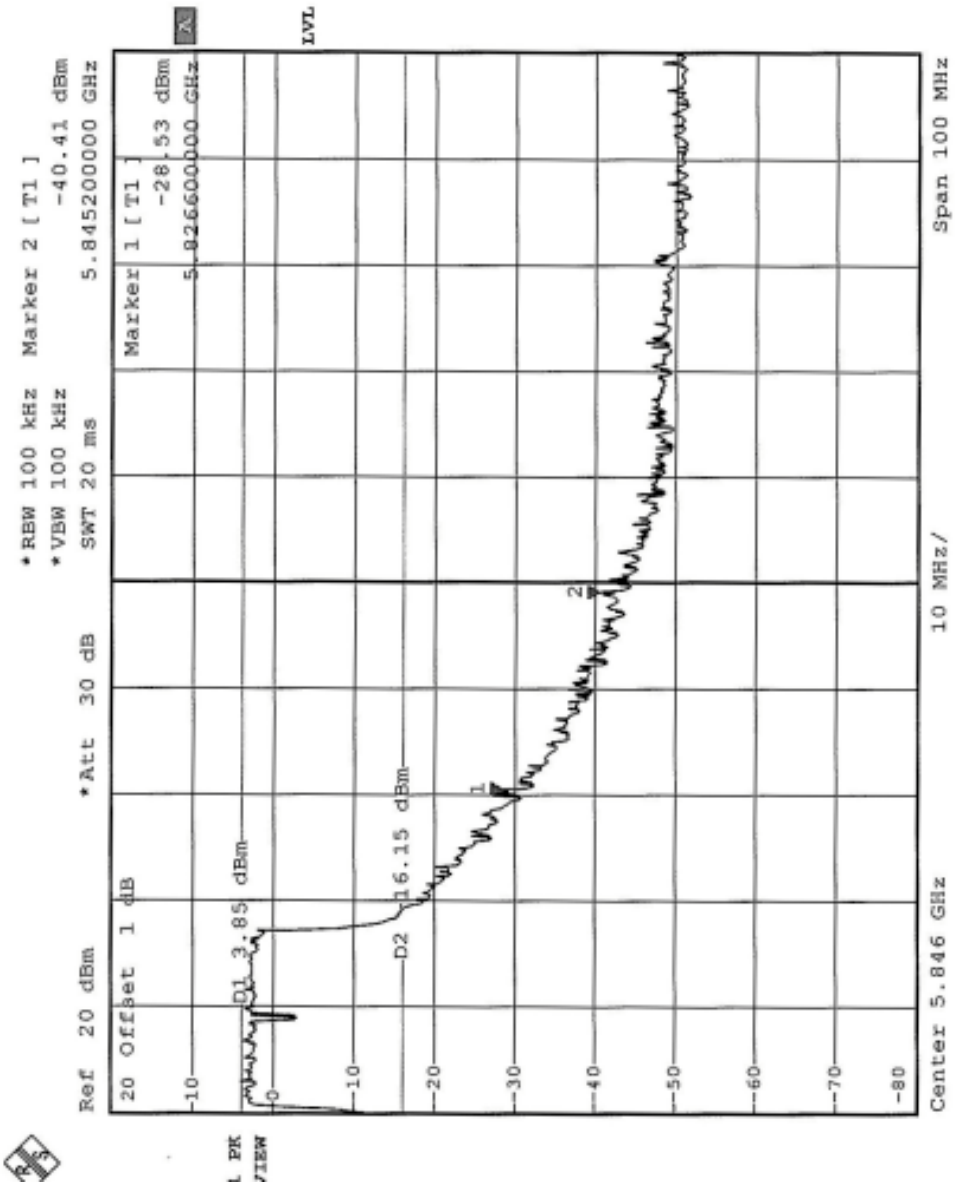
Same as Item 4.3.6

5.10.6 TEST RESULTS

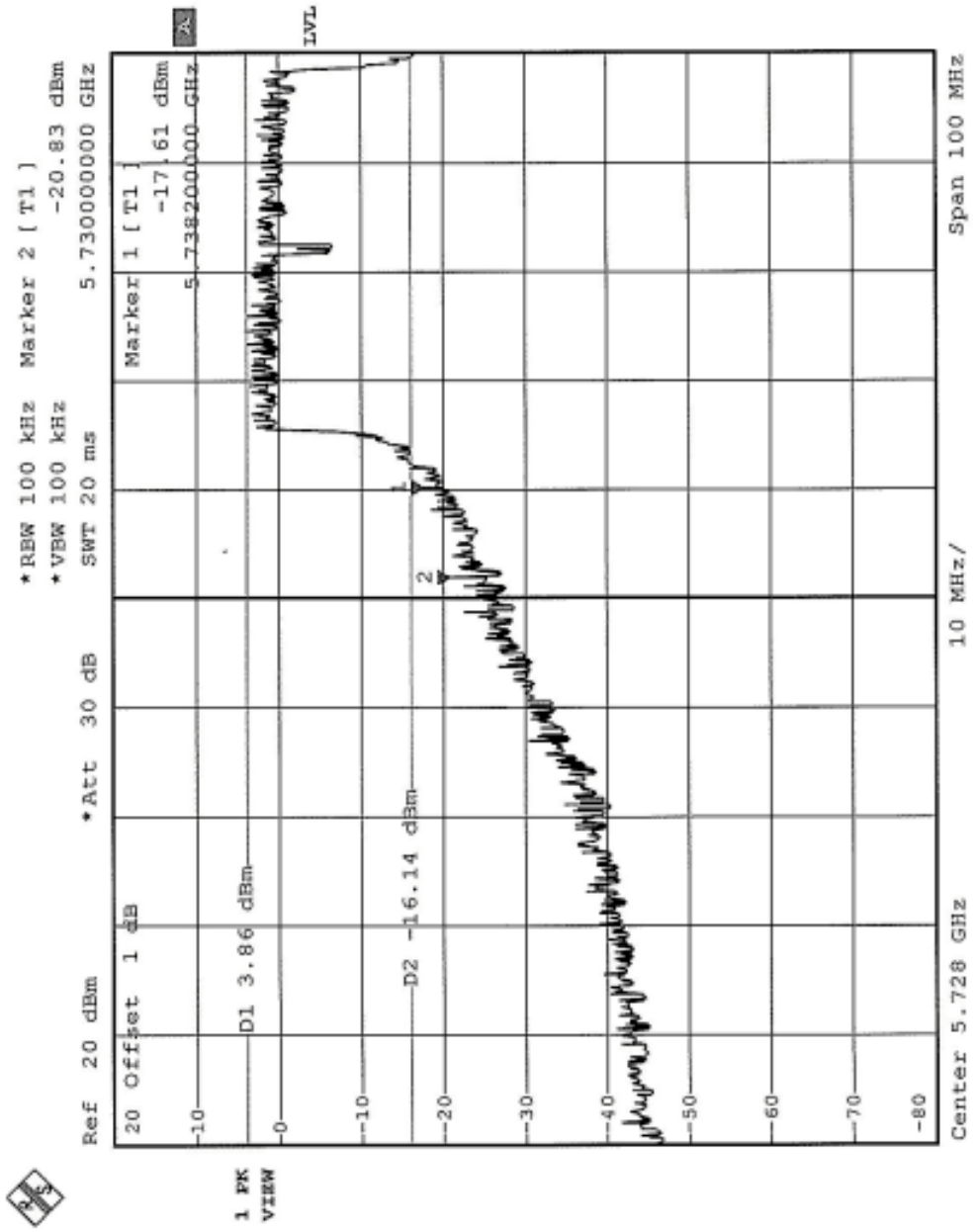
The spectrum plots are attached on the following pages. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

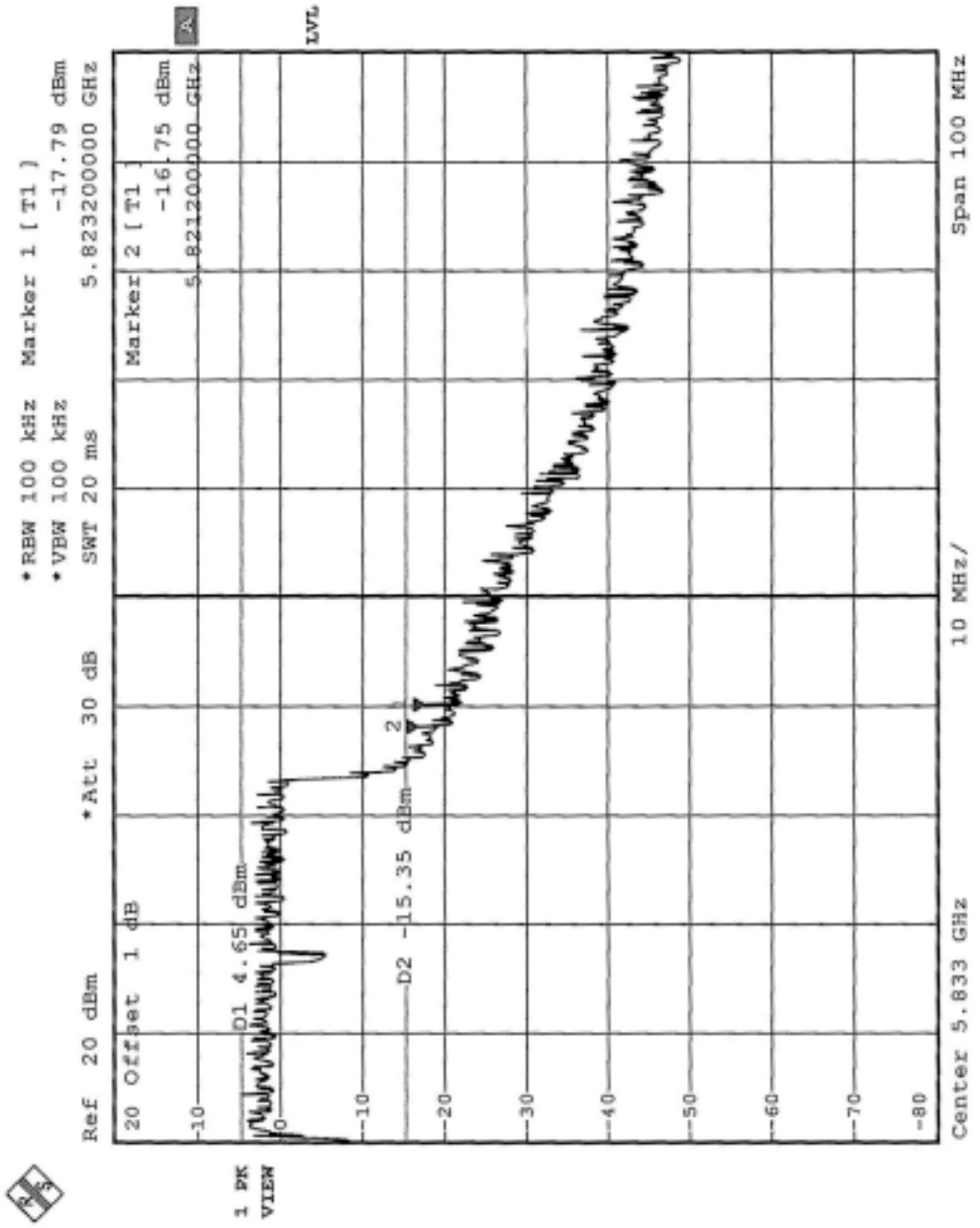
Normal Mode


Ref 20 dBm
20 Offset 1 dB
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Marker 2 [T1]
-37.98 dBm
5.706200000 GHz
Marker 1 [T1]
-41.89 dBm
5.680600000 GHz
D1 5.2 dBm
D2 -14.8 dBm
1 PK
VIEW
Center 5.704 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 100 kHz
SWT 20 ms
Att 30 dB
Ref 20 dBm
Offset 1 dB
Marker 2 [T1]
-40.41 dBm
5.845200000 GHz
Marker 1 [T1]
-28.53 dBm
5.826600000 GHz
D1 3.85 dBm
D2 16.15 dBm
Center 5.846 GHz
10 MHz/
Span 100 MHz

Turbo Mode


RBW 100 kHz
VBW 100 kHz
SWT 20 ms
Marker 2 [T1]
-20.83 dBm
5.730000000 GHz
Marker 1 [T1]
-17.61 dBm
5.738200000 GHz
Ref 20 dBm
Offset 1 dB
Att 30 dB
D1 3.86 dBm
D2 -16.14 dBm
Center 5.728 GHz
10 MHz/
Span 100 MHz
1 PK
VIEW


RBW 100 kHz
VBW 100 kHz
SWT 20 ms
Marker 1 [T1]
-17.79 dBm
5.82320000 GHz
Marker 2 [T1]
-16.75 dBm
5.82120000 GHz
Ref 20 dBm
Offset 1 dB
Att 30 dB
D1 4.65 dBm
D2 -15.35 dBm
1 PK VIEW
Center 5.833 GHz
10 MHz/
Span 100 MHz

5.11 ANTENNA REQUIREMENT

5.11.1 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 15.407(a), 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.

5.11.2 ANTENNA CONNECTED CONSTRUCTION

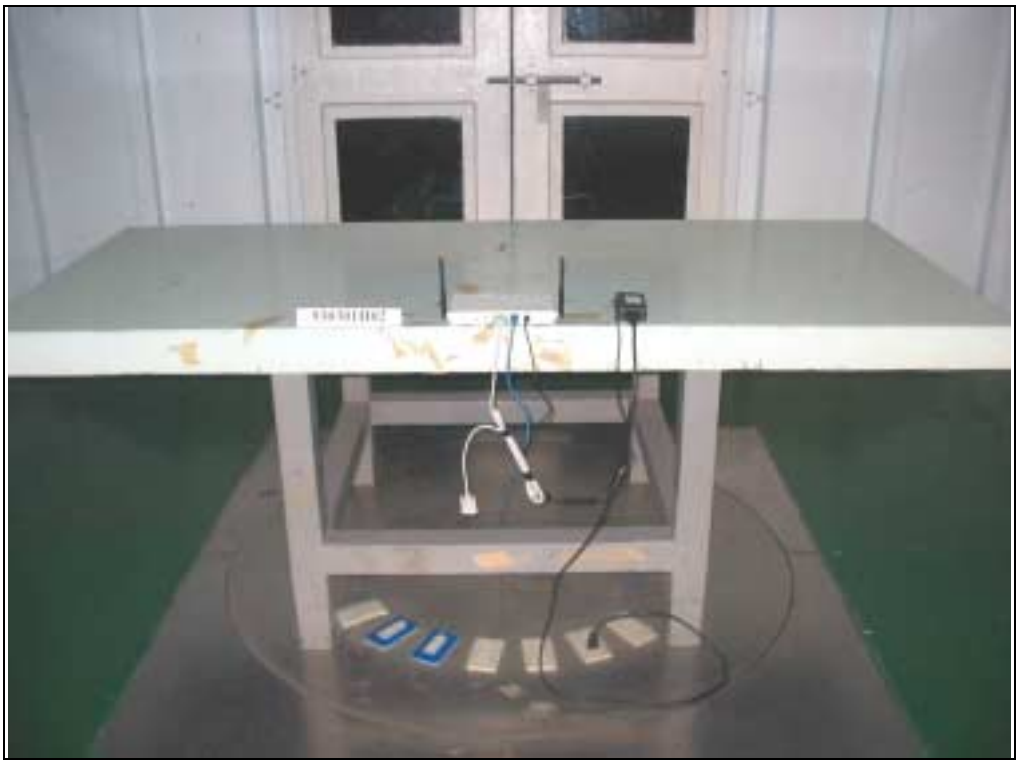
The antenna used in this product is Dual-Band Omni-Directional Antenna with MMCX R/A Plug connector. The maximum Gain of the antenna is 4.5dBi.

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

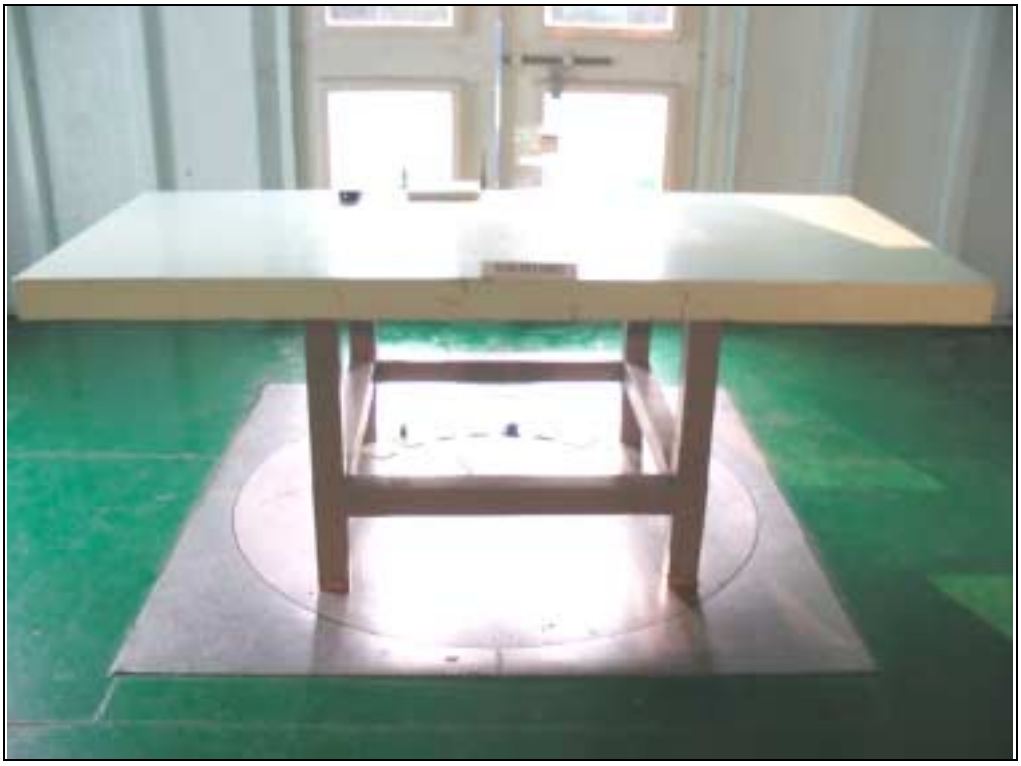
CONDUCTED EMISSION TEST (With Adapter)

CONDUCTED EMISSION TEST (With POE)

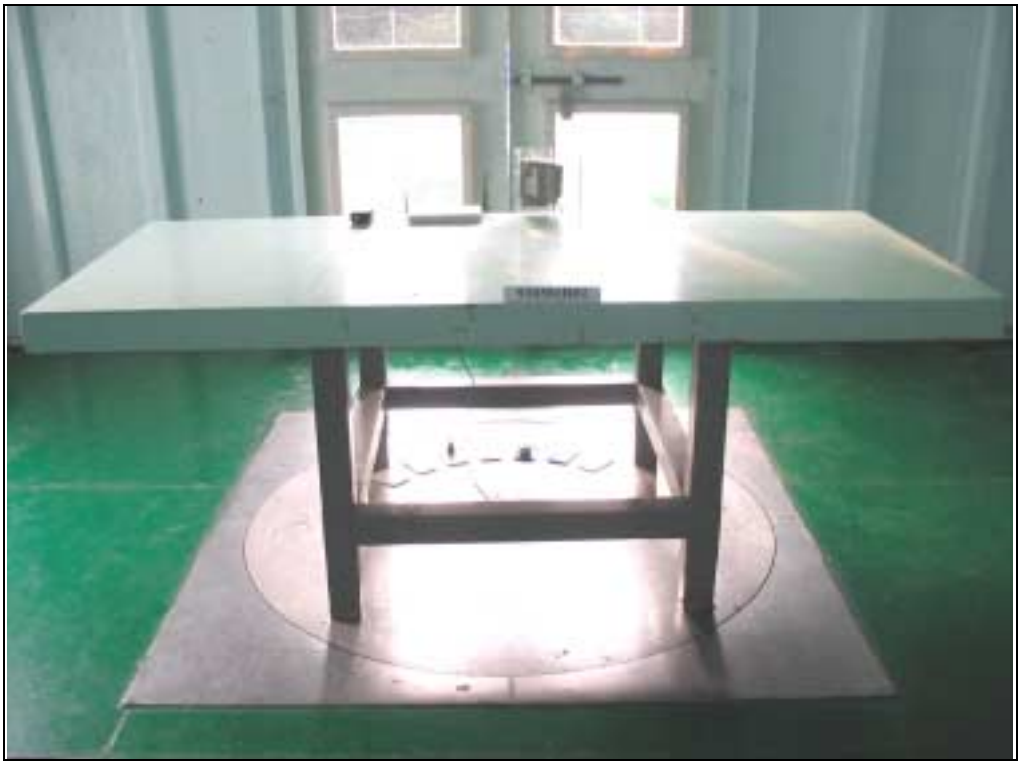
RADIATED EMISSION TEST (ANTENNA 1)



RADIATED EMISSION TEST (ANTENNA 2)



RADIATED EMISSION TEST (ANTENNA 3)



7. 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, Guide 25 or EN 45001:

USA	FCC, NVLAP, UL
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:

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Fax: 886-2-26052943

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Fax: 886-3-5935342

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