

FCC ID: Q9DAP80



4.4.7 TEST RESULTS (ANTENNA 1)

802.11a OFDM modulation

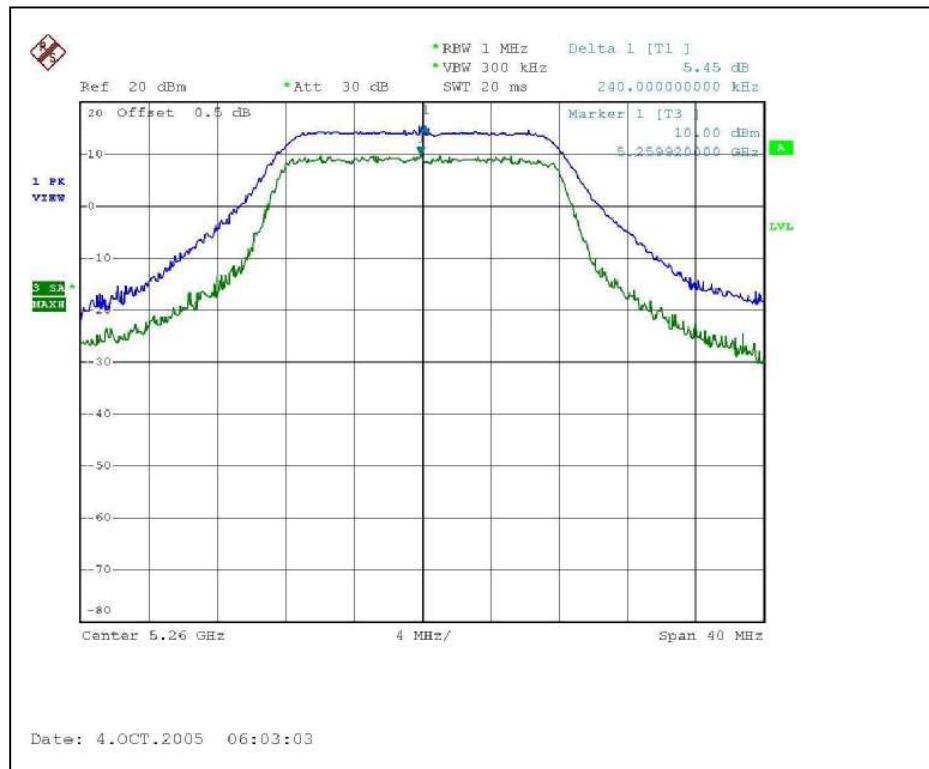
EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5260	5.45	13	PASS
4	5320	4.92	13	PASS

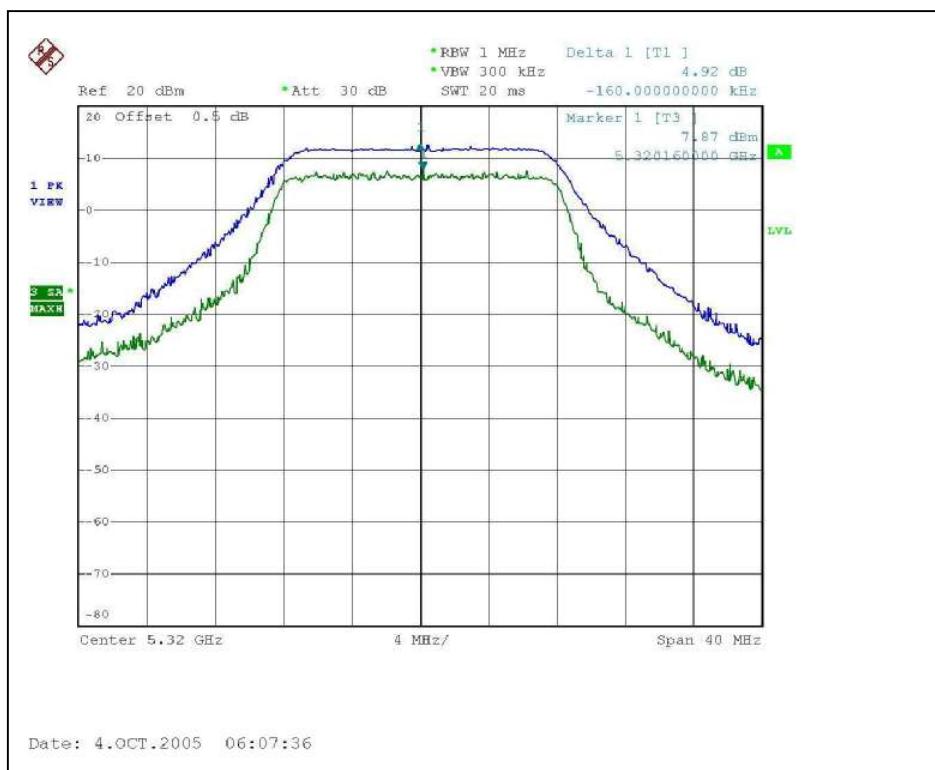
FCC ID: Q9DAP80



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CH4



FCC ID: Q9DAP80

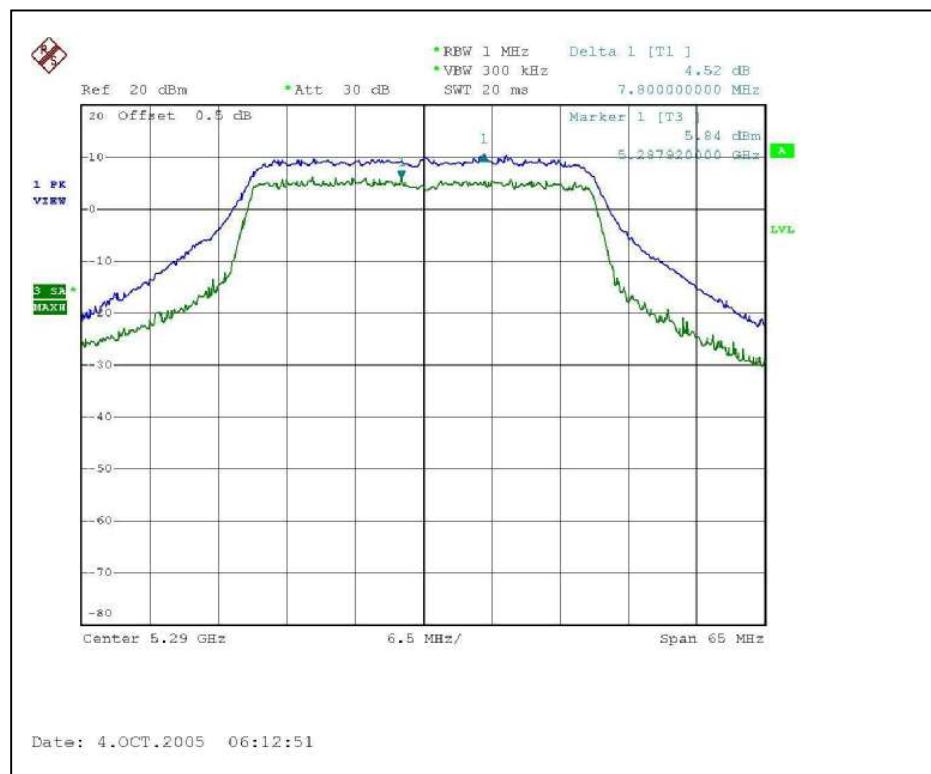


802.11a Turbo OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5290	4.52	13	PASS

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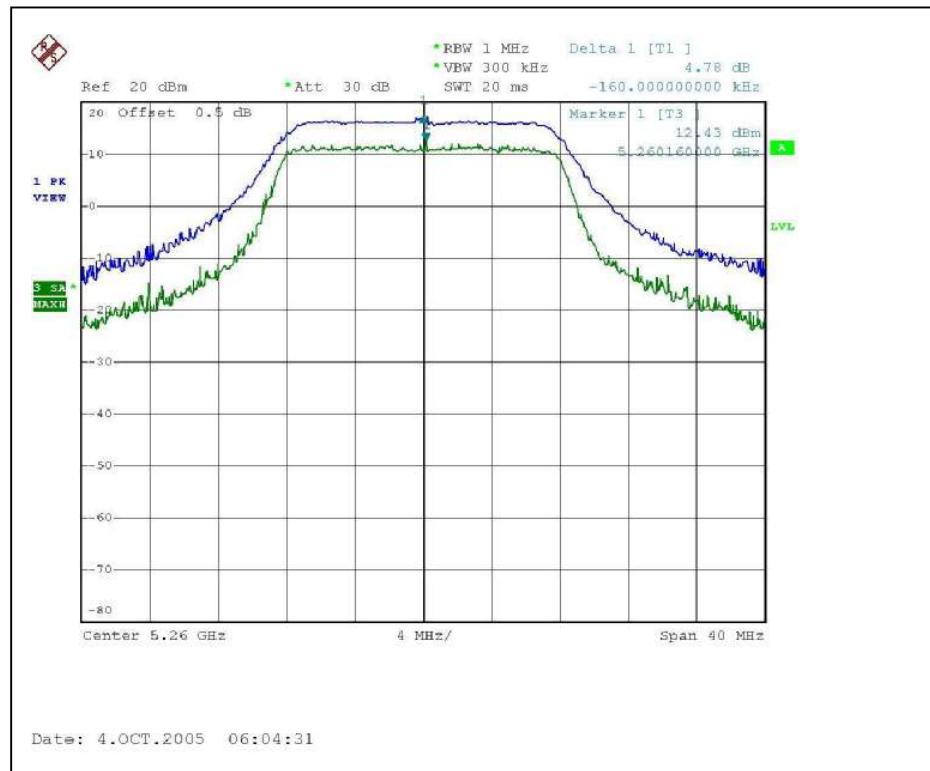
4.4.8 TEST RESULTS (ANTENNA 2)

802.11a OFDM modulation

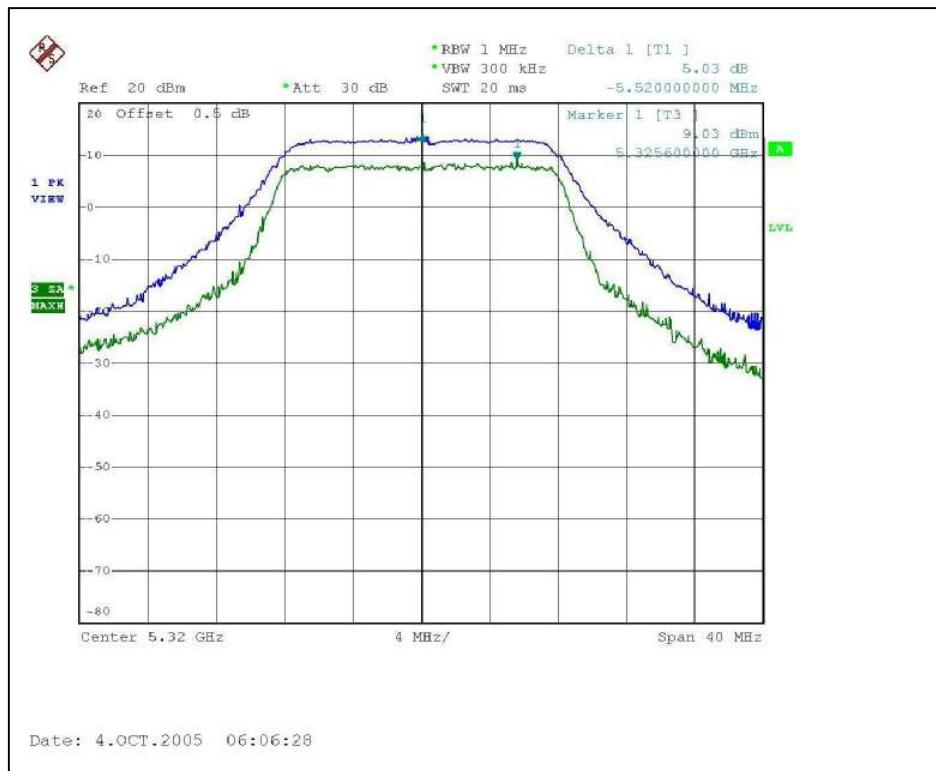
EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5260	4.78	13	PASS
4	5320	5.03	13	PASS

CH1



CH4



FCC ID: Q9DAP80

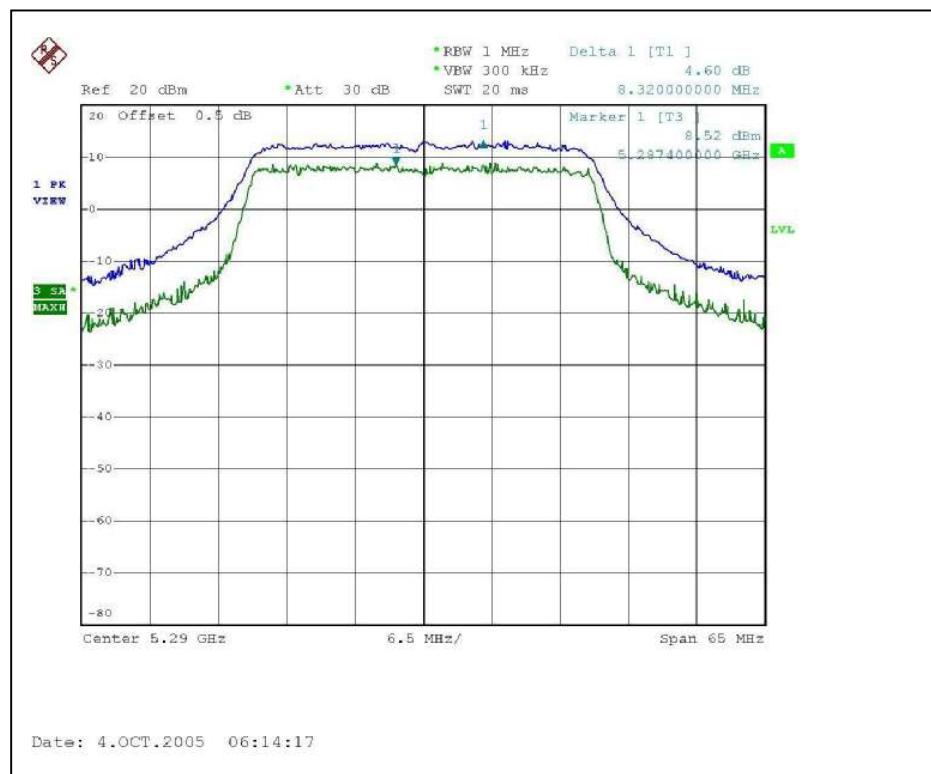


802.11a Turbo OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5290	4.60	13	PASS

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FCC ID: Q9DAP80



4.4.9 TEST RESULTS (ANTENNA 3)

802.11a OFDM modulation

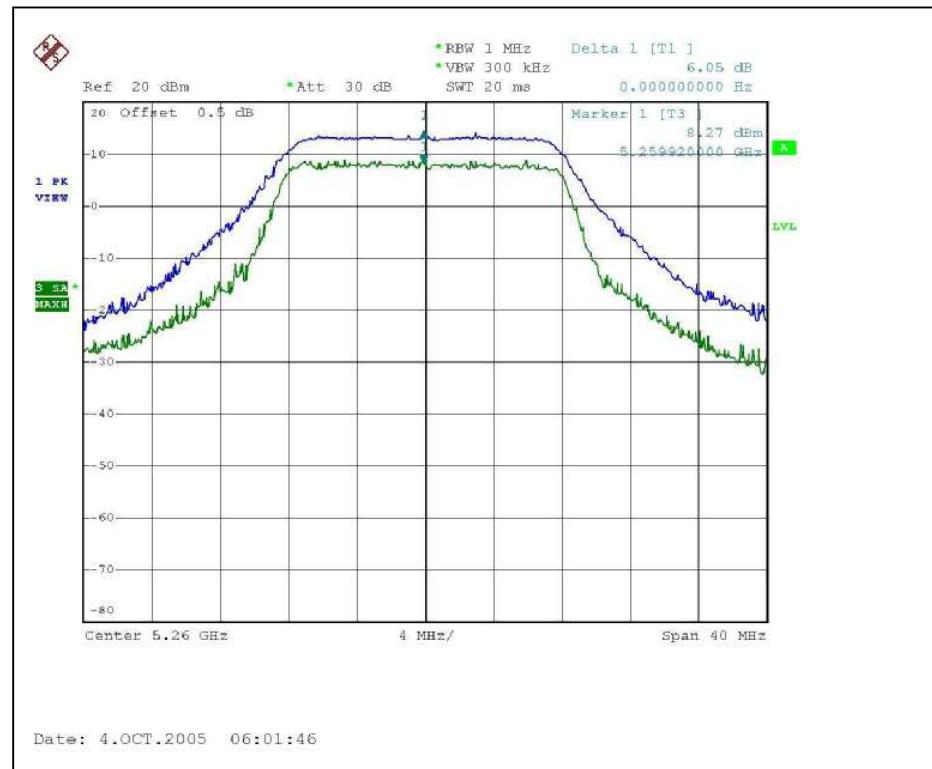
EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5260	6.05	13	PASS
4	5320	4.92	13	PASS

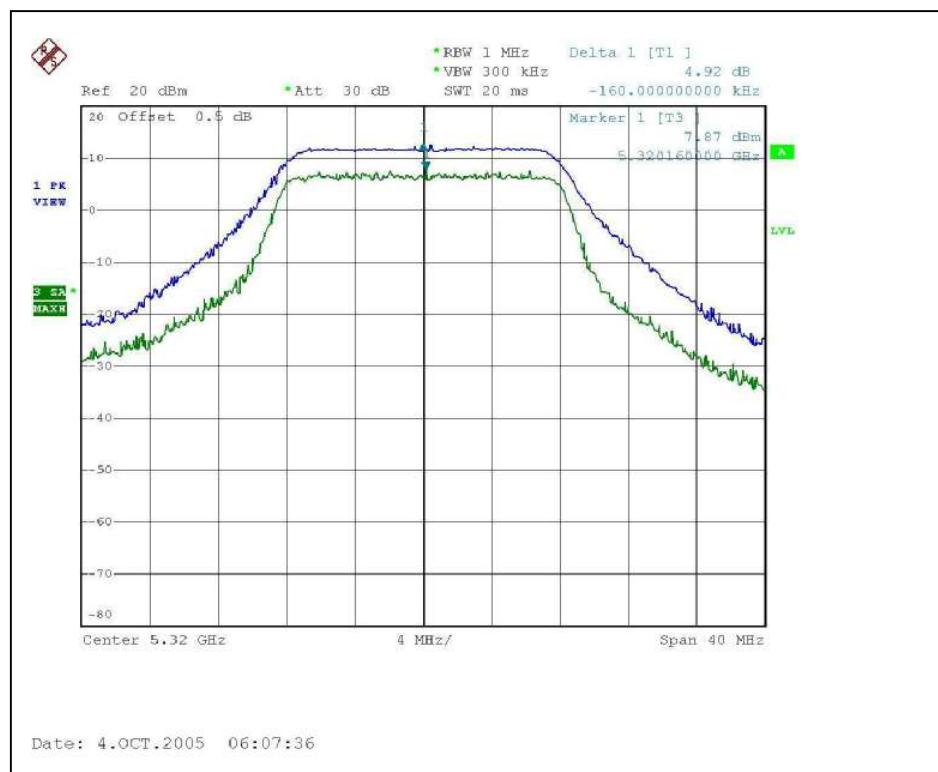
FCC ID: Q9DAP80



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FCC ID: Q9DAP80



802.11a Turbo OFDM modulation

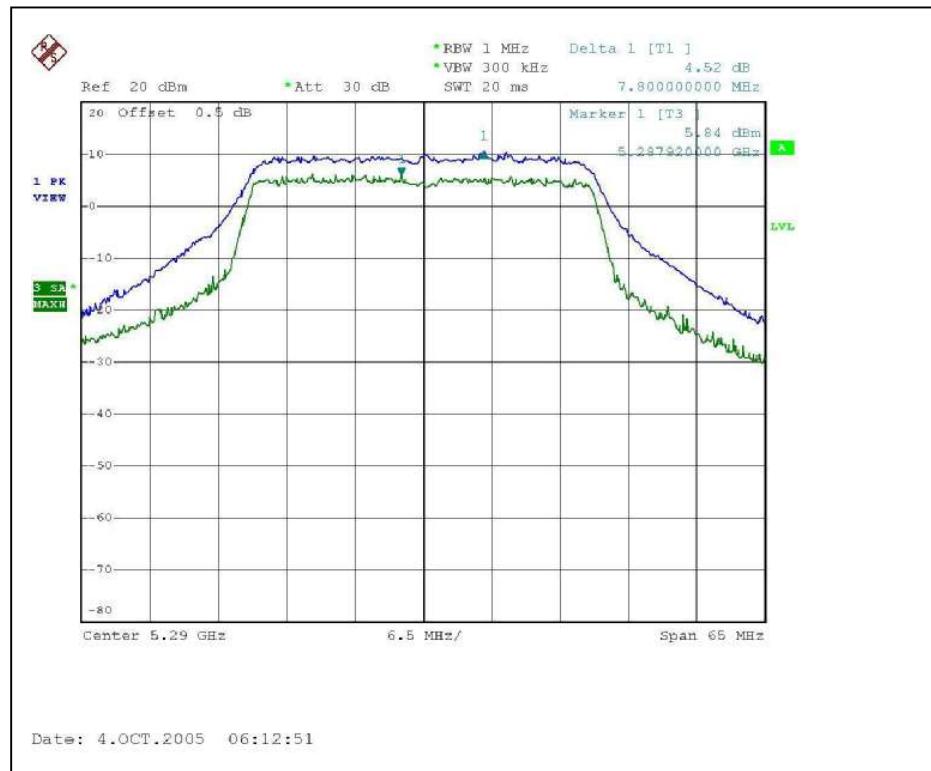
EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5290	4.52	13	PASS

FCC ID: Q9DAP80



CH1



FCC ID: Q9DAP80



4.4.10 TEST RESULTS (ANTENNA 4)

802.11a OFDM modulation

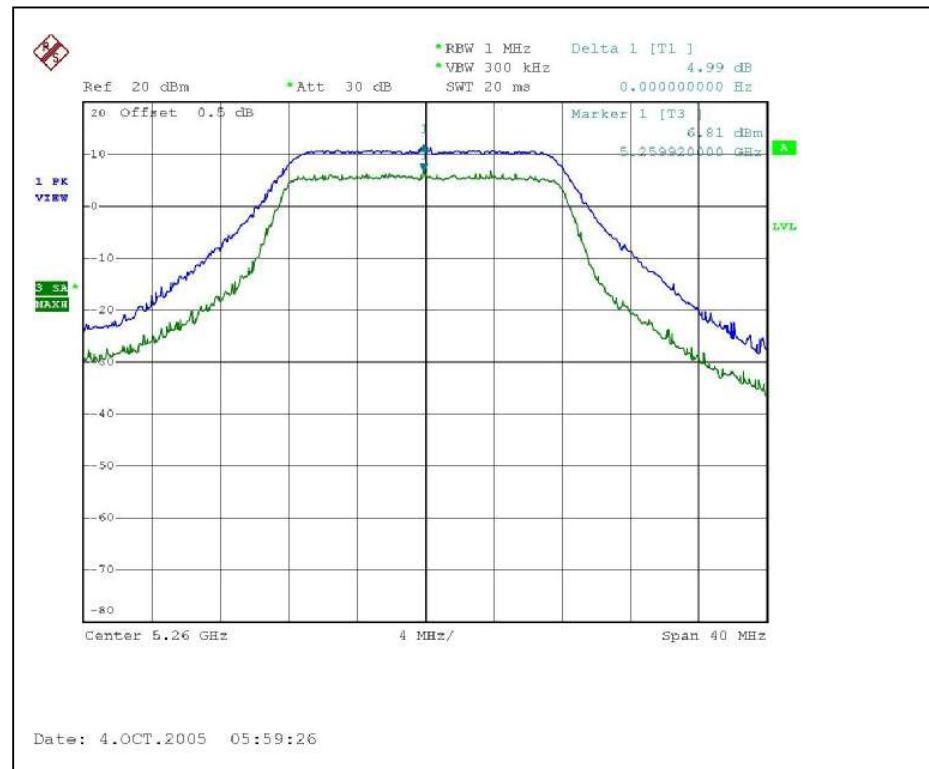
EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5260	4.99	13	PASS
4	5320	5.53	13	PASS

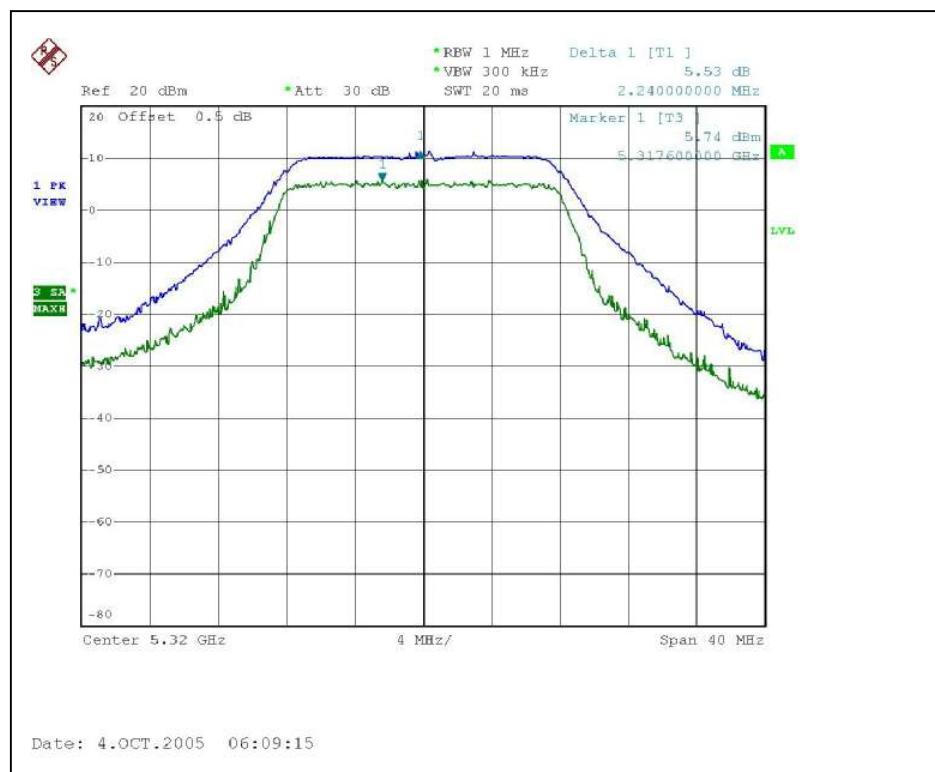
FCC ID: Q9DAP80



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FCC ID: Q9DAP80

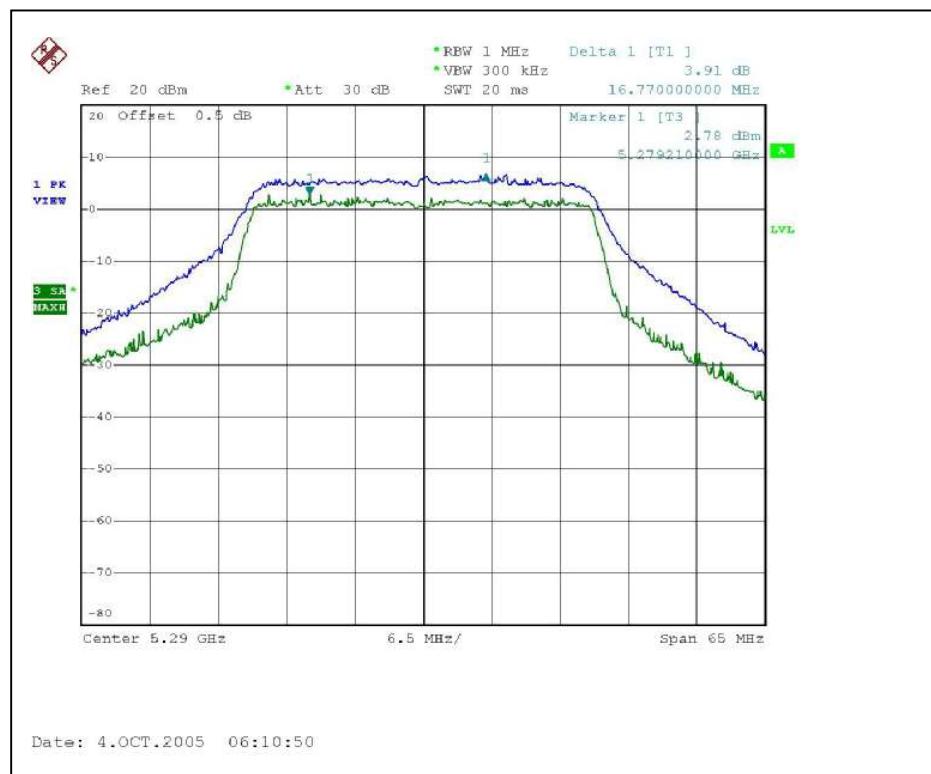


802.11a Turbo OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5290	3.91	13	PASS

CH1



4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 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.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6

4.5.7 TEST RESULTS (ANTENNA 1)

802.11a OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

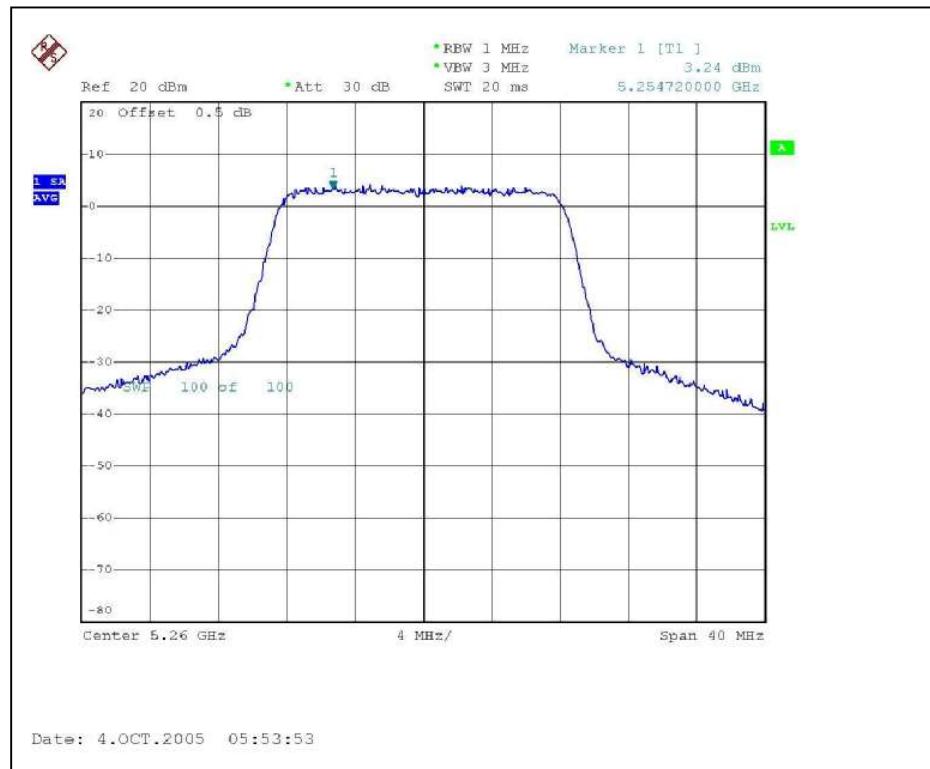
Antenna 1 (Gain : 9.0 dBi) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5260	3.24	9.36	PASS
4	5320	1.33	9.36	PASS

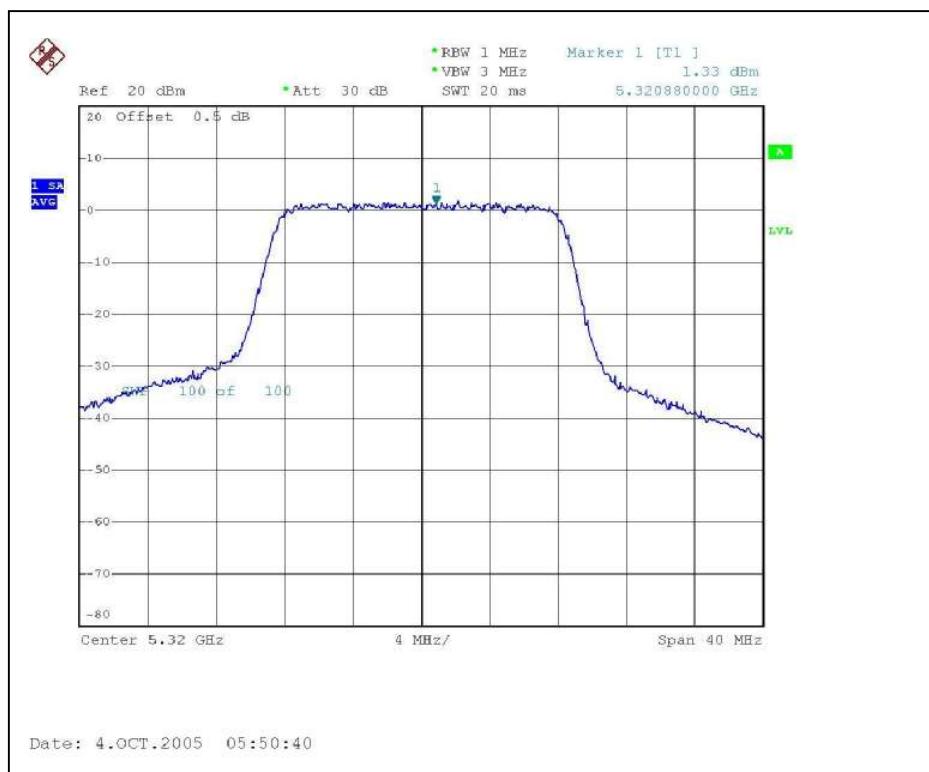
FCC ID: Q9DAP80



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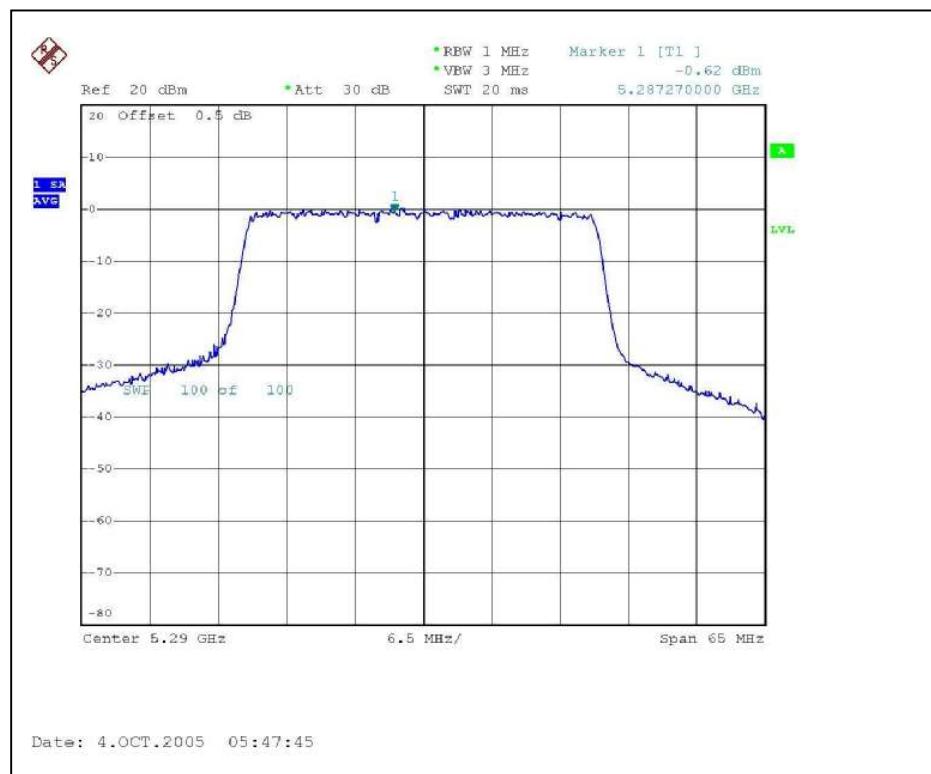
802.11a Turbo OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

Antenna 1 (Gain : 9.0 dB) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5290	-0.62	9.36	PASS

CH1



4.5.8 TEST RESULTS (ANTENNA 2)

802.11a OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

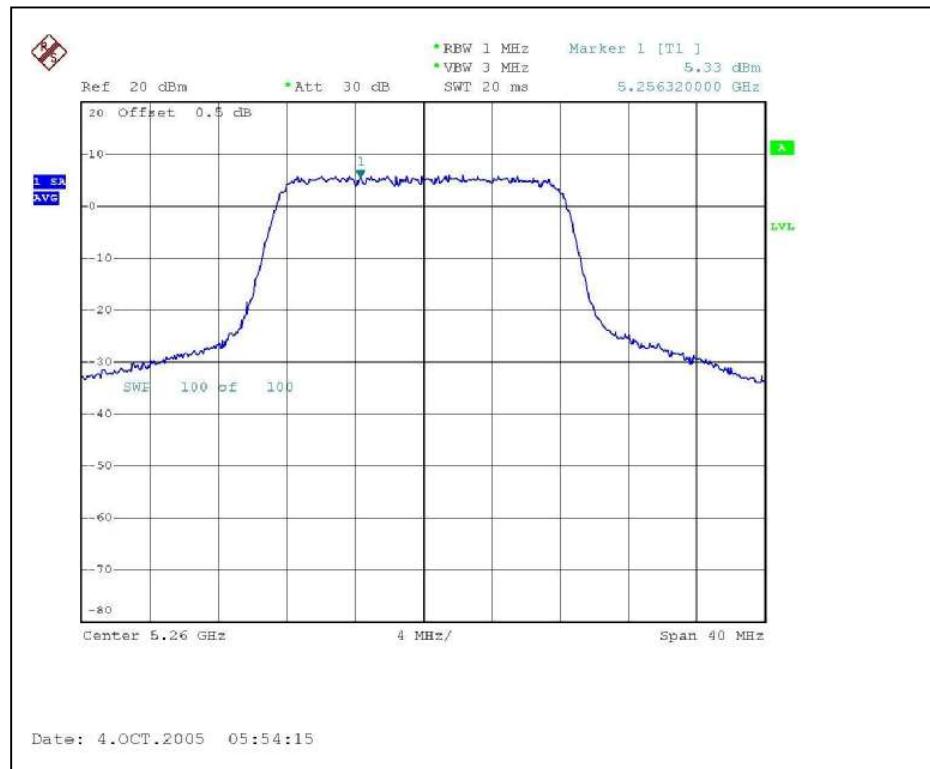
Antenna 2 (Gain : 7.0 dBi) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5260	5.33	11	PASS
4	5320	1.77	11	PASS

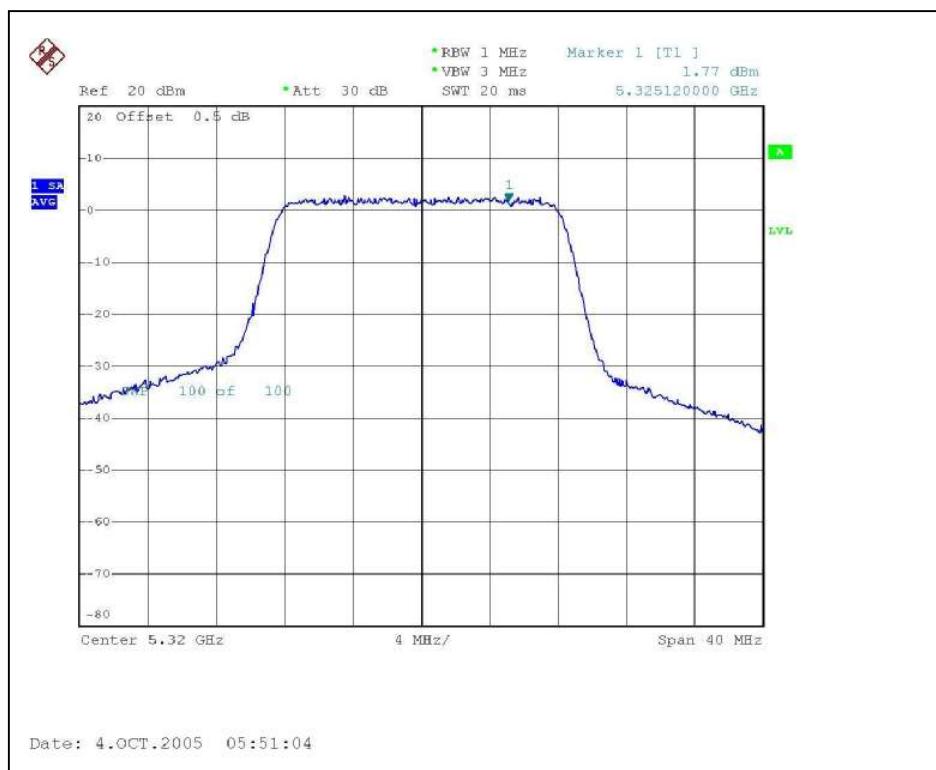
FCC ID: Q9DAP80



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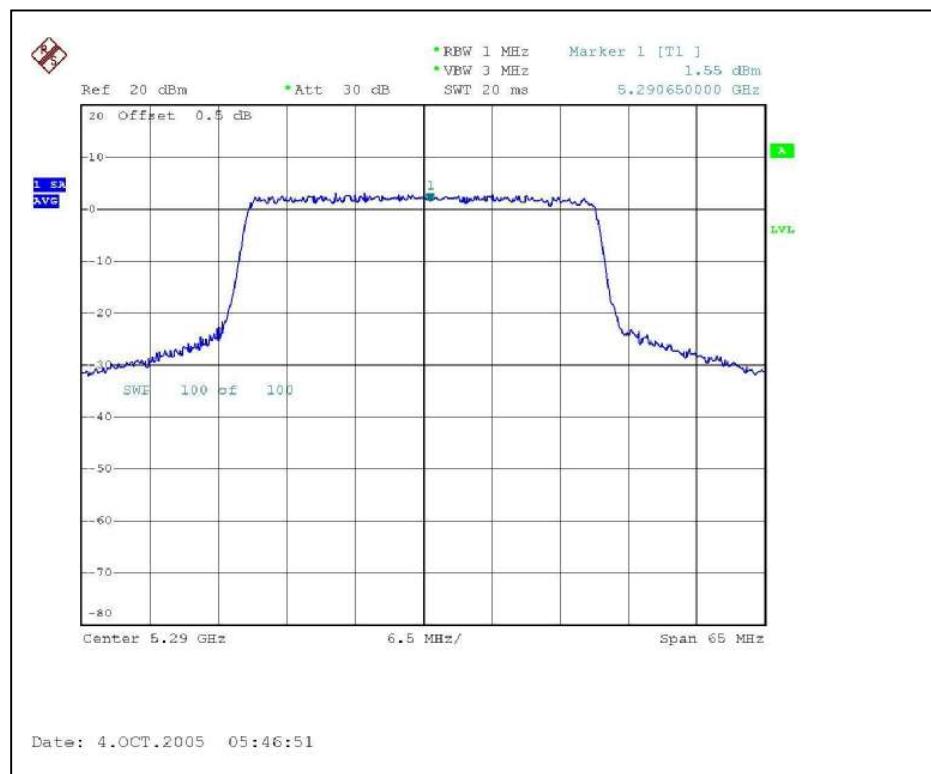
802.11a Turbo OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

Antenna 2 (Gain : 7.0 dBi) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5290	1.55	11	PASS

CH1



4.5.9 TEST RESULTS (ANTENNA 3)

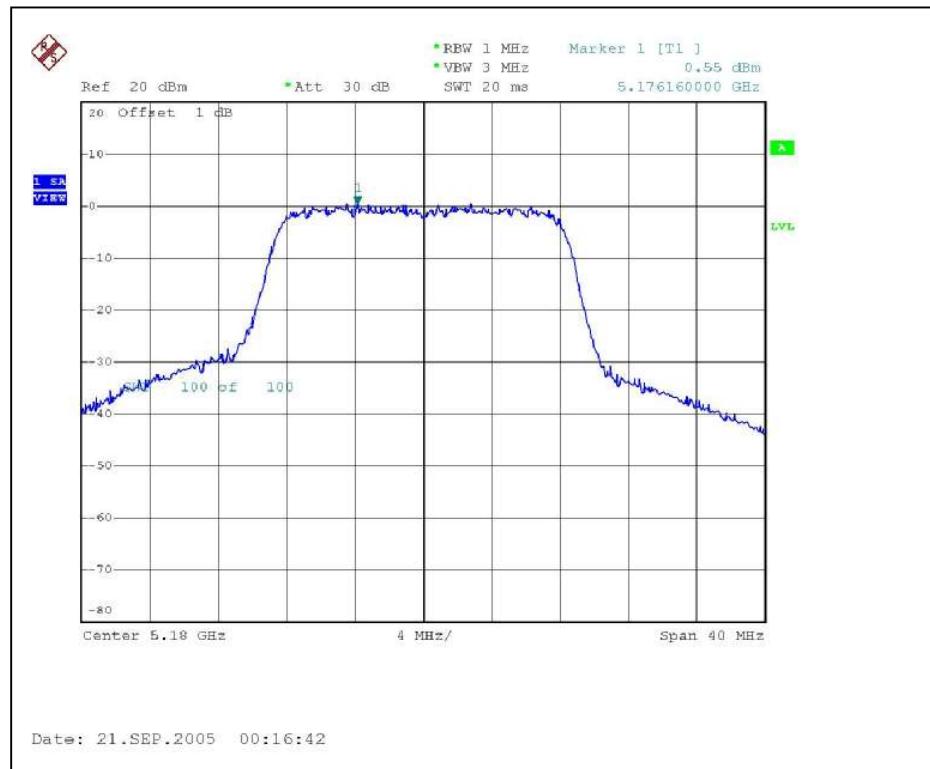
802.11a OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

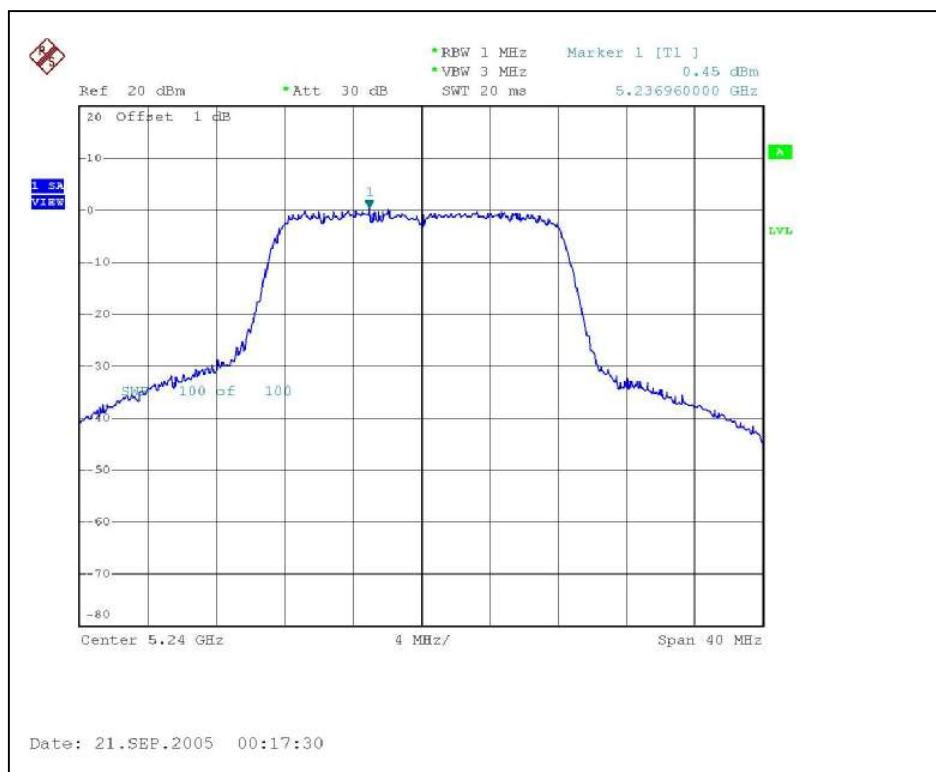
Antenna 3 (Gain : 9.0 dBi) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5260	0.55	9.36	PASS
4	5320	0.45	9.36	PASS

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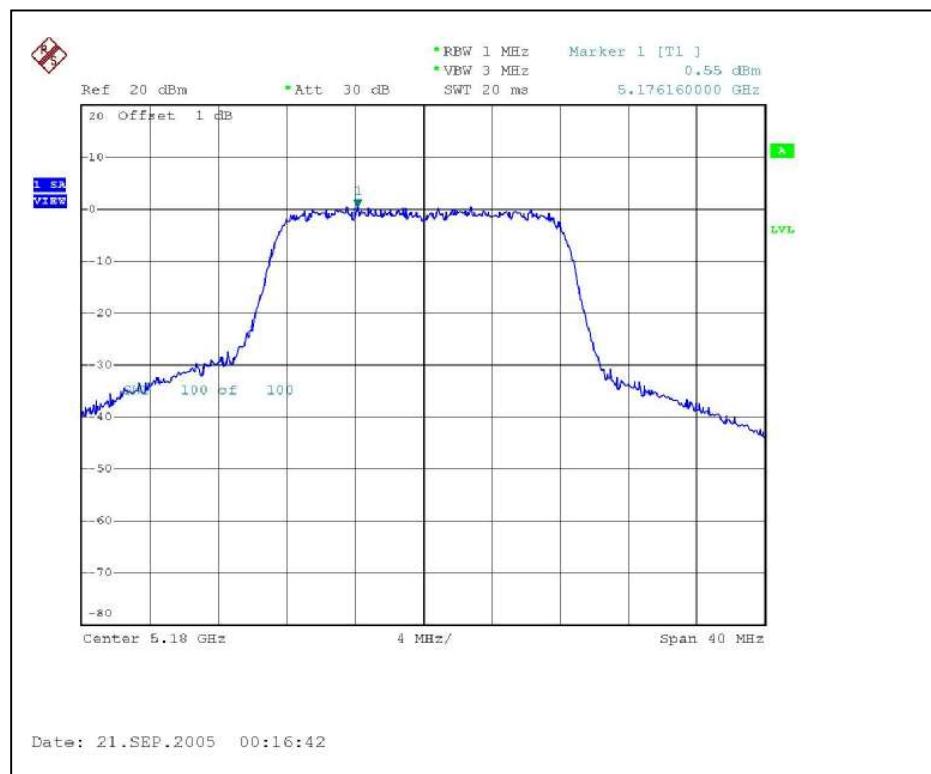
802.11a Turbo OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

Antenna 3 (Gain : 9.0 dBi) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5290	0.55	9.36	PASS

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4.5.10 TEST RESULTS (ANTENNA 4)

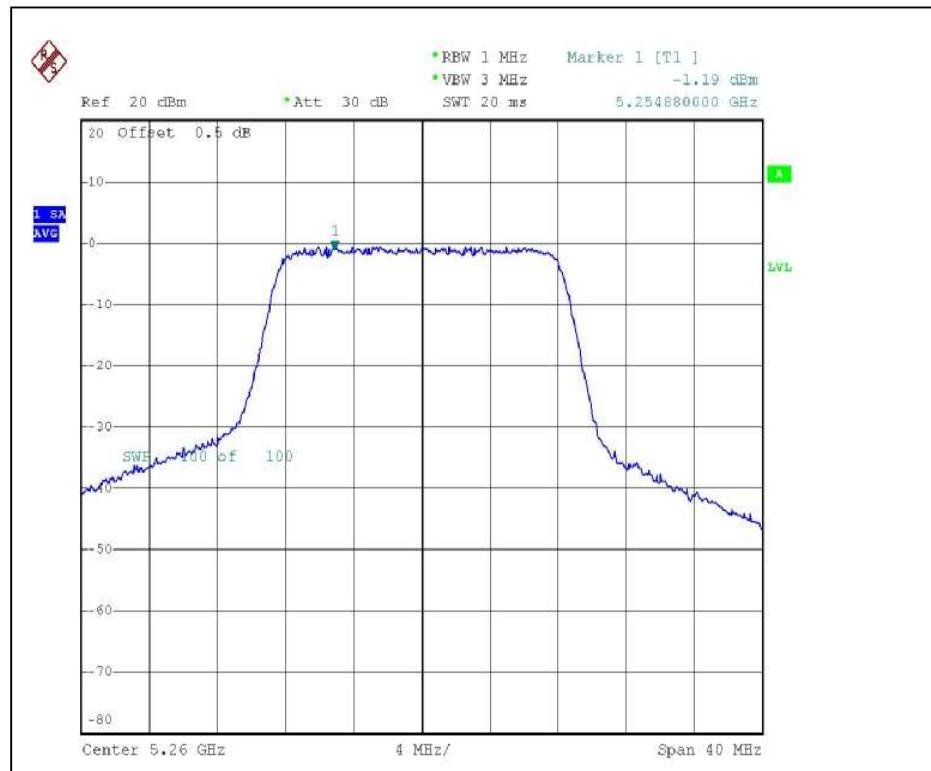
802.11a OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	6Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

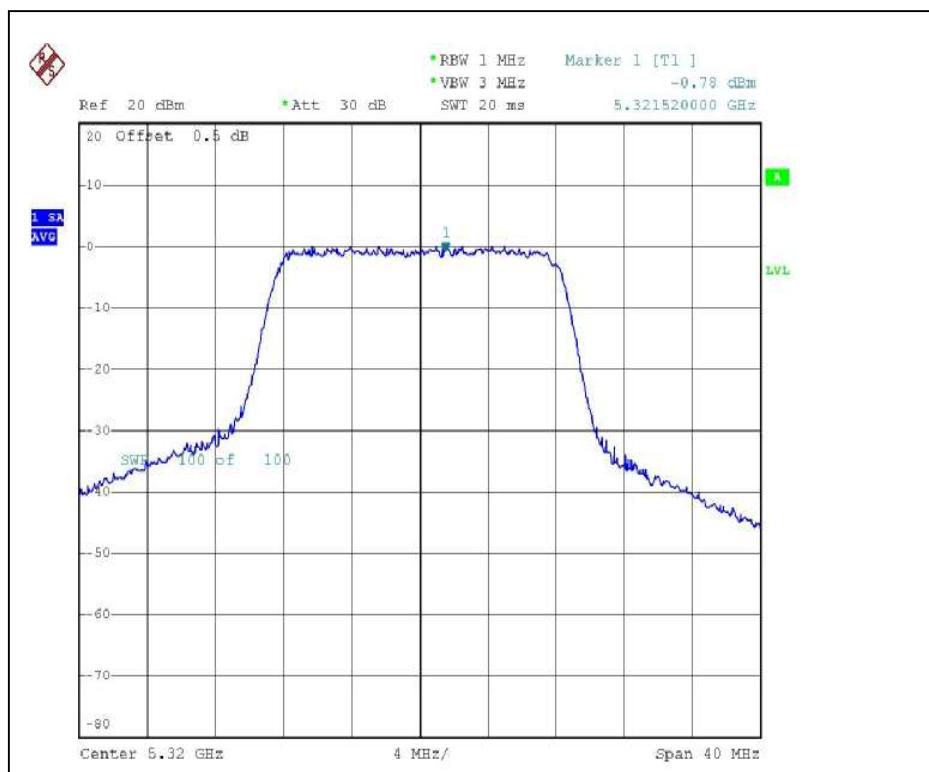
Antenna 4 (Gain : 14.0 dBi) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5260	-1.19	4.36	PASS
4	5320	-0.78	4.36	PASS

CH1



CH4



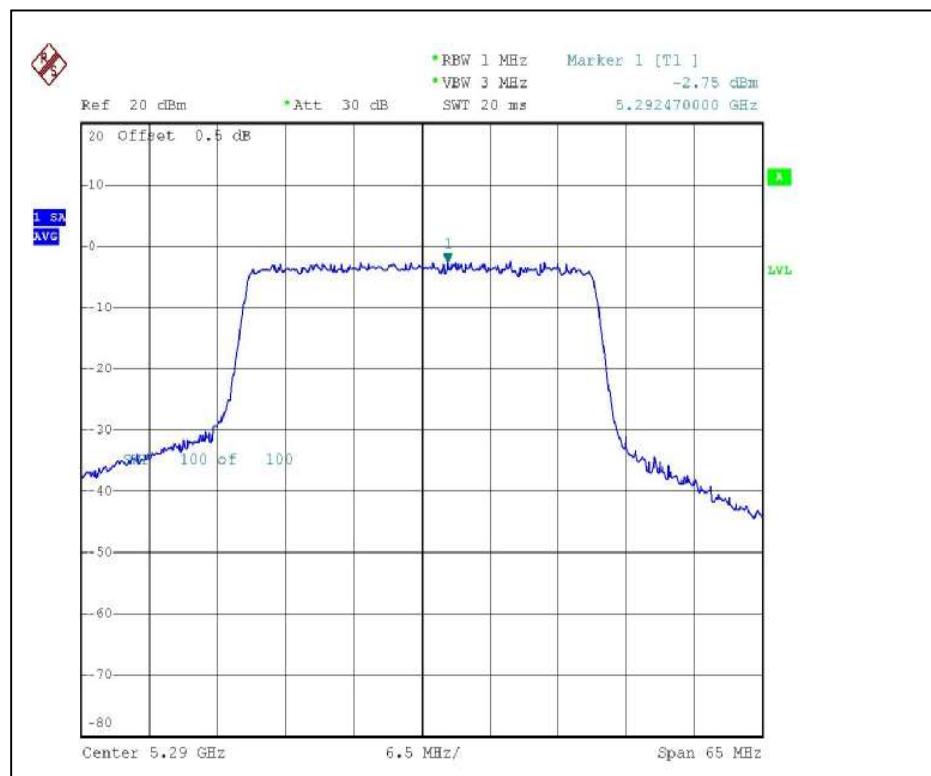
802.11a Turbo OFDM modulation

EUT	Aruba 80 a+b/g Outdoor Stand-alone Access Point / WDS Bridge Master		
MODEL	AP-80MB	TRANSFER RATE	12Mbps
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 966hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

Antenna 4 (Gain : 14.0 dBi) +Cable loss (1.36dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5290	-2.75	4.36	PASS

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4.6 FREQUENCY STABILITY

4.6.1 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.

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

NOTE:

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

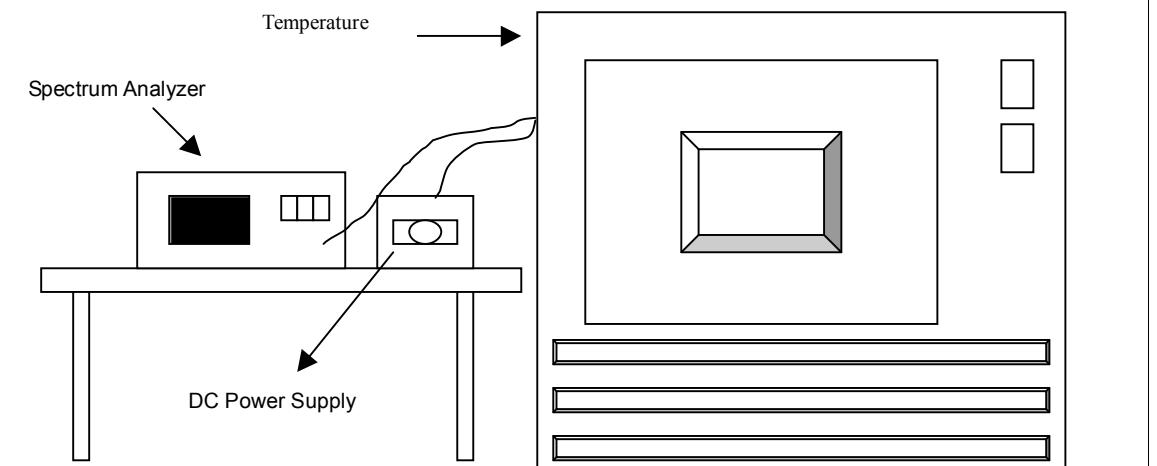
4.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC 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.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

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

4.6.7 TEST RESULTS (ANTENNA 1)

Operating frequency: 5320MHz						Limit : $\pm 0.02\%$	
Temp. (°C)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0084	0.000158	5320.0106	0.000199	5320.0124	0.000233
	110	5320.0076	0.000143	5320.0101	0.000190	5320.0115	0.000216
	93.5	5320.0079	0.000148	5320.0098	0.000184	5320.0107	0.000201
40	126.5	5319.9938	0.000117	5319.9926	0.000139	5319.9912	0.000165
	110	5319.9946	0.000102	5319.9932	0.000128	5319.9914	0.000162
	93.5	5319.9925	0.000141	5319.9937	0.000118	5319.9954	0.000086
30	126.5	5320.0234	0.000440	5320.0216	0.000406	5320.0188	0.000353
	110	5320.0228	0.000429	5320.0212	0.000398	5320.0204	0.000383
	93.5	5320.0231	0.000434	5320.0218	0.000410	5320.0196	0.000368
20	126.5	5320.0153	0.000288	5320.0146	0.000274	5320.0139	0.000261
	110	5320.0144	0.000271	5320.0142	0.000267	5320.0123	0.000231
	93.5	5320.0132	0.000248	5320.0128	0.000241	5320.0106	0.000199
10	126.5	5320.0247	0.000464	5320.0252	0.000474	5320.0234	0.000440
	110	5320.0238	0.000447	5320.0232	0.000436	5320.0216	0.000406
	93.5	5320.0243	0.000457	5320.0204	0.000383	5320.0202	0.000380
0	126.5	5320.0312	0.000586	5320.0303	0.000570	5320.0286	0.000538
	110	5320.0316	0.000594	5320.0305	0.000573	5320.0298	0.000560
	93.5	5320.0318	0.000598	5320.0312	0.000586	5320.0308	0.000579
-10	126.5	5320.0114	0.000214	5320.0111	0.000209	5320.0102	0.000192
	110	5320.0121	0.000227	5320.0115	0.000216	5320.0101	0.000190
	93.5	5320.0126	0.000237	5320.0112	0.000211	5320.0098	0.000184
-20	126.5	5320.0248	0.000466	5320.0259	0.000487	5320.0268	0.000504
	110	5320.0306	0.000575	5320.0302	0.000568	5320.0286	0.000538
	93.5	5320.0284	0.000534	5320.0272	0.000511	5320.0261	0.000491
-30	126.5	5319.9842	0.000297	5319.9876	0.000233	5319.9895	0.000197
	110	5319.9874	0.000237	5319.9883	0.000220	5319.9908	0.000173
	93.5	5319.9908	0.000173	5319.9916	0.000158	5319.9931	0.000130

4.6.8 TEST RESULTS (ANTENNA 2)

Operating frequency: 5320MHz						Limit : $\pm 0.02\%$	
Temp. (°C)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0084	0.000158	5320.0106	0.000199	5320.0124	0.000233
	110	5320.0076	0.000143	5320.0101	0.000190	5320.0115	0.000216
	93.5	5320.0079	0.000148	5320.0098	0.000184	5320.0107	0.000201
40	126.5	5319.9938	0.000117	5319.9926	0.000139	5319.9912	0.000165
	110	5319.9946	0.000102	5319.9932	0.000128	5319.9914	0.000162
	93.5	5319.9925	0.000141	5319.9937	0.000118	5319.9954	0.000086
30	126.5	5320.0234	0.000440	5320.0216	0.000406	5320.0188	0.000353
	110	5320.0228	0.000429	5320.0212	0.000398	5320.0204	0.000383
	93.5	5320.0231	0.000434	5320.0218	0.000410	5320.0196	0.000368
20	126.5	5320.0153	0.000288	5320.0146	0.000274	5320.0139	0.000261
	110	5320.0144	0.000271	5320.0142	0.000267	5320.0123	0.000231
	93.5	5320.0132	0.000248	5320.0128	0.000241	5320.0106	0.000199
10	126.5	5320.0247	0.000464	5320.0252	0.000474	5320.0234	0.000440
	110	5320.0238	0.000447	5320.0232	0.000436	5320.0216	0.000406
	93.5	5320.0243	0.000457	5320.0204	0.000383	5320.0202	0.000380
0	126.5	5320.0312	0.000586	5320.0303	0.000570	5320.0286	0.000538
	110	5320.0316	0.000594	5320.0305	0.000573	5320.0298	0.000560
	93.5	5320.0318	0.000598	5320.0312	0.000586	5320.0308	0.000579
-10	126.5	5320.0114	0.000214	5320.0111	0.000209	5320.0102	0.000192
	110	5320.0121	0.000227	5320.0115	0.000216	5320.0101	0.000190
	93.5	5320.0126	0.000237	5320.0112	0.000211	5320.0098	0.000184
-20	126.5	5320.0248	0.000466	5320.0259	0.000487	5320.0268	0.000504
	110	5320.0306	0.000575	5320.0302	0.000568	5320.0286	0.000538
	93.5	5320.0284	0.000534	5320.0272	0.000511	5320.0261	0.000491
-30	126.5	5319.9842	0.000297	5319.9876	0.000233	5319.9895	0.000197
	110	5319.9874	0.000237	5319.9883	0.000220	5319.9908	0.000173
	93.5	5319.9908	0.000173	5319.9916	0.000158	5319.9931	0.000130

4.6.9 TEST RESULTS (ANTENNA 3)

Operating frequency: 5320MHz						Limit : $\pm 0.02\%$	
Temp. (°C)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0084	0.000158	5320.0106	0.000199	5320.0124	0.000233
	110	5320.0076	0.000143	5320.0101	0.000190	5320.0115	0.000216
	93.5	5320.0079	0.000148	5320.0098	0.000184	5320.0107	0.000201
40	126.5	5319.9938	0.000117	5319.9926	0.000139	5319.9912	0.000165
	110	5319.9946	0.000102	5319.9932	0.000128	5319.9914	0.000162
	93.5	5319.9925	0.000141	5319.9937	0.000118	5319.9954	0.000086
30	126.5	5320.0234	0.000440	5320.0216	0.000406	5320.0188	0.000353
	110	5320.0228	0.000429	5320.0212	0.000398	5320.0204	0.000383
	93.5	5320.0231	0.000434	5320.0218	0.000410	5320.0196	0.000368
20	126.5	5320.0153	0.000288	5320.0146	0.000274	5320.0139	0.000261
	110	5320.0144	0.000271	5320.0142	0.000267	5320.0123	0.000231
	93.5	5320.0132	0.000248	5320.0128	0.000241	5320.0106	0.000199
10	126.5	5320.0247	0.000464	5320.0252	0.000474	5320.0234	0.000440
	110	5320.0238	0.000447	5320.0232	0.000436	5320.0216	0.000406
	93.5	5320.0243	0.000457	5320.0204	0.000383	5320.0202	0.000380
0	126.5	5320.0312	0.000586	5320.0303	0.000570	5320.0286	0.000538
	110	5320.0316	0.000594	5320.0305	0.000573	5320.0298	0.000560
	93.5	5320.0318	0.000598	5320.0312	0.000586	5320.0308	0.000579
-10	126.5	5320.0114	0.000214	5320.0111	0.000209	5320.0102	0.000192
	110	5320.0121	0.000227	5320.0115	0.000216	5320.0101	0.000190
	93.5	5320.0126	0.000237	5320.0112	0.000211	5320.0098	0.000184
-20	126.5	5320.0248	0.000466	5320.0259	0.000487	5320.0268	0.000504
	110	5320.0306	0.000575	5320.0302	0.000568	5320.0286	0.000538
	93.5	5320.0284	0.000534	5320.0272	0.000511	5320.0261	0.000491
-30	126.5	5319.9842	0.000297	5319.9876	0.000233	5319.9895	0.000197
	110	5319.9874	0.000237	5319.9883	0.000220	5319.9908	0.000173
	93.5	5319.9908	0.000173	5319.9916	0.000158	5319.9931	0.000130

4.6.10 TEST RESULTS (ANTENNA 4)

Operating frequency: 5320MHz						Limit : $\pm 0.02\%$	
Temp. (°C)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0084	0.000158	5320.0106	0.000199	5320.0124	0.000233
	110	5320.0076	0.000143	5320.0101	0.000190	5320.0115	0.000216
	93.5	5320.0079	0.000148	5320.0098	0.000184	5320.0107	0.000201
40	126.5	5319.9938	0.000117	5319.9926	0.000139	5319.9912	0.000165
	110	5319.9946	0.000102	5319.9932	0.000128	5319.9914	0.000162
	93.5	5319.9925	0.000141	5319.9937	0.000118	5319.9954	0.000086
30	126.5	5320.0234	0.000440	5320.0216	0.000406	5320.0188	0.000353
	110	5320.0228	0.000429	5320.0212	0.000398	5320.0204	0.000383
	93.5	5320.0231	0.000434	5320.0218	0.000410	5320.0196	0.000368
20	126.5	5320.0153	0.000288	5320.0146	0.000274	5320.0139	0.000261
	110	5320.0144	0.000271	5320.0142	0.000267	5320.0123	0.000231
	93.5	5320.0132	0.000248	5320.0128	0.000241	5320.0106	0.000199
10	126.5	5320.0247	0.000464	5320.0252	0.000474	5320.0234	0.000440
	110	5320.0238	0.000447	5320.0232	0.000436	5320.0216	0.000406
	93.5	5320.0243	0.000457	5320.0204	0.000383	5320.0202	0.000380
0	126.5	5320.0312	0.000586	5320.0303	0.000570	5320.0286	0.000538
	110	5320.0316	0.000594	5320.0305	0.000573	5320.0298	0.000560
	93.5	5320.0318	0.000598	5320.0312	0.000586	5320.0308	0.000579
-10	126.5	5320.0114	0.000214	5320.0111	0.000209	5320.0102	0.000192
	110	5320.0121	0.000227	5320.0115	0.000216	5320.0101	0.000190
	93.5	5320.0126	0.000237	5320.0112	0.000211	5320.0098	0.000184
-20	126.5	5320.0248	0.000466	5320.0259	0.000487	5320.0268	0.000504
	110	5320.0306	0.000575	5320.0302	0.000568	5320.0286	0.000538
	93.5	5320.0284	0.000534	5320.0272	0.000511	5320.0261	0.000491
-30	126.5	5319.9842	0.000297	5319.9876	0.000233	5319.9895	0.000197
	110	5319.9874	0.000237	5319.9883	0.000220	5319.9908	0.000173
	93.5	5319.9908	0.000173	5319.9916	0.000158	5319.9931	0.000130

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.7.2 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 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.7.3 EUT OPERATING CONDITION

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

4.7.4 TEST RESULTS (ANTENNA 1)

For signals in the restricted bands above and below the 5.15 to 5.35GHz 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 field strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

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

802.11a OFDM modulation

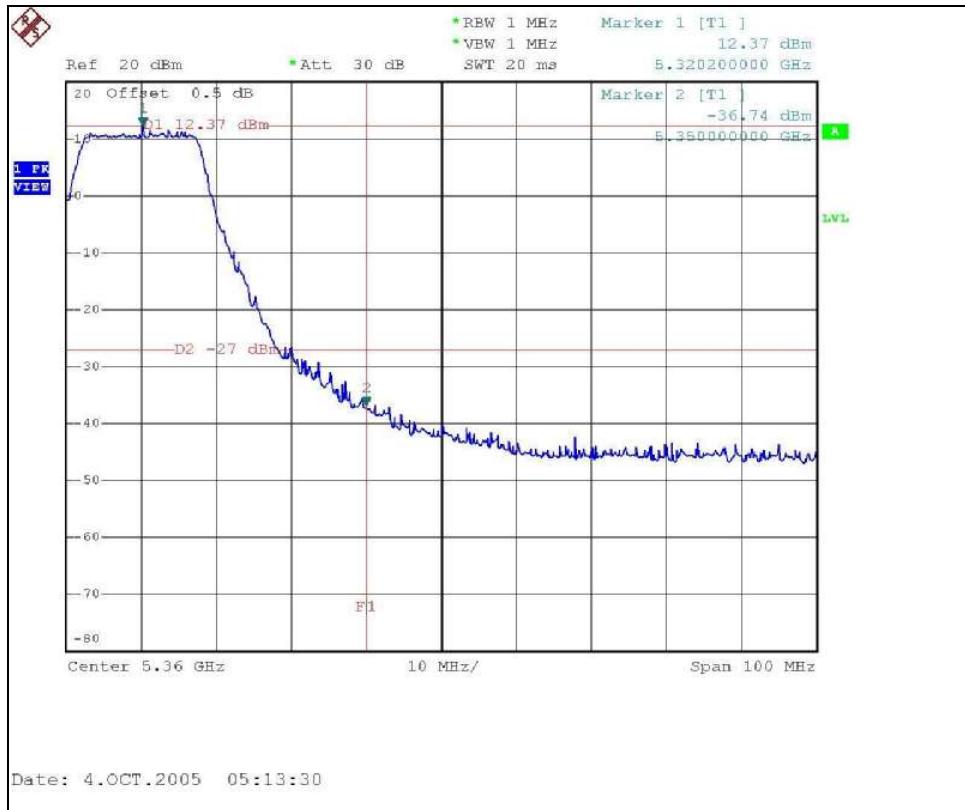
NOTE (Peak):

The band edge emission plot on the following page shows 49.11dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 113.2dBuV/m (Peak), so the maximum field strength in restrict band is $113.2 - 49.11 = 64.09$ dBuV/m which is under 74dBuV/m limit.

NOTE (Average):

The band edge emission plot on the following page shows 51.88dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 104.90dBuV/m (Average), so the maximum field strength in restrict band is $104.90 - 51.88 = 53.02$ dBuV/m which is under 54dBuV/m limit.

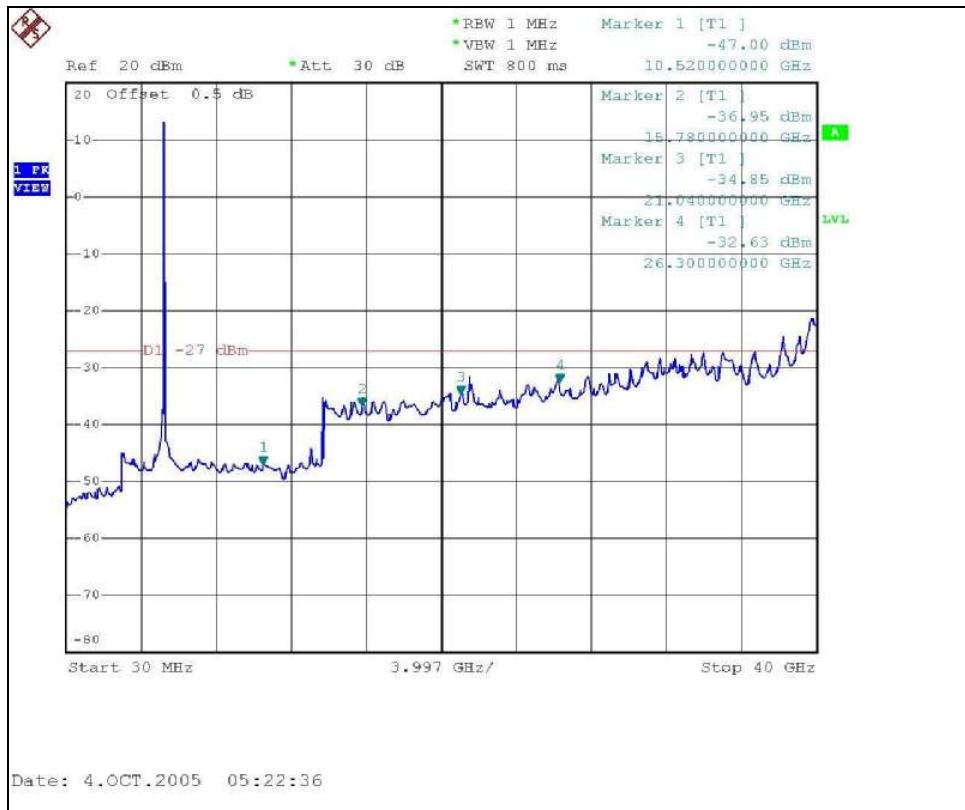
802.11a OFDM modulation



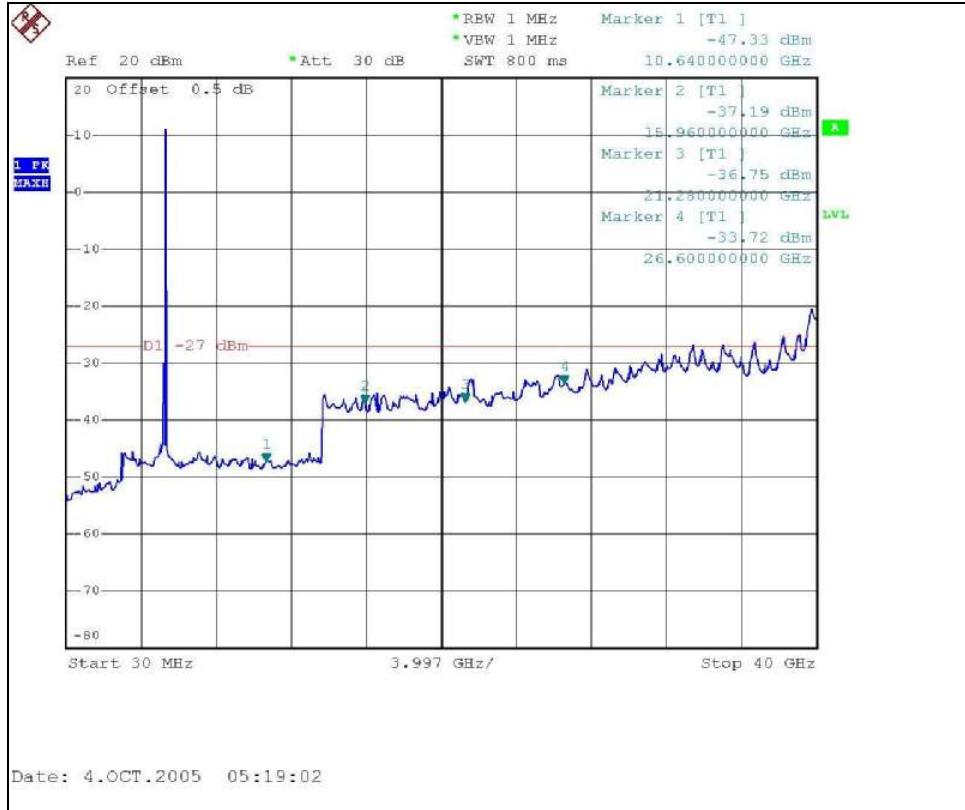
FCC ID: Q9DAP80



CH1



CH4



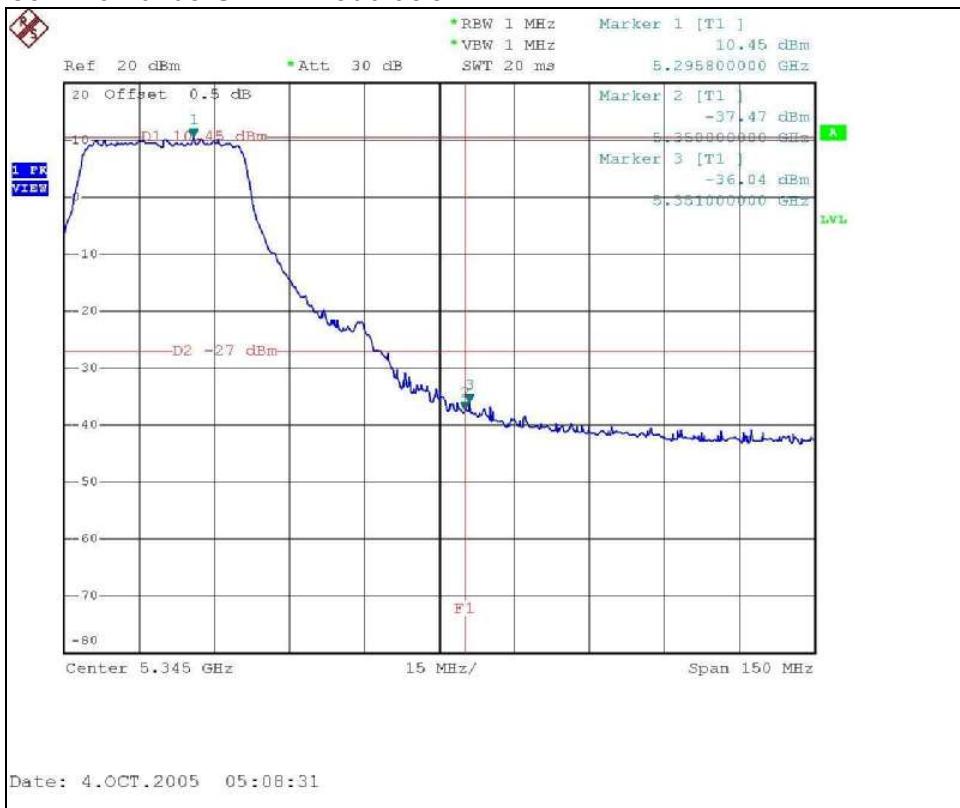
802.11a Turbo OFDM modulation**NOTE (Peak):**

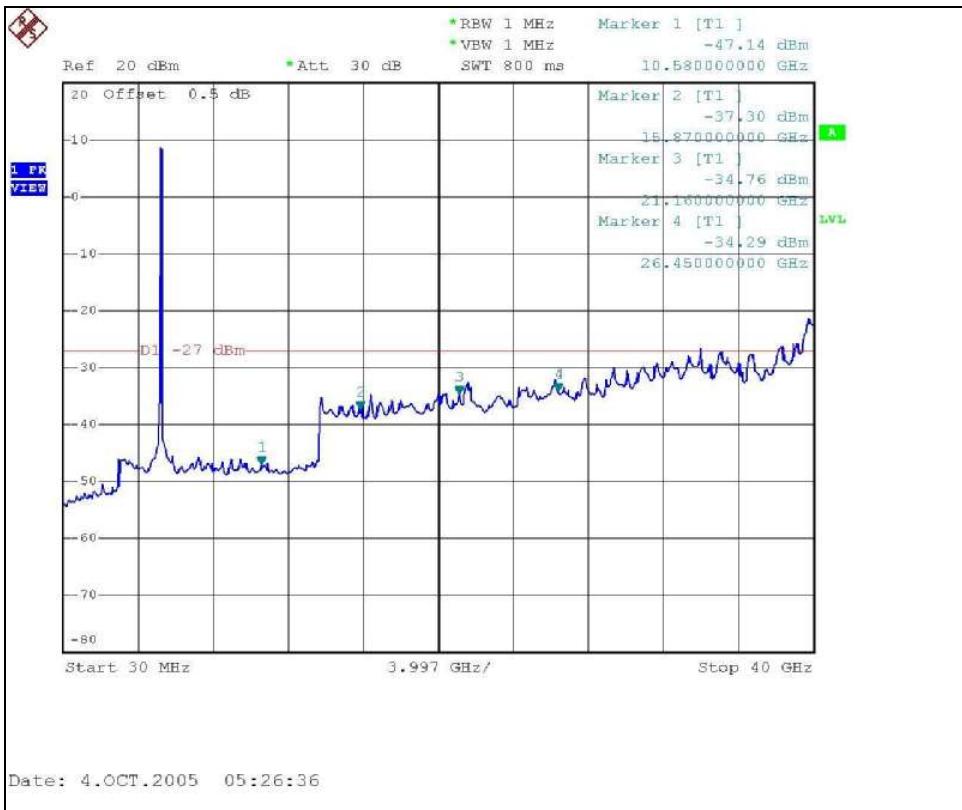
The band edge emission plot on the following first page shows 47.92dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 111.6dBuV/m (Peak), so the maximum field strength in restrict band is $111.6 - 47.92 = 63.68$ dBuV/m which is under 74dBuV/m limit.

NOTE (Average):

The band edge emission plot on the following second page shows 50.81dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 104.0dBuV/m (Average), so the maximum field strength in restrict band is $104.0 - 50.81 = 53.19$ dBuV/m which is under 54dBuV/m limit.

802.11a Turbo OFDM modulation





4.7.5 TEST RESULTS (ANTENNA 2)

For signals in the restricted bands above and below the 5.15 to 5.35GHz 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 field strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

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

802.11a OFDM modulation

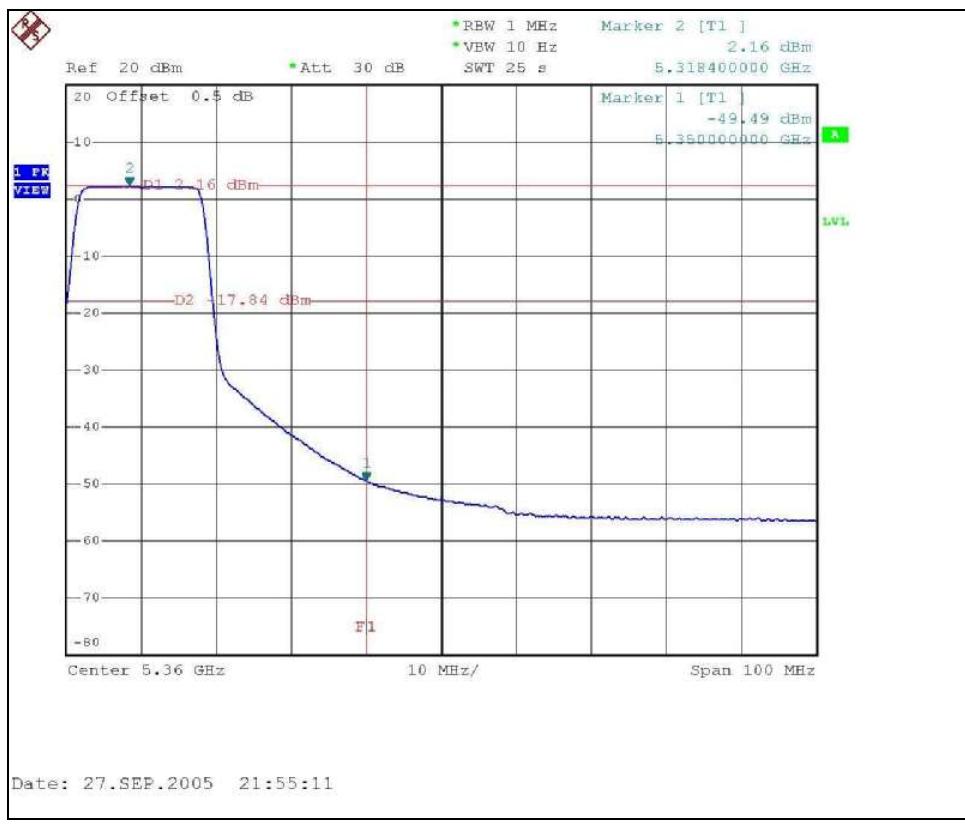
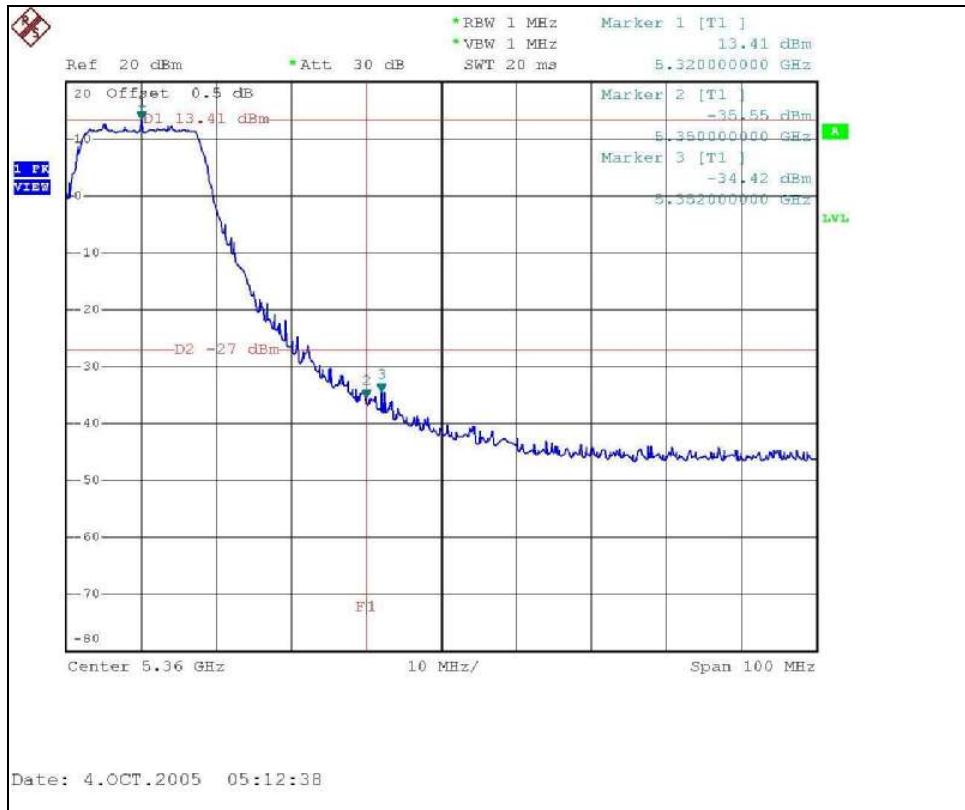
NOTE (Peak):

The band edge emission plot on the following page shows 48.96dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 113.9dBuV/m (Peak), so the maximum field strength in restrict band is $113.9 - 48.96 = 64.94$ dBuV/m which is under 74dBuV/m limit.

NOTE (Average):

The band edge emission plot on the following page shows 51.65dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 104.80dBuV/m (Average), so the maximum field strength in restrict band is $104.80 - 51.65 = 53.15$ dBuV/m which is under 54dBuV/m limit.

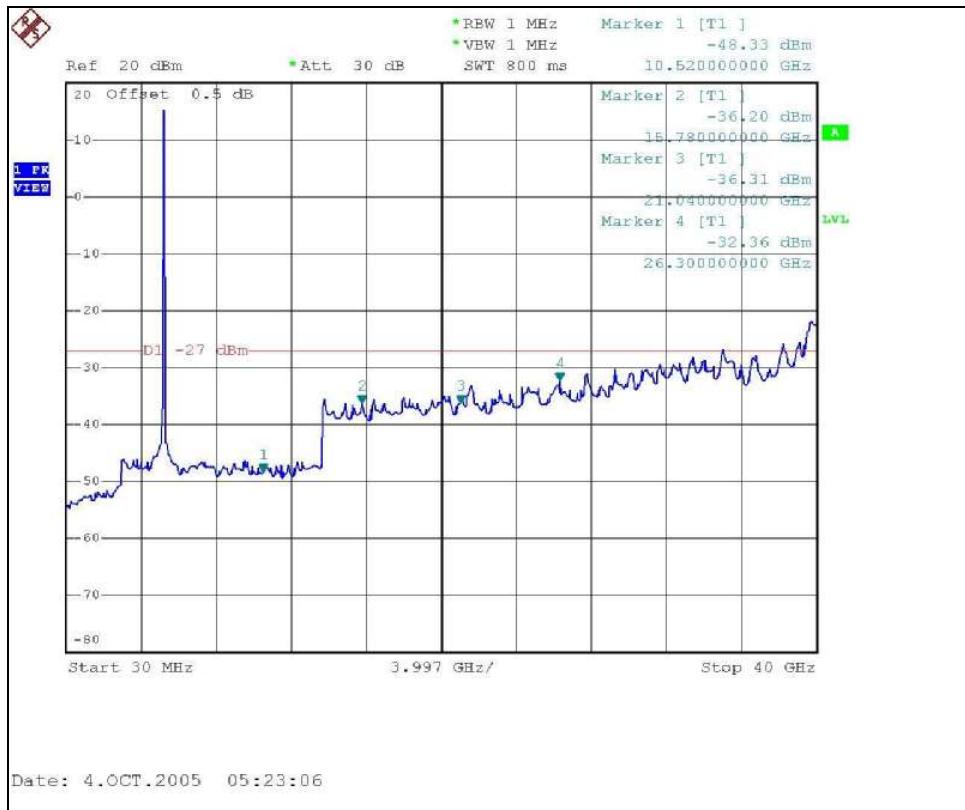
802.11a OFDM modulation



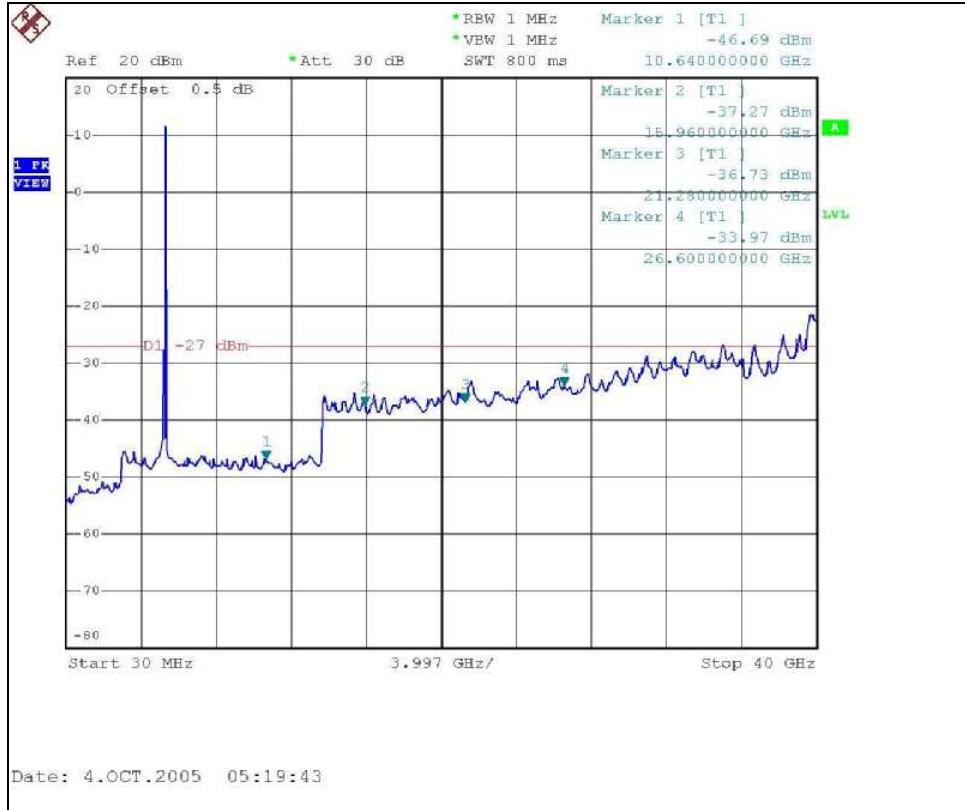
FCC ID: Q9DAP80



CH1



CH4



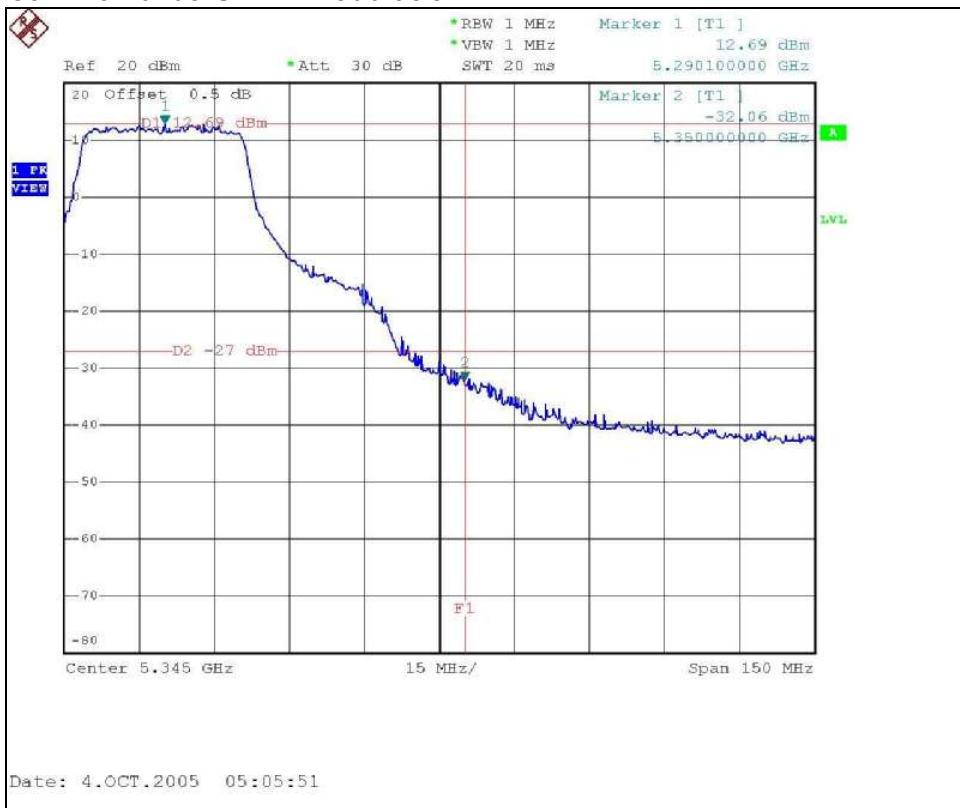
802.11a Turbo OFDM modulation**NOTE (Peak):**

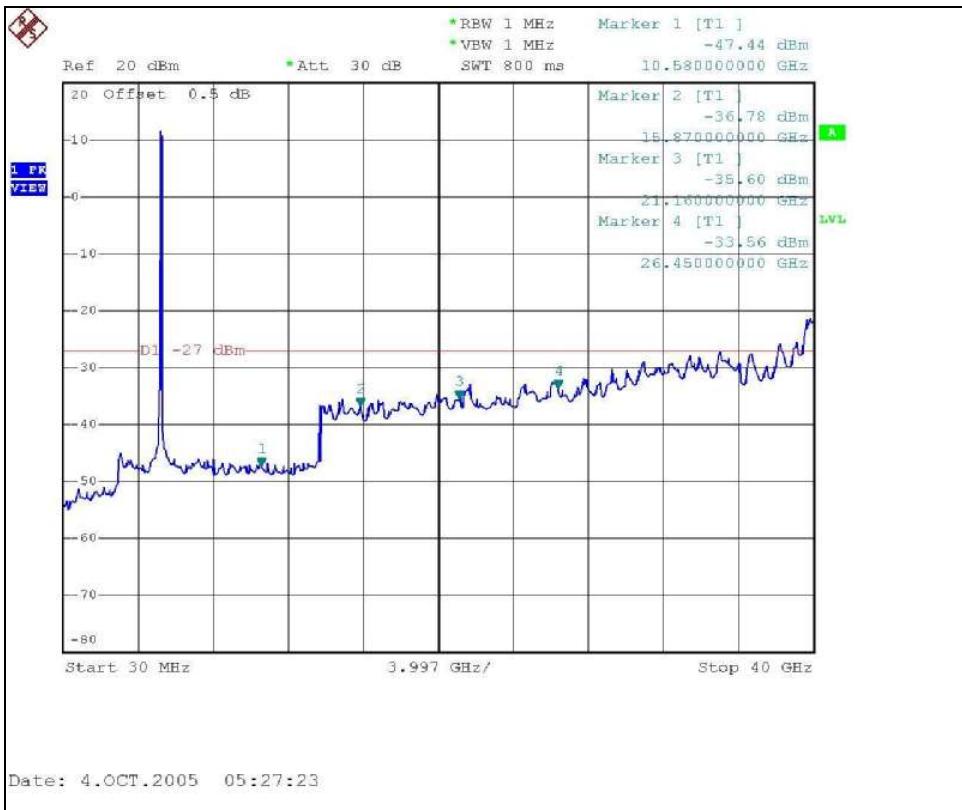
The band edge emission plot on the following first page shows 44.75dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 112.1dBuV/m (Peak), so the maximum field strength in restrict band is $112.1 - 44.75 = 67.35$ dBuV/m which is under 74dBuV/m limit.

NOTE (Average):

The band edge emission plot on the following second page shows 50.68dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 104.30dBuV/m (Average), so the maximum field strength in restrict band is $104.30 - 50.68 = 53.62$ dBuV/m which is under 54dBuV/m limit.

802.11a Turbo OFDM modulation





4.7.6 TEST RESULTS (ANTENNA 3)

For signals in the restricted bands above and below the 5.15 to 5.35GHz 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 field strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

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

802.11a OFDM modulation

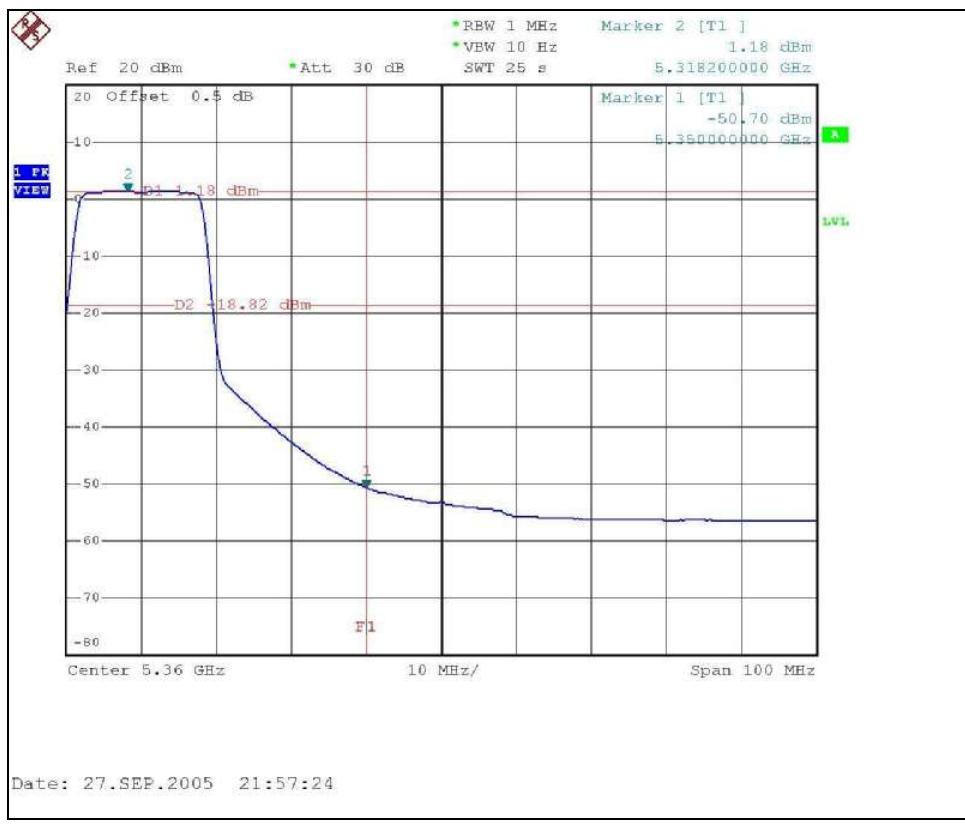
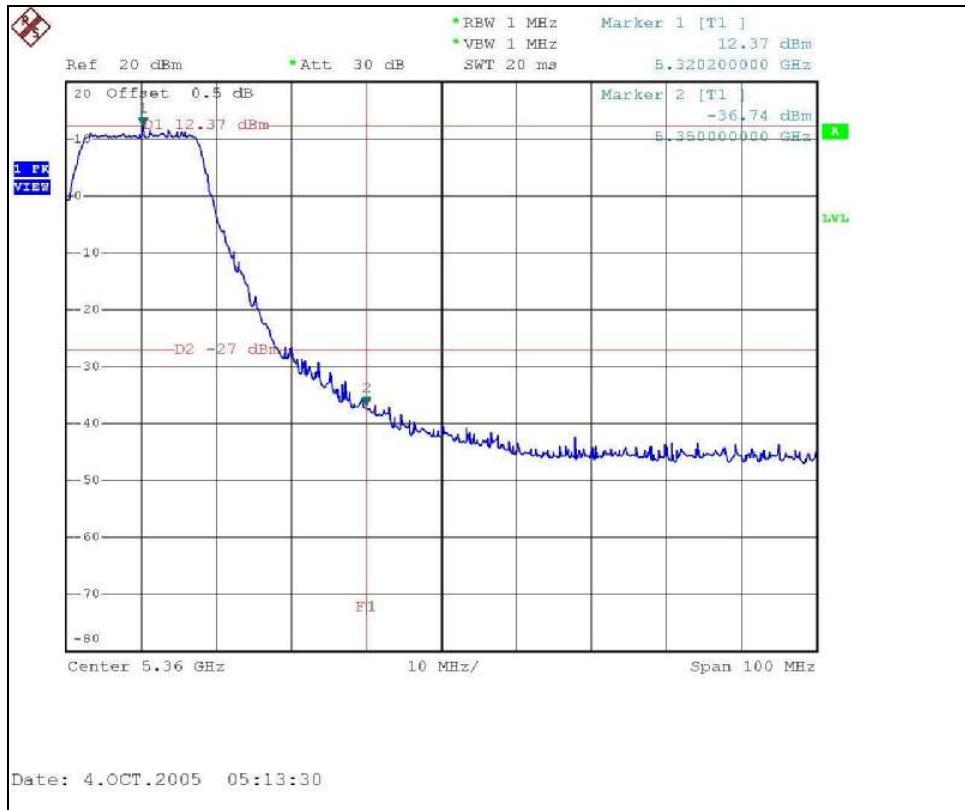
NOTE (Peak):

The band edge emission plot on the following page shows 49.11dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 113.8dBuV/m (Peak), so the maximum field strength in restrict band is $113.8 - 49.11 = 64.69$ dBuV/m which is under 74dBuV/m limit.

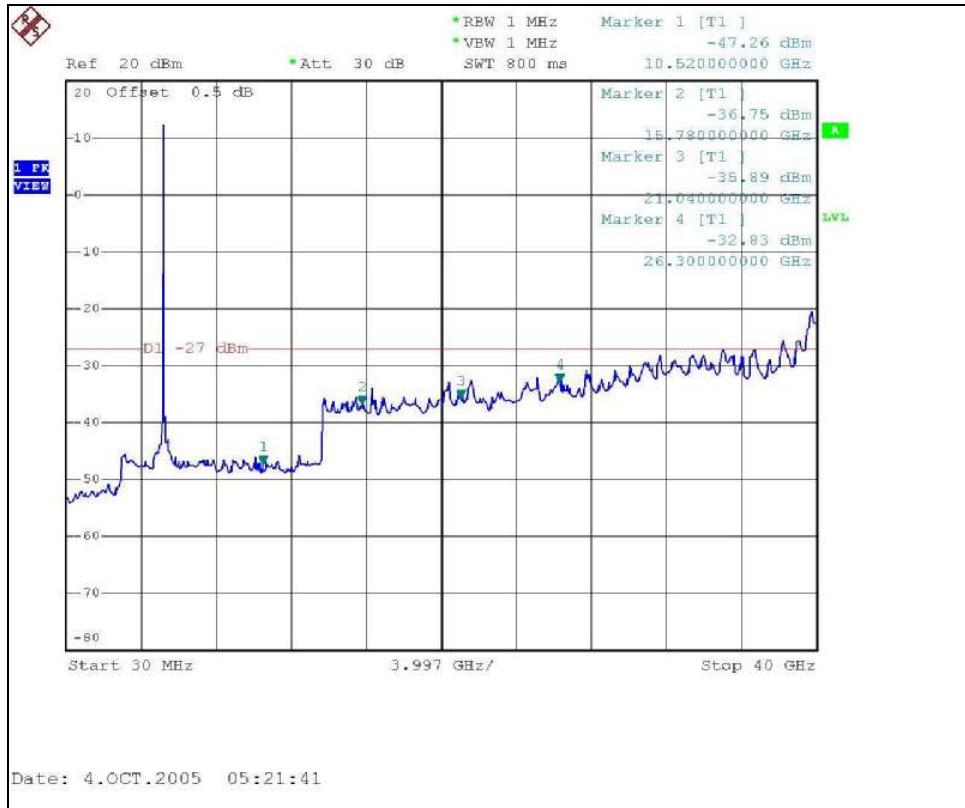
NOTE (Average):

The band edge emission plot on the following page shows 51.88dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 105.20dBuV/m (Average), so the maximum field strength in restrict band is $105.20 - 51.88 = 53.32$ dBuV/m which is under 54dBuV/m limit.

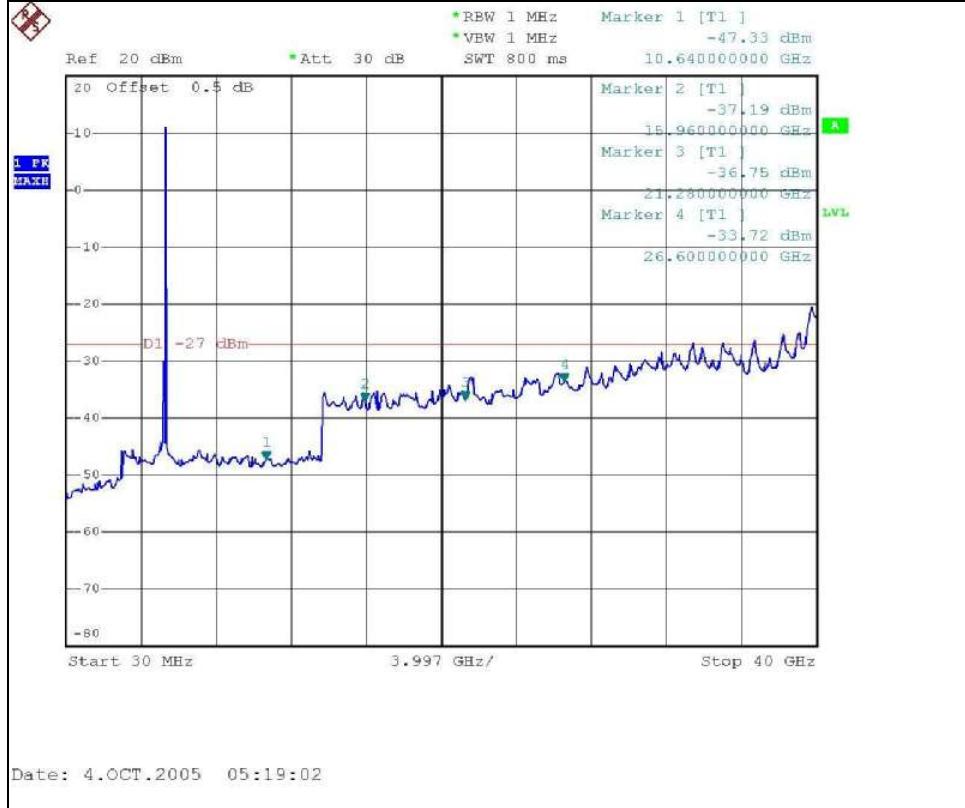
802.11a OFDM modulation



CH1



CH4



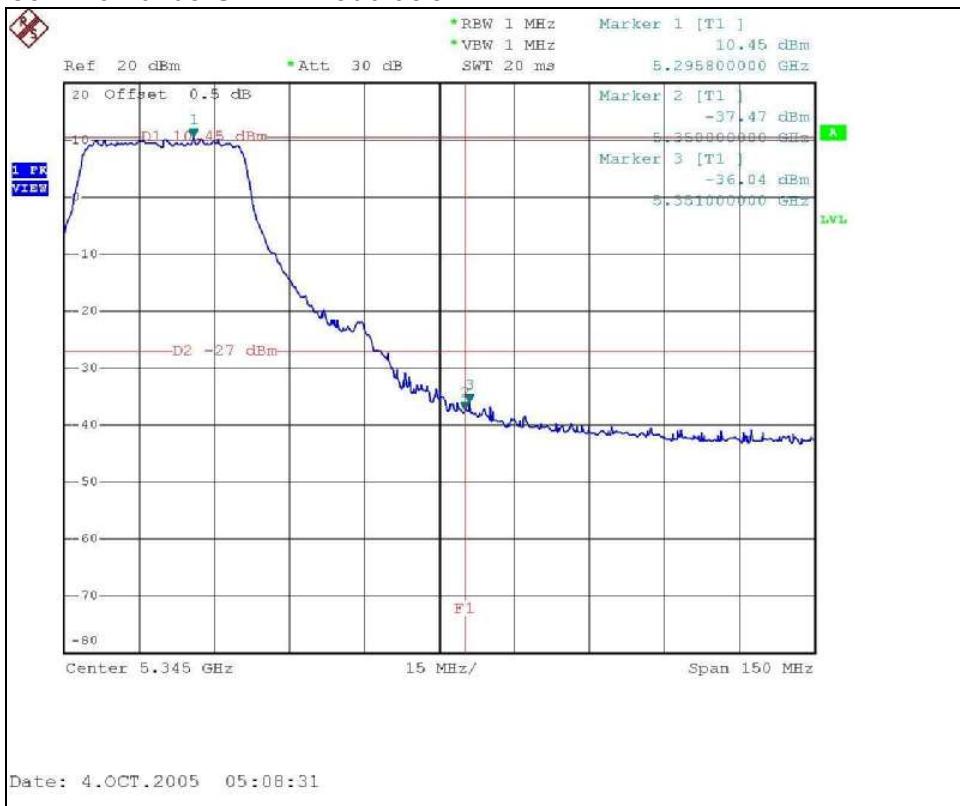
802.11a Turbo OFDM modulation**NOTE (Peak):**

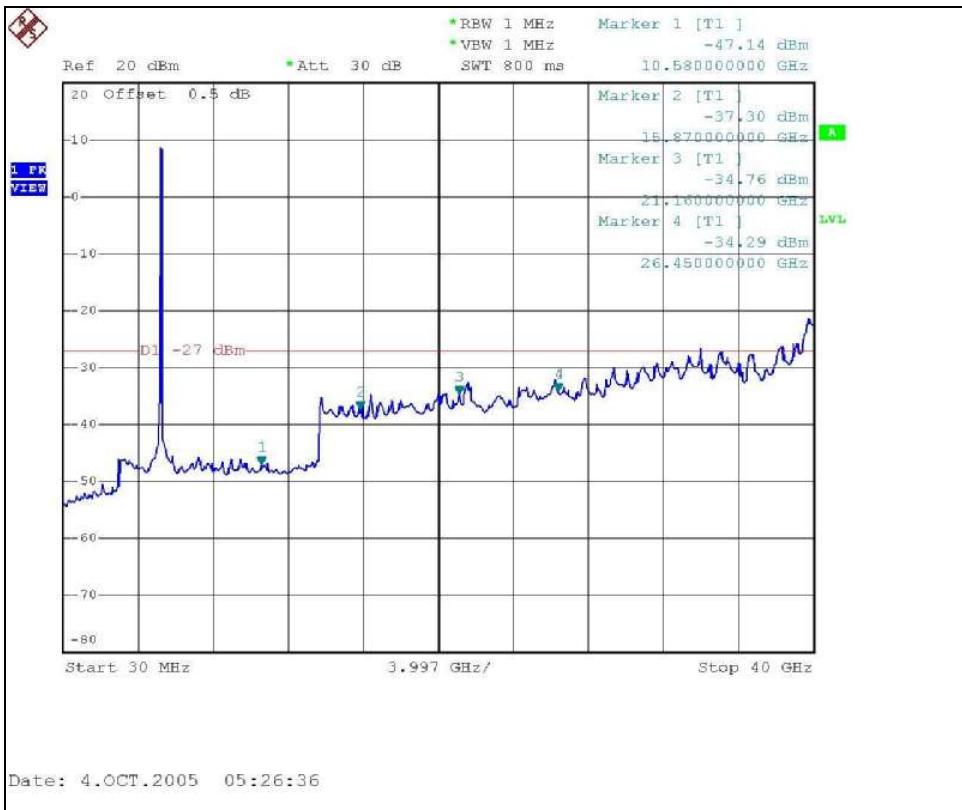
The band edge emission plot on the following first page shows 48.92dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 111.6dBuV/m (Peak), so the maximum field strength in restrict band is $111.6 - 48.92 = 62.68$ dBuV/m which is under 74dBuV/m limit.

NOTE (Average):

The band edge emission plot on the following second page shows 52.06dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 103.90dBuV/m (Average), so the maximum field strength in restrict band is $103.90 - 52.06 = 51.84$ dBuV/m which is under 54dBuV/m limit.

802.11a Turbo OFDM modulation





4.7.7 TEST RESULTS (ANTENNA 4)

For signals in the restricted bands above and below the 5.15 to 5.35GHz 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 field strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

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

802.11a OFDM modulation

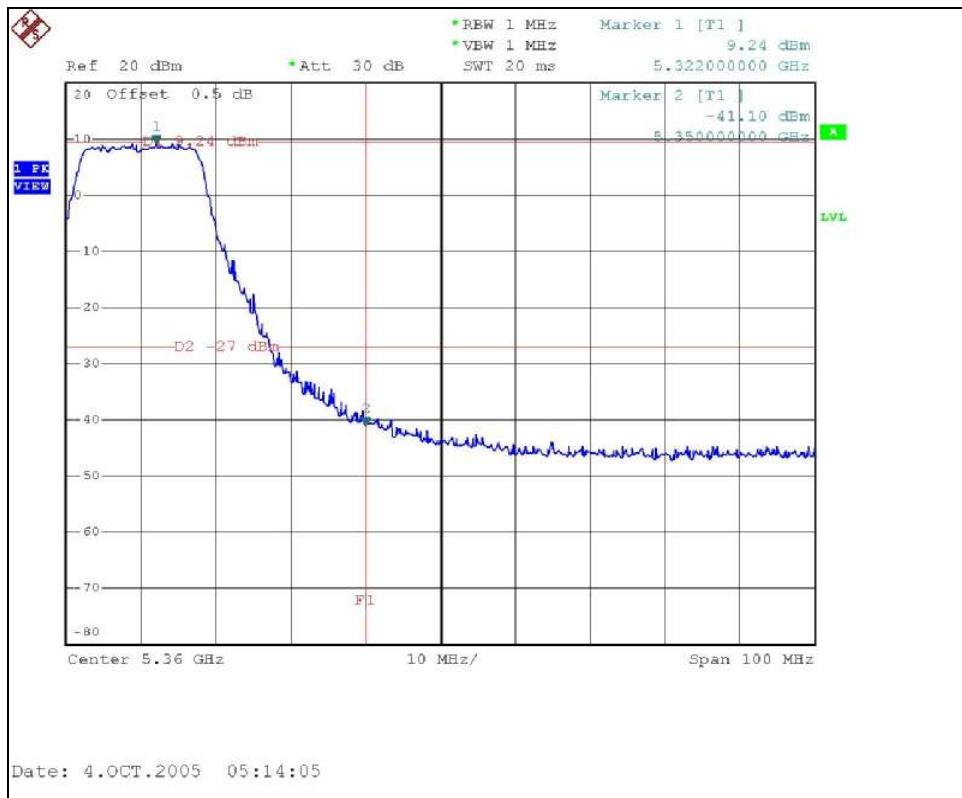
NOTE (Peak):

The band edge emission plot on the following page shows 50.34dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 112.8dBuV/m (Peak), so the maximum field strength in restrict band is $112.8 - 50.34 = 62.46$ dBuV/m which is under 74dBuV/m limit.

NOTE (Average):

The band edge emission plot on the following page shows 51.49dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 4 is 103.9dBuV/m (Average), so the maximum field strength in restrict band is $103.9 - 51.49 = 52.41$ dBuV/m which is under 54dBuV/m limit.

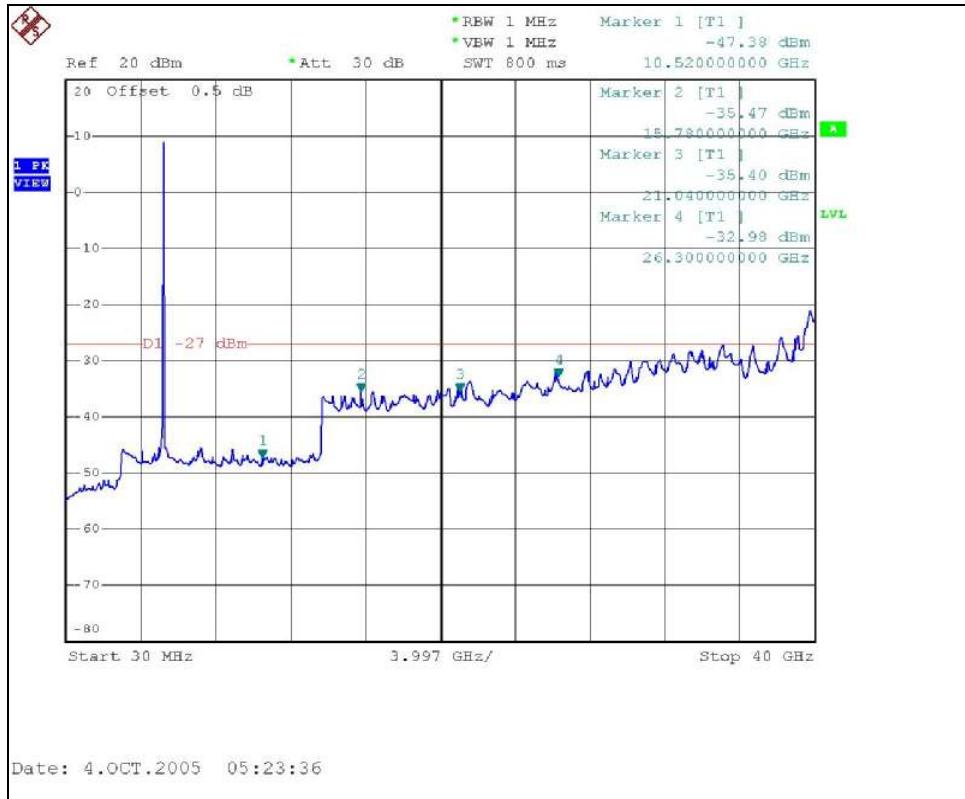
802.11a OFDM modulation



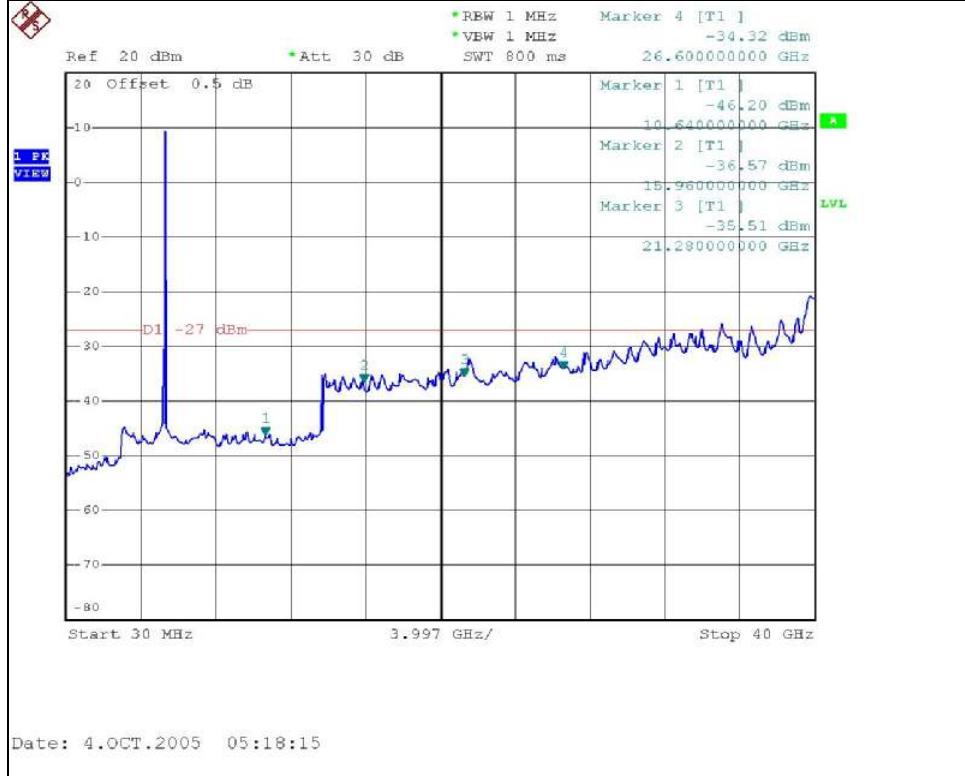
FCC ID: Q9DAP80



CH1



CH4



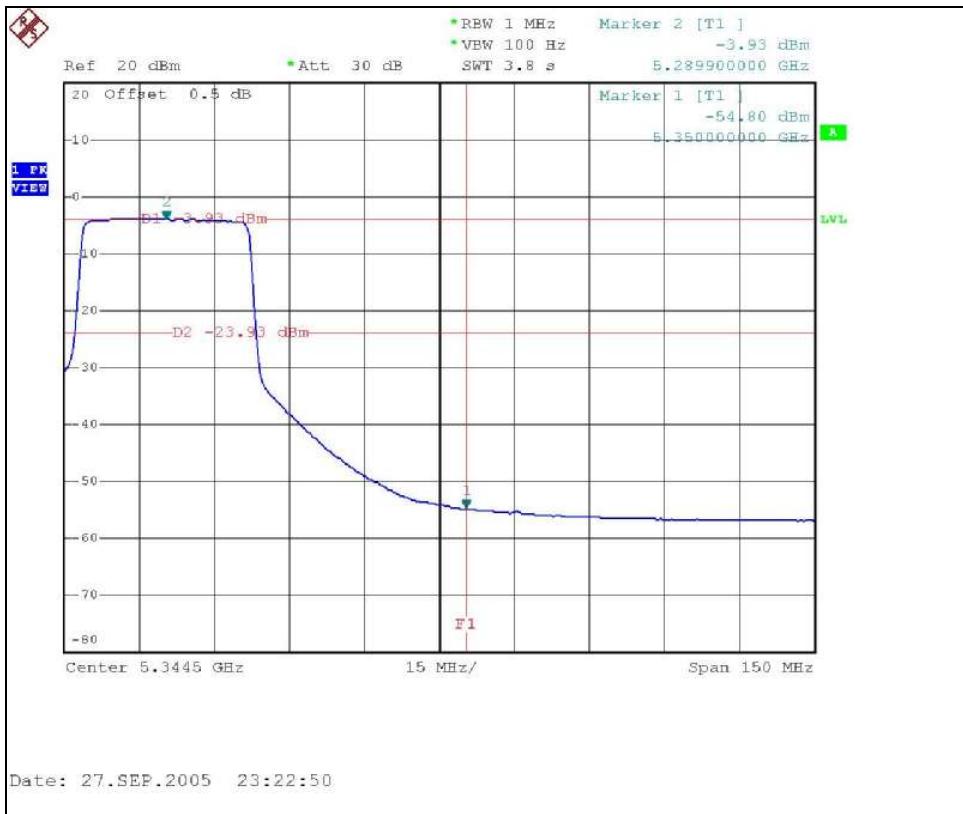
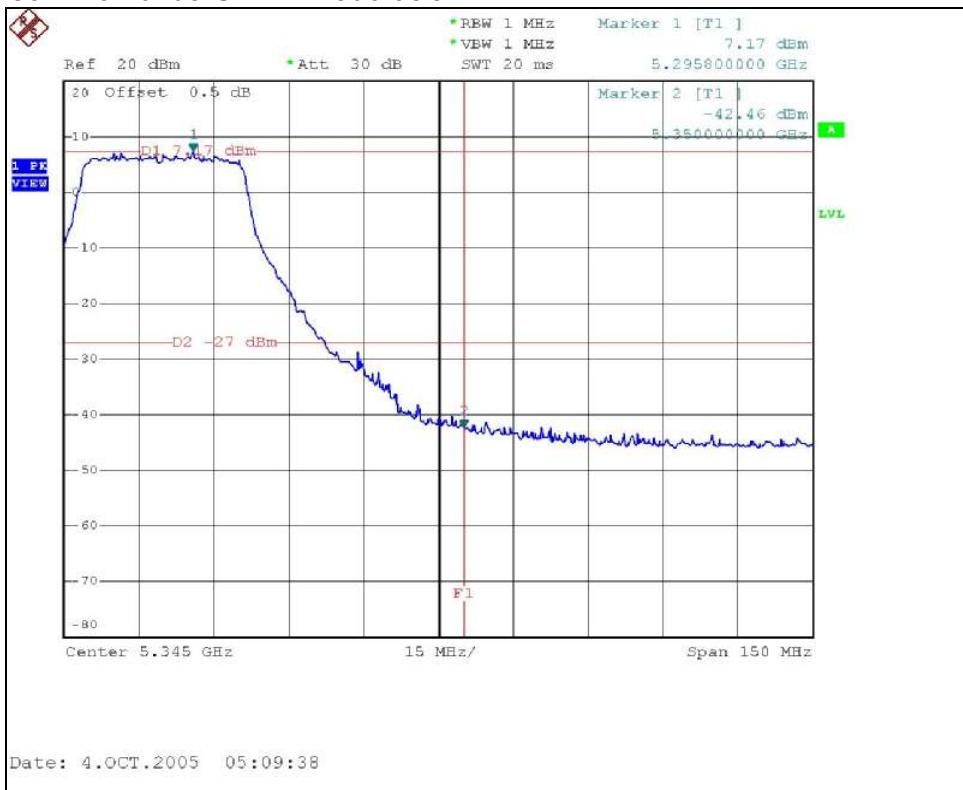
802.11a Turbo OFDM modulation**NOTE (Peak):**

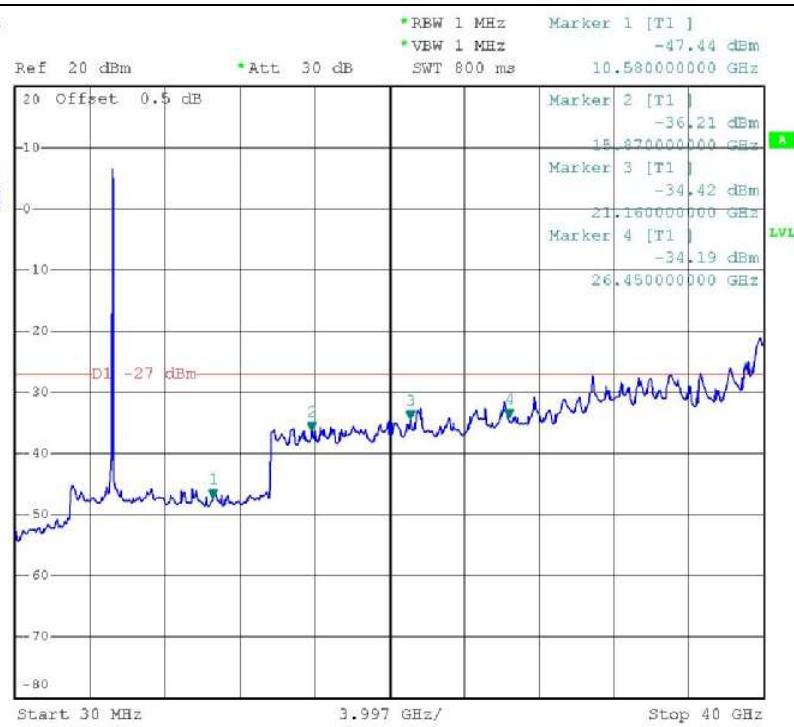
The band edge emission plot on the following first page shows 49.63dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 109.9dBuV/m (Peak), so the maximum field strength in restrict band is $109.9 - 49.63 = 60.27$ dBuV/m which is under 74dBuV/m limit.

NOTE (Average):

The band edge emission plot on the following second page shows 50.87dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 101.50dBuV/m (Average), so the maximum field strength in restrict band is $101.50 - 50.87 = 50.63$ dBuV/m which is under 54dBuV/m limit.

802.11a Turbo OFDM modulation





Date: 4.OCT.2005 05:25:44

4.8 ANTENNA REQUIREMENT

4.8.1 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.

4.8.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are as following:

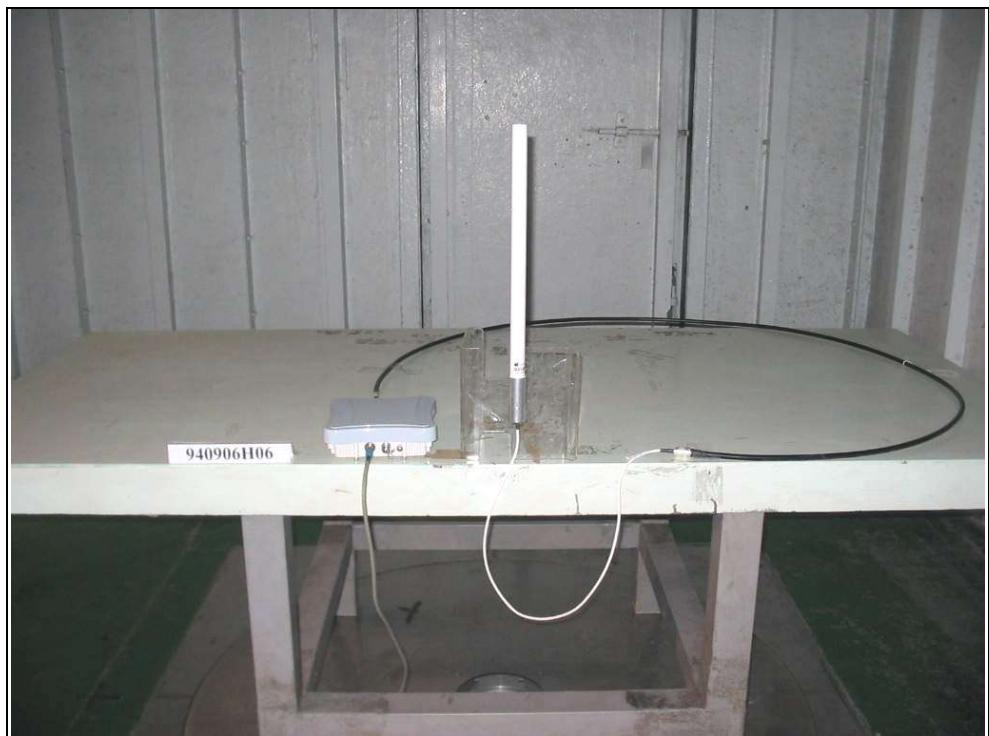
No.	Model No.	Gain (dBi)	Cable Loss (dB)	Antenna Type	Antenna Connector
1	AP-ANT-86	9.0dBi	1.36dB	Omnidirectional (Dipole)	N-type
2	AP-ANT-87	7.0dBi		Wide-Angle (H-Plane)60° Patch	
3	AP-ANT-88	10.0dBi		120° Sector, typical with 36" cable	
4	AP-ANT-89	14.0dBi		Wide-Angle, High Gain, Directional Panel,	
5	ANT05535	17.0dBi	NA	Directional, Patch Panel (Internal Antenna)	Probe Pin

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST



RADIATED EMISSION TEST (Antenna: AP-ANT-86)



RADIATED EMISSION TEST (Antenna: AP-ANT-87)



RADIATED EMISSION TEST (Antenna: AP-ANT-88)



RADIATED EMISSION TEST (Antenna: AP-ANT-89)



6. 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
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:

Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

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

APPENDIX-A

MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.