



5.3.7 TEST RESULTS

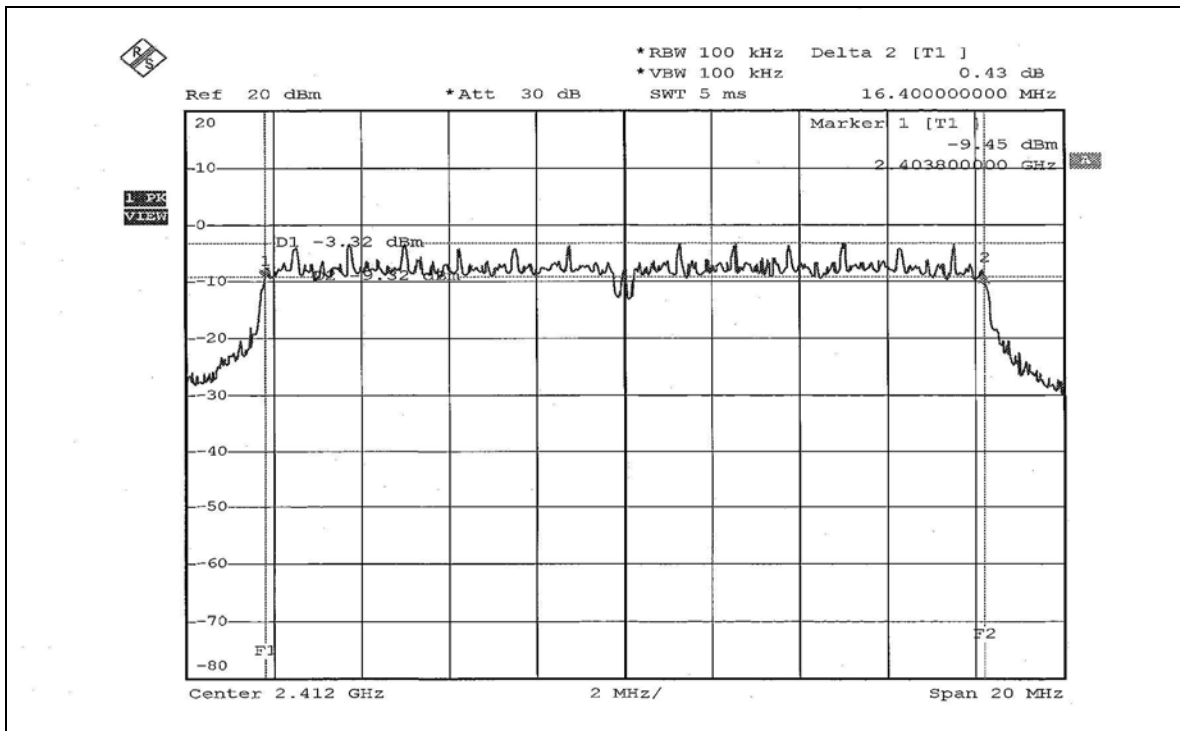
802.11g OFDM modulation

EUT	High Speed Wireless Network Adapter	MODEL	AV10
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 991hPa
TEST MODE	Dual chain	TESTED BY	Gary Chang

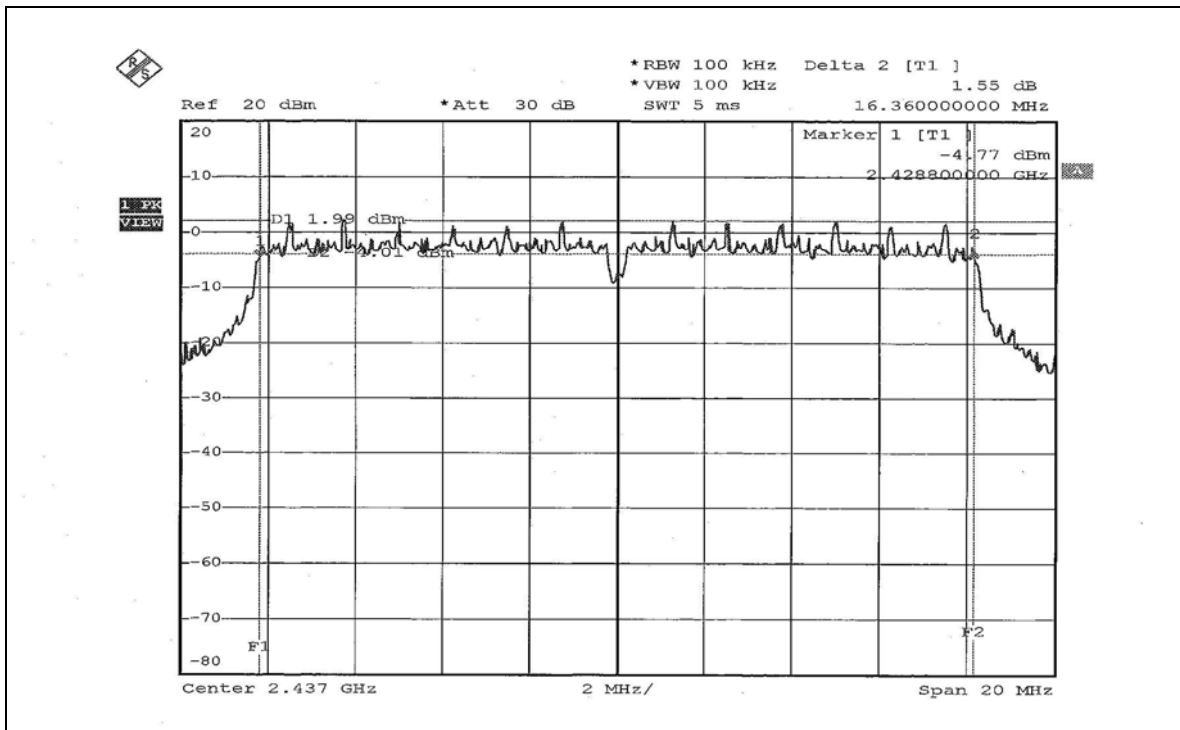
CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS/FAIL
		Chain 0	Chain 1		
1	2412	16.40	16.36	0.5	PASS
6	2437	16.36	16.36	0.5	PASS
11	2462	16.44	16.36	0.5	PASS



**For Dual Chain (Chain 0):
CH1**

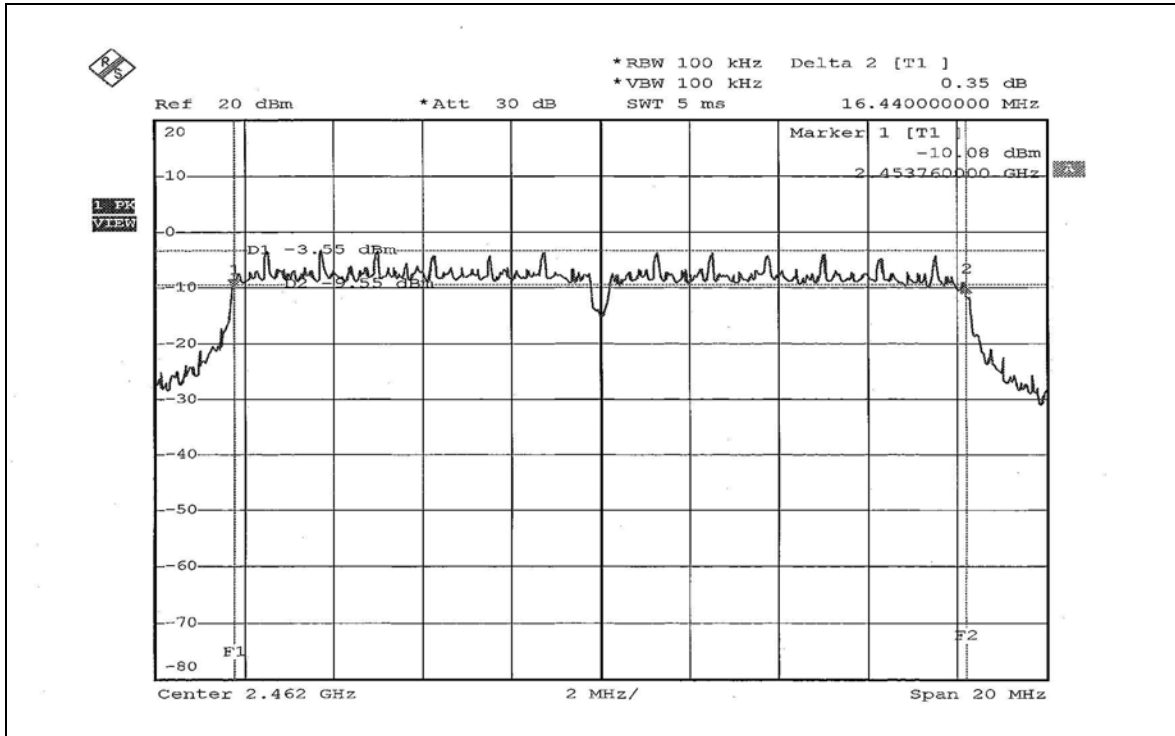


CH6

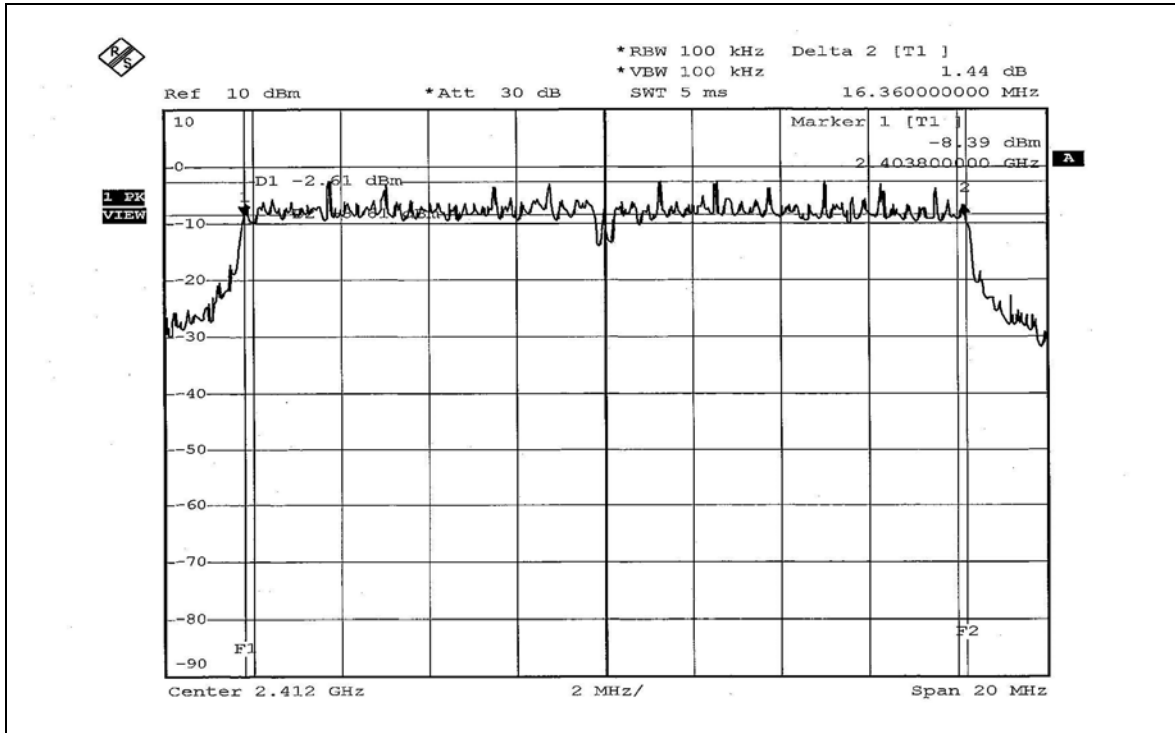




CH11

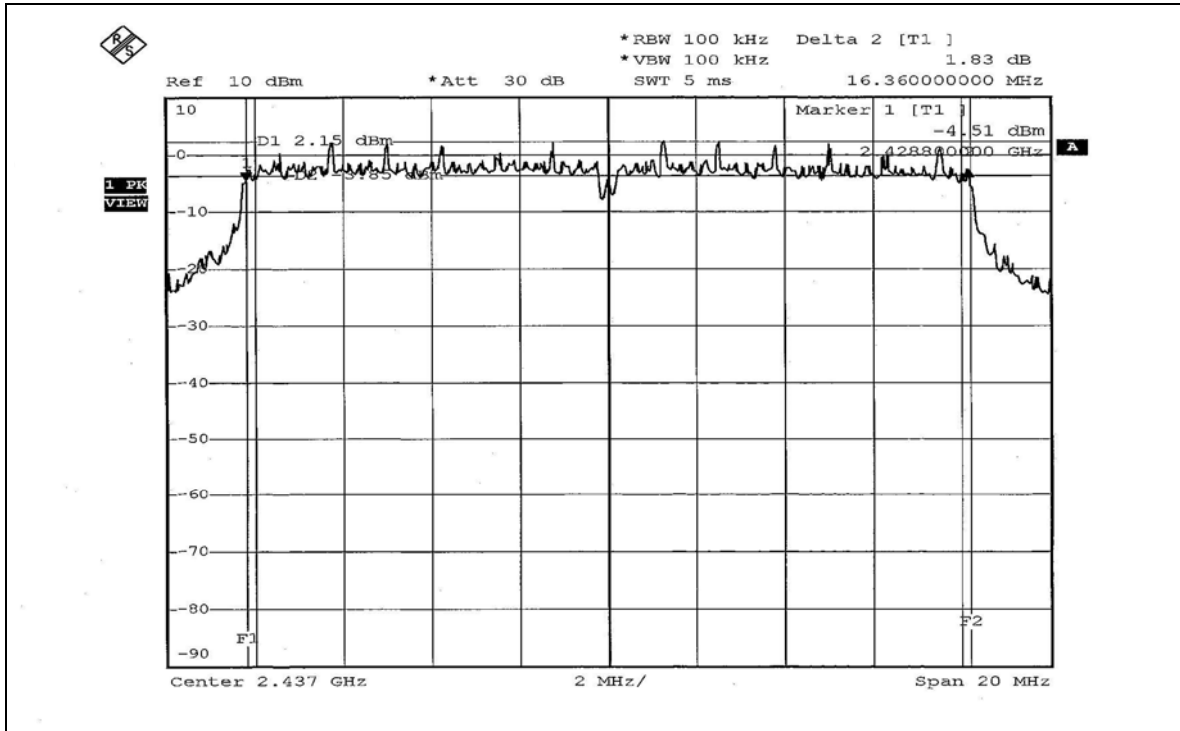


For Dual Chain (Chain 1):
CH1

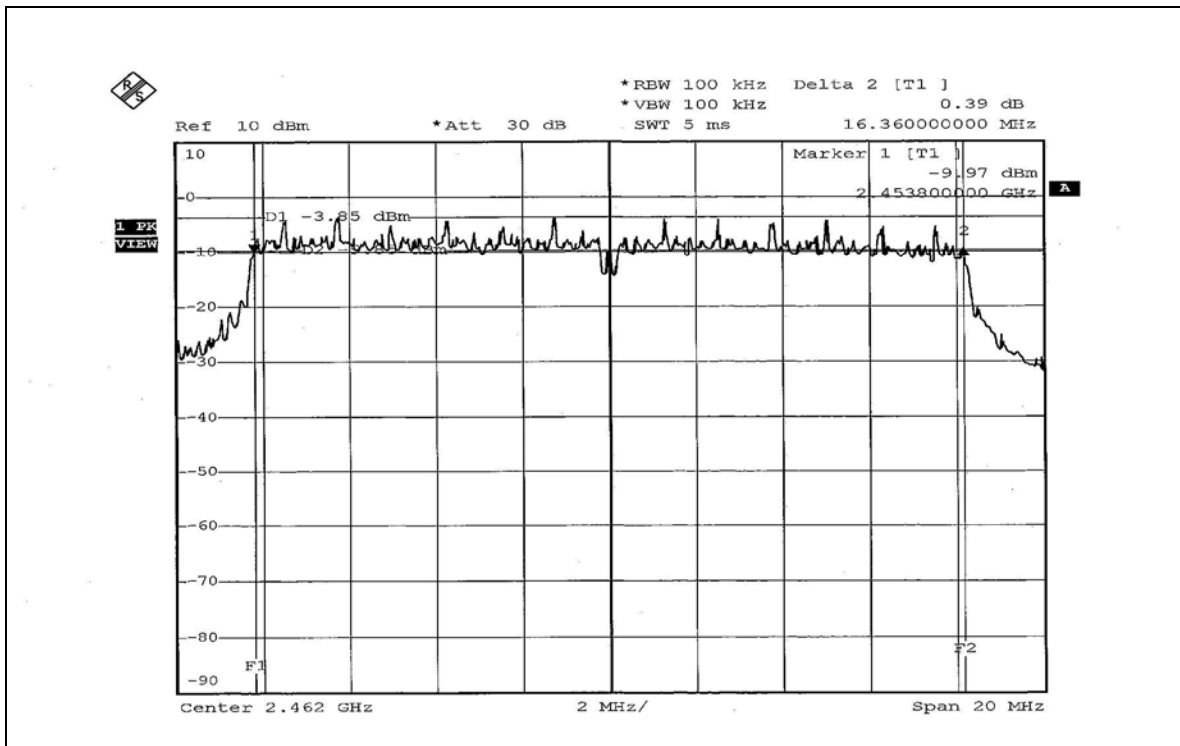




CH6



CH11



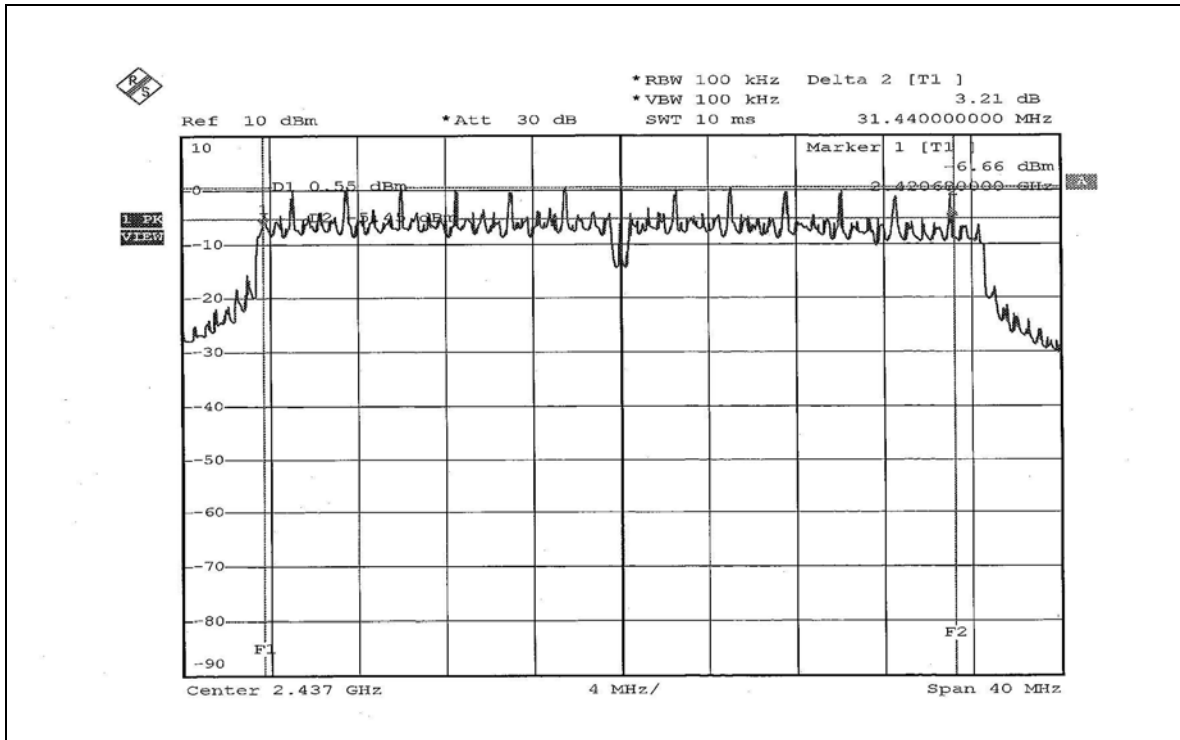
**802.11g Turbo OFDM modulation**

EUT	High Speed Wireless Network Adapter	MODEL	AV10
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 991hPa
TEST MODE	Dual chain	TESTED BY	Gary Chang

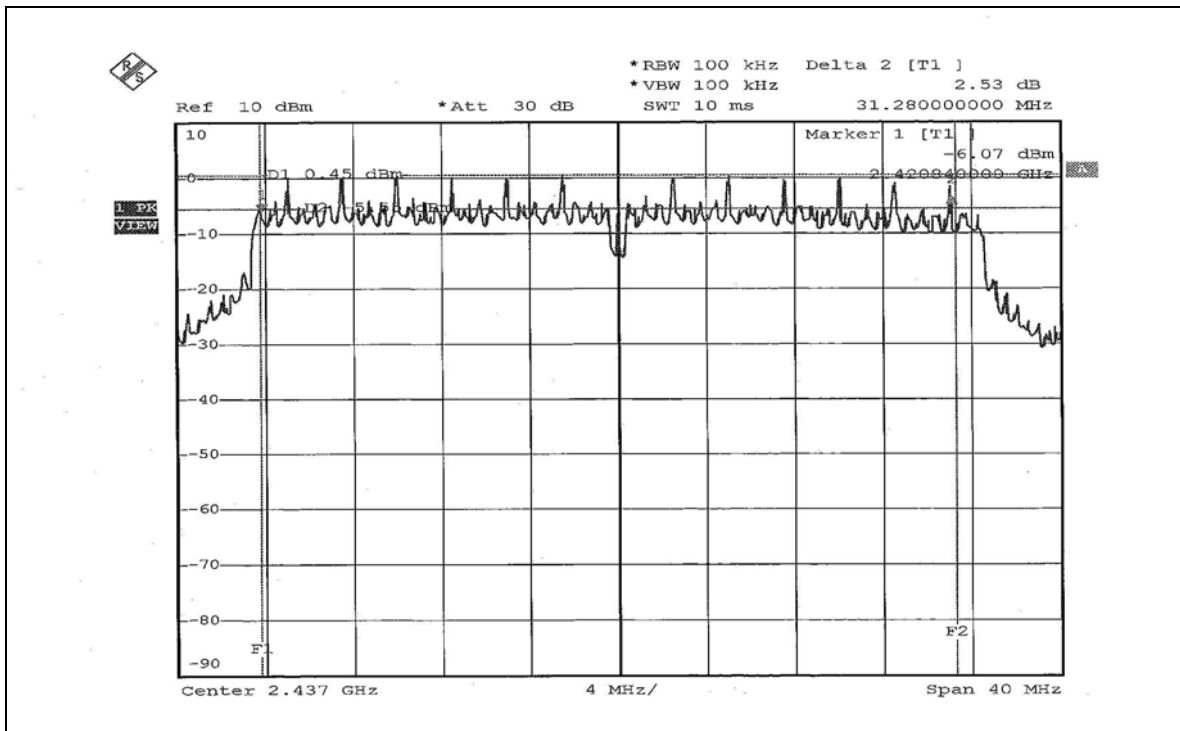
CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS/FAIL
		Chain 0	Chain 1		
6	2437	31.44	31.28	0.5	PASS



**For Dual Chain (Chain 0):
CH6**



**For Dual Chain (Chain 1):
CH6**





5.4 MAXIMUM PEAK OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm. .

5.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 06, 2005
TEKTRONIX OSCILLOSCOPE	TDS 220	C019167	Feb. 01, 2006
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.

5.4.3 TEST PROCEDURES

A detector was used on the output port of the EUT. An oscilloscope was used to peak the response of the detector.

Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.

Adjusted the power to have the same peak reading on oscilloscope. Record the power level.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6



5.4.7 TEST RESULTS

802.11g OFDM modulation

EUT	High Speed Wireless Network Adapter	MODEL	AV10
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 991hPa
TEST MODE	Dual chain	TESTED BY	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)		PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
		Chain 0	Chain 1	Chain 0	Chain 1				
1	2412	20.137	20.045	13.04	13.02	40.182	16.04	30	PASS
2	2417	63.387	63.826	18.02	18.05	127.213	21.05	30	PASS
3	2422	64.121	63.387	18.07	18.02	127.508	21.06	30	PASS
6	2437	64.714	63.533	18.11	18.03	128.247	21.08	30	PASS
9	2452	63.680	63.973	18.04	18.06	127.653	21.06	30	PASS
10	2457	63.826	64.417	18.05	18.09	128.243	21.08	30	PASS
11	2462	20.184	20.464	13.05	13.11	40.648	16.09	30	PASS

**802.11g Turbo OFDM modulation**

EUT	High Speed Wireless Network Adapter	MODEL	AV10
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 991hPa
TEST MODE	Dual chain	TESTED BY	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)		PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
		Chain 0	Chain 1	Chain 0	Chain 1				
6	2437	32.509	31.842	15.12	15.03	64.351	18.09	30	PASS



5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

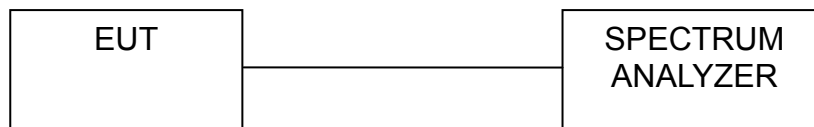
5.5.3 TEST PROCEDURE

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 3kHz RBW and 30kHz VBW, set sweep time=span/3kHz. The power spectral density was measured and recorded. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6



5.5.7 TEST RESULTS

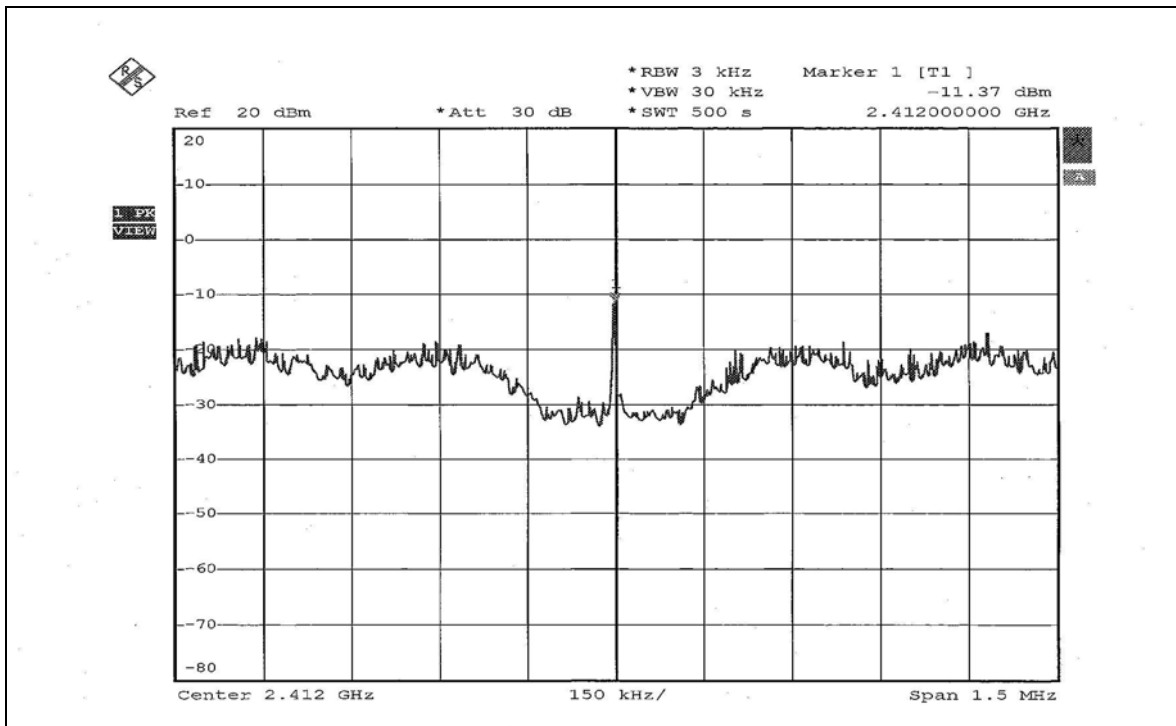
802.11g OFDM modulation

EUT	High Speed Wireless Network Adapter	MODEL	AV10
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 991hPa
TEST MODE	Dual chain	TESTED BY	Gary Chang

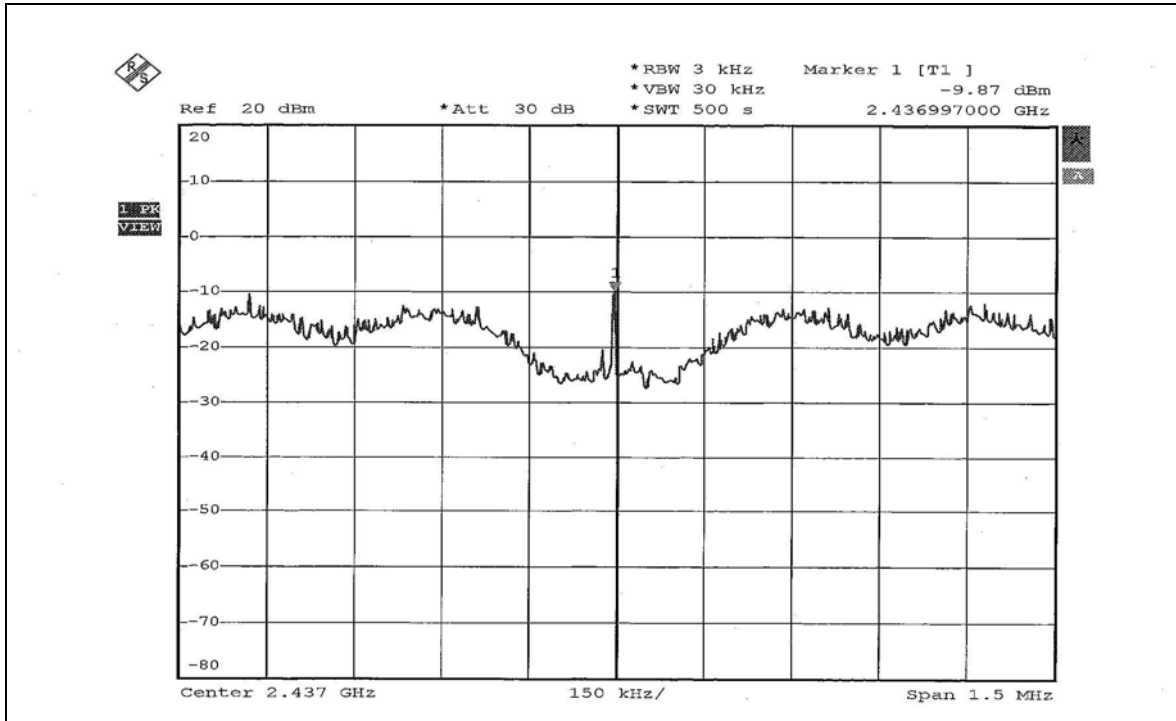
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		MAXIMUM LIMIT (dBm)	PASS/FAIL
		Chain 0	Chain 1		
1	2412	-11.37	-11.56	8	PASS
6	2437	-9.87	-10.26	8	PASS
11	2462	-11.45	-11.93	8	PASS



**For Dual Chain (Chain 0):
CH1**

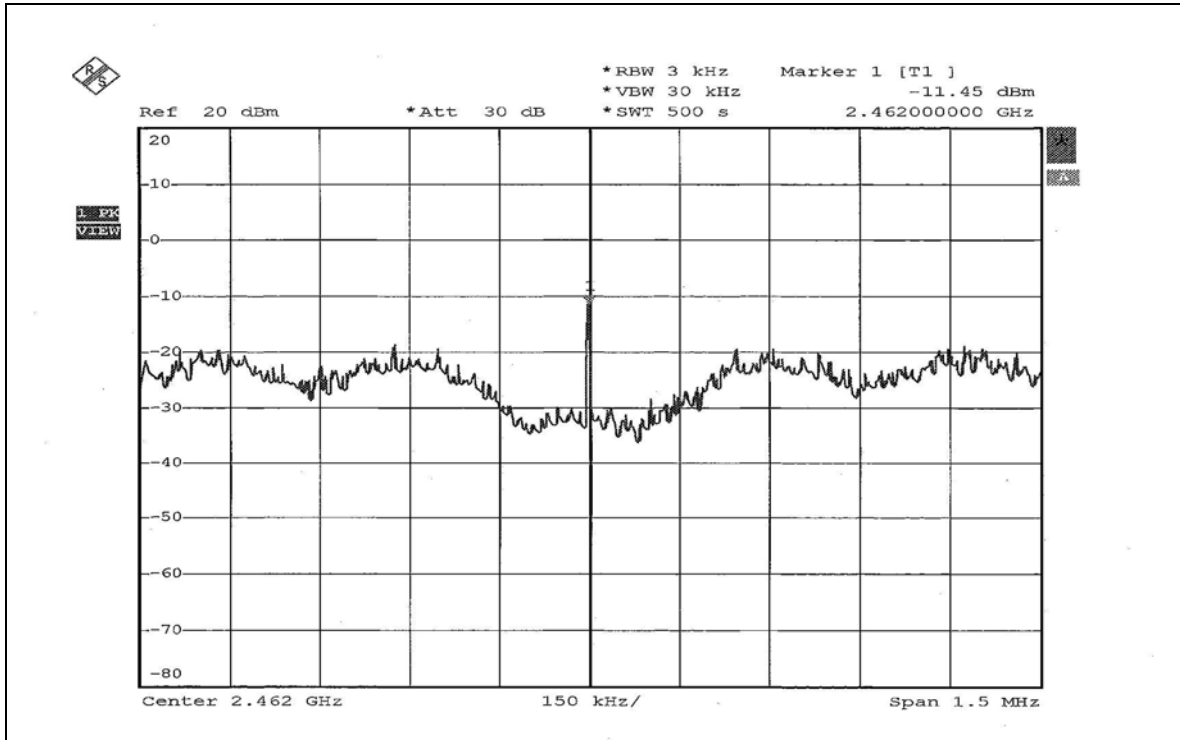


CH6

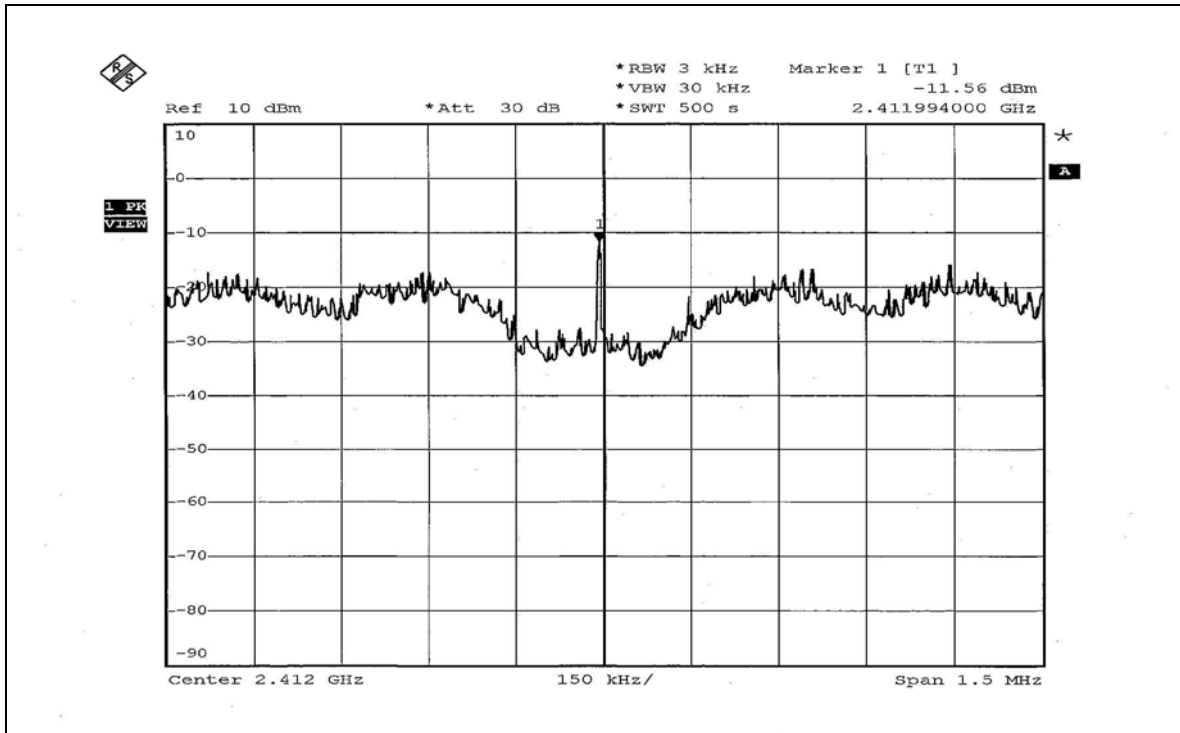




CH11

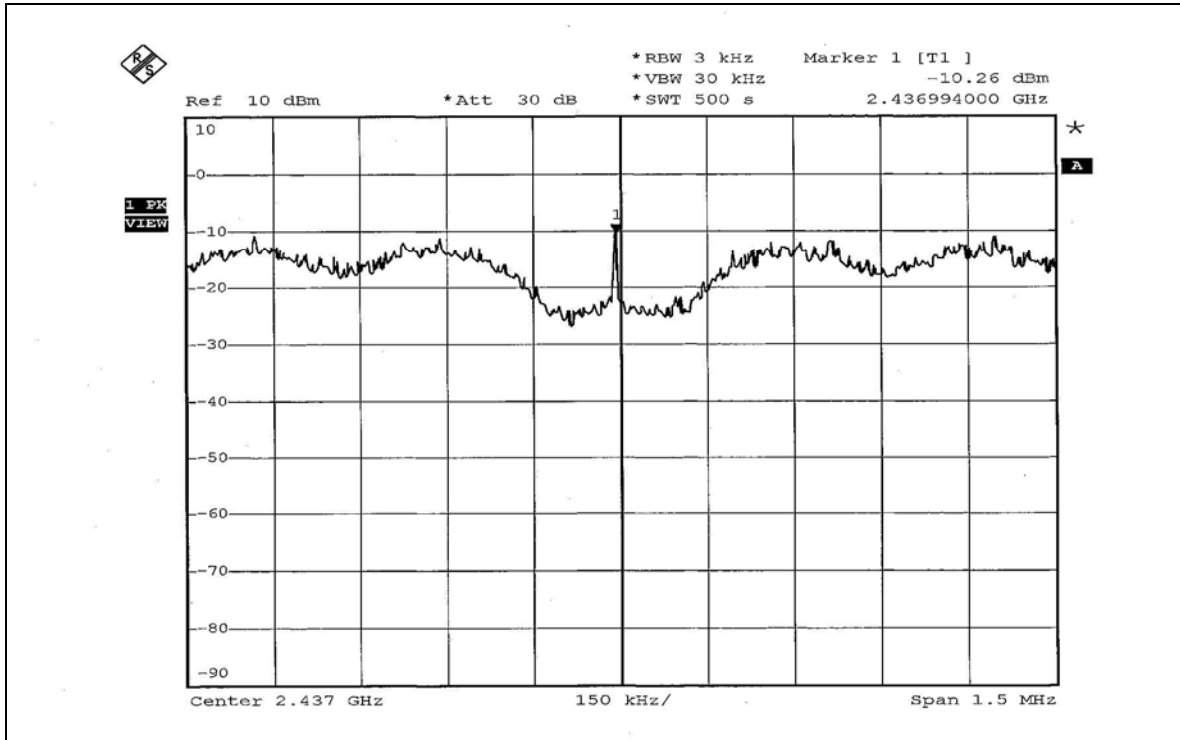


For Dual Chain (Chain 1):
CH1

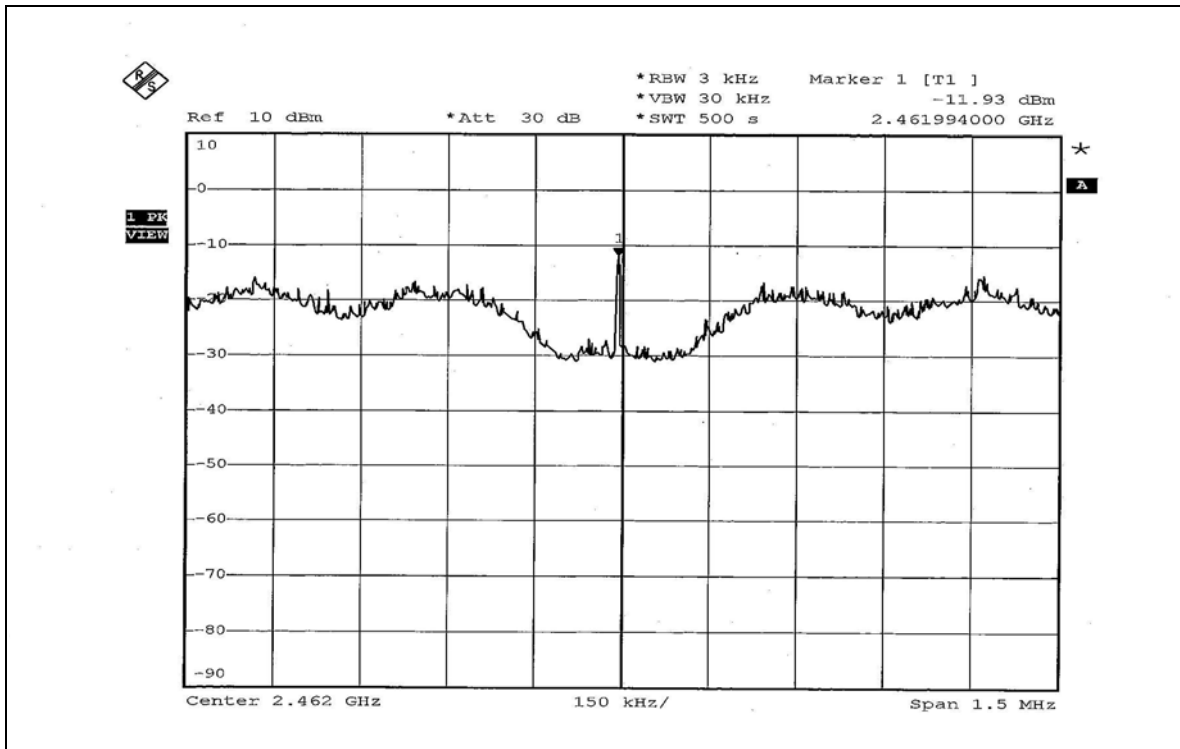




CH6



CH11



**802.11g Turbo OFDM modulation**

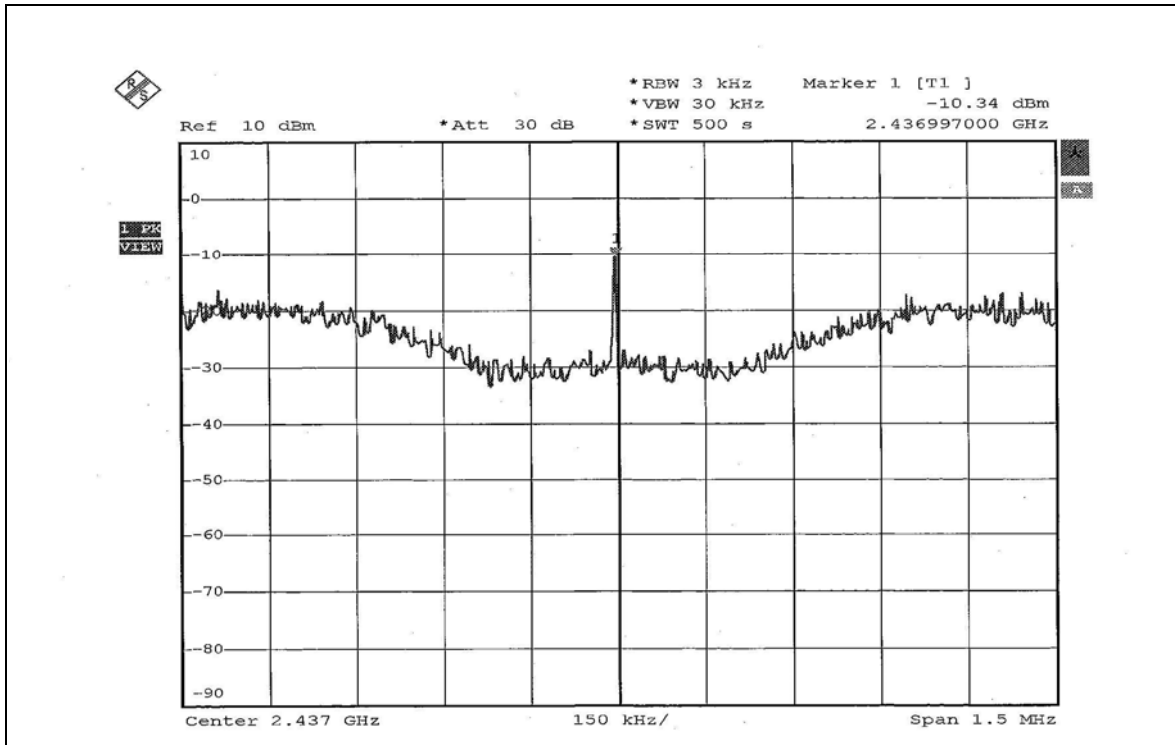
EUT	High Speed Wireless Network Adapter	MODEL	AV10
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 991hPa
TEST MODE	Dual chain	TESTED BY	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		MAXIMUM LIMIT (dBm)	PASS/FAIL
		Chain 0	Chain 1		
6	2437	-10.34	-10.25	8	PASS



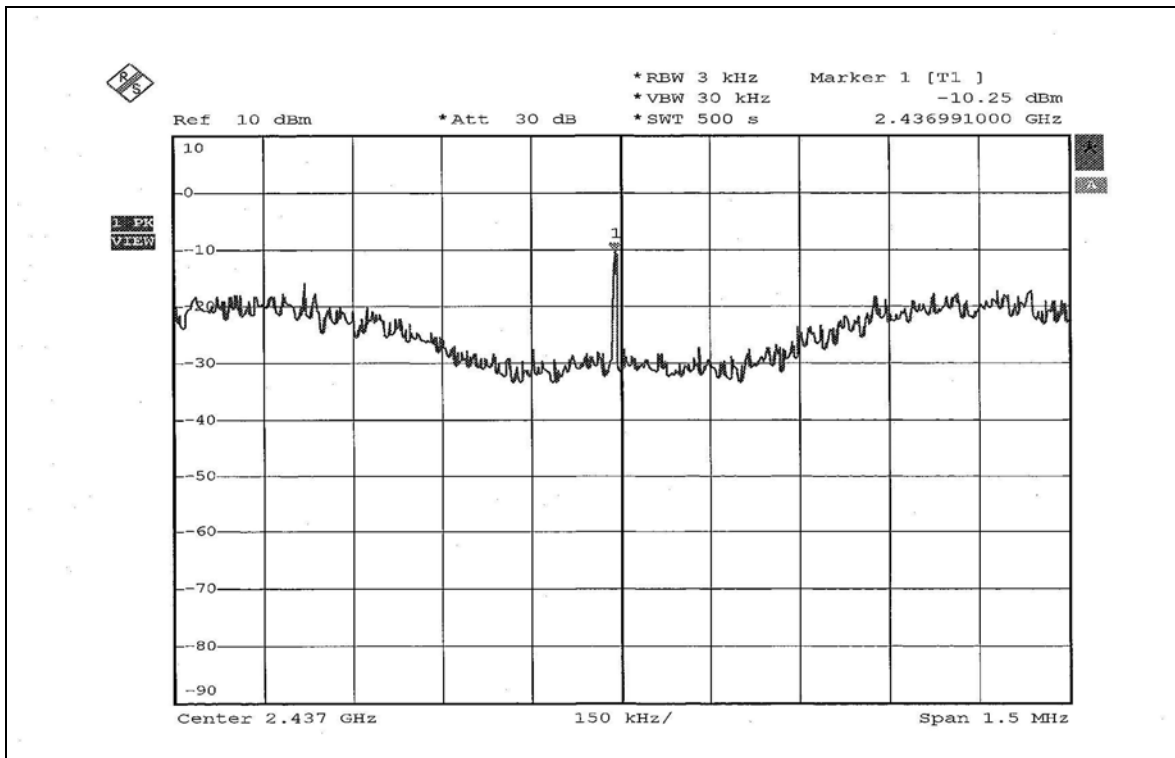
For Dual Chain (Chain 0):

CH6



For Dual Chain (Chain 1):

CH6





5.6 BAND EDGES MEASUREMENT

5.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

NOTE: 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

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

The spectrum plots (Peak RBW=VBW=100kHz ; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6



5.6.6 TEST RESULTS

The spectrum plots are attached on the following 24 images. D2 line indicates the highest level, and D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(d).

802.11g OFDM modulation

For test configure mode 1 (Two composite dipoles in parallel)

NOTE 1: The band edge emission plot on page 153 shows 47.15dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.7 is 110.18dBuV/m (Peak), so the maximum field strength in restrict band is $110.18 - 47.15 = 63.03$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 153 shows 47.38dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.7 is 99.36dBuV/m (Average), so the maximum field strength in restrict band is $99.36 - 47.38 = 51.98$ dBuV/m which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on page 154 shows 43.84dBc between carrier maximum power and local maximum emission in restrict band (2.4863GHz). The emission of carrier strength list in the test result of channel 11 at the item 5.2.7 is 108.10dBuV/m (Peak), so the maximum field strength in restrict band is $108.10 - 43.84 = 64.26$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 155 shows 49.31dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 5.2.7 is 98.34dBuV/m (Average), so the maximum field strength in restrict band is $98.34 - 49.31 = 49.03$ dBuV/m which is under 54dBuV/m limit.

**For test configure mode 2 (Two composite dipoles in line)**

NOTE 1: The band edge emission plot on page 156 shows 46.72dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.7 is 107.50dBuV/m (Peak), so the maximum field strength in restrict band is $107.50 - 46.72 = 60.78$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 156 shows 47.13dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.7 is 98.18dBuV/m (Average), so the maximum field strength in restrict band is $98.18 - 47.13 = 51.05$ dBuV/m which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on page 157 shows 46.34dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 5.2.7 is 103.77dBuV/m (Peak), so the maximum field strength in restrict band is $103.77 - 46.34 = 57.43$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 158 shows 50.76dBc between carrier maximum power and local maximum emission in restrict band (2.4836GHz). The emission of carrier strength list in the test result of channel 11 at the item 5.2.7 is 91.94dBuV/m (Average), so the maximum field strength in restrict band is $91.94 - 50.76 = 41.18$ dBuV/m which is under 54dBuV/m limit.



802.11g Turbo OFDM modulation

For test configure mode 1 (Two composite dipoles in parallel)

NOTE 1: The band edge emission plot on page 159 shows 50.92dBc between carrier maximum power and local maximum emission in restrict band (2.3826GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 110.50dBuV/m (Peak), so the maximum field strength in restrict band is $110.50 - 50.92 = 59.58$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 159 shows 50.50dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 101.11dBuV/m (Average), so the maximum field strength in restrict band is $101.11 - 50.50 = 50.61$ dBuV/m which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on page 160 shows 51.26dBc between carrier maximum power and local maximum emission in restrict band (2.4839GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 110.50dBuV/m (Peak), so the maximum field strength in restrict band is $110.50 - 51.26 = 59.24$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 161 shows 52.29dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 101.11dBuV/m (Average), so the maximum field strength in restrict band is $101.11 - 52.29 = 48.82$ dBuV/m which is under 54dBuV/m limit.

**For test configure mode 2 (Two composite dipoles in line)**

NOTE 1: The band edge emission plot on page 162 shows 49.11dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 110.86dBuV/m (Peak), so the maximum field strength in restrict band is $110.86 - 49.11 = 61.75$ dBuV/m which is under 74dBuV/m limit.

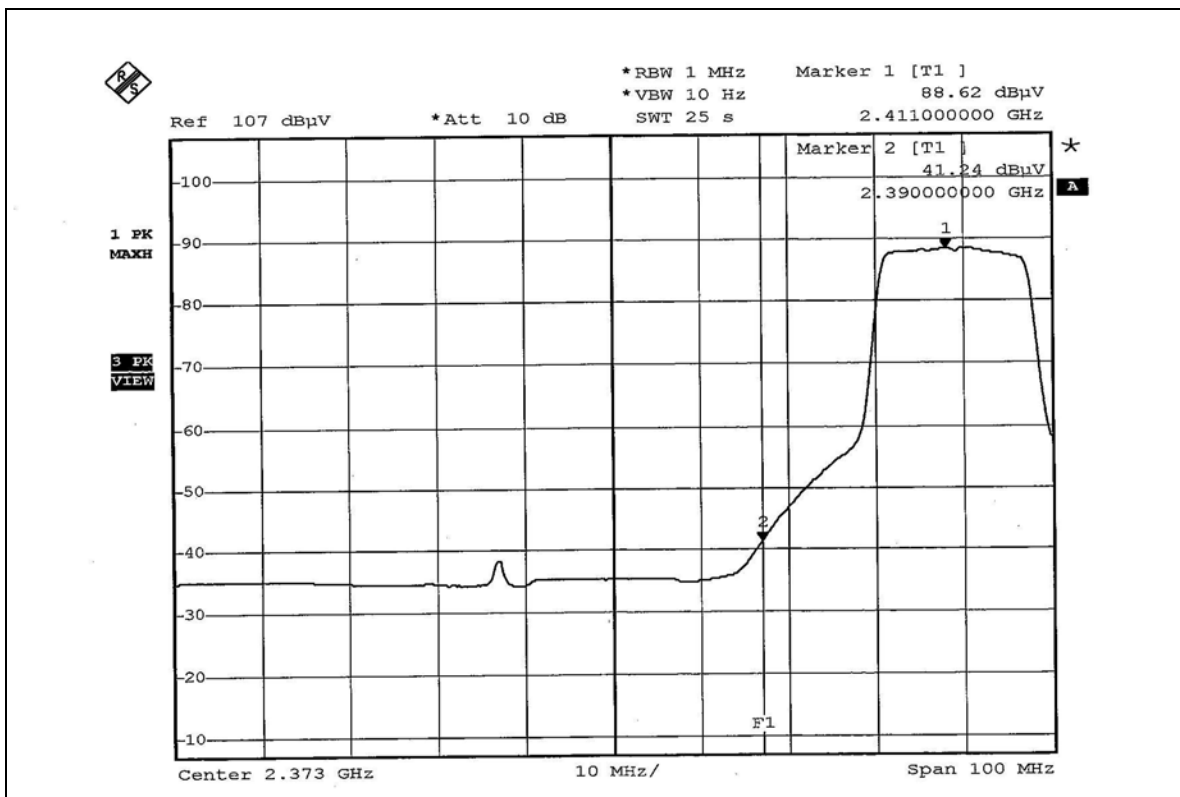
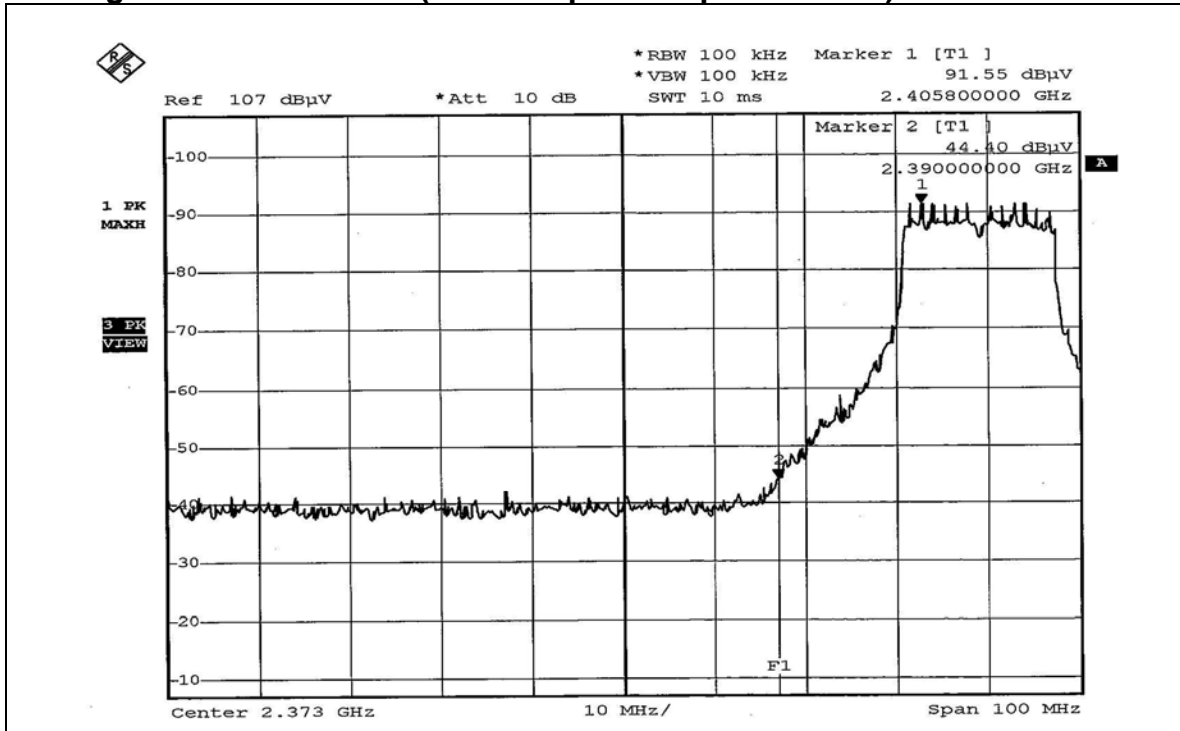
The band edge emission plot on page 162 shows 48.13dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 101.16dBuV/m (Average), so the maximum field strength in restrict band is $101.16 - 48.13 = 53.03$ dBuV/m which is under 54dBuV/m limit.

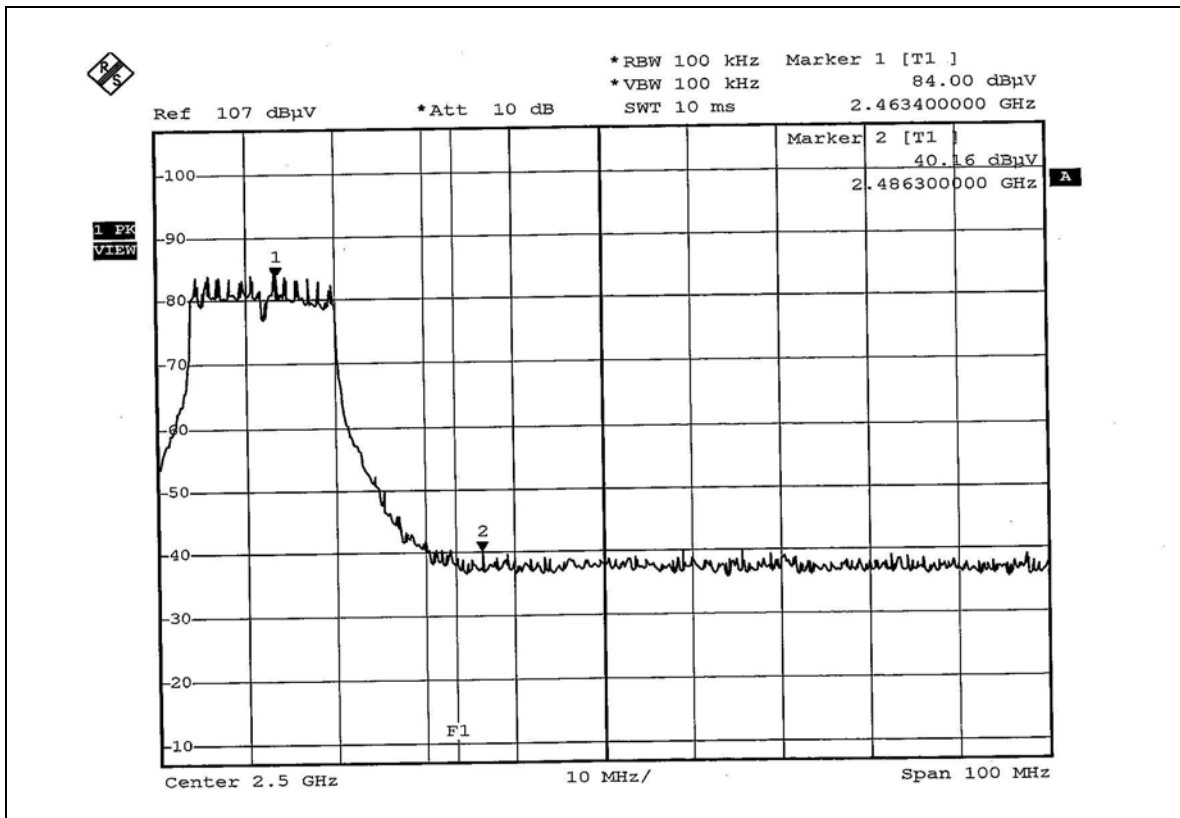
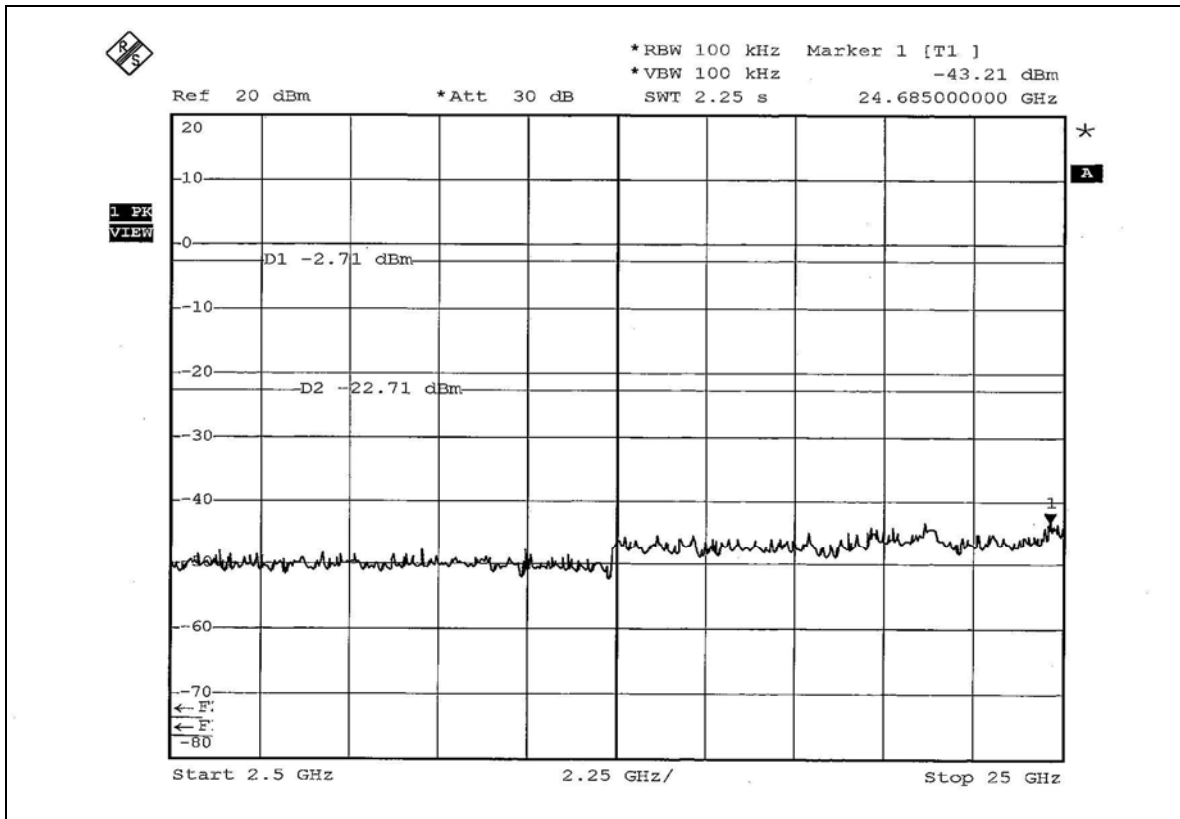
NOTE 2: The band edge emission plot on page 163 shows 51.74dBc between carrier maximum power and local maximum emission in restrict band (2.4857GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 110.86dBuV/m (Peak), so the maximum field strength in restrict band is $110.86 - 51.74 = 59.12$ dBuV/m which is under 74dBuV/m limit.

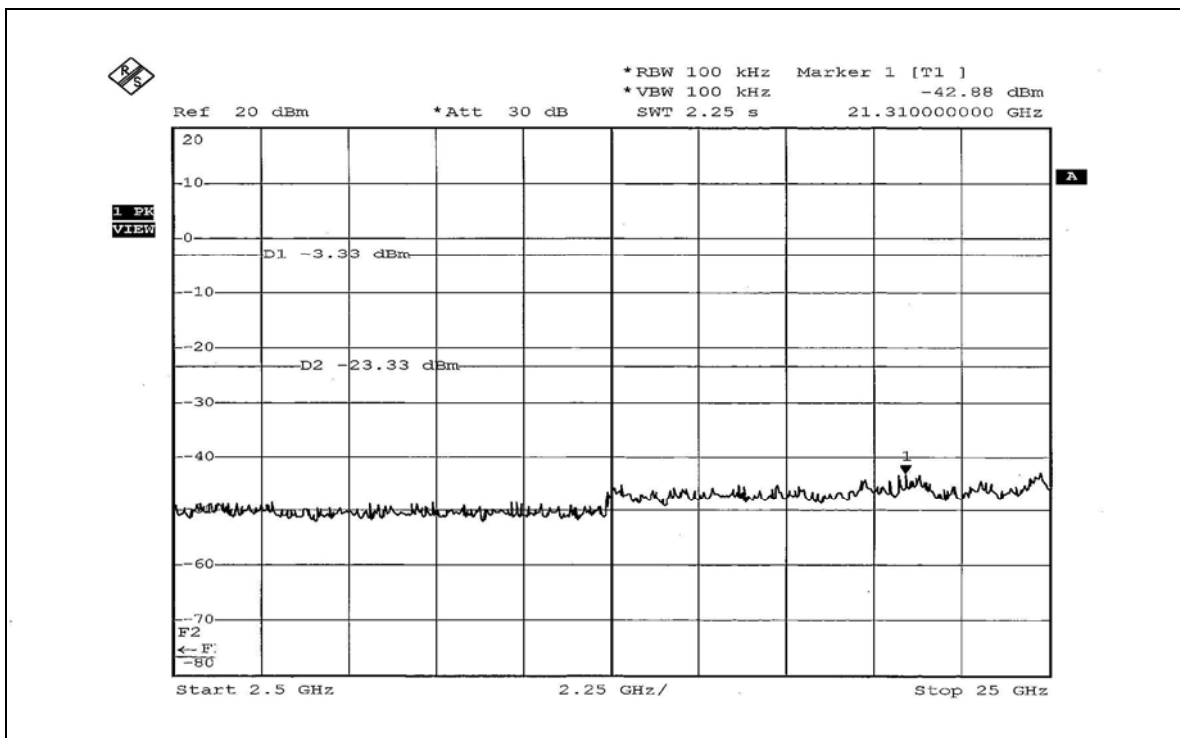
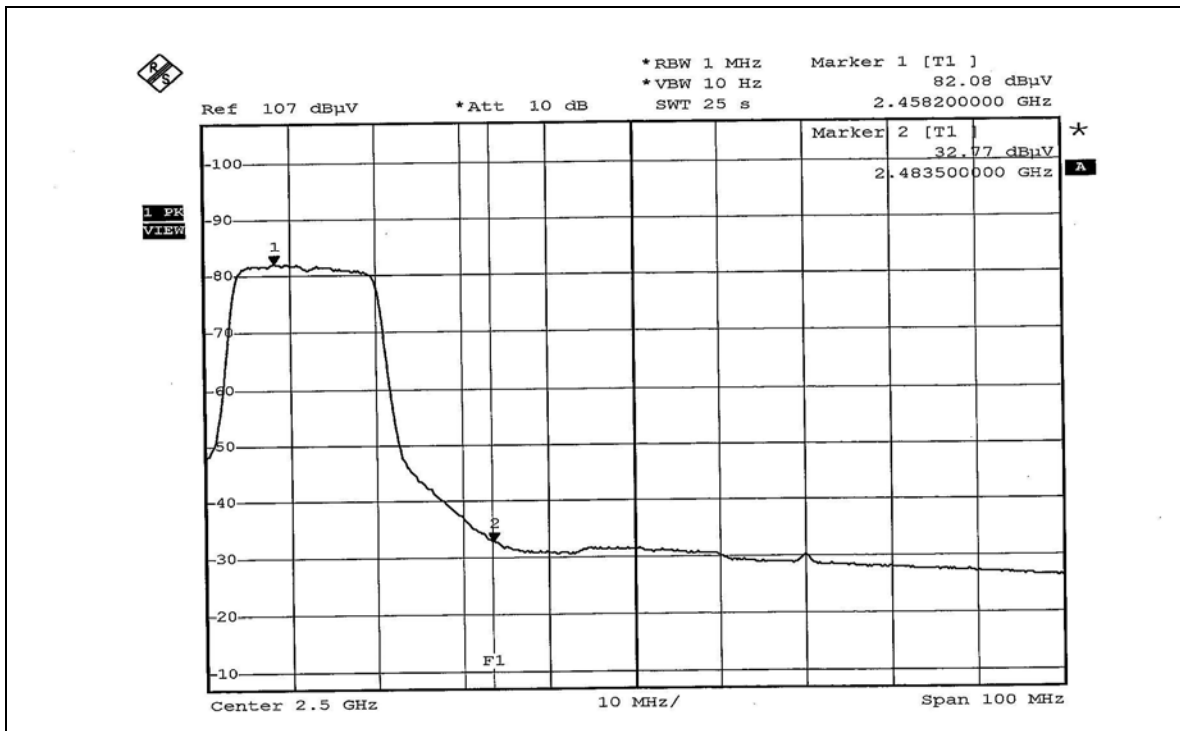
The band edge emission plot on page 164 shows 51.94dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 6 at the item 5.2.7 is 101.16dBuV/m (Average), so the maximum field strength in restrict band is $101.16 - 51.94 = 49.22$ dBuV/m which is under 54dBuV/m limit.



802.11g OFDM modulation (Two composite dipoles in line)

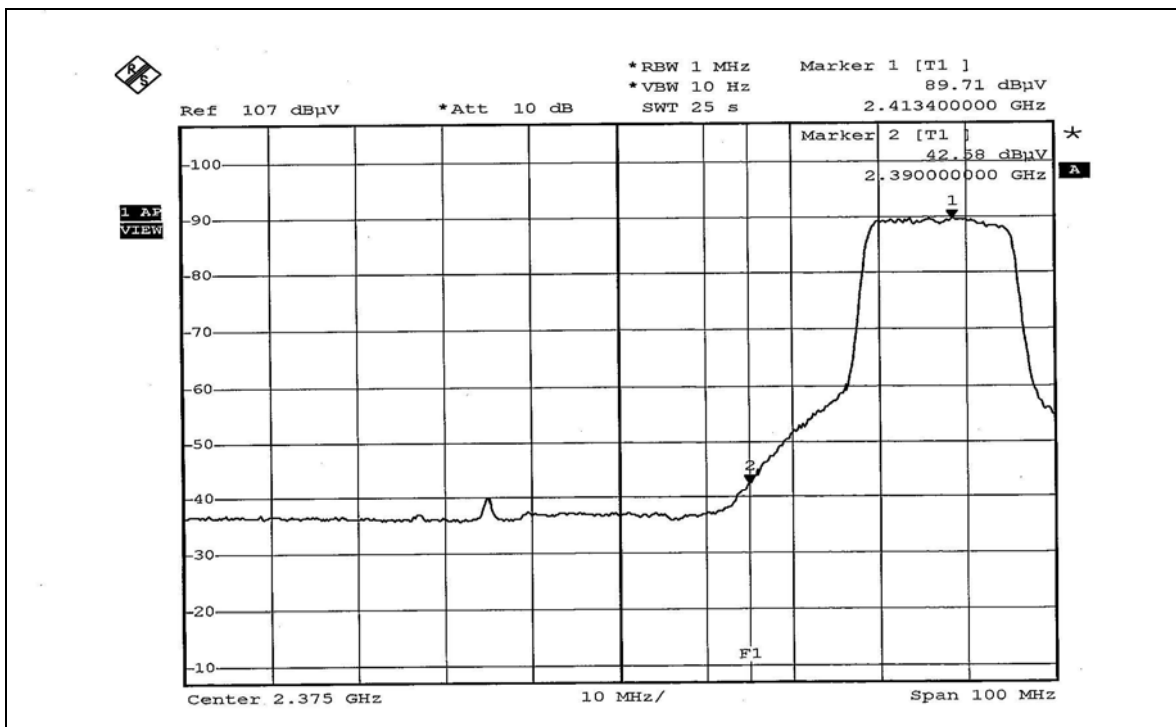
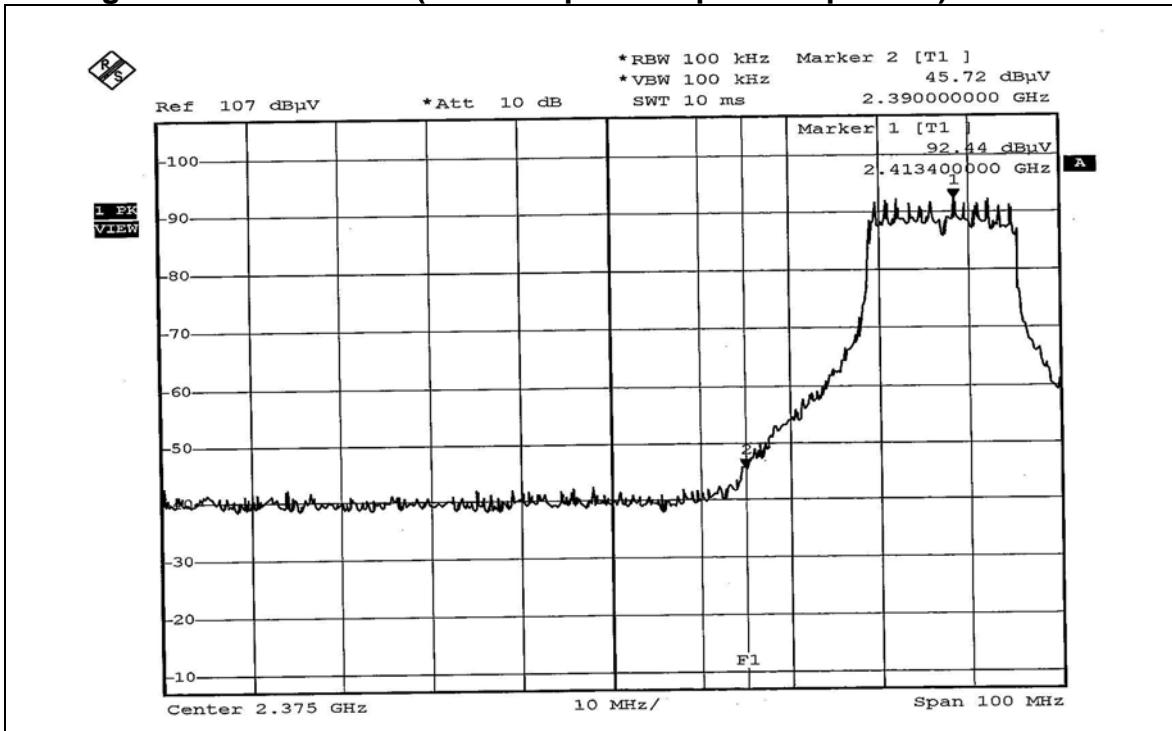


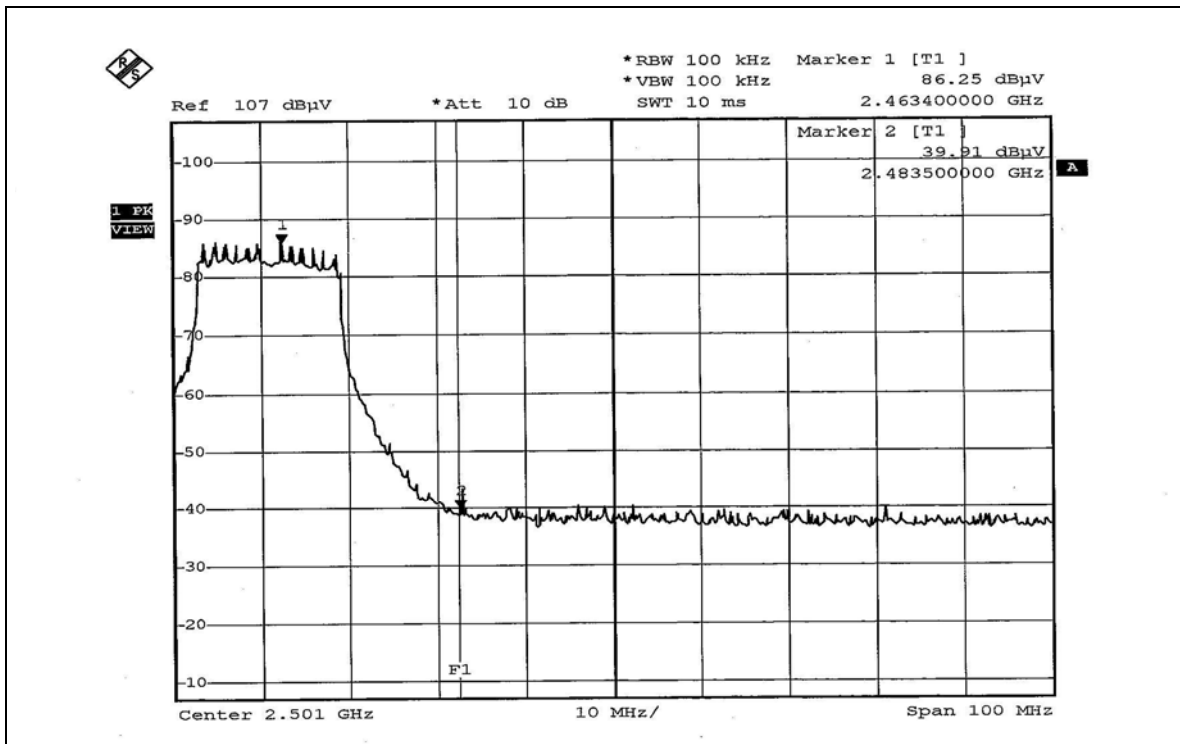
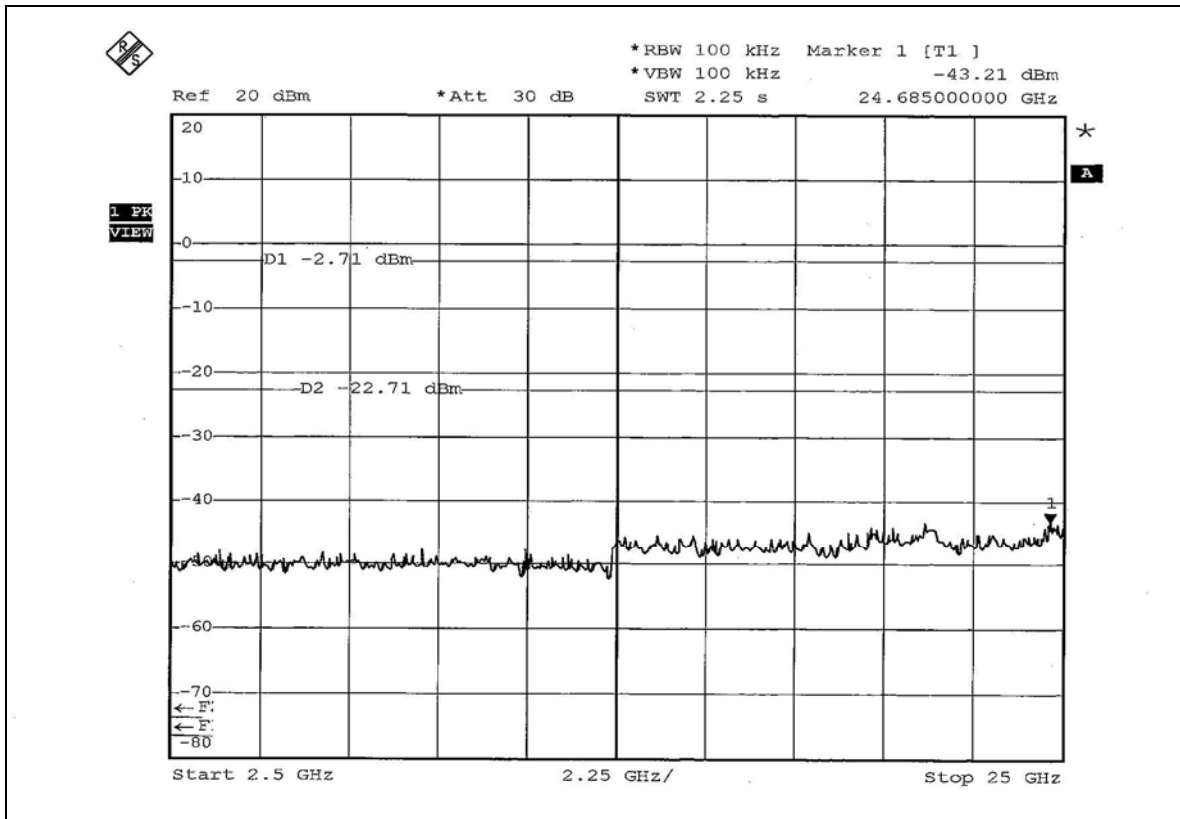


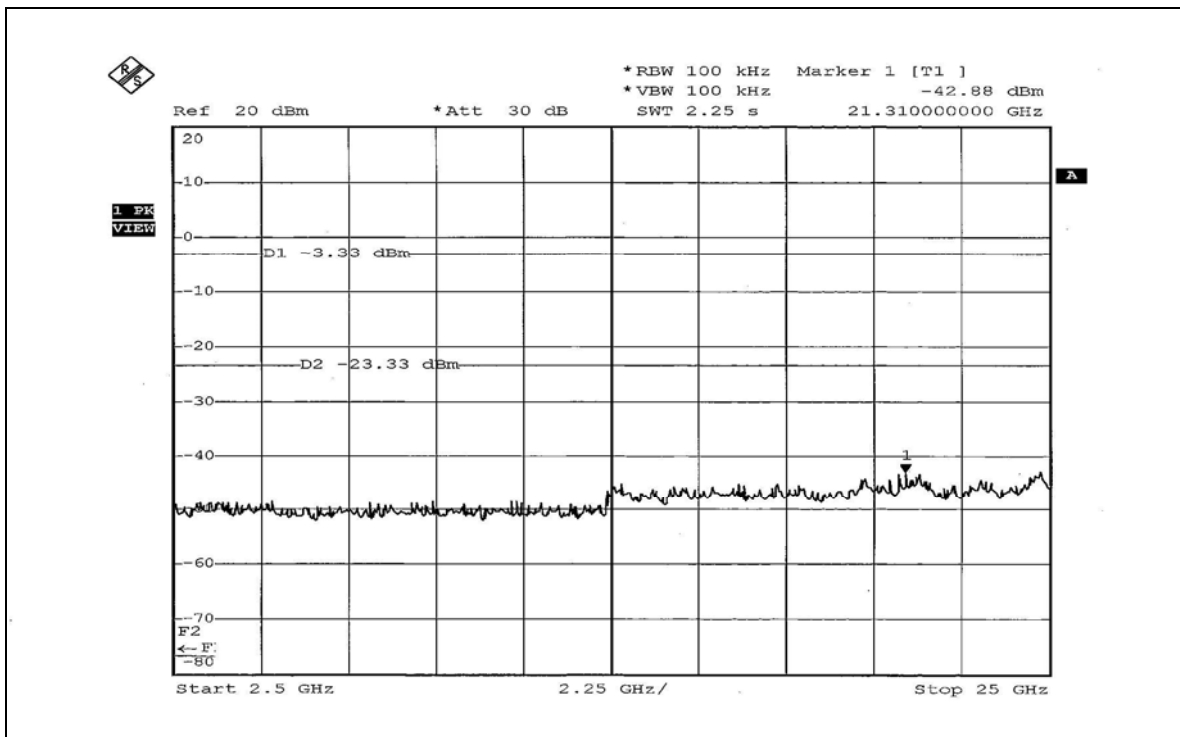
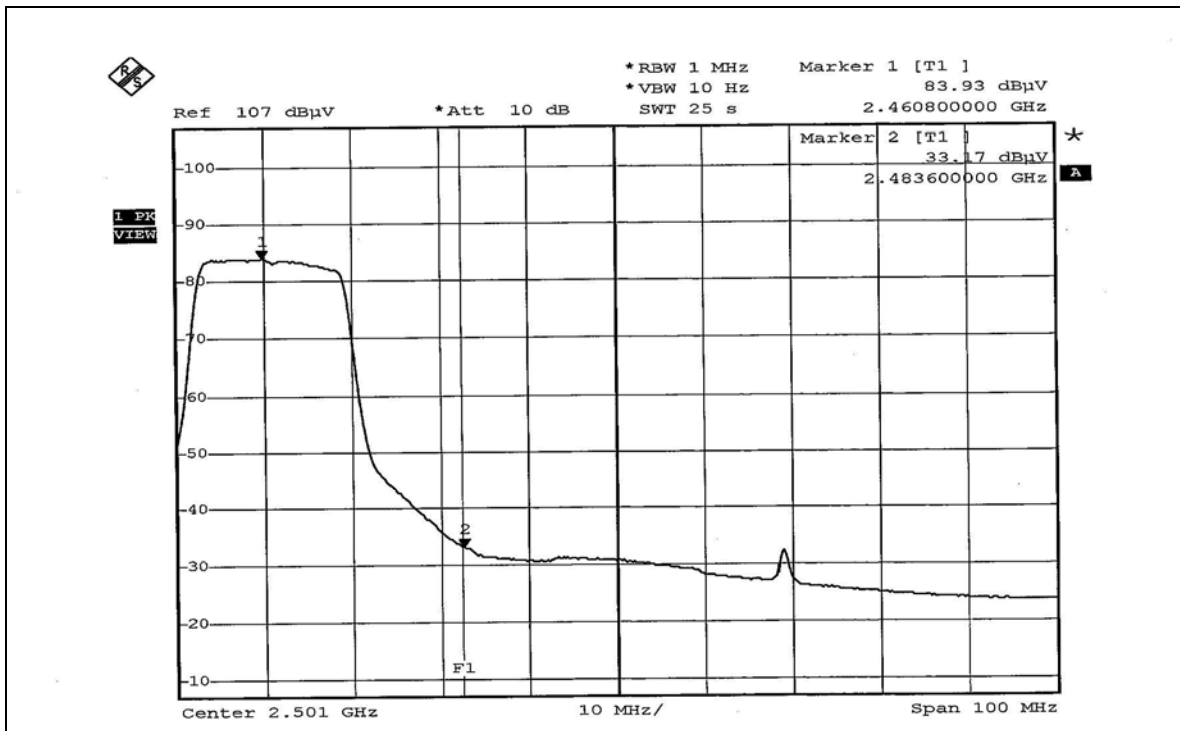




802.11g OFDM modulation (Two composite dipoles in parallel)

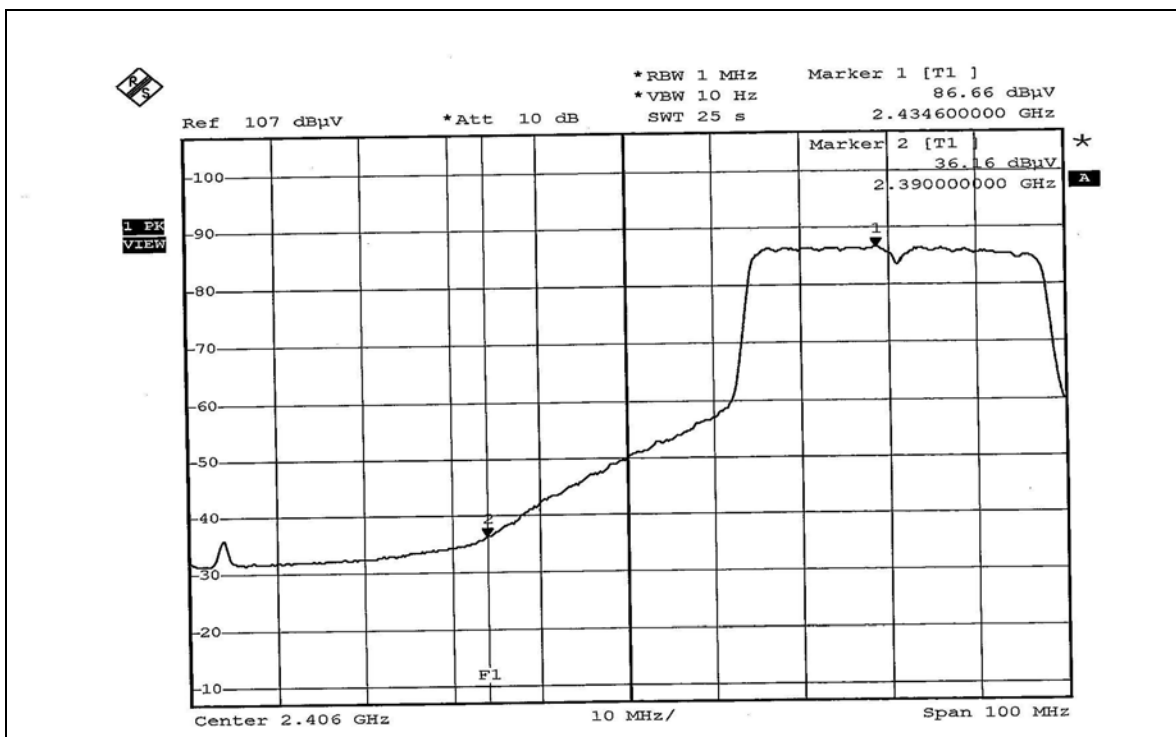
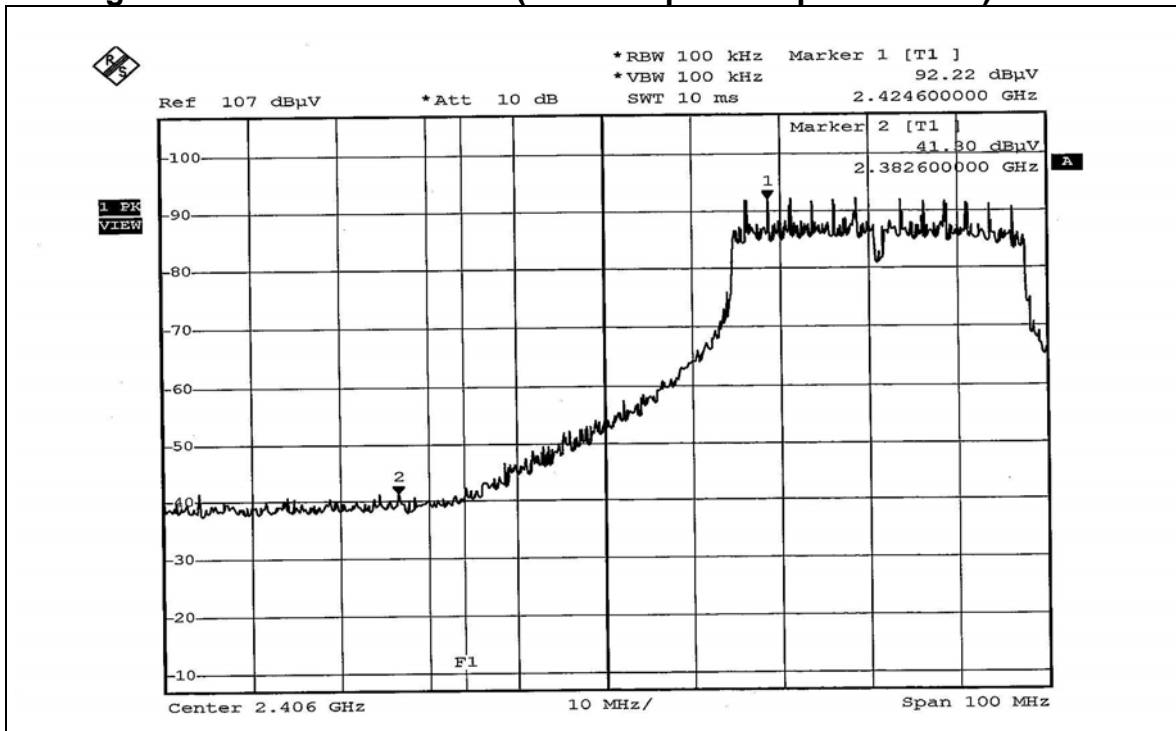


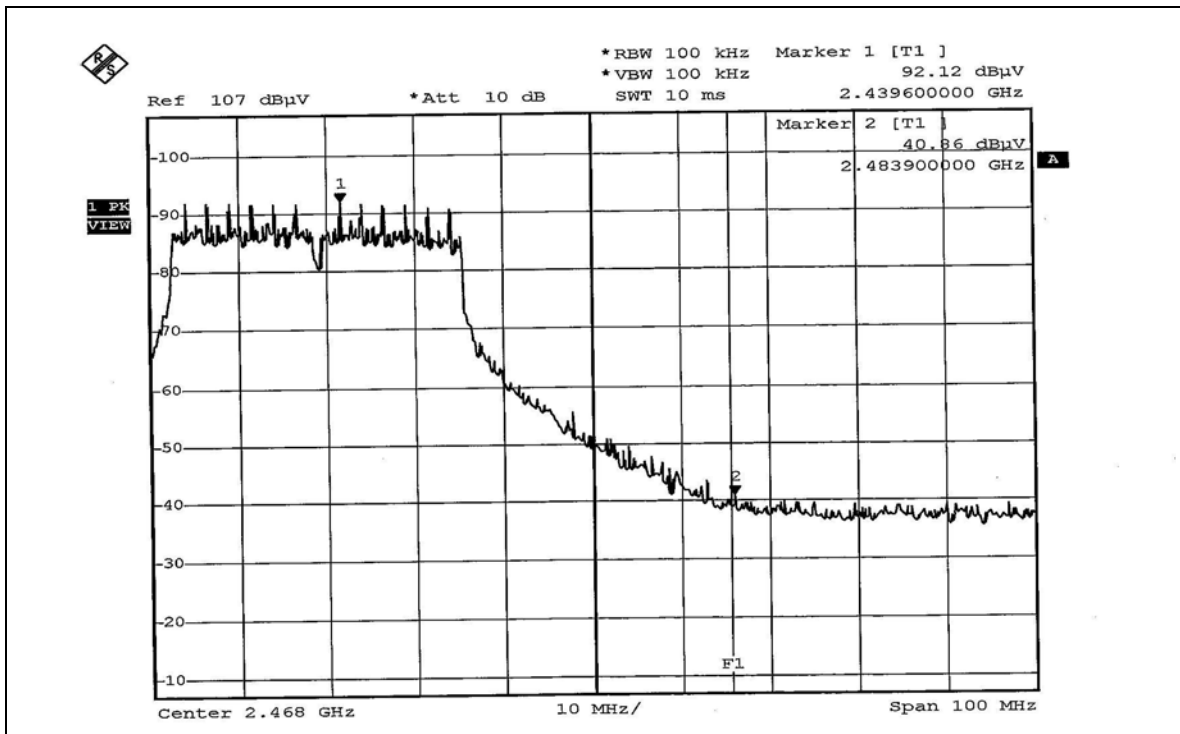
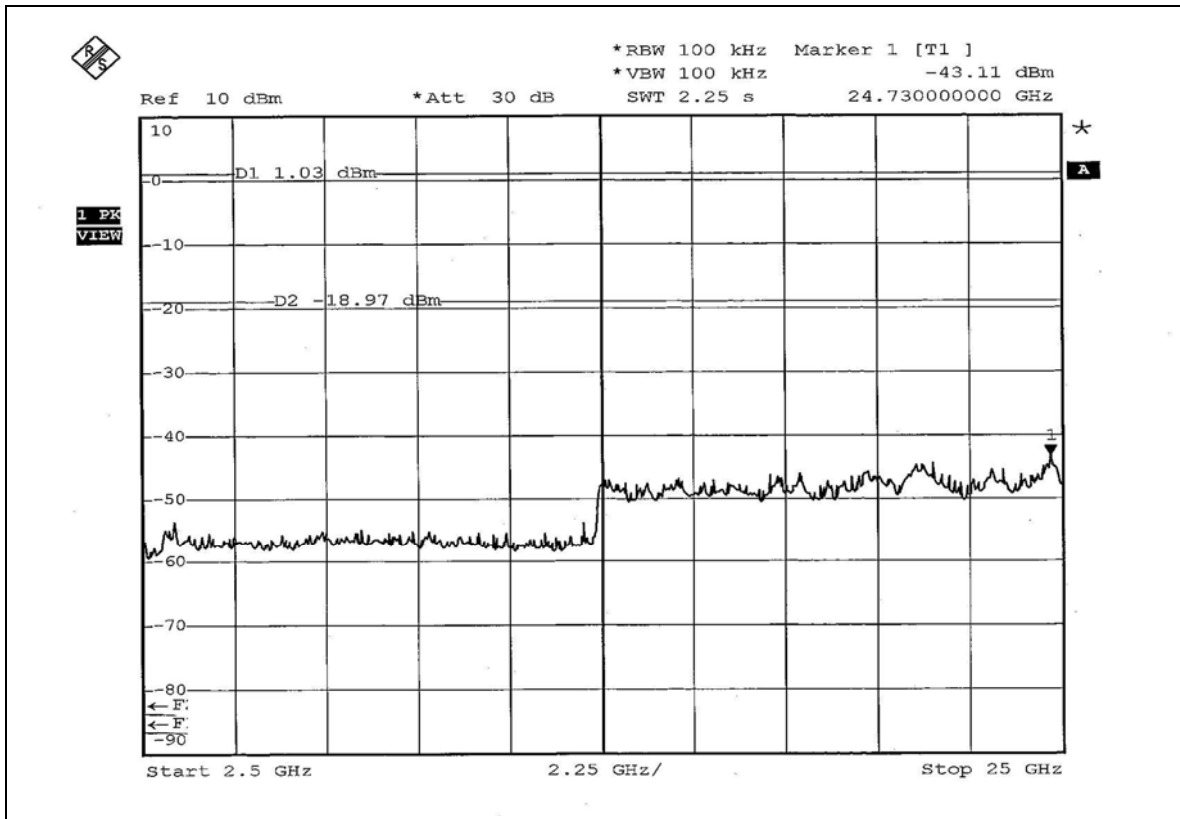


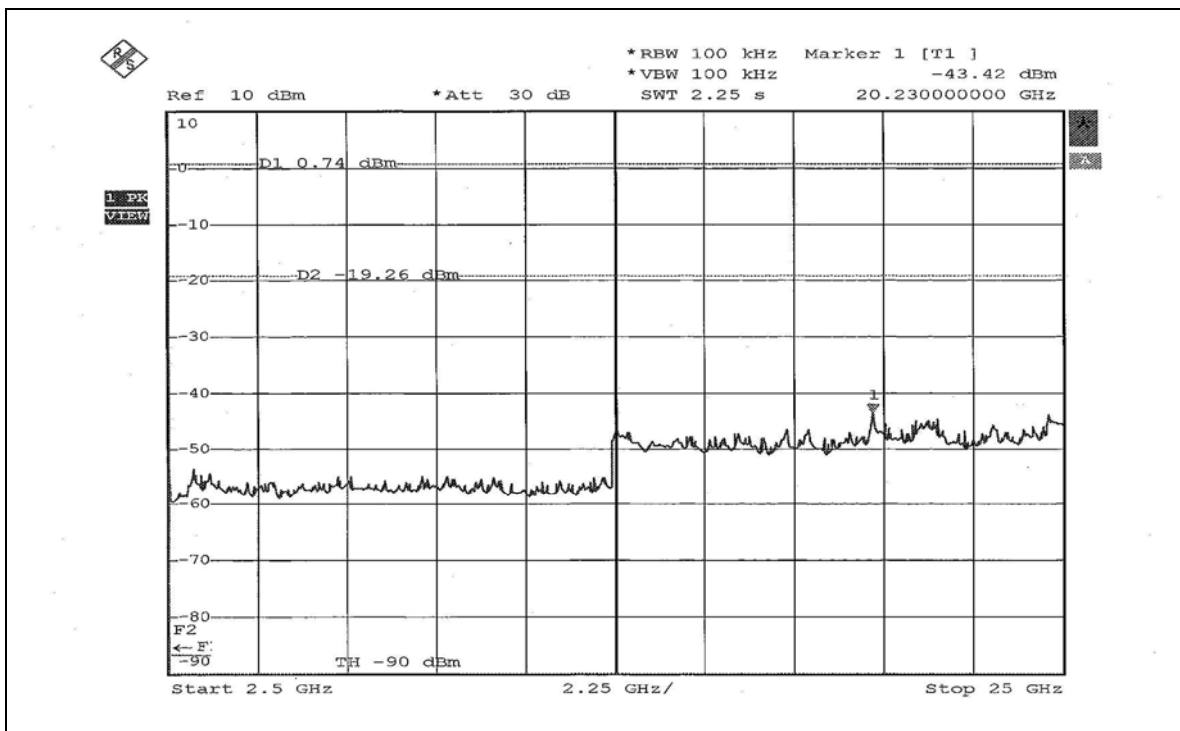
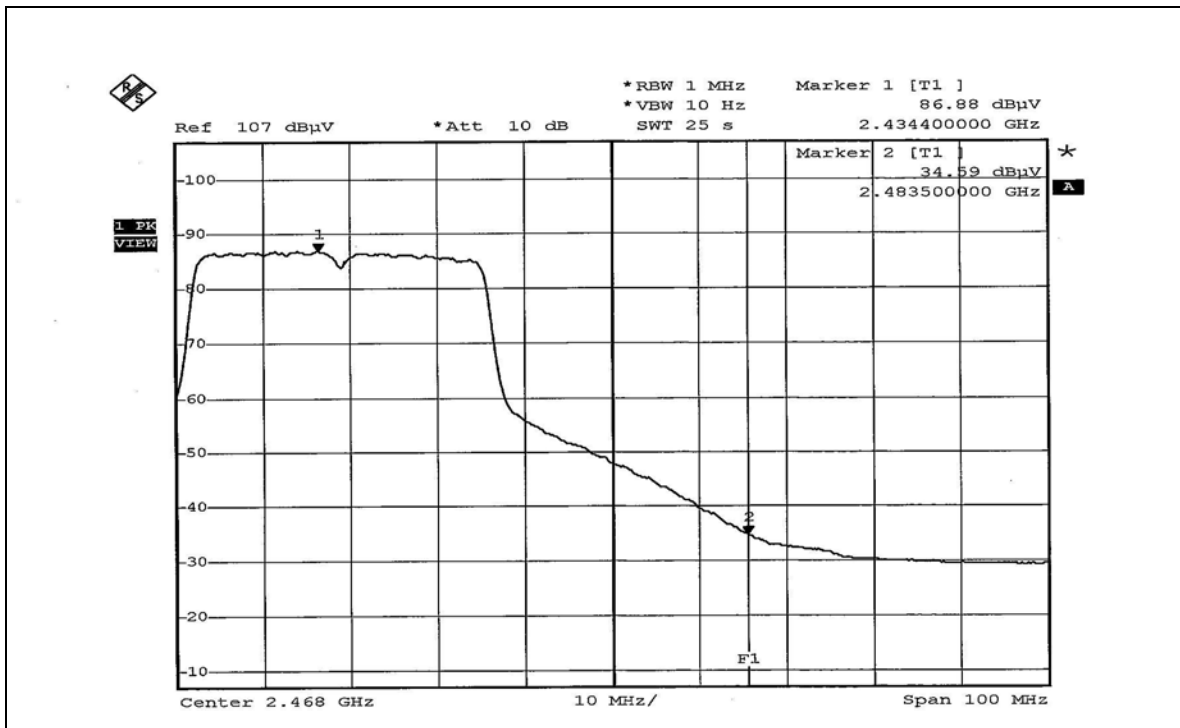




802.11g Turbo OFDM modulation (Two composite dipoles in line)

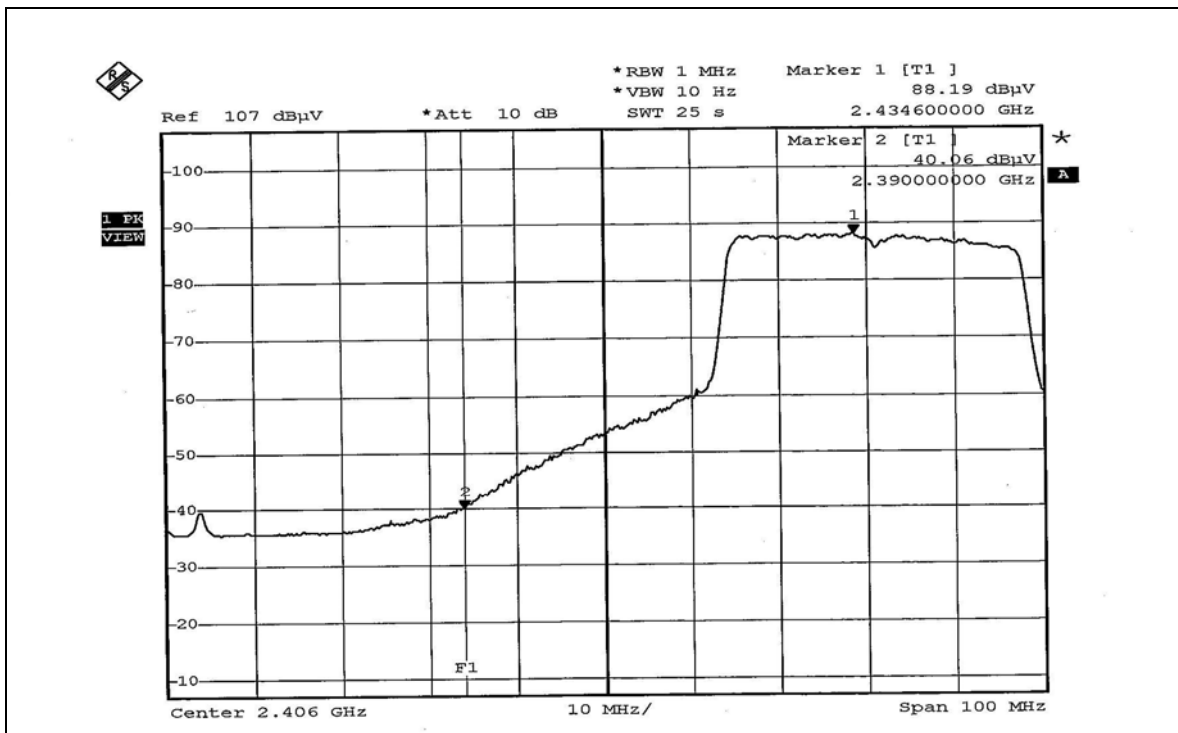
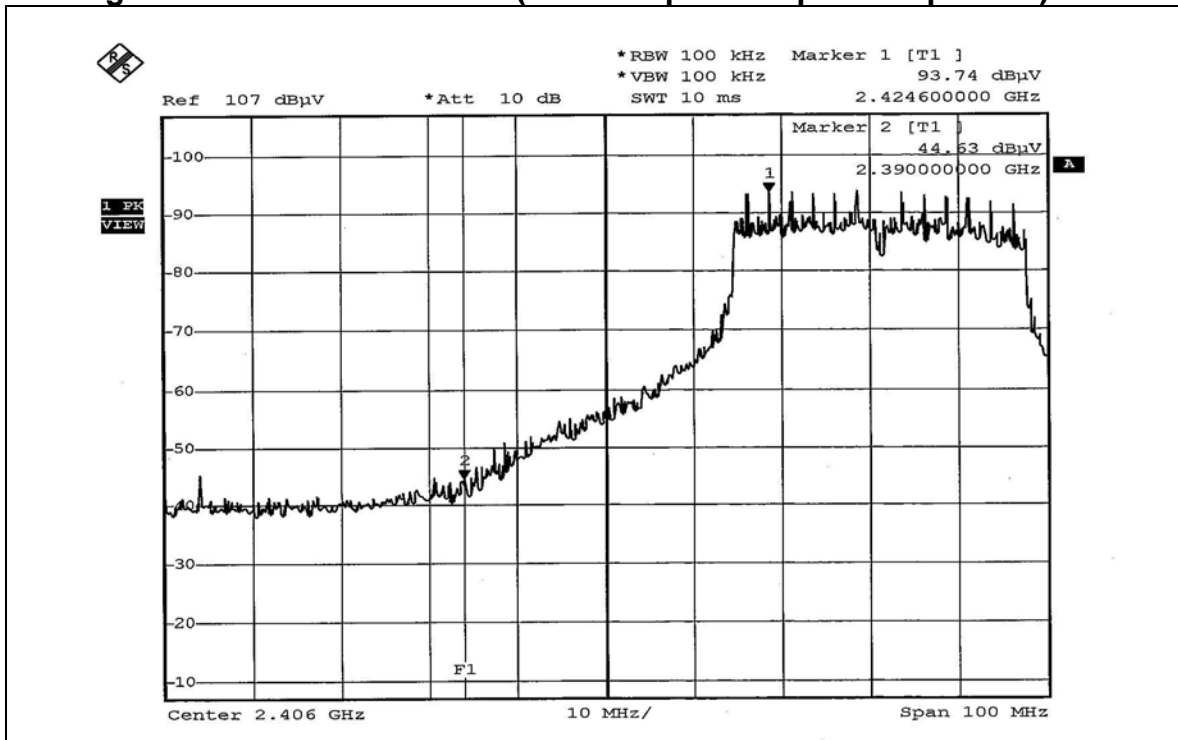


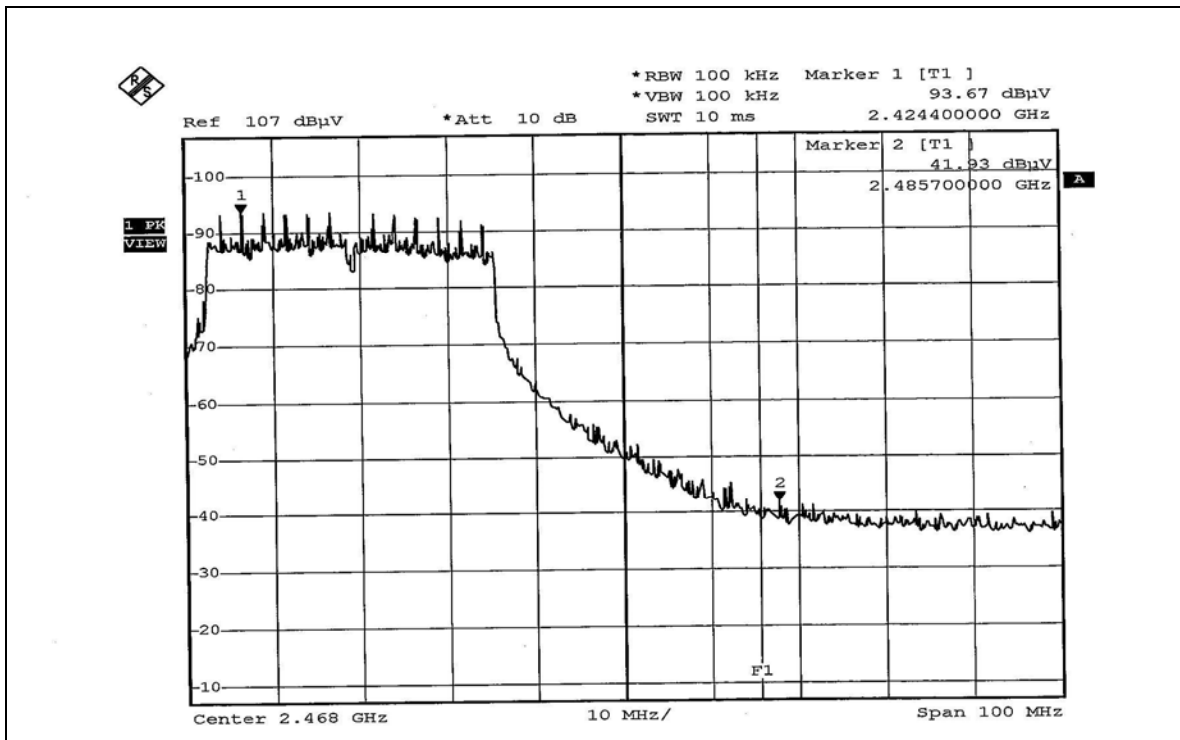
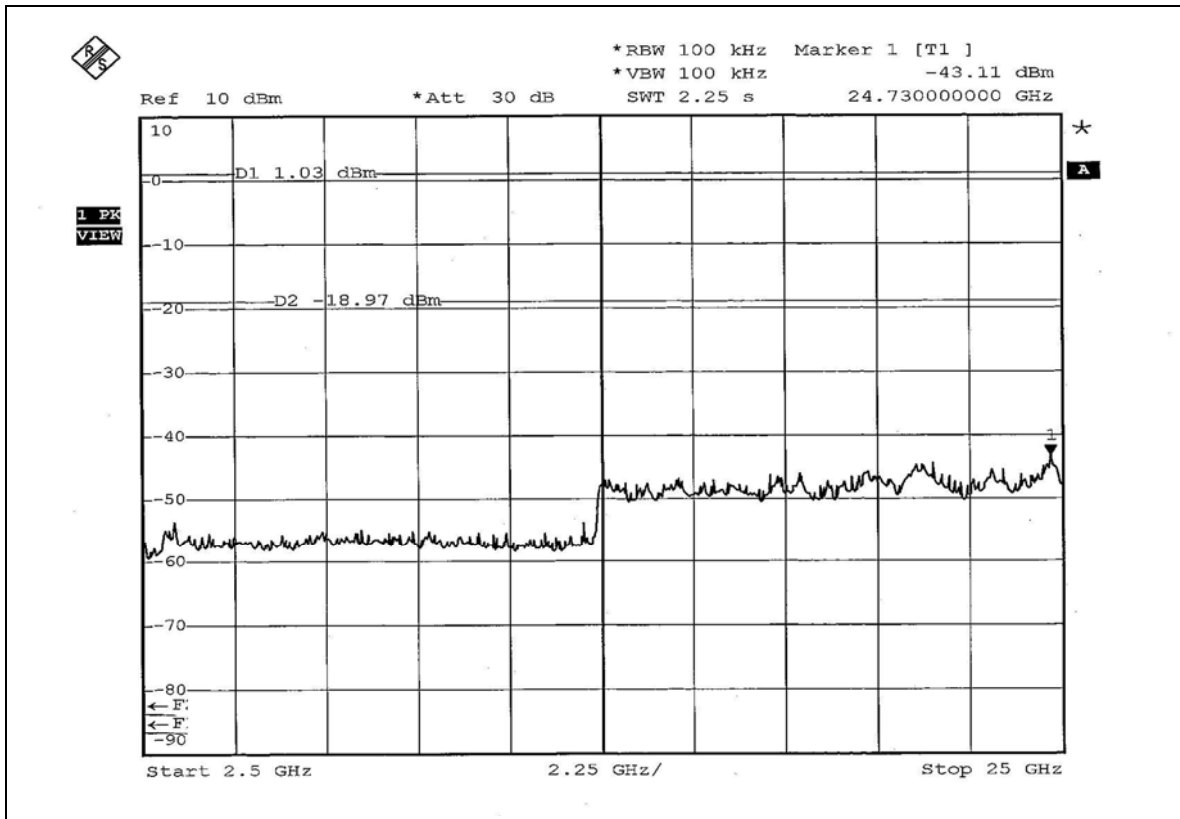


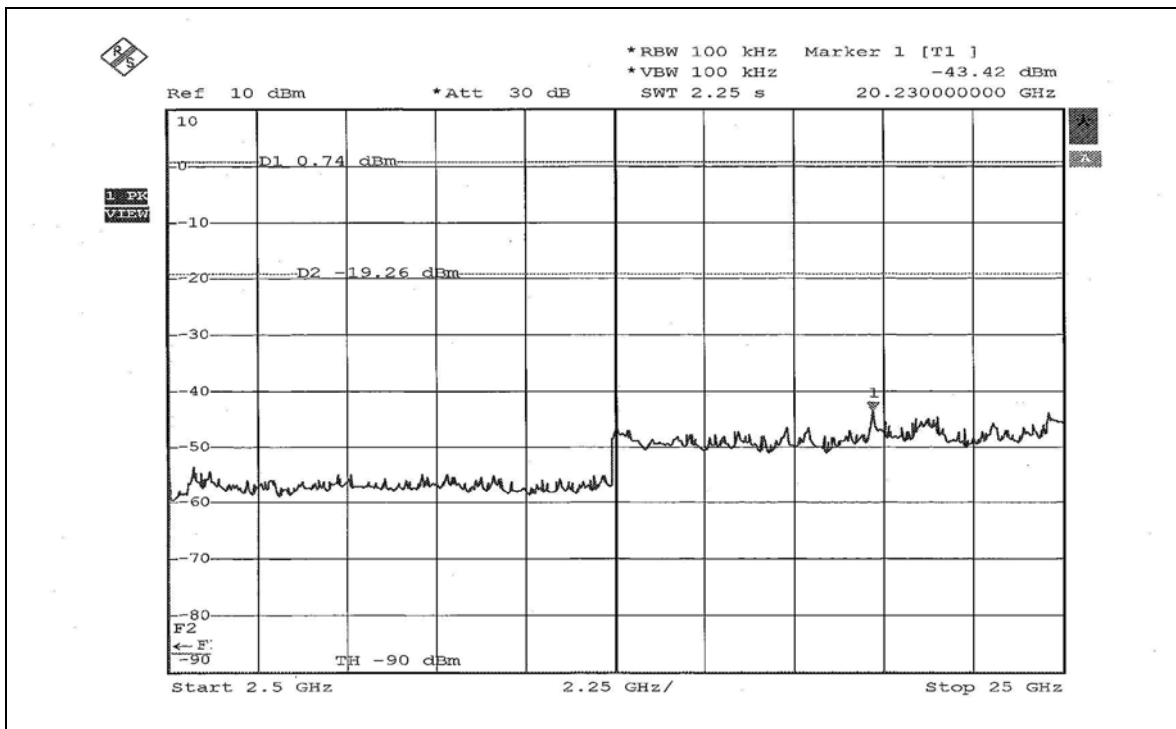
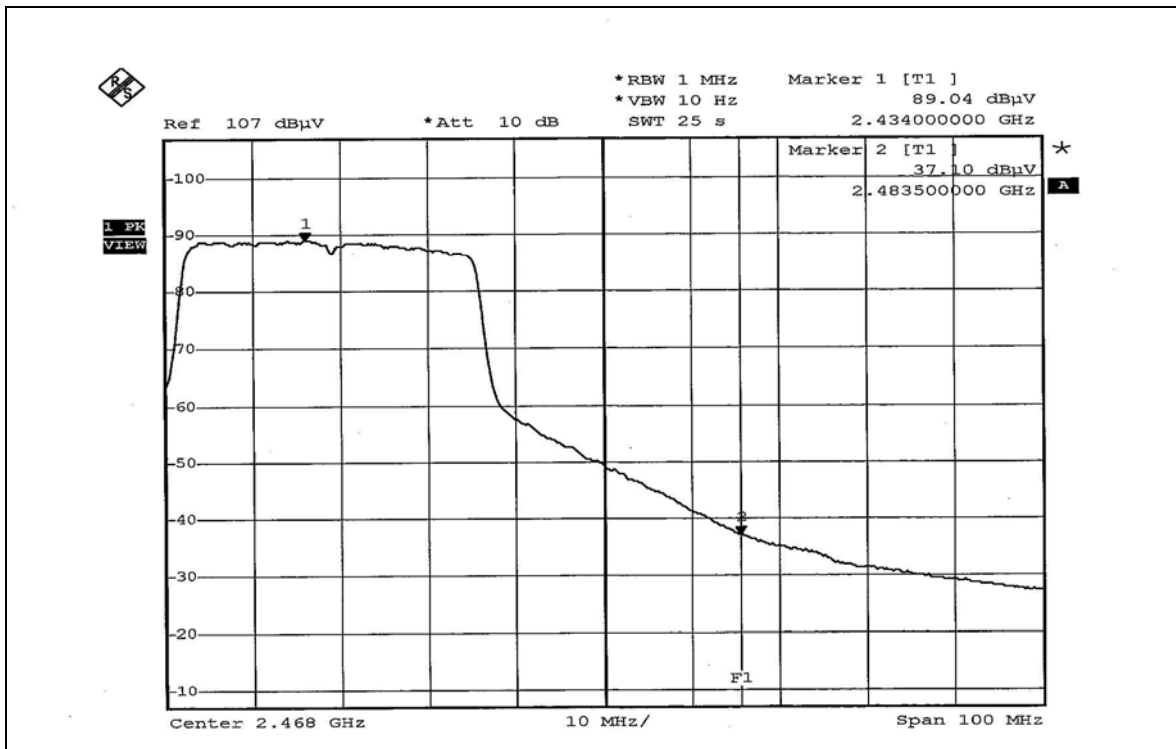




802.11g Turbo OFDM modulation (Two composite dipoles in parallel)









5.7 ANTENNA REQUIREMENT

5.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

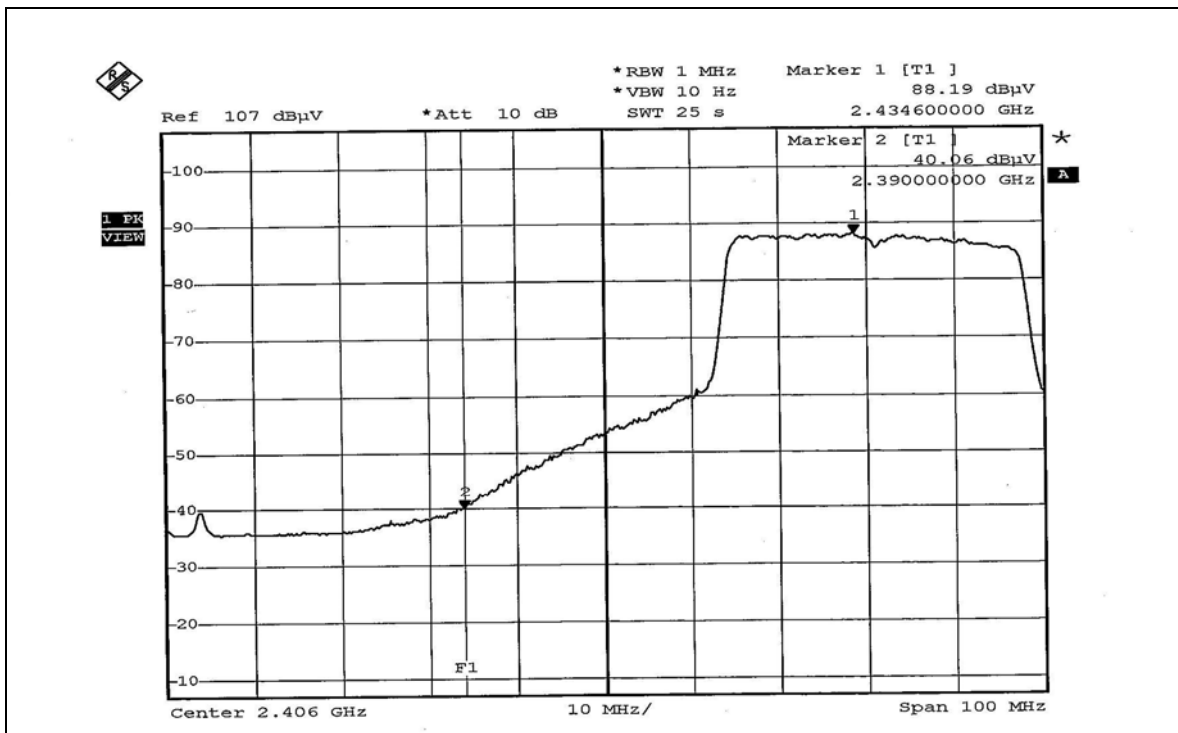
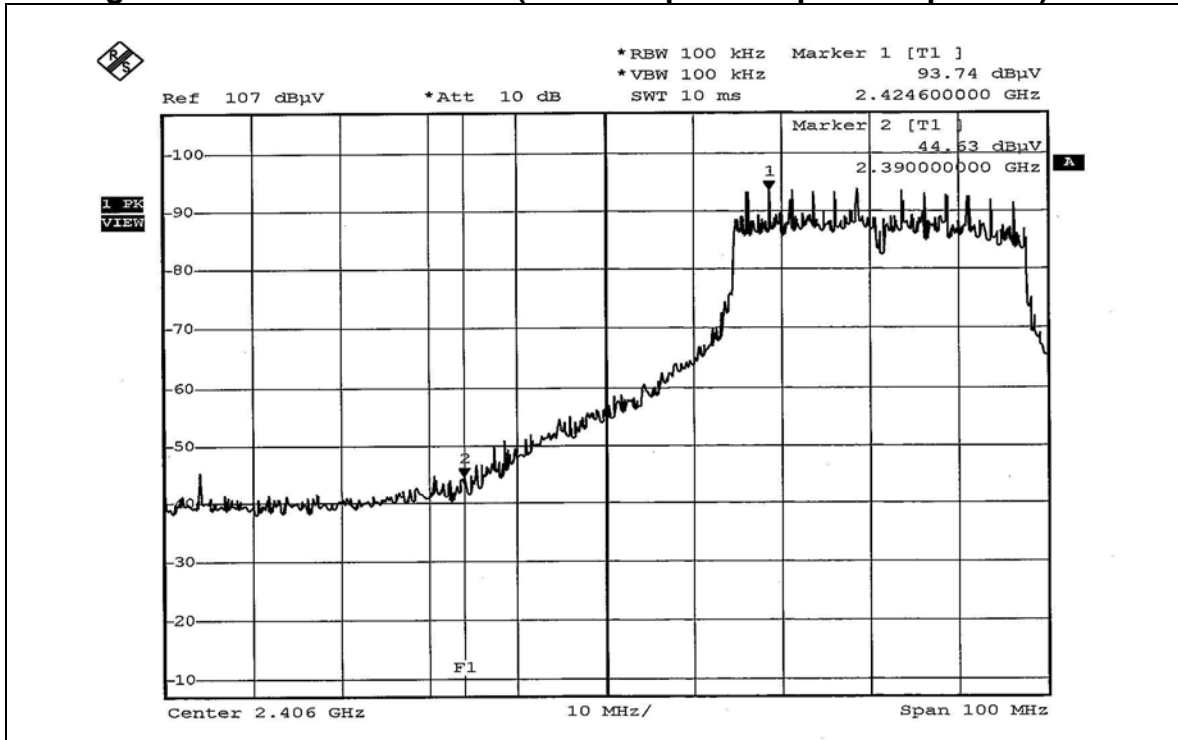
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

5.7.2 ANTENNA CONNECTED CONSTRUCTION

The antenna type used in this product is Dipole antenna with UFL antenna connector. The maximum Gain of this antenna is only 2.319dBi.



802.11g Turbo OFDM modulation (Two composite dipoles in parallel)



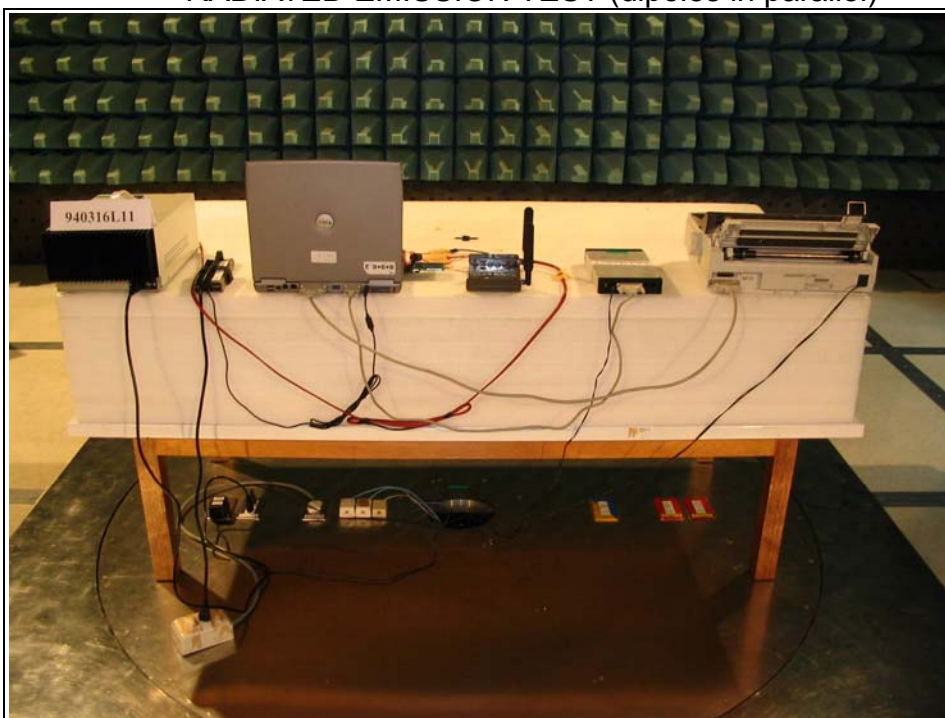


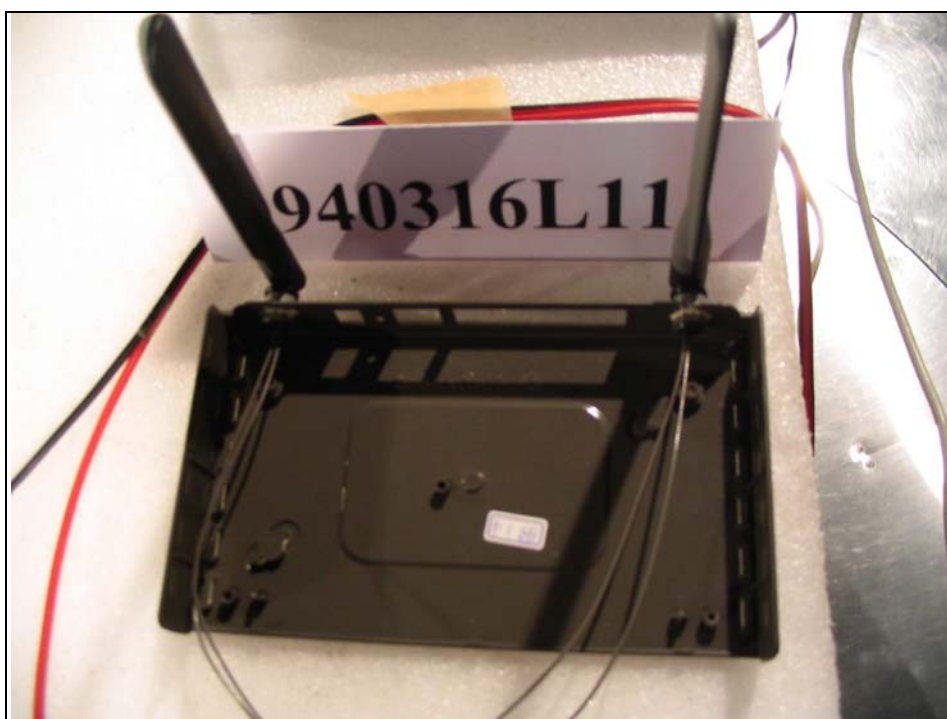
CONDUCTED EMISSION TEST (dipoles in line)



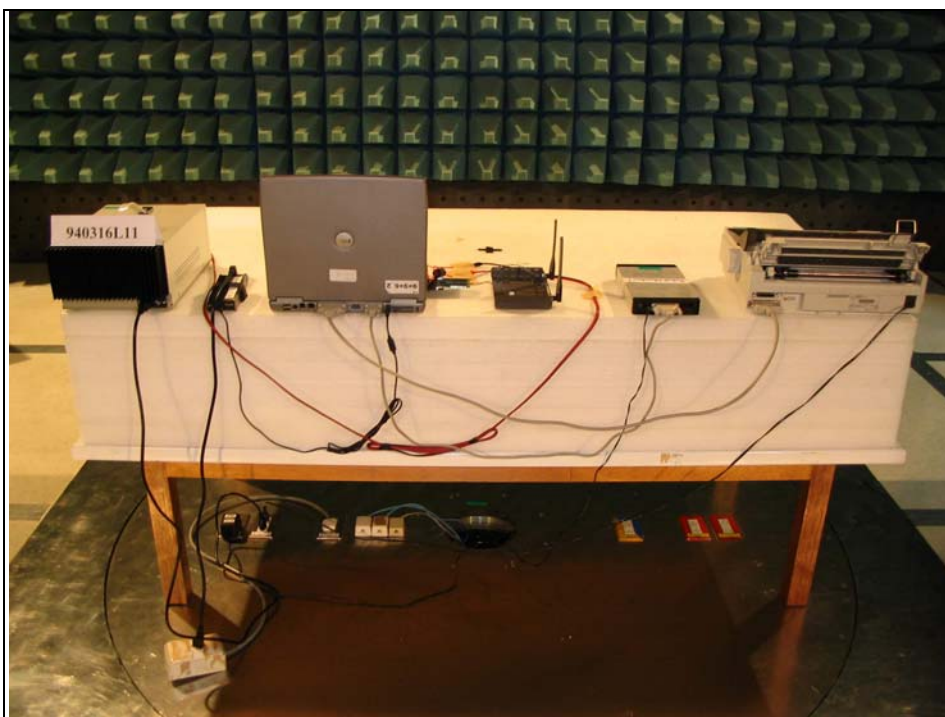
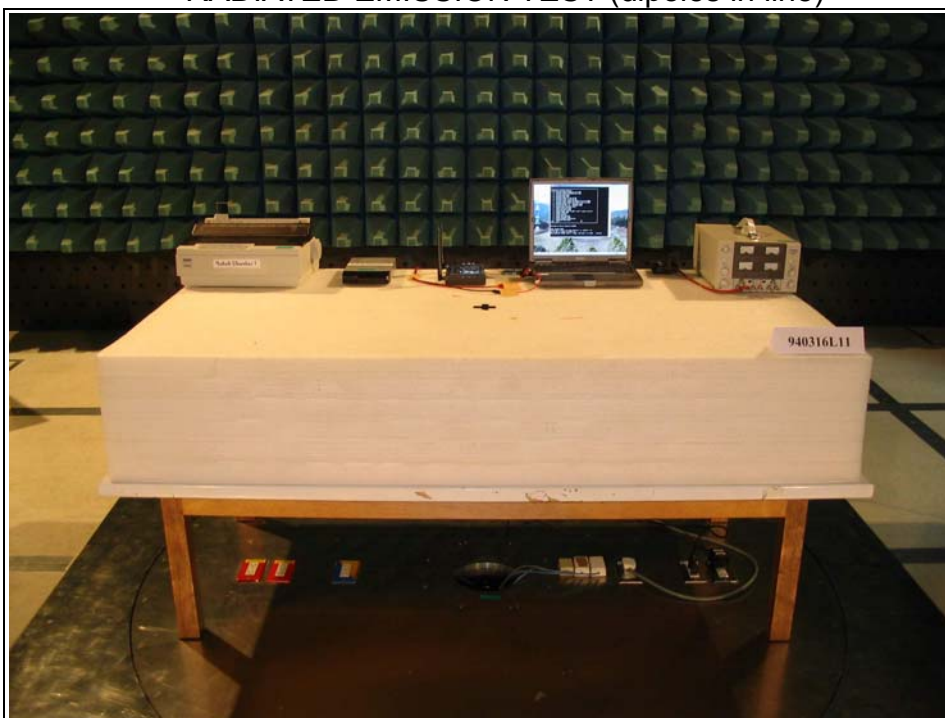


RADIATED EMISSION TEST (dipoles in parallel)





RADIATED EMISSION TEST (dipoles in line)







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.

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

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

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Linko RF Lab.

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Web Site: www.adt.com.tw

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