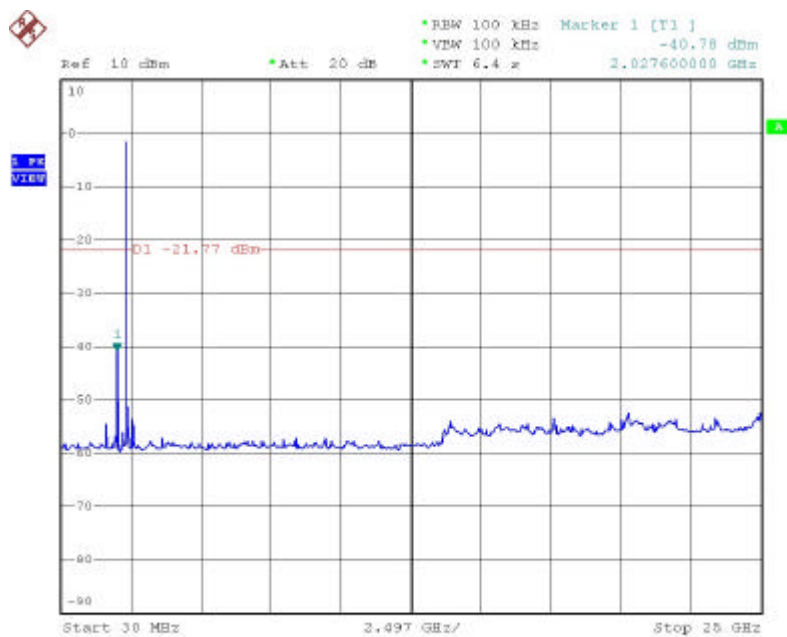
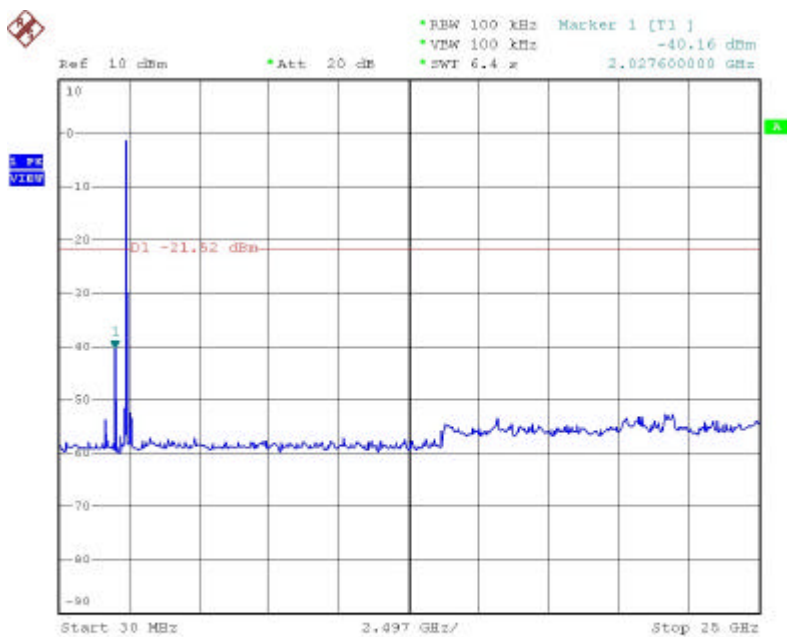


4.3. RF Portion

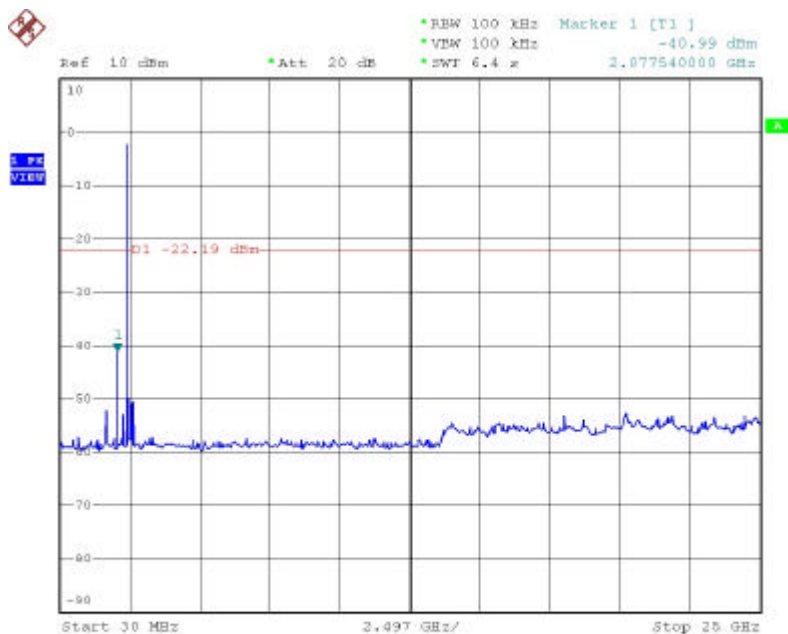
4.3.1. Test Result of Conducted Emission



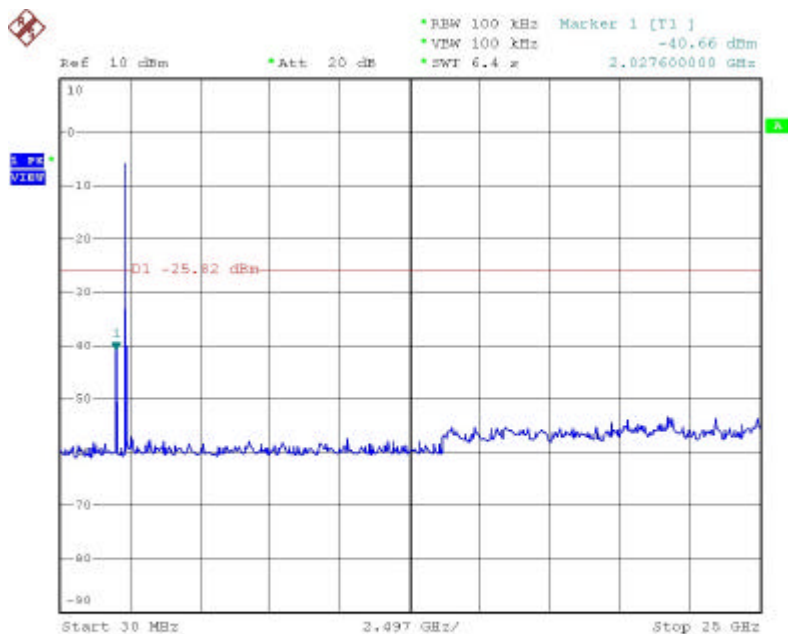
Date: 26.AUG.2004 19:50:28



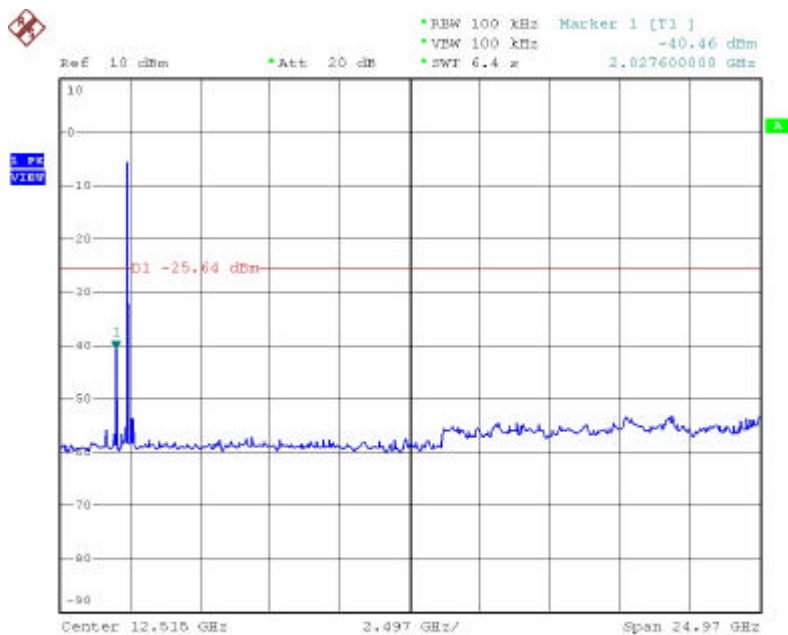
Date: 26.AUG.2004 19:48:44



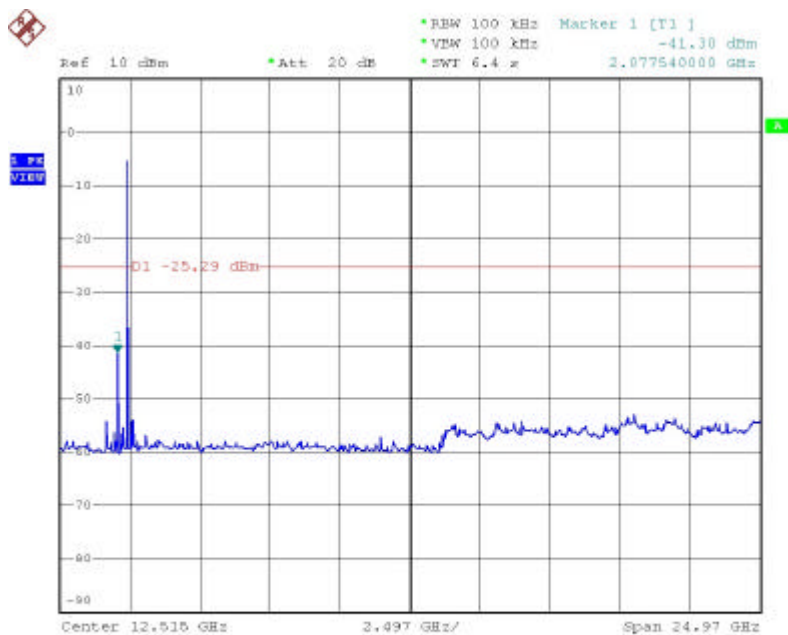
Date: 26.AUG.2004 19:47:09



Date: 26.AUG.2004 19:55:34



Date: 26.AUG.2004 19:56:53



Date: 26.AUG.2004 19:57:49

4.3.2. Test Result of Radiated Emission

Modulation Standard: IEEE 802.11b

a) Emission frequencies below 1 GHz Channel LO

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
950.53	H	39.19	4.17	43.36	46.0	-2.64	Q.P	190	1.0
38.73	V	50.40	-13.83	36.57	40.0	-3.43	Peak	160	1.5
80.44	V	56.77	-20.20	36.57	40.0	-3.43	Peak	120	1.0
104.69	V	56.41	-16.99	39.42	43.5	-4.08	Peak	100	1.0

Notes:

1. Result = Meter Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss – Amplifier

b) Emission frequencies above 1 GHz Channel LO

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
2036.0	H	53.06	-1.81	51.25	74	-22.75	Peak	180	1.5
4080.0	H	50.08	5.53	55.60	74	-18.40	Peak	175	1.0
4080.0	H	39.82	5.53	45.35	54	-9.65	Ave.	185	1.0
1957.6	V	54.77	-2.86	51.91	74	-22.09	Peak	220	1.0
2038.8	V	62.02	-2.50	59.53	74	-14.47	Peak	176	1.5
2038.8	V	54.62	-2.50	52.12	54	-1.88	Ave.	182	1.5
4069.8	V	54.36	4.90	59.26	74	-14.74	Peak	205	1.0
4069.8	V	44.21	4.90	49.11	54	-4.89	Ave.	200	1.0
4824.2	V	52.92	6.49	59.40	74	-14.60	Peak	170	1.0
4824.2	V	41.87	6.49	48.36	54	-5.64	Ave.	210	1.0

Modulation Standard: IEEE 802.11b

a) Emission frequencies below 1 GHz Channel MID

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
56.19	V	56.14	-19.75	36.39	40	-3.61	Peak	115	1.0
67.83	V	57.51	-22.23	35.29	40	-4.71	Peak	160	1.5
80.44	V	57.41	-20.20	37.21	40	-2.39	Q.P	190	1.0

Notes:

1. Result = Meter Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss – Amplifier

b) Emission frequencies above 1 GHz Channel MID

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
2064.0	H	53.75	-1.71	52.04	74	-21.96	Peak	205	1.5
4128.0	H	48.86	5.59	54.45	74	-19.55	Peak	160	1.0
4128.0	H	38.80	5.59	44.39	54	-9.61	Ave.	188	1.0
1955.5	V	51.67	-2.87	48.79	74	-25.21	Peak	100	1.0
2053.0	V	62.79	-2.45	60.34	74	-13.66	Peak	210	1.5
2053.0	V	51.63	-2.45	49.18	54	-4.82	Ave.	206	1.5
4113.5	V	53.93	4.95	58.88	74	-15.12	Peak	185	1.0
4113.5	V	43.67	4.95	48.62	54	-5.38	Ave.	190	1.0
4867.5	V	49.54	6.63	56.17	74	-17.83	Peak	165	1.0
4867.5	V	38.72	6.63	45.35	54	-8.65	Ave.	172	1.0

Modulation Standard: IEEE 802.11b

a) Emission frequencies below 1 GHz Channel HI

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
950.53	H	39.19	4.17	43.36	46.0	-2.64	Q.P	185	1.0
56.19	V	56.05	-19.75	36.30	46.0	-3.70	Peak	165	1.0
80.44	V	58.10	-20.20	37.90	40.0	-2.10	Q.P	120	1.5
92.08	V	60.25	-18.38	41.87	43.5	-1.63	Q.P	105	1.0

Notes:

1. Result = Meter Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss – Amplifier

b) Emission frequencies above 1 GHz Channel HI

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
2088.0	H	49.44	-1.63	47.81	74	-26.19	Peak	185	1.0
4176.0	H	52.97	5.66	58.63	74	-15.37	Peak	200	1.0
4176.0	H	41.71	5.66	47.37	54	-6.63	Ave.	195	1.0
1956.0	V	53.16	-2.87	50.29	74	-23.71	Peak	95	1.0
2084.0	V	61.02	-2.34	58.68	74	-15.32	Peak	190	1.5
2084.0	V	48.52	-2.34	46.18	54	-7.82	Ave.	200	1.5
4176.0	V	55.26	5.03	60.29	74	-13.71	Peak	215	1.0
4176.0	V	44.13	5.03	49.16	54	-5.84	Ave.	230	1.0
4928.0	V	47.89	6.83	54.72	74	-19.28	Peak	195	1.0
4928.0	V	37.91	6.83	44.74	54	-9.26	Ave.	190	1.0

Modulation Standard: IEEE 802.11g

a) Emission frequencies below 1 GHz Channel LO

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
31.94	V	45.89	-10.21	35.68	40	-4.32	Peak	192	1.0
43.58	V	51.73	-16.20	35.53	40	-4.47	Peak	160	1.0
56.19	V	55.13	-19.75	35.38	40	-4.62	Peak	100	1.0
80.44	V	56.88	-20.20	36.68	40	-3.32	Peak	186	1.5

Notes:

1. Result = Meter Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss – Amplifier

b) Emission frequencies above 1 GHz Channel LO

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
2036.0	H	53.11	-1.81	51.30	74	-22.70	Peak	190	1.0
4080.0	H	52.12	5.53	57.64	74	-16.36	Peak	180	1.0
4080.0	H	41.33	5.53	46.86	54	-8.14	Ave.	200	1.0
1956.0	V	54.10	-2.87	51.22	74	-22.78	Peak	115	1.0
2036.0	V	61.53	-2.51	59.03	74	-14.59	Peak	170	1.5
2036.0	V	50.72	-2.51	48.21	54	-5.79	Ave.	180	1.5
4080.0	V	54.50	4.91	59.41	74	-14.59	Peak	196	1.0
4080.0	V	42.63	4.91	47.54	54	-6.46	Ave.	182	1.0
4828.0	V	49.30	6.50	55.80	74	-14.59	Peak	165	1.0
4828.0	V	38.53	6.50	42.03	54	-11.95	Ave.	160	1.0

Modulation Standard: IEEE 802.11g

a) Emission frequencies below 1 GHz Channel MID

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
950.53	H	38.95	4.17	43.12	46.0	-2.80	Q.P	172	1.0
56.19	V	54.89	-19.75	35.14	40.0	-4.86	Peak	165	1.0
67.83	V	57.56	-22.23	35.34	40.0	-4.66	Peak	190	1.0
80.44	V	59.86	-20.20	38.66	40.0	-1.34	Q.P	100	1.5
104.69	V	56.62	-16.99	39.63	43.5	-3.87	Peak	290	1.0

Notes:

1. Result = Meter Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss – Amplifier

b) Emission frequencies above 1 GHz Channel MID

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
2064.0	H	54.23	-1.71	52.52	74	-21.48	Peak	110	1.0
4128.0	H	53.38	5.59	58.98	74	-15.02	Peak	190	1.5
4128.0	H	43.28	5.59	48.87	54	-5.13	Ave.	200	1.5
1956.0	V	53.98	-2.87	51.11	74	-22.89	Peak	180	1.5
2064.0	V	62.53	-2.41	60.12	74	-13.88	Peak	190	1.0
2064.0	V	51.21	-2.41	48.80	54	-5.20	Ave.	185	1.0
4128.0	V	55.63	4.97	60.60	74	-13.40	Peak	165	1.0
4128.0	V	45.62	4.97	50.59	54	-3.41	Ave.	165	1.0
4872.0	V	45.66	6.64	52.30	74	-21.7	Peak	170	1.0

Modulation Standard: IEEE 802.11g

a) Emission frequencies below 1 GHz Channel HI

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
950.53	H	39.44	4.17	43.61	46	-2.39	Q.P	170	1.0
31.94	V	46.30	-10.21	36.09	40	-3.91	Peak	160	1.0
67.83	V	57.26	-22.23	35.04	40	-4.96	Peak	192	1.0
80.44	V	58.14	-20.20	37.94	40	-2.06	Q.P	120	1.5

Notes:

1. Result = Meter Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss – Amplifier

b) Emission frequencies above 1 GHz Channel HI

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result@3m (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)	Remark	Table Deg.	Ant High (m)
2084.0	H	51.89	-1.64	50.25	74	-23.75	Peak	200	1.0
4176.0	H	51.22	5.66	56.88	74	-17.12	Peak	190	1.0
4176.0	H	40.62	5.66	46.28	54	-7.72	Ave.	185	1.0
1956.0	V	54.63	-2.87	51.76	74	-22.24	Peak	95	1.5
2084.0	V	61.16	-2.34	58.82	74	-15.18	Peak	190	1.0
2084.0	V	50.62	-2.34	48.28	54	-5.72	Ave.	185	1.0
4176.0	V	55.60	5.03	60.63	74	-13.37	Peak	200	1.0
4176.0	V	43.91	5.03	48.94	54	-5.06	Ave.	210	1.0

4.3.3. Photographs of Radiated Emission Test

FRONT VIEW



REAR VIEW



4.4. 6dB Bandwidth Measurement Data

(1) Modulation Standard: IEEE 802.11b

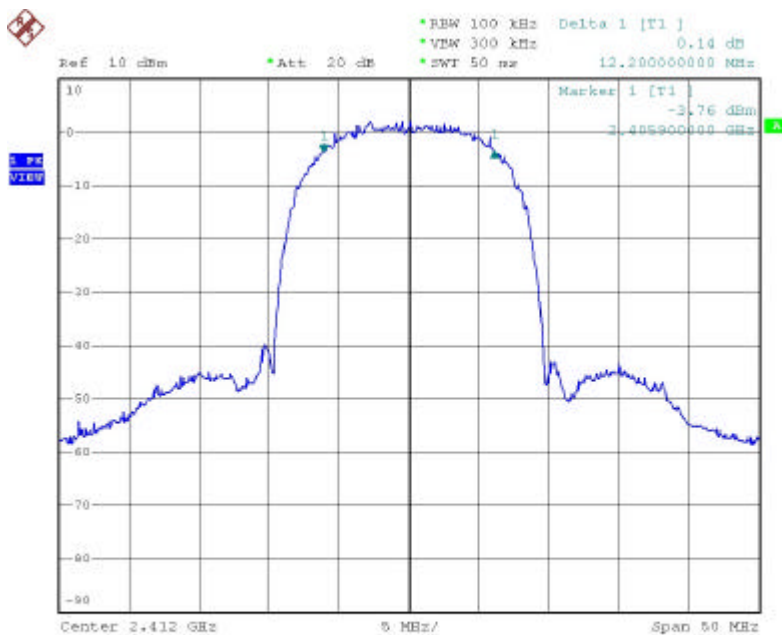
Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

- a) Channel 01: 6dB Emission Bandwidth is 12.2 MHz
- b) Channel 06: 6dB Emission Bandwidth is 12.1 MHz
- c) Channel 11: 6dB Emission Bandwidth is 11.8 MHz

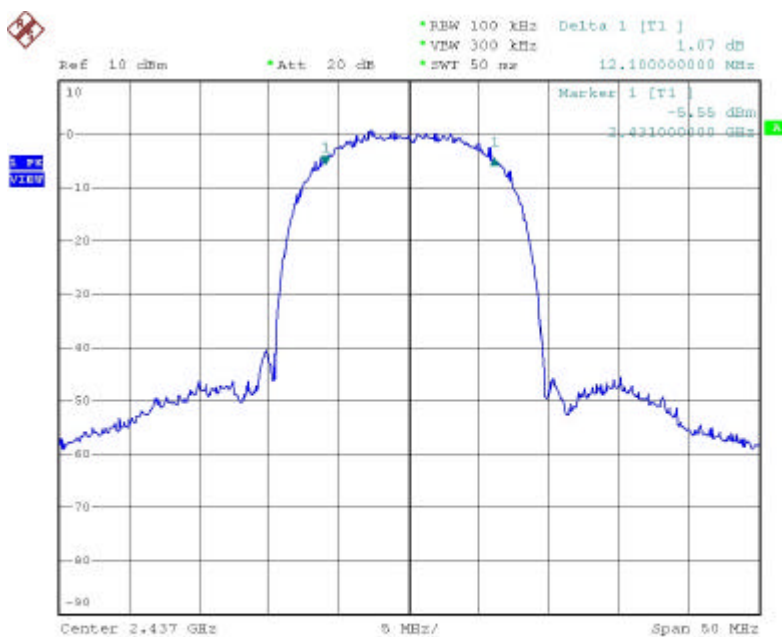
(2) Modulation Standard: IEEE 802.11g

Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

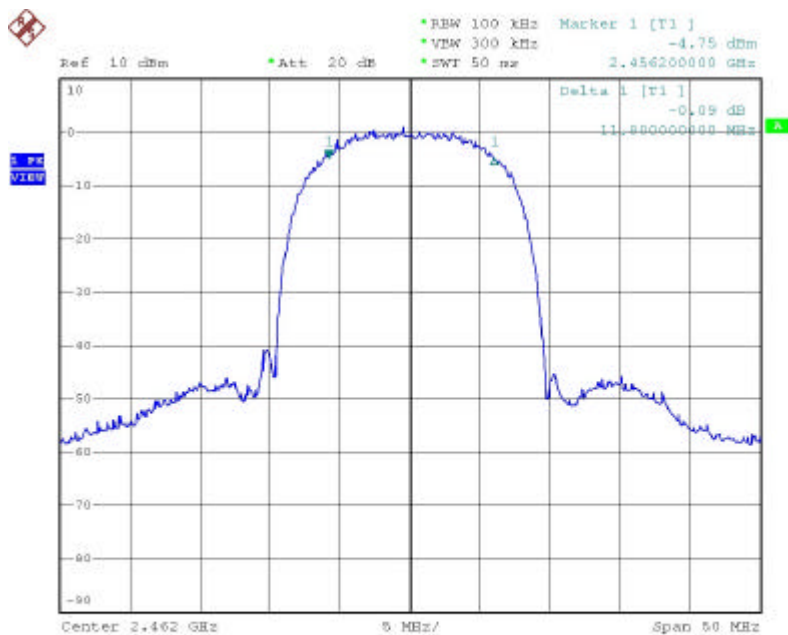
- a) Channel 01: 6dB Emission Bandwidth is 16.5 MHz
- b) Channel 06: 6dB Emission Bandwidth is 16.5 MHz
- c) Channel 11: 6dB Emission Bandwidth is 16.5 MHz



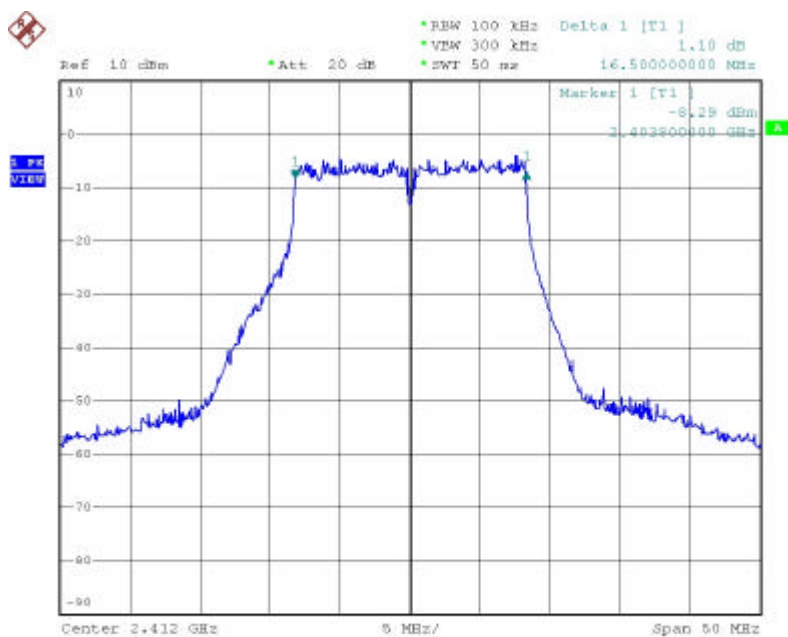
Date: 26.AUG.2004 19:00:38



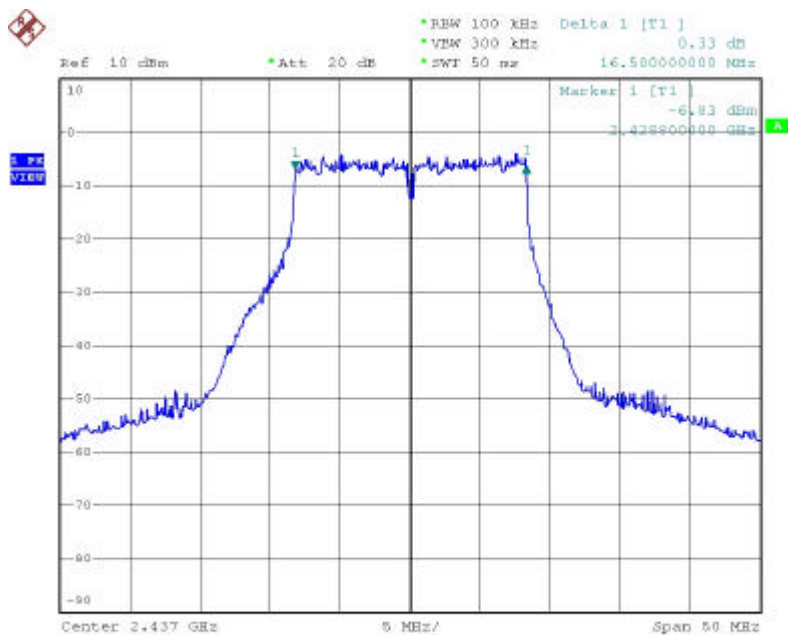
Date: 26.AUG.2004 19:01:48



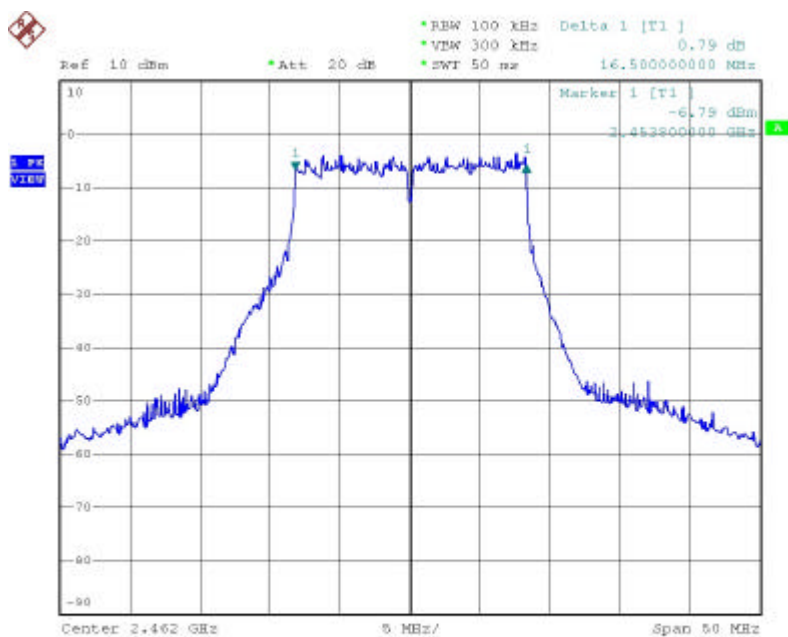
Date: 26.AUG.2004 19:07:16



Date: 26.AUG.2004 19:11:49



Date: 26.AUG.2004 19:10:35



Date: 26.AUG.2004 19:08:47

4.5. Peak Output Power Measurement Data

(1) Modulation Standard: IEEE 802.11b

Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

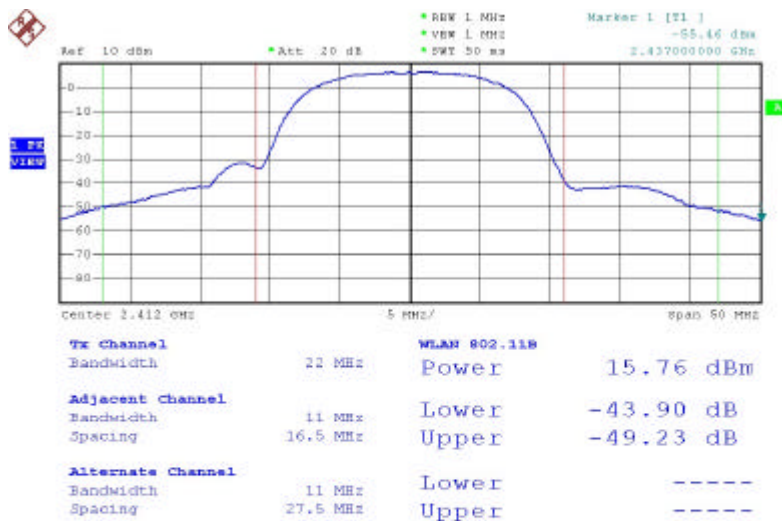
a) Channel 01: Output Peak Power is	<u>15.76</u>	dBm or	<u>37.685</u>	mW
b) Channel 06: Output Peak Power is	<u>15.90</u>	dBm or	<u>38.937</u>	mW
c) Channel 11: Output Peak Power is	<u>15.83</u>	dBm or	<u>38.287</u>	mW

(2) Modulation Standard: IEEE 802.11g

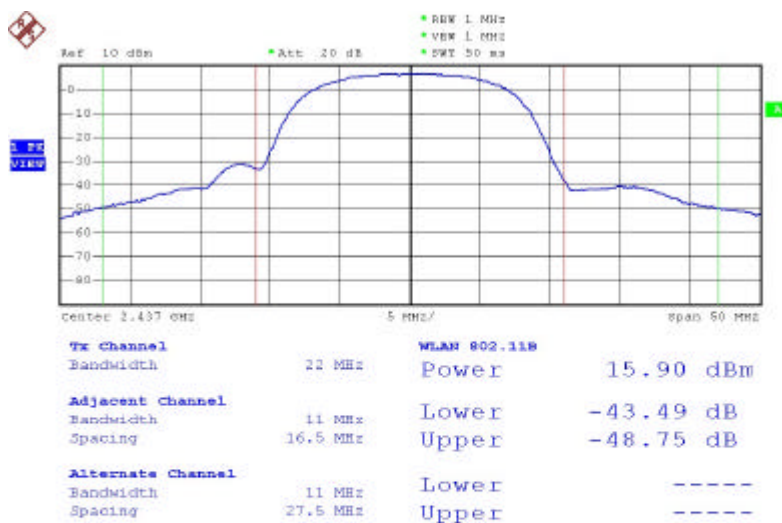
Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

a) Channel 01: Output Peak Power is	<u>15.60</u>	dBm or	<u>36.342</u>	mW
b) Channel 06: Output Peak Power is	<u>15.92</u>	dBm or	<u>39.066</u>	mW
c) Channel 11: Output Peak Power is	<u>15.98</u>	dBm or	<u>39.589</u>	mW

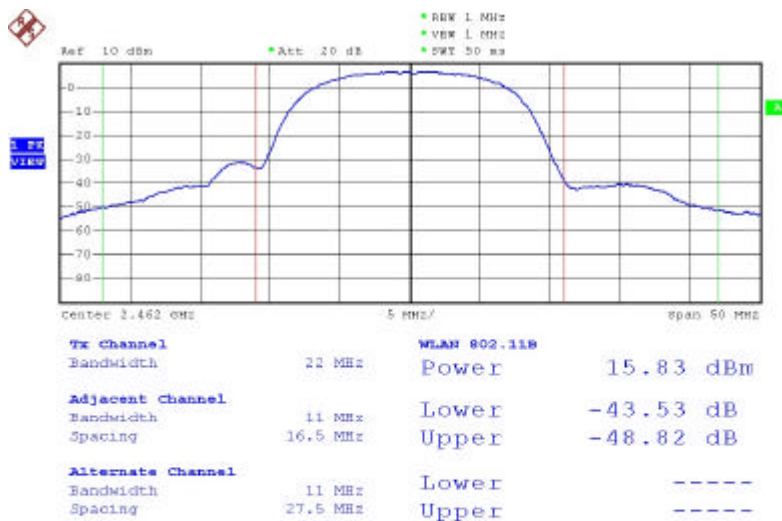
Note: Conducted Power = Reading Value + Cable Loss



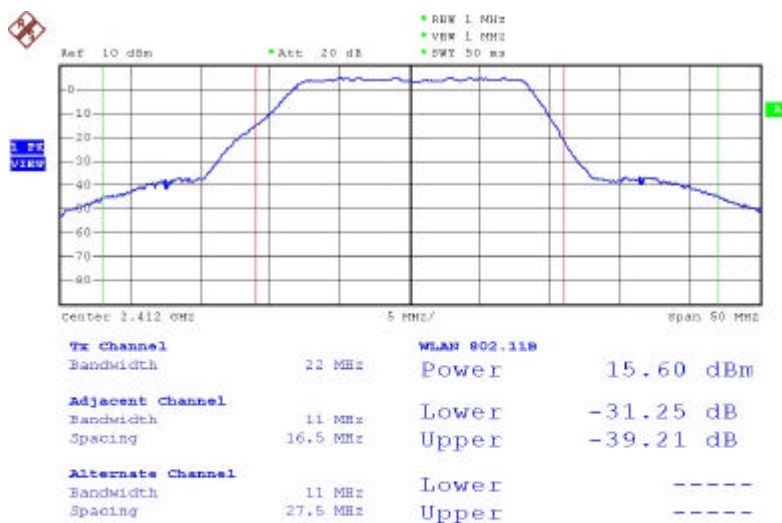
Date: 26.AUG.2004 16:59:03



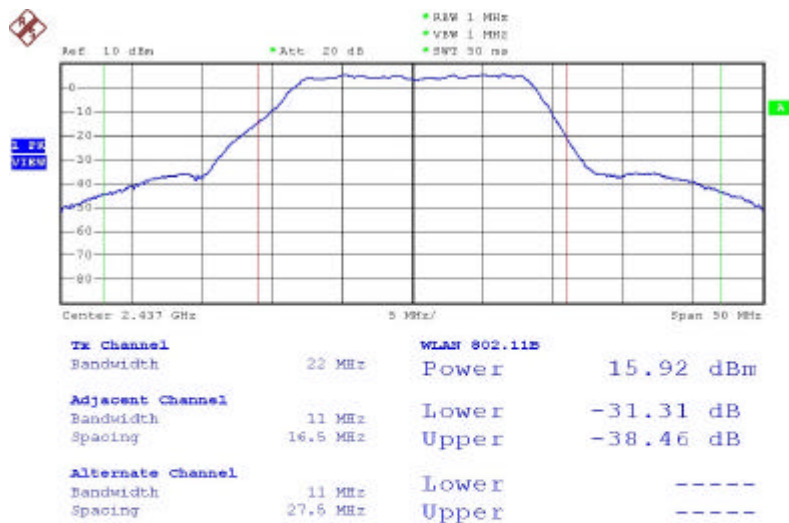
Date: 26.AUG.2004 17:33:21



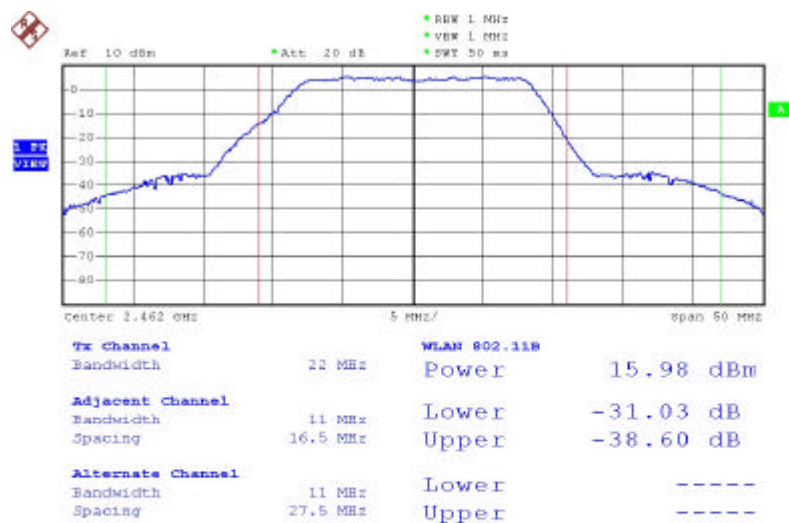
Date: 26.AUG.2004 17:36:43



Date: 26.AUG.2004 18:05:52



Date: 26.AUG.2004 18:02:24



Date: 26.AUG.2004 17:58:25

4.6. Band Edges Measurement Data

(1) Modulation Standard: IEEE 802.11b

Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

a) Lower Band Edge: maximum value is -40.54 dBm that is attenuated more than 20dB

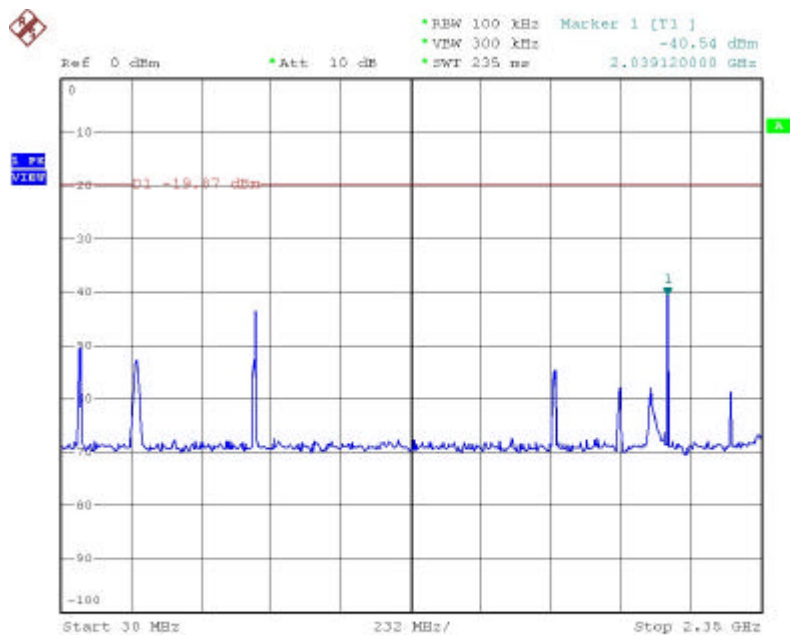
b) Upper Band Edge: maximum value is -41.42 dBm that is attenuated more than 20dB

(2) Modulation Standard: IEEE 802.11g

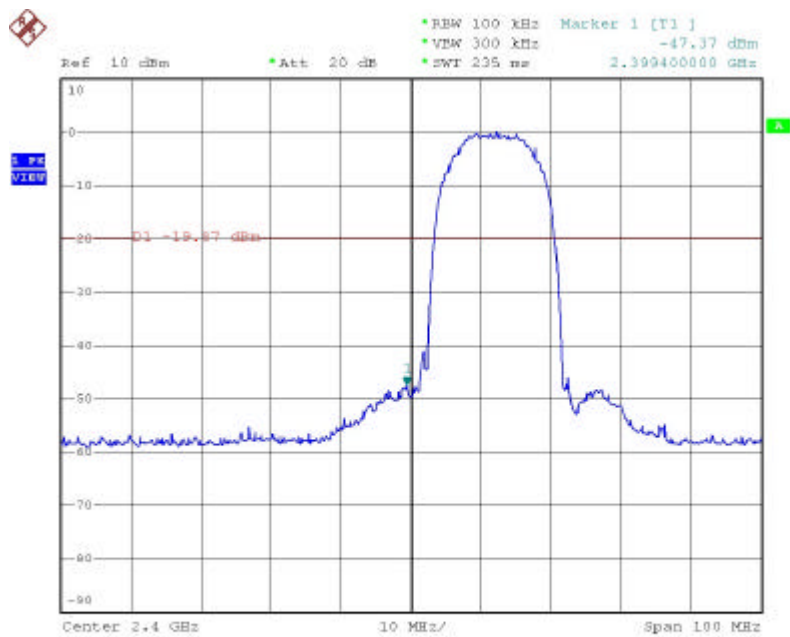
Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

a) Lower Band Edge: maximum value is -37.70 dBm that is attenuated more than 20dB

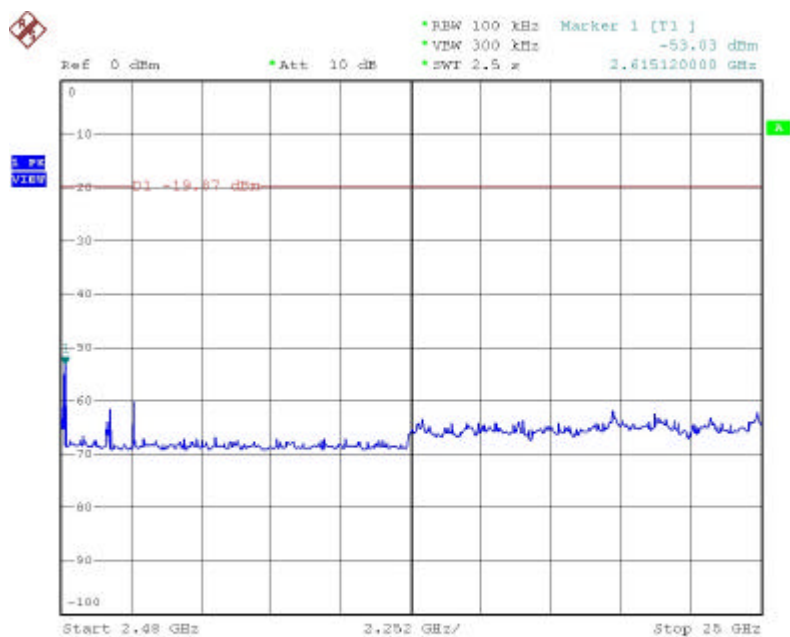
b) Upper Band Edge: maximum value is -41.09 dBm that is attenuated more than 20dB



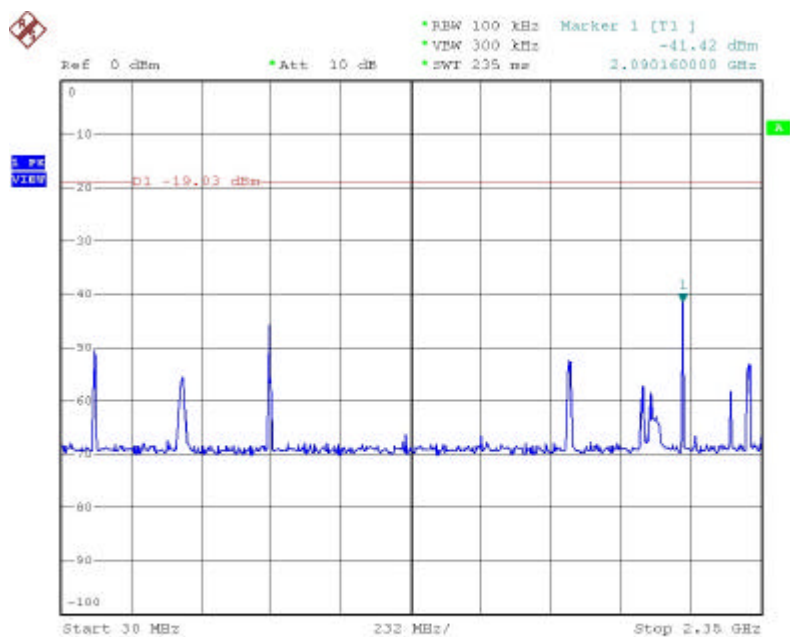
Date: 26.AUG.2004 19:34:23



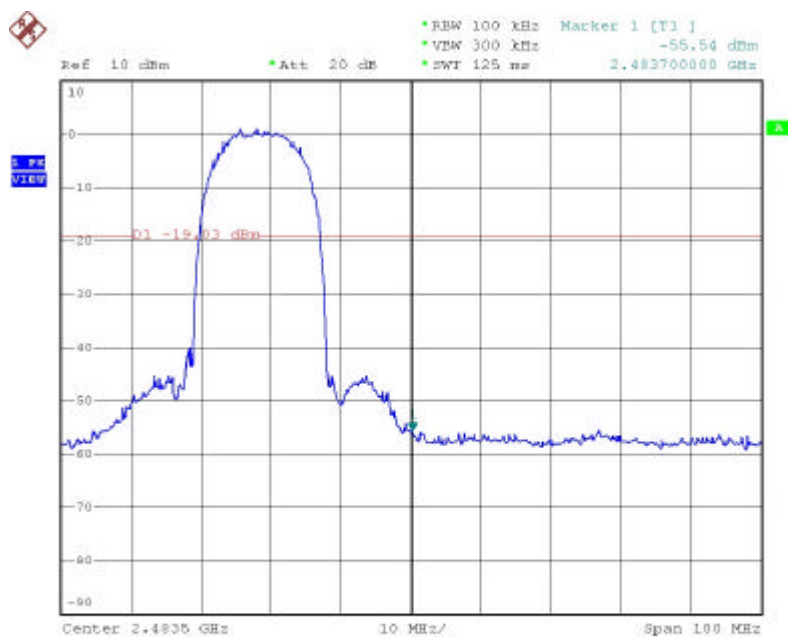
Date: 26.AUG.2004 19:36:25



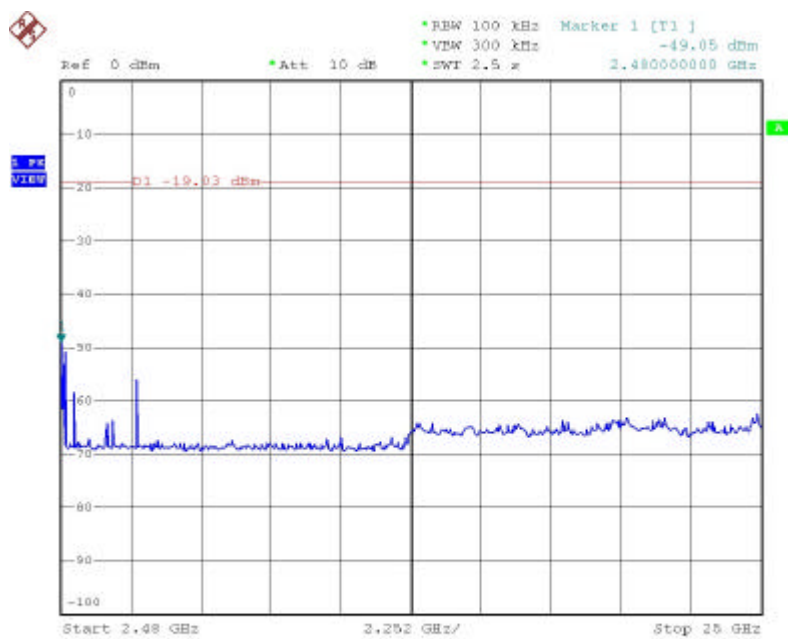
Date: 26.AUG.2004 19:37:53



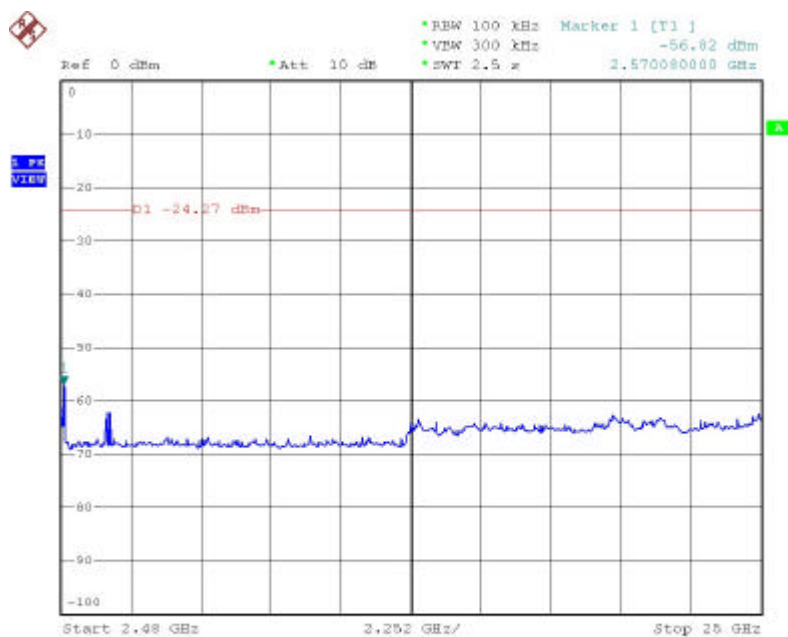
Date: 26.AUG.2004 19:43:07



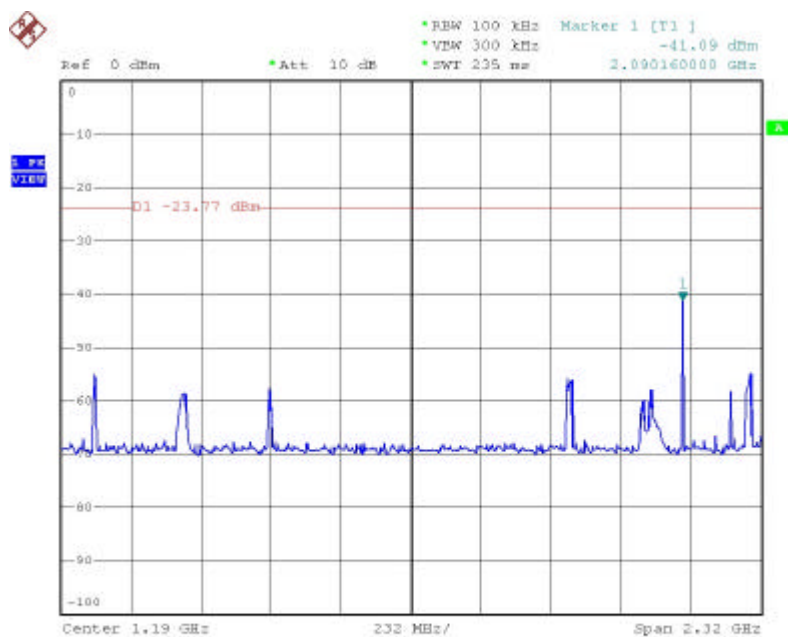
Date: 26.AUG.2004 19:42:08



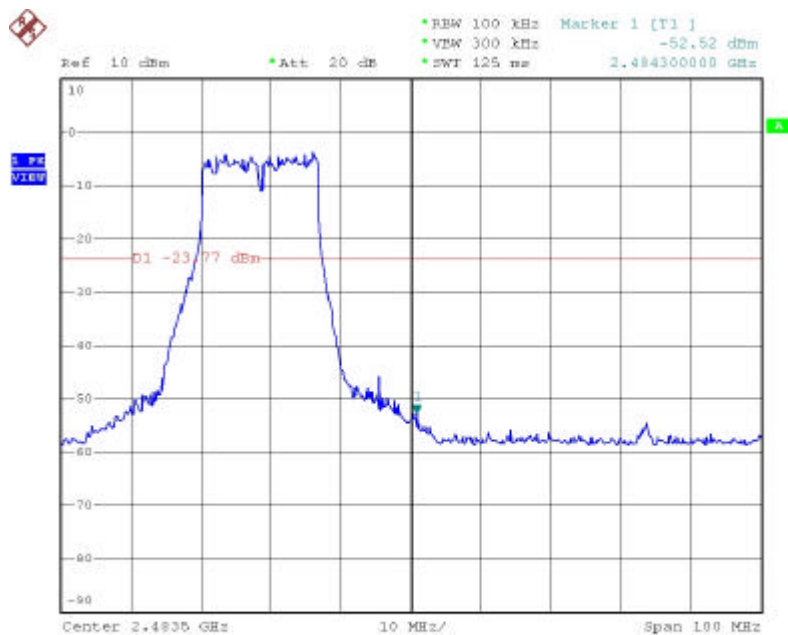
Date: 26.AUG.2004 19:44:18



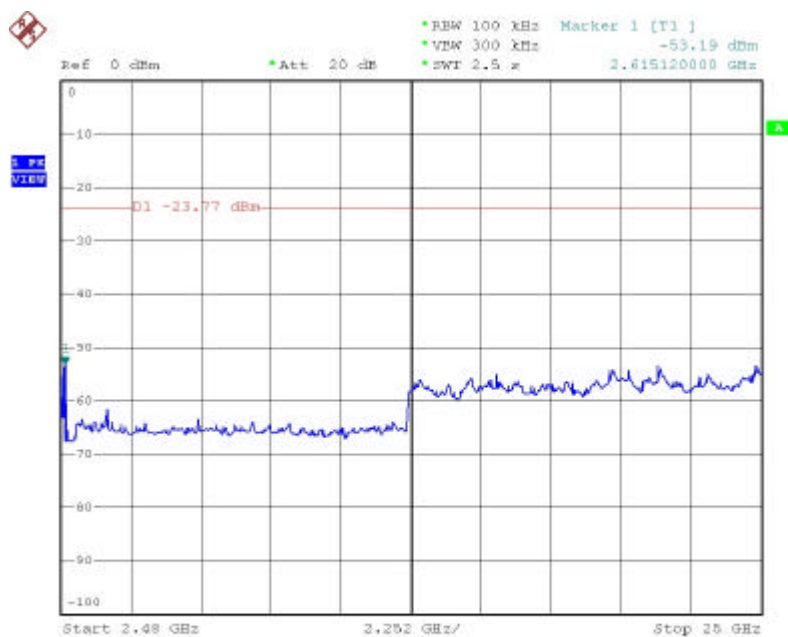
Date: 26.AUG.2004 19:18:13



Date: 26.AUG.2004 19:24:52



Date: 26.AUG.2004 19:23:29



Date: 26.AUG.2004 19:27:31

4.6.1. Note on Band edge Emission

Modulation Standard: IEEE 802.11b

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

a) Channel 1

Fundamental Frequency: 2412 MHz

Frequency (MHz)	Level (dBV)	Polarization	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table Deg. (Deg.)	Ant High (m)
				Peak	Ave.			
2354.472	49.64	H	Peak	74	54	-24.36	192	1.0
2354.472	---	H	Ave.	74	54	---	---	---
2389.968	52.15	V	Peak	74	54	-21.85	220	1.0
2389.968	---	V	Ave.	74	54	---	---	---

b) Channel 11

Fundamental Frequency: 2462 MHz

Frequency (MHz)	Level (dBuV)	Polarization	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table Deg. (Deg.)	Ant High (m)
				Peak	Ave.			
2498.556	49.43	H	Peak	74	54	-24.57	236	1.5
2498.556	---	H	Ave.	74	54	---	---	---
2486.624	50.12	V	Peak	74	54	-23.88	196	1.0
2486.624	---	V	Ave.	74	54	---	---	---

Modulation Standard: IEEE 802.11g

Test Date: Sep. 01, 2004 Temperature: 23 Humidity: 65%

a) Channel 1

Fundamental Frequency: 2412 MHz

Frequency (MHz)	Level (dBuV)	Polarization	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table Deg. (Deg.)	Ant High (m)
				Peak	Ave.			
2353.656	49.44	H	Peak	74	54	-24.56	190	1.5
2353.656	---	H	Ave.	74	54	---	---	---
2389.968	52.73	V	Peak	74	54	-21.27	180	1.0
2389.968	---	V	Ave.	74	54	---	---	---

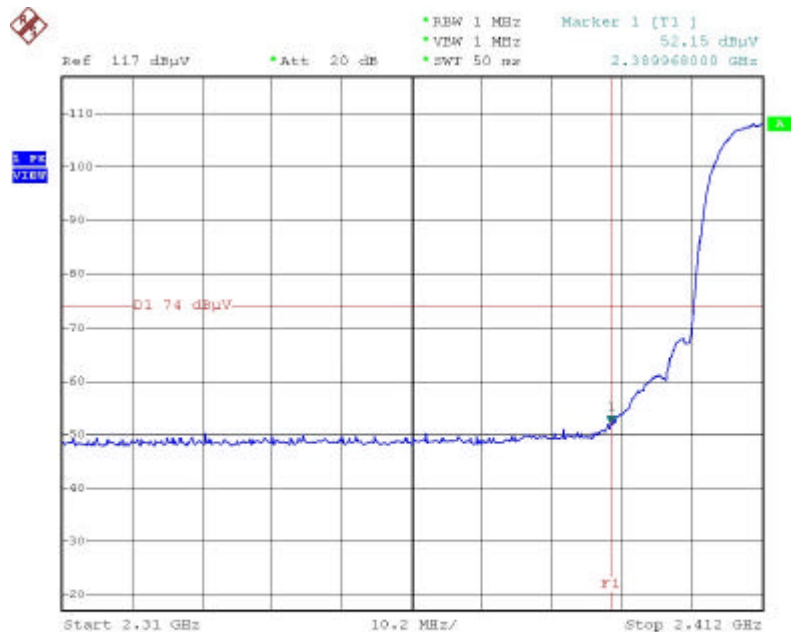
b) Channel 11

Fundamental Frequency: 2462 MHz

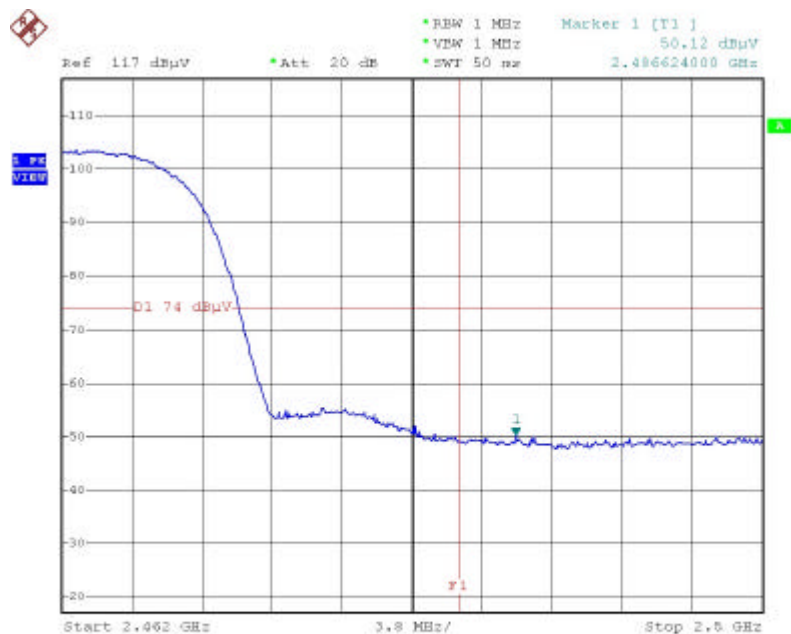
Frequency (MHz)	Level (dBuV)	Polarization	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table Deg. (Deg.)	Ant High (m)
				Peak	Ave.			
2488.524	49.52	H	Peak	74	54	-24.48	230	1.0
2488.524	---	H	Ave.	74	54	---	---	---
2483.660	53.71	V	Peak	74	54	-20.29	176	1.5
2483.660	---	V	Ave.	74	54	---	---	---

Modulation Standard: IEEE 802.11b

Pol/Phase: Vertical



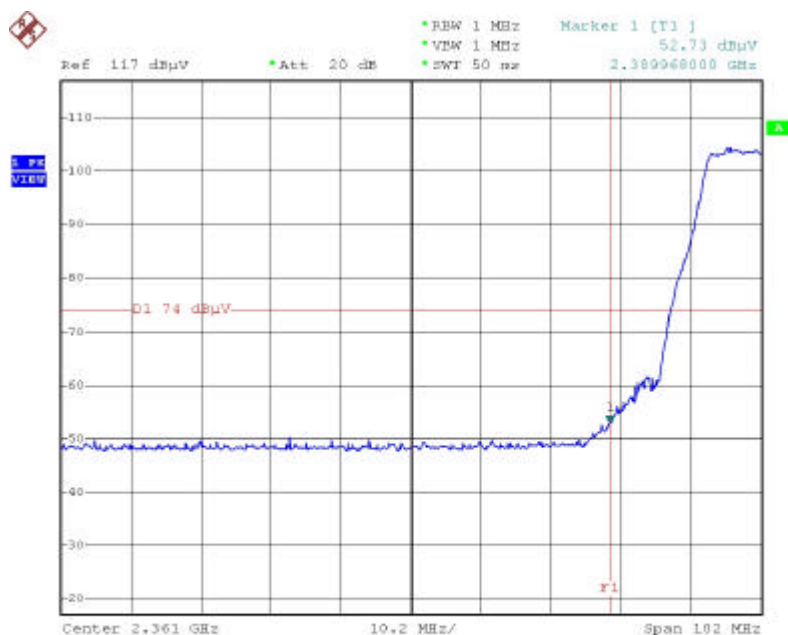
Date: 1.SEP.2004 01:59:47



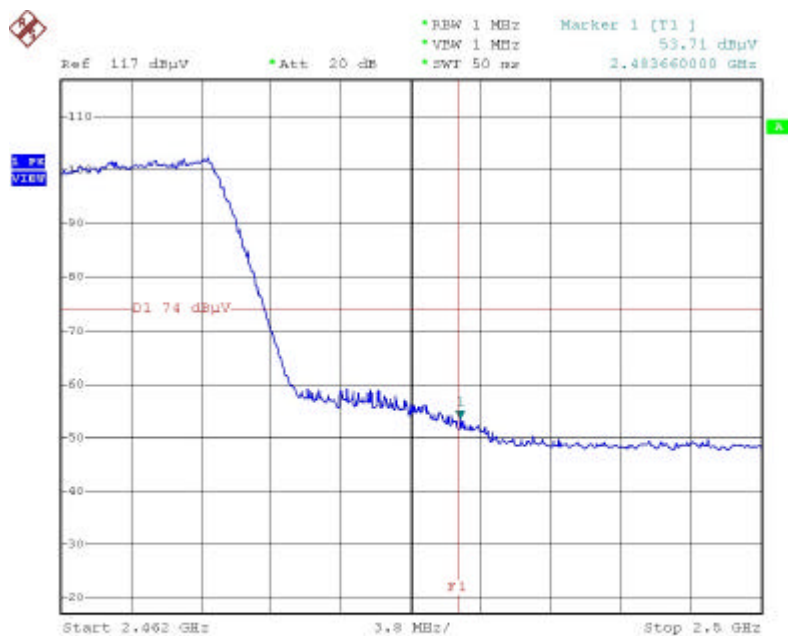
Date: 1.SEP.2004 02:30:38

Modulation Standard: IEEE 802.11g

Pol/Phase: Vertical



Date: 1.SEP.2004 02:04:35



Date: 1.SEP.2004 02:27:19

4.7. Power Spectral Density Measurement Data

(1) Modulation Standard: IEEE 802.11b

Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

a) Channel 01: Maximum Power Density of 3 kHz Bandwidth is -13.72 dBm

b) Channel 06: Maximum Power Density of 3 kHz Bandwidth is -14.09 dBm

c) Channel 11: Maximum Power Density of 3 kHz Bandwidth is -14.06 dBm

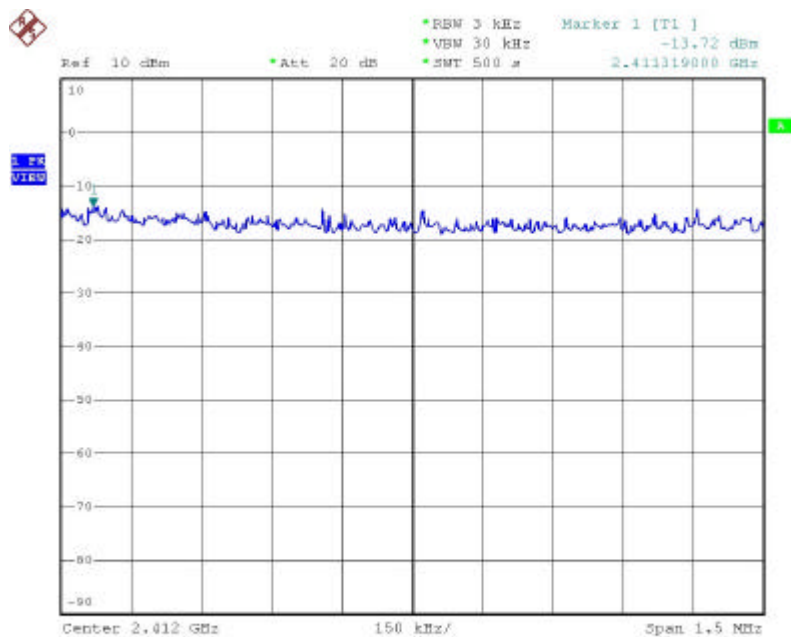
(2) Modulation Standard: IEEE 802.11g

Test Date: Aug. 26, 2004 Temperature: 24 Humidity: 64%

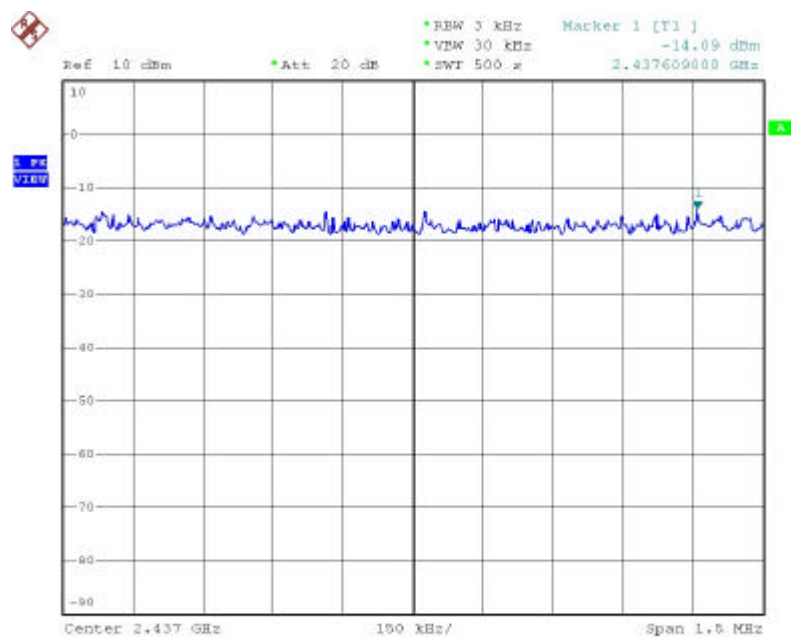
a) Channel 01: Maximum Power Density of 3 kHz Bandwidth is -18.59 dBm

b) Channel 06: Maximum Power Density of 3 kHz Bandwidth is -18.50 dBm

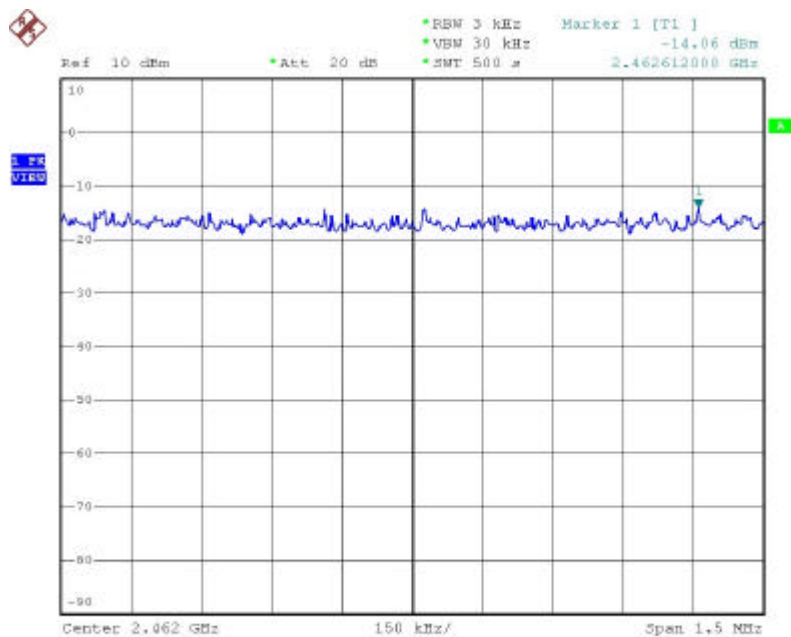
c) Channel 11: Maximum Power Density of 3 kHz Bandwidth is -18.28 dBm



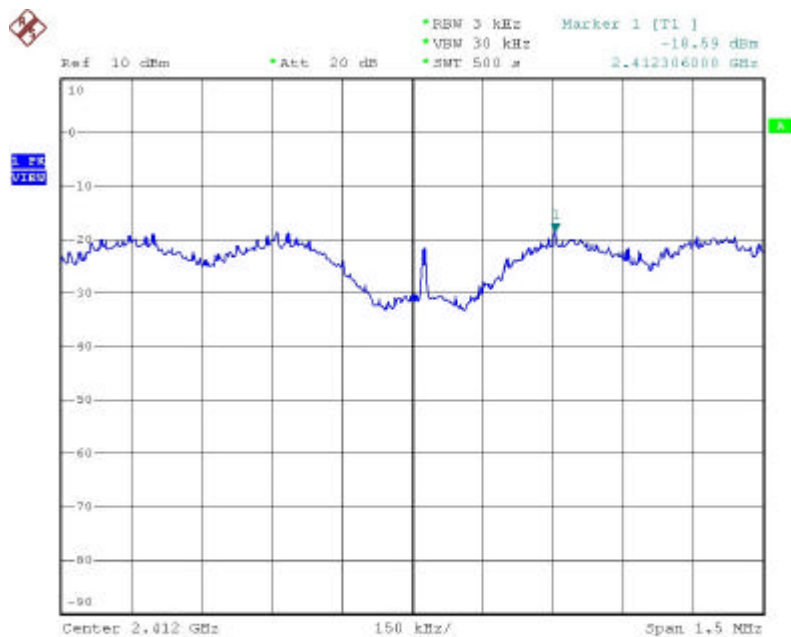
Date: 26.AUG.2004 20:56:05



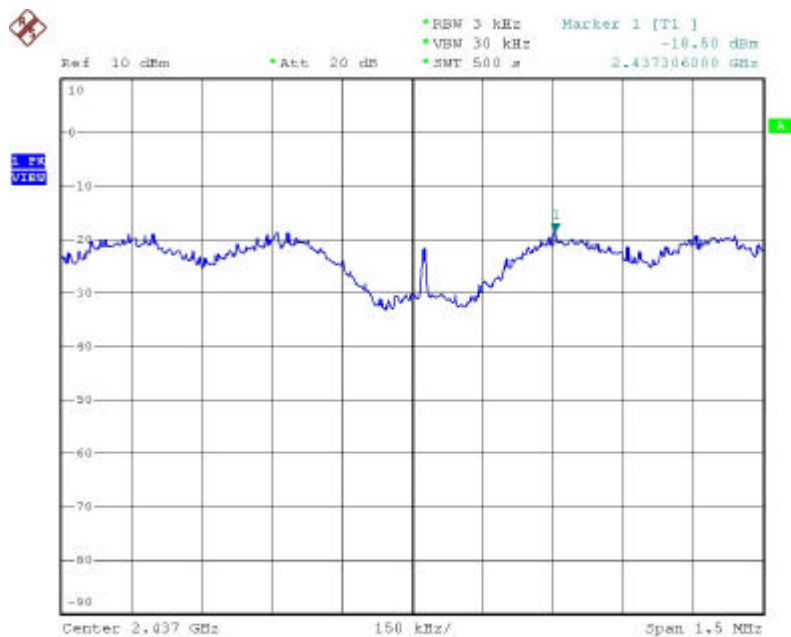
Date: 26.AUG.2004 21:20:32



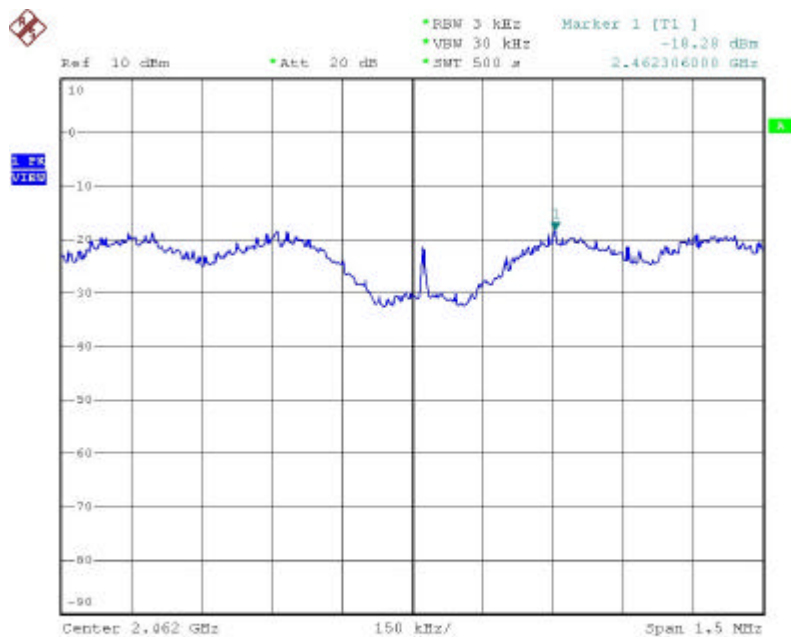
Date: 26.AUG.2004 21:36:53



Date: 26.AUG.2004 20:42:05



Date: 26.AUG.2004 20:29:36



Date: 26.AUG.2004 20:11:56

5. List of Measuring Equipment Used

No	Instrument/Ancillary	Type	Manufacturer	Serial No.	Valid Date.
1	Bilog Antenna	CBL6111C	Schaffner	2762	2004/11/03
2	Preamplifier	RFP4002	Schaffner	010	2004/11/03
3	Receiver	SCR3501	Schaffner	437	2004/11/03
4	Signal Generator	8648B	HP	3629U00612	2006/02/09
5	Spectrum Analyzer	8594E	HP	3520A01913	2005/01/15
6	Amplifier	8447D	Agilent	2944A10593	2004/10/09
7	Amplifier	8447D	Agilent	2944A10531	2005/06/30
8	Series Power Meter	E4416A	Agilent	GB41292146	2004/11/05
9	Power Sensor	E9327A	Agilent	US40441392	2004/10/06
10	Dipole Antenna	AD-100	COM-Power	721011	2004/12/02
11	Dipole Antenna	AD-100	COM-Power	721010	2004/12/02
12	Spectrum Analyzer	R3131A	Advantest	131000021	2004/11/24
13	Spectrum Analyzer	FSP40	R&S	100047	2004/12/16
14	Preamplifier	8449B	Agilent	3008A01954	2005/01/04
15	Horn Antenna	3115	EMCO	31601	2005/01/13
16	Horn Antenna	3115	EMCO	31589	2005/01/13
17	Horn Antenna	3116	EMCO	31970	2005/01/29
18	Horn Antenna	3116	EMCO	31974	2005/01/29
19	EMI Receiver	8546A	HP	3807A00454	2005/02/12
20	RF Filter Section	85460A	HP	3704A00386	2005/02/12
21	Signal Generator	83640A	HP	2927A00107	2006/04/02
22	Attenuator	8491B	Agilent	50703	2004/12/16
23	Attenuator	8491B	Agilent	50705	2004/12/16
24	Temperature Chamber	TMJ-9712	T Machine	T-12-040111	2005/02/05
25	High Pass Filter	84300-80038	HP	002	N/A
26	High Pass Filter	84300-80038	HP	006	N/A
27	DC Power Supply	GPD-3030	GM	7020936	N/A
28	AC Power Converter	AFC-11005	APC	F103120008	N/A