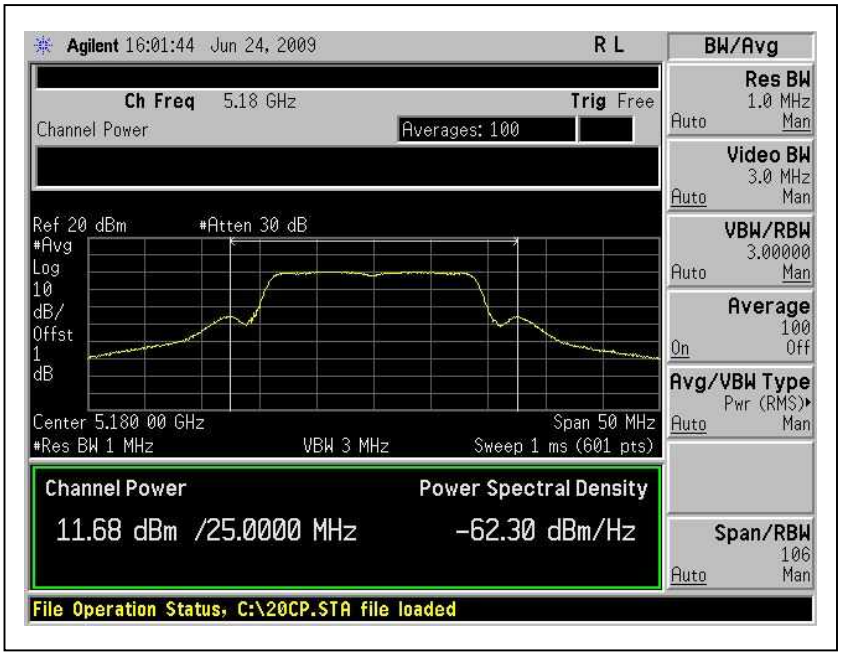
DRAFT 802.11n (20MHz) OFDM modulation:

MODULATION TYPE	BPSK	**TRANSFER RATE**	6.5Mbps
INPUT POWER	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

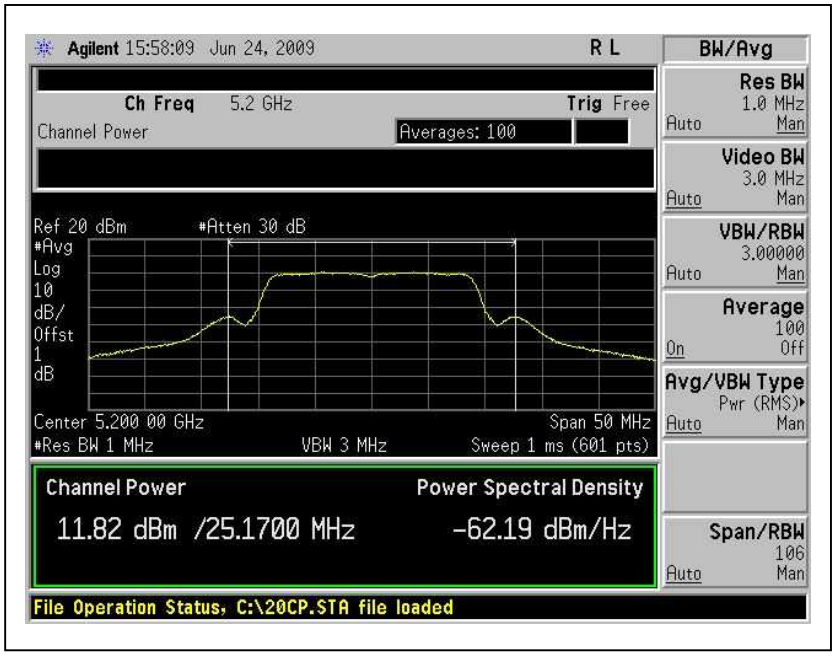
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		**TOTAL PEAK POWER (mW)**	**TOTAL PEAK POWER (dBm)**	**PEAK POWER LIMIT (dBm)**	26dBc Occupied Bandwidth (MHz)	PASS/ FAIL
36	5180	11.7	12.0	30.6	14.9	17.00	25.00	PASS
40	5200	11.8	12.5	32.9	15.2	17.00	25.17	PASS
48	5240	11.9	12.4	32.9	15.2	17.00	25.33	PASS

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

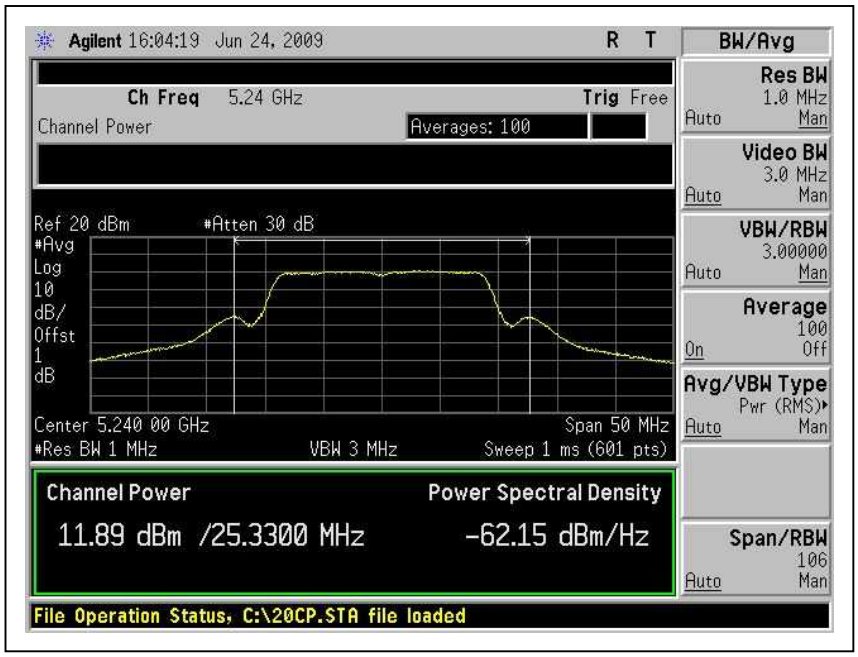
Peak Power Output:
For Chain (0) :CH36



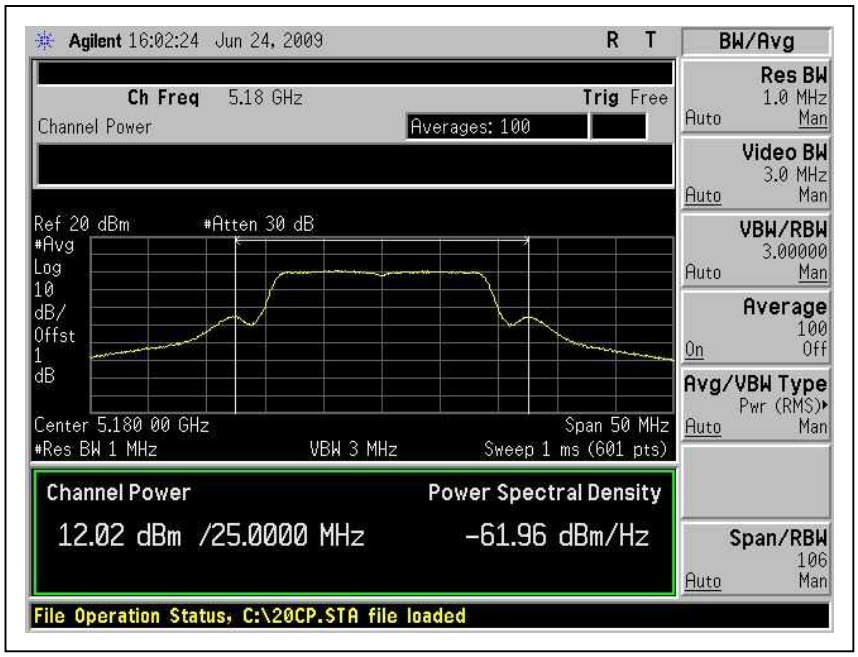
CH40



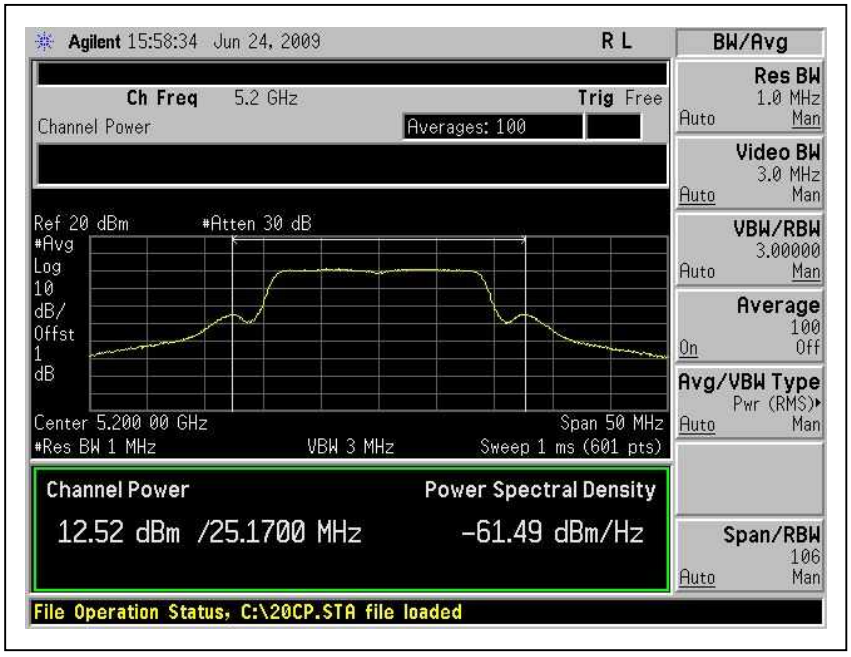
CH48


Agilent 16:04:19 Jun 24, 2009
R T
Ch Freq 5.24 GHz
Trig Free
Channel Power
Averages: 100
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
Center 5.240 00 GHz
Span 50 MHz
#Res BW 1 MHz
VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
11.89 dBm /25.3300 MHz
Power Spectral Density
-62.15 dBm/Hz
File Operation Status, C:\20CP.STA file loaded
BW/Avg
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
3.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Span/RBW
106
Auto Man

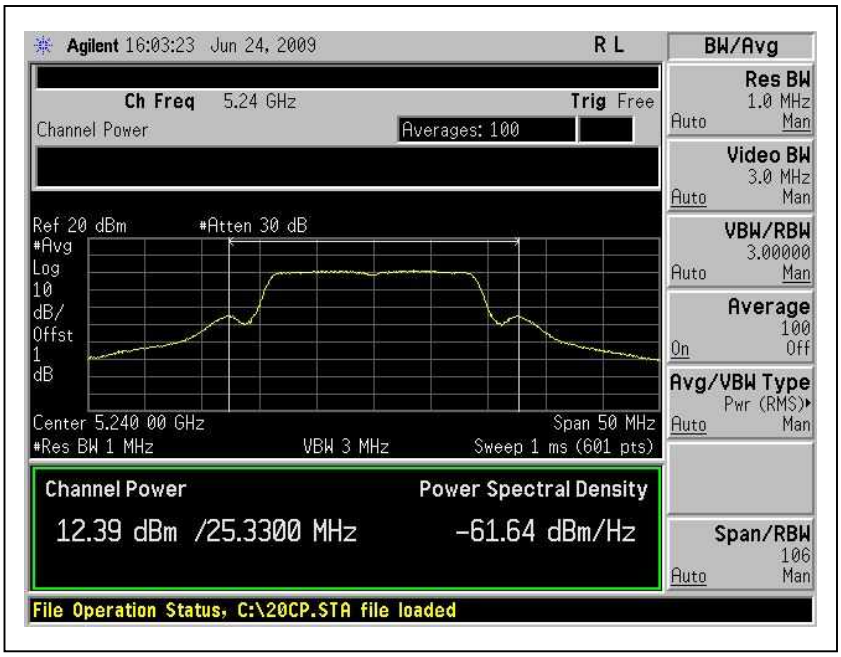
For Chain (1) :CH36



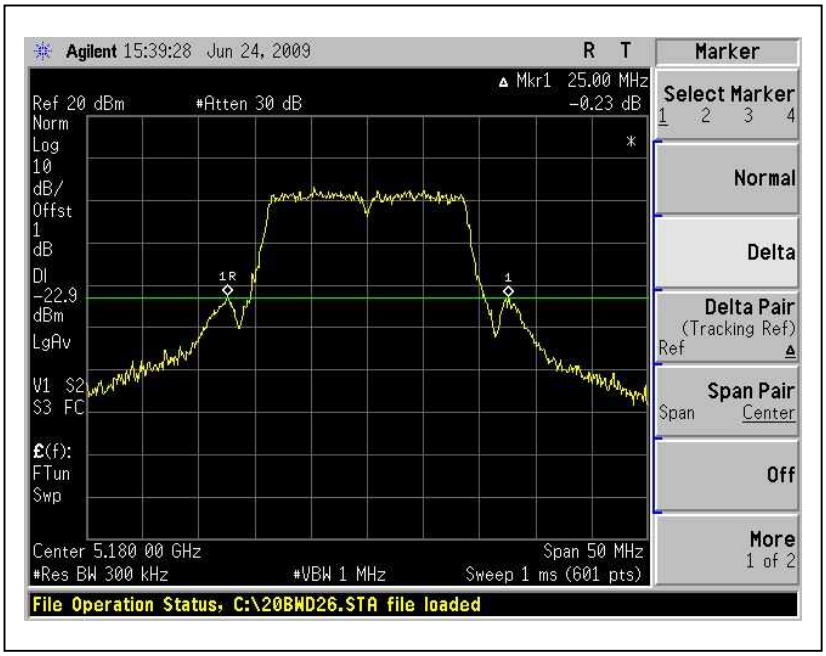
CH40



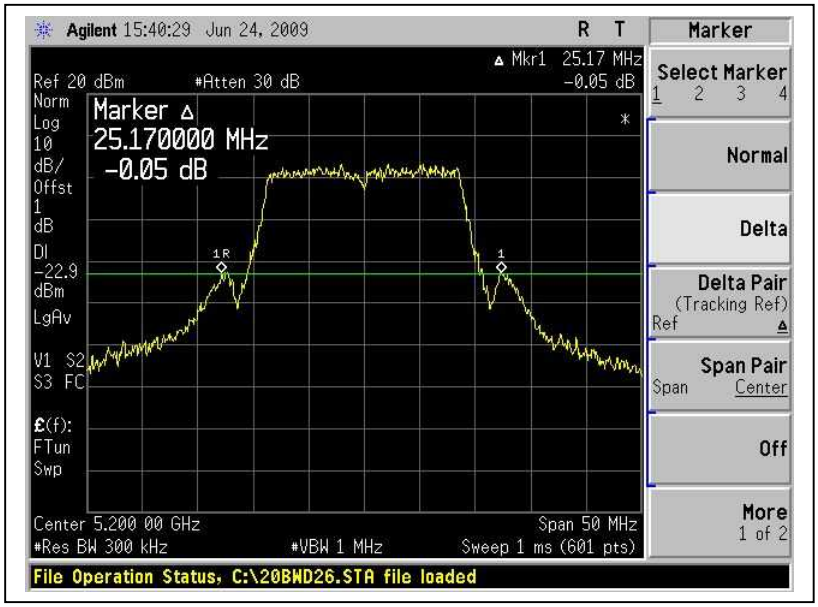
CH48


Agilent 16:03:23 Jun 24, 2009
R L
Ch Freq 5.24 GHz
Trig Free
Channel Power
Averages: 100
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
Center 5.240 00 GHz
#Res BW 1 MHz
VBW 3 MHz
Span 50 MHz
Sweep 1 ms (601 pts)
Channel Power
12.39 dBm /25.3300 MHz
Power Spectral Density
-61.64 dBm/Hz
File Operation Status, C:\20CP.STA file loaded
BW/Avg
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
3.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Span/RBW
106
Auto Man

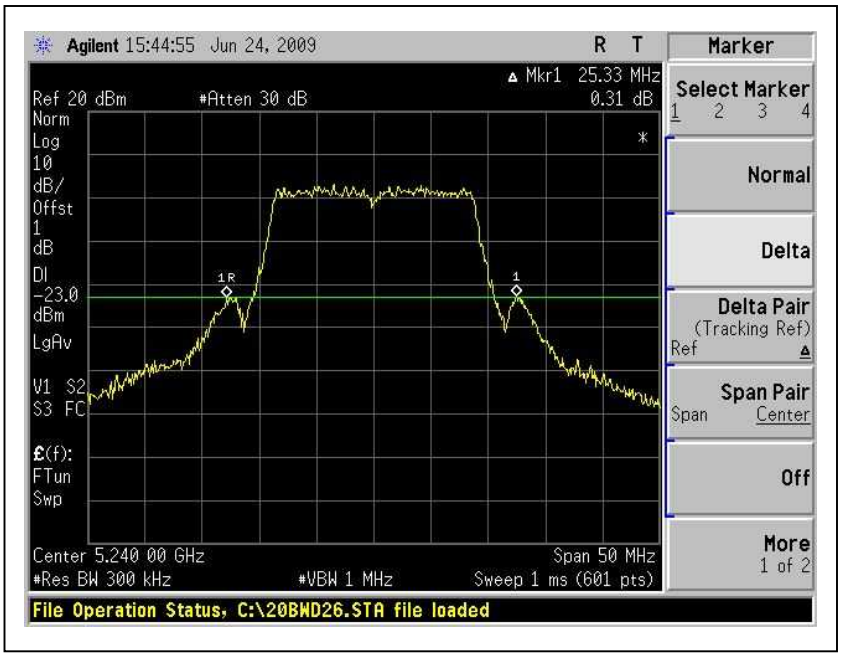
26dB Occupied Bandwidth:
CH36



CH40



CH48


Agilent 15:44:55 Jun 24, 2009
R T
Marker
Mkr1 25.33 MHz
0.31 dB
Ref 20 dBm
#Atten 30 dB
Norm
Log
10
dB/
Offst
1
dB
Dl
-23.0
dBm
LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
1R
1
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
Center 5.240 00 GHz
Span 50 MHz
#Res BW 300 kHz
#VBW 1 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20BWD26.STA file loaded

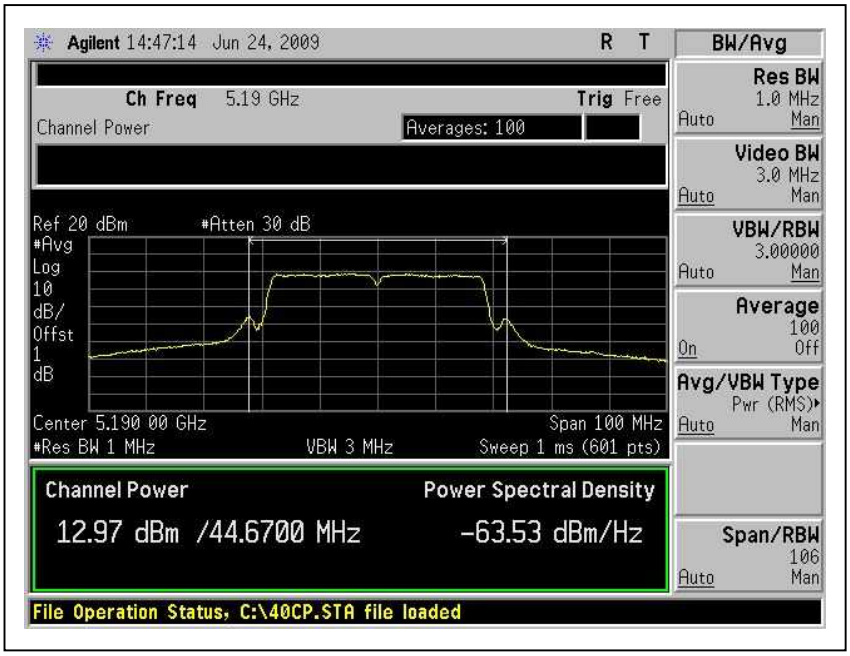
DRAFT 802.11n (40MHz) OFDM MODULATION:

MODULATION TYPE	BPSK	**TRANSFER RATE**	13.5Mbps
INPUT POWER	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

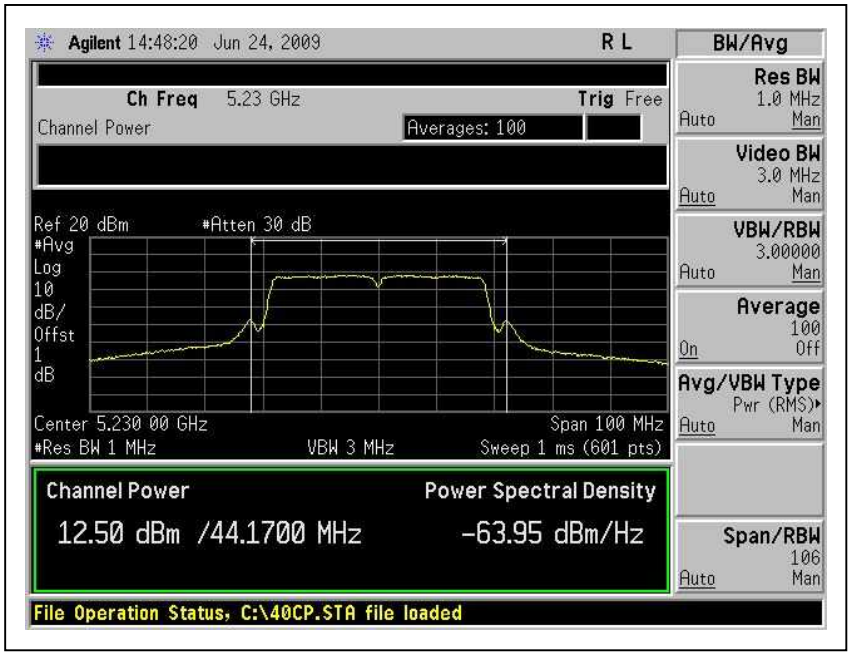
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		**TOTAL PEAK POWER (mW)**	**TOTAL PEAK POWER (dBm)**	**PEAK POWER LIMIT (dBm)**	26dBc Occupied Bandwidth (MHz)	PASS/ FAIL
38	5190	13.0	13.5	42.3	16.3	17.00	44.67	PASS
46	5230	12.5	13.5	40.2	16.0	17.00	44.17	PASS

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

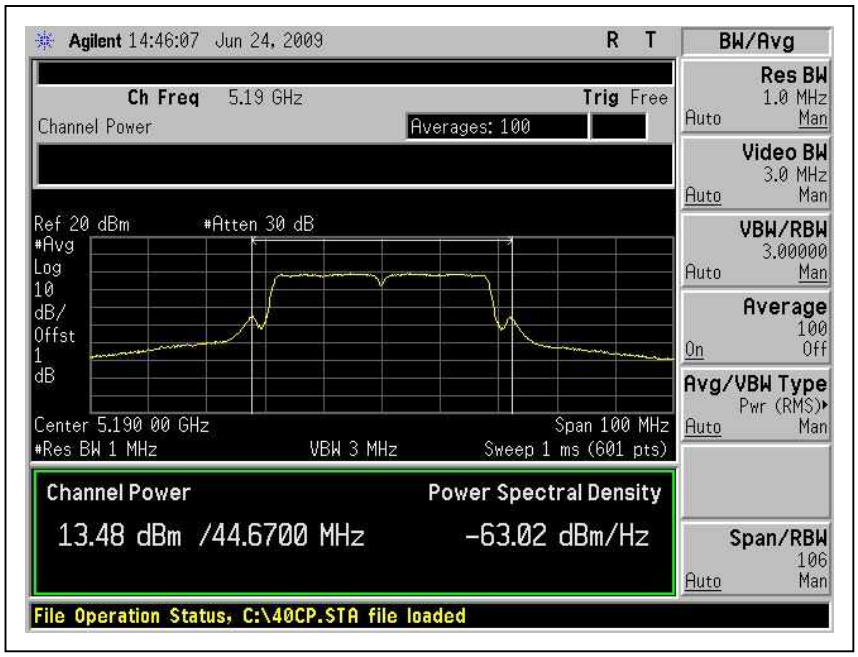
Peak Power Output:
For Chain (0) :CH38



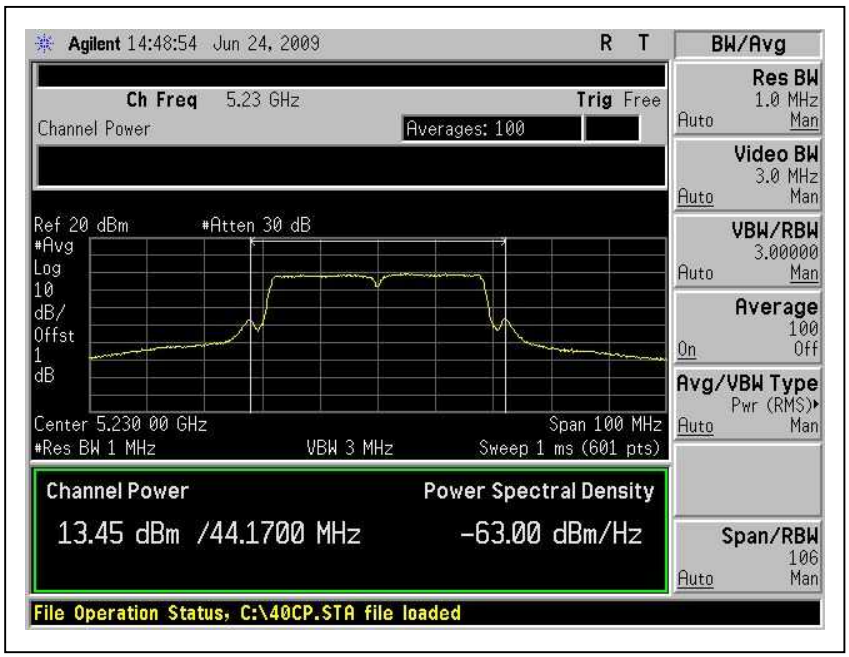
CH46



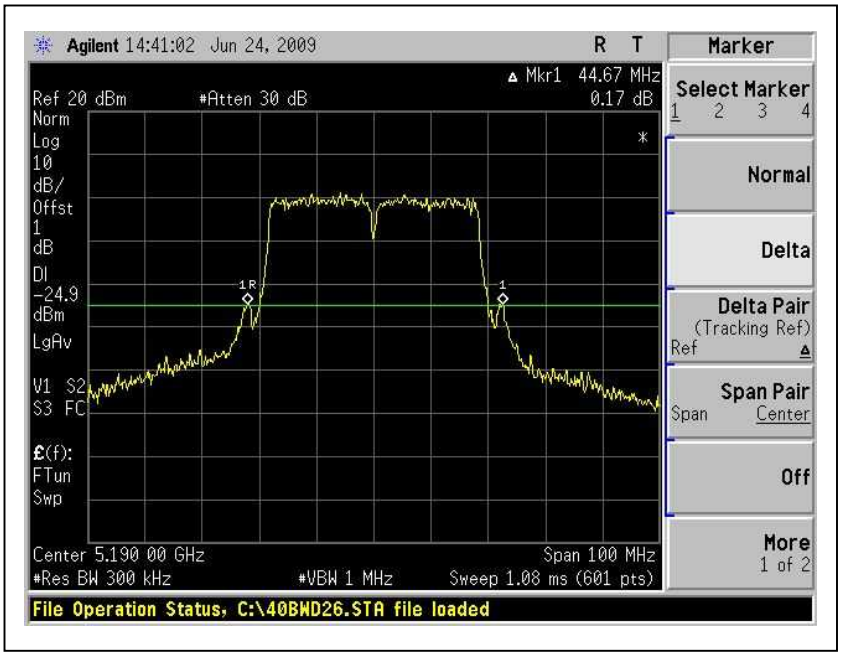
For Chain (1) :CH38



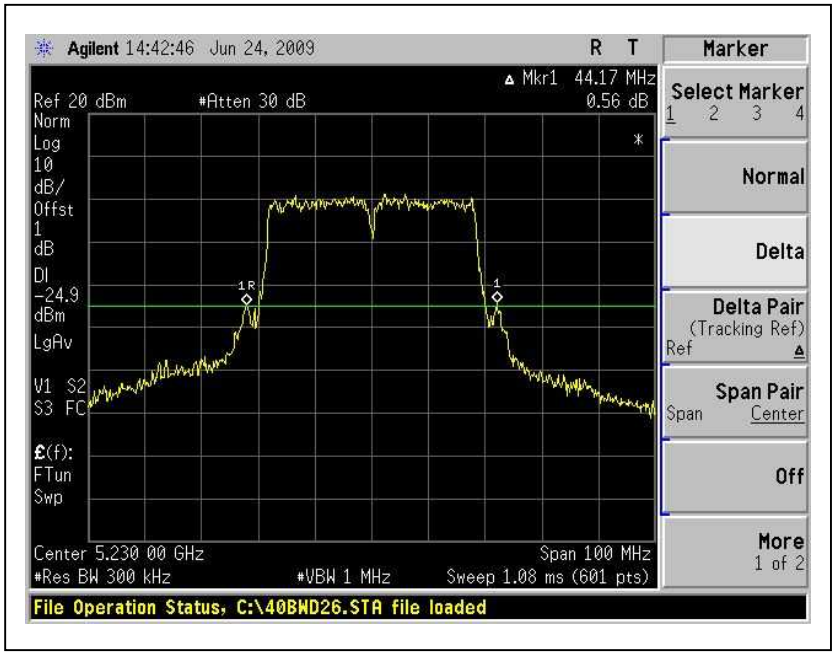
CH46



26dB Occupied Bandwidth:
CH38



CH46



4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.47 – 5.725GHz	13dB
5.725 – 5.825 GHz	13dB

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

NOTE:

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

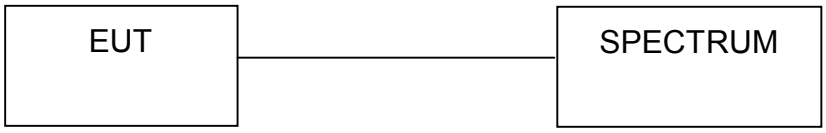
4.4.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set the spectrum bandwidth span to view the entire spectrum.
3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=300KHz).
4. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

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

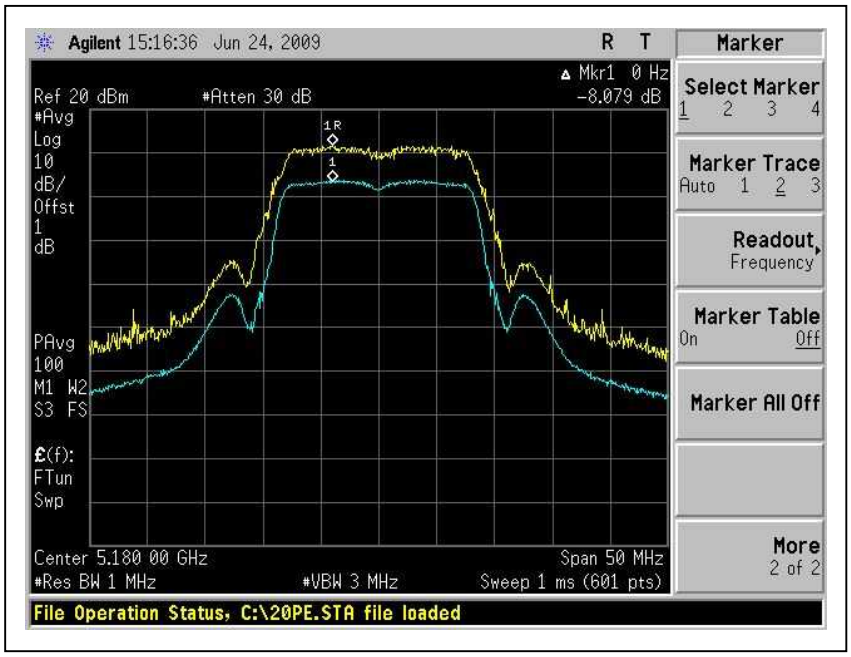
4.4.7 TEST RESULTS

802.11a OFDM modulation

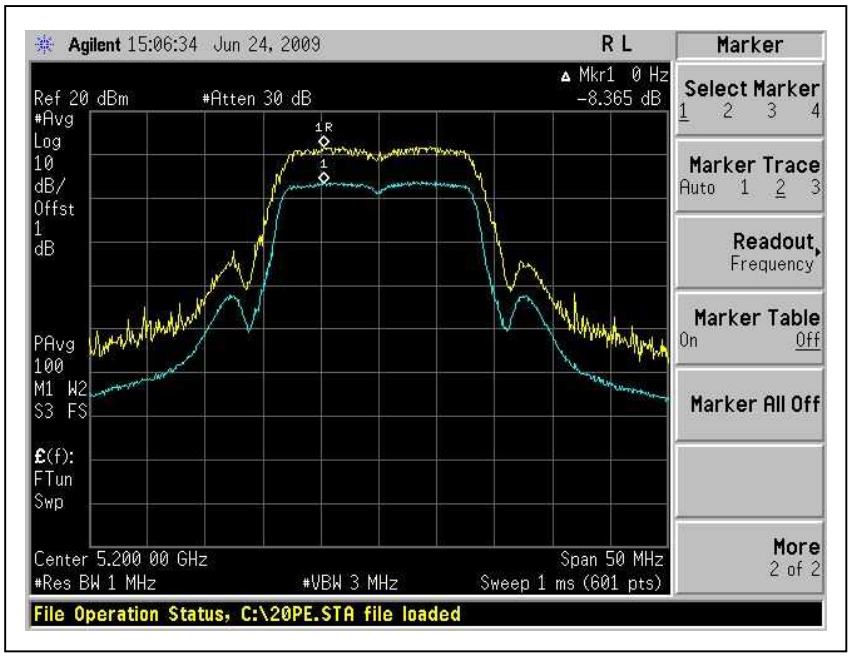
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
36	5180	8.079	13	PASS
40	5200	8.365	13	PASS
48	5240	8.612	13	PASS

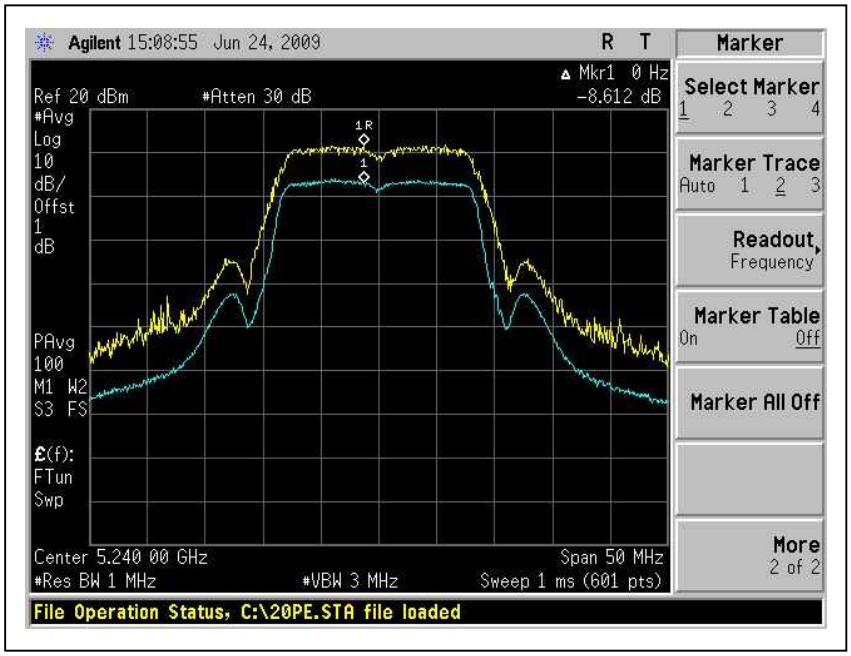
CH36


Agilent 15:16:36 Jun 24, 2009
R T
Marker
Mkr1 0 Hz
-8.079 dB
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
M1 W2
S3 FS
£(f):
FTun
Swp
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
Center 5.180 00 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PE.STA file loaded

CH40


Agilent 15:06:34 Jun 24, 2009
R L
Marker
Mkr1 0 Hz
-8.365 dB
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
M1 W2
S3 FS
£(f):
FTun
Swp
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
Center 5.200 00 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PE.STA file loaded

CH48

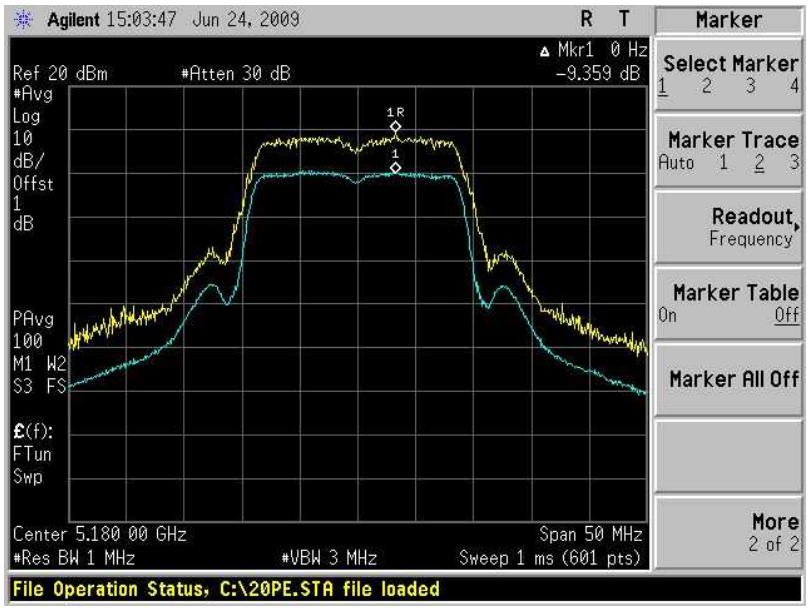

Agilent 15:08:55 Jun 24, 2009
R T
Marker
Mkr1 0 Hz
-8.612 dB
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
M1 W2
S3 FS
£(f):
FTun
Swp
Center 5.240 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
File Operation Status, C:\20PE.STA file loaded

DRAFT 802.11n (20MHz) OFDM MODULATION:

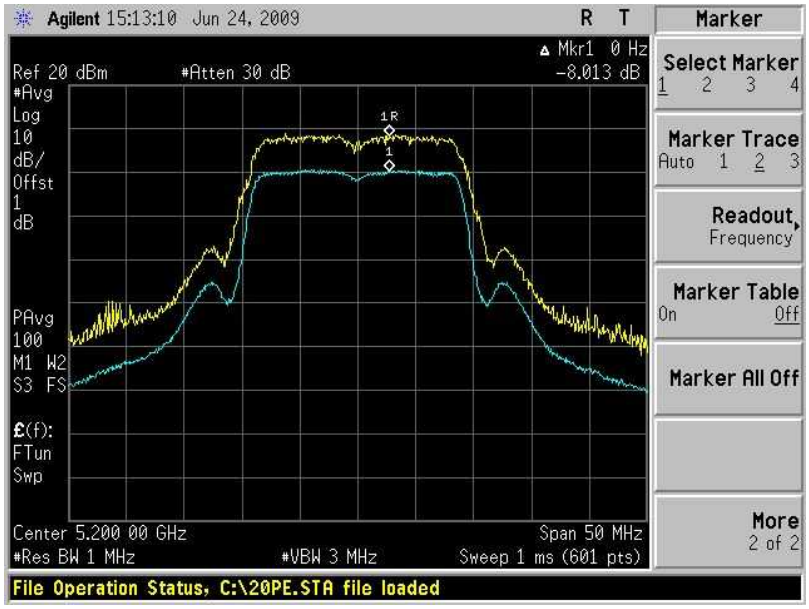
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.5Mbps
INPUT POWER	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
36	5180	9.359	13	PASS
40	5200	8.013	13	PASS
48	5240	8.953	13	PASS

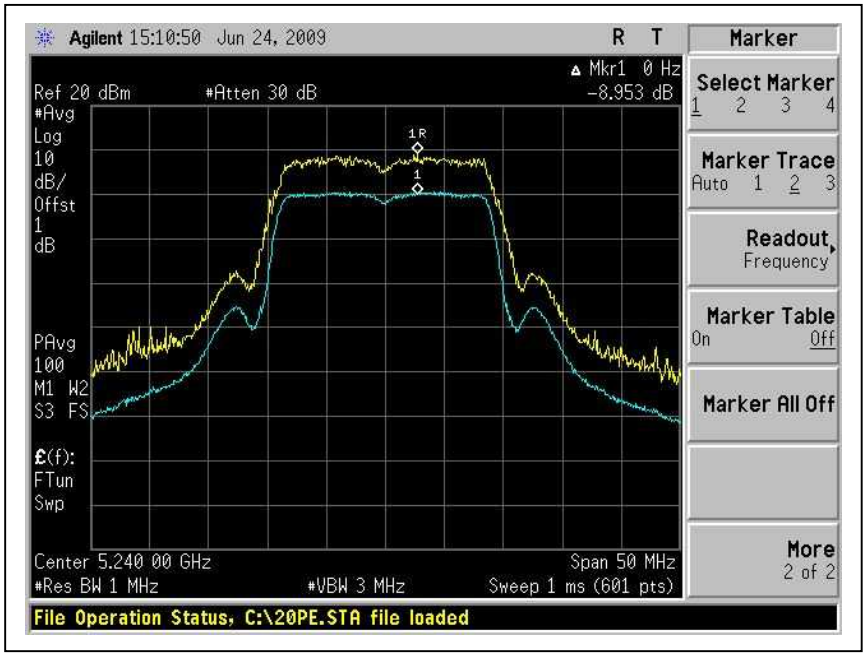
CH36


Agilent 15:03:47 Jun 24, 2009
R T
Marker
Mkr1 0 Hz
-9.359 dB
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
M1 W2
S3 FS
£(f):
FTun
Swp
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
Center 5.180 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PE.STA file loaded

CH40


Agilent 15:13:10 Jun 24, 2009
R T
Marker
Mkr1 0 Hz
-8.013 dB
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
M1 W2
S3 FS
£(f):
FTun
Swp
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
Center 5.200 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PE.STA file loaded

CH48

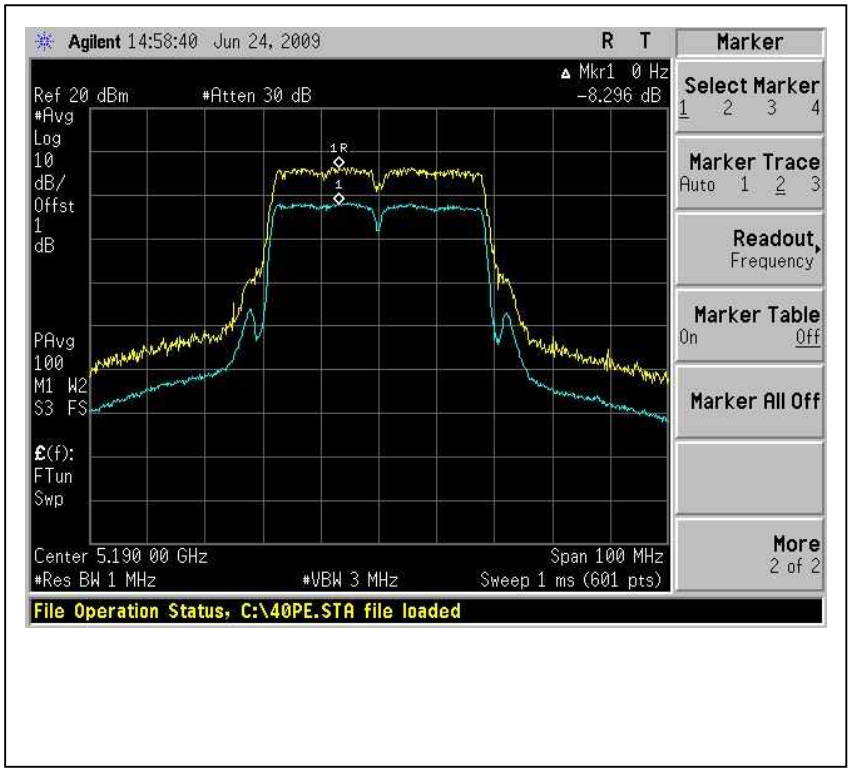

Agilent 15:10:50 Jun 24, 2009
R T
Marker
Ref 20 dBm
#Atten 30 dB
Mkr1 0 Hz
-8.953 dB
#Avg
Log
10
dB/
Offst
1
dB
1R
1
PAvg
100
M1 W2
S3 FS
£(f):
FTun
Swp
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
Center 5.240 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PE.STA file loaded

DRAFT 802.11n (40MHz) OFDM MODULATION:

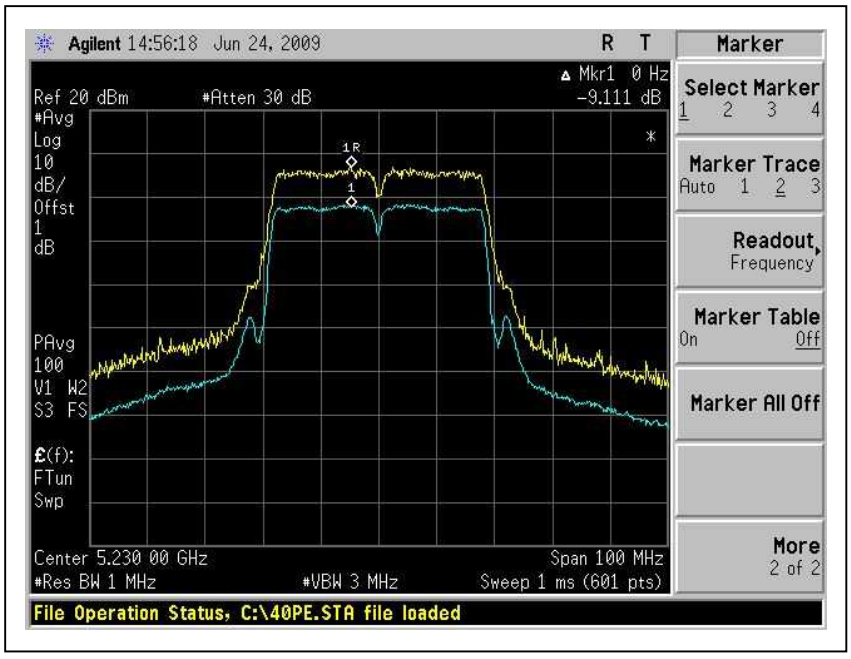
MODULATION TYPE	BPSK	**TRANSFER RATE**	13.5Mbps
INPUT POWER	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
38	5190	8.296	13	PASS
46	5230	9.111	13	PASS

CH38


Agilent 14:58:40 Jun 24, 2009
R T
Marker
Mkr1 0 Hz
-8.296 dB
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
M1 W2
S3 FS
£(f):
FTun
Swp
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
Center 5.190 00 GHz
Span 100 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\40PE.STA file loaded

CH46


Agilent 14:56:18 Jun 24, 2009
R T
Marker
Mkr1 0 Hz
-9.111 dB
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
V1 W2
S3 FS
£(f):
FTun
Swp
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
Center 5.230 00 GHz
Span 100 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\40PE.STA file loaded

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
5.47 – 5.725GHz	11dBm
5.725 ~ 5.825GHz	17dBm

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

NOTE:

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

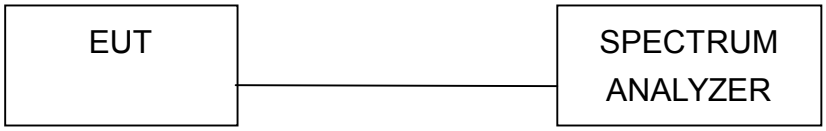
4.5.3 TEST PROCEDURES

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

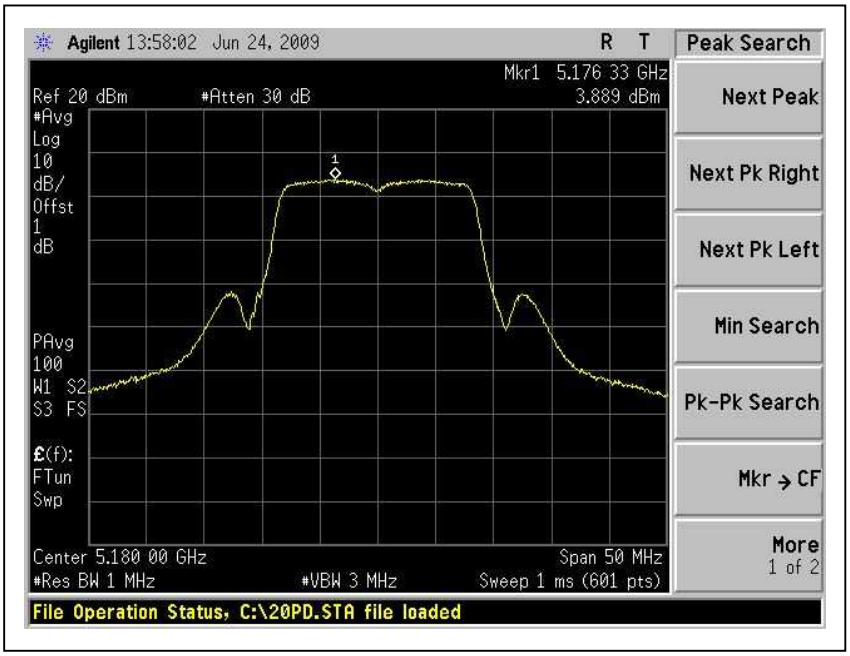
4.5.7 TEST RESULTS

802.11a OFDM modulation

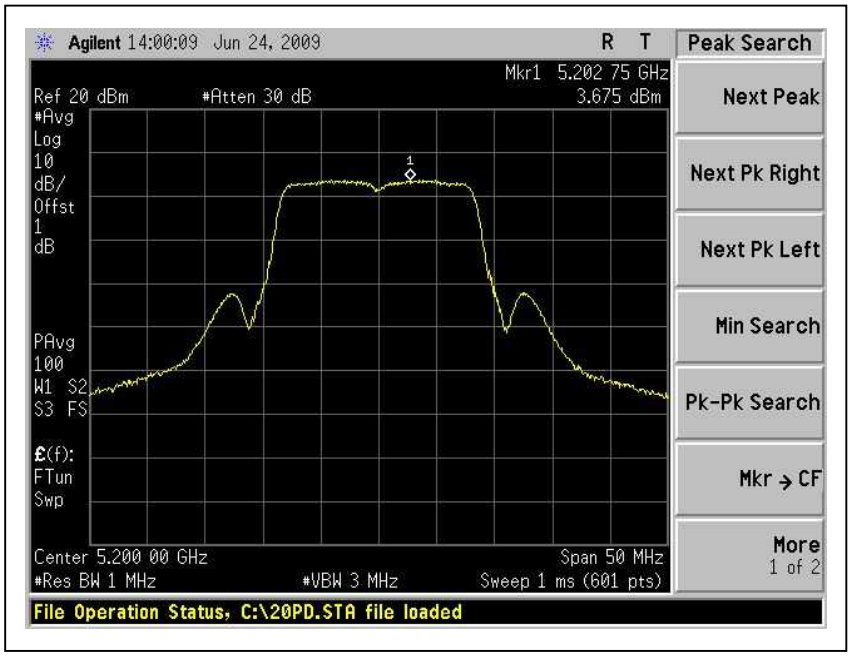
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.9	4	PASS
40	5200	3.7	4	PASS
48	5240	3.9	4	PASS

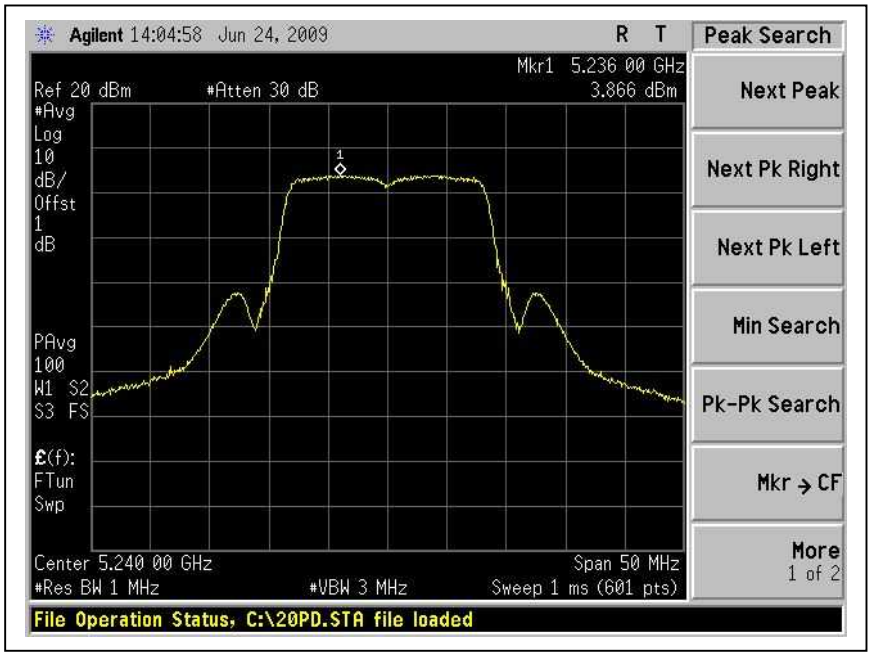
CH36


Agilent 13:58:02 Jun 24, 2009
R T
Peak Search
Mkr1 5.176 33 GHz
Ref 20 dBm
#Atten 30 dB
3.889 dBm
Next Peak
#Avg
Log
10
dB/
Offst
1
dB
Next Pk Right
Next Pk Left
Min Search
PAvg
100
W1 S2
S3 FS
Pk-Pk Search
£(f):
FTun
Swp
Mkr → CF
More
1 of 2
Center 5.180 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PD.STA file loaded

CH40


Agilent 14:00:09 Jun 24, 2009
R T
Peak Search
Mkr1 5.202 75 GHz
Ref 20 dBm
#Atten 30 dB
3.675 dBm
Next Peak
#Avg
Log
10
dB/
Offst
1
dB
Next Pk Right
Next Pk Left
Min Search
PAvg
100
W1 S2
S3 FS
Pk-Pk Search
£(f):
FTun
Swp
Mkr → CF
More
1 of 2
Center 5.200 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PD.STA file loaded

CH48

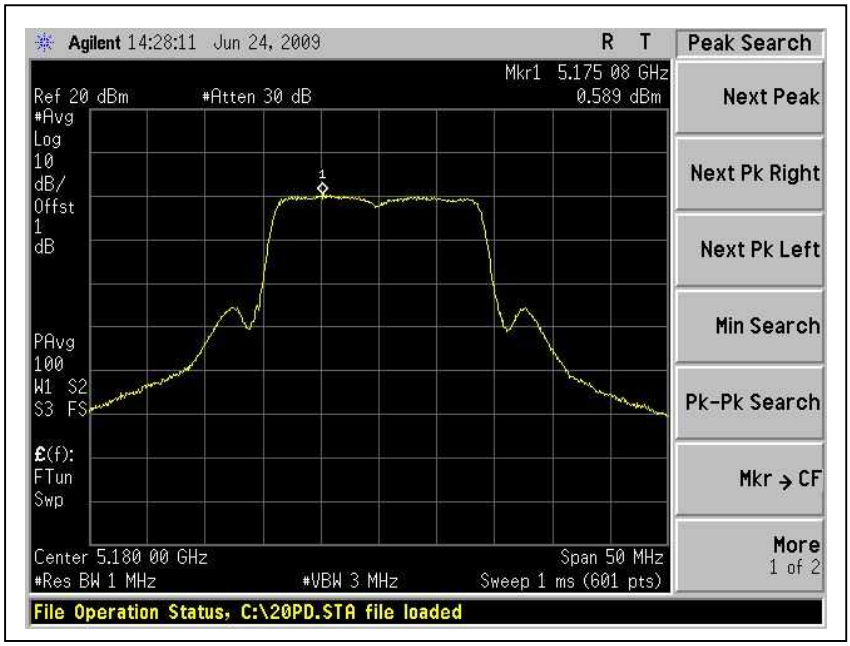

Agilent 14:04:58 Jun 24, 2009
R T
Peak Search
Mkr1 5.236 00 GHz
Ref 20 dBm
#Atten 30 dB
3.866 dBm
Next Peak
#Avg
Log
10
dB/
Offst
1
dB
Next Pk Right
Next Pk Left
Min Search
PAvg
100
W1 S2
S3 FS
Pk-Pk Search
£(f):
FTun
Swp
Mkr → CF
More
1 of 2
Center 5.240 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PD.STA file loaded

DRAFT 802.11n (20MHz) OFDM MODULATION:

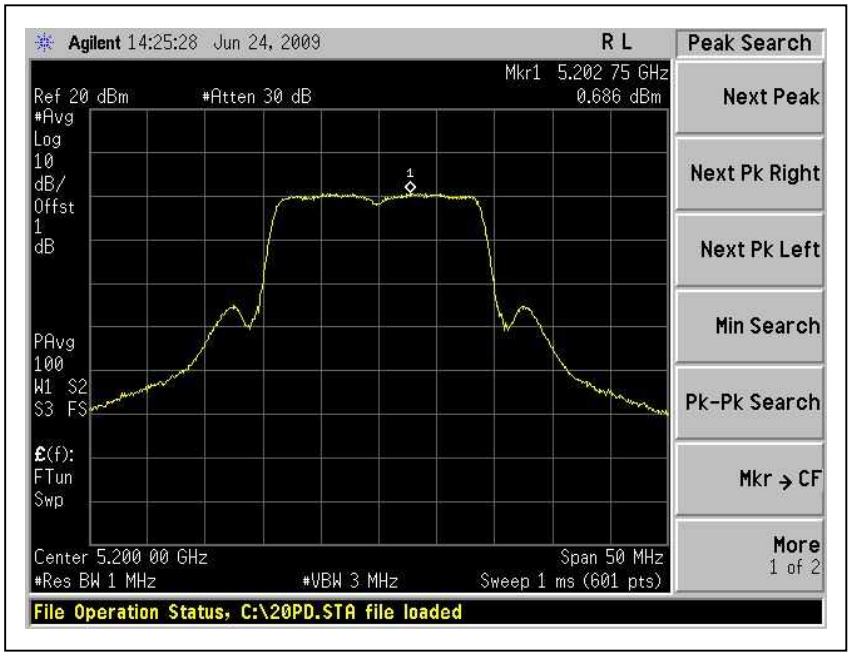
MODULATION TYPE	BPSK	TRANSFER RATE	6.5Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL OUTPUT POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
		Chain (0)	Chain(1)			
36	5180	0.6	0.6	3.6	4	PASS
40	5200	0.7	1.0	3.9	4	PASS
48	5240	0.3	0.9	3.6	4	PASS

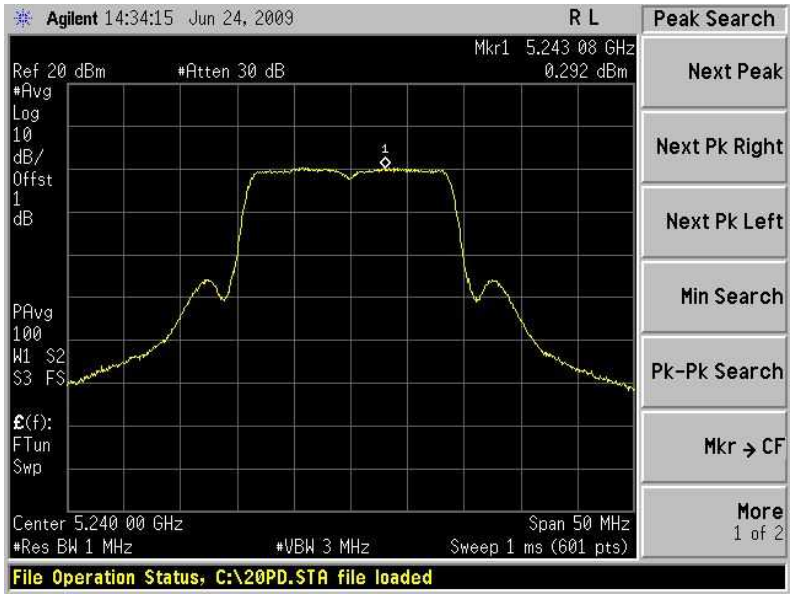
For Chain (0) : CH36



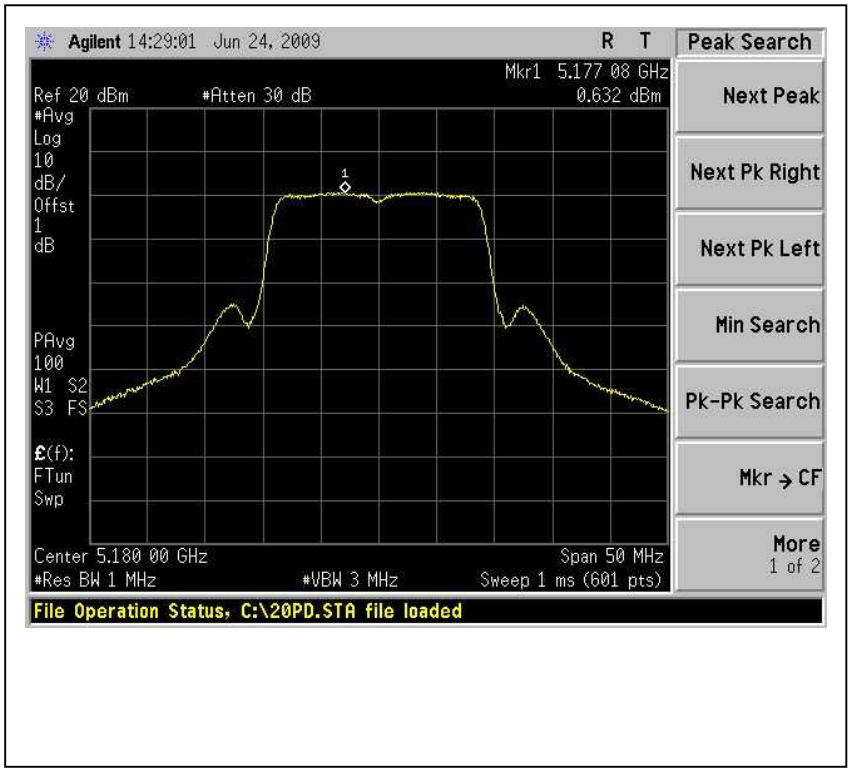
CH40



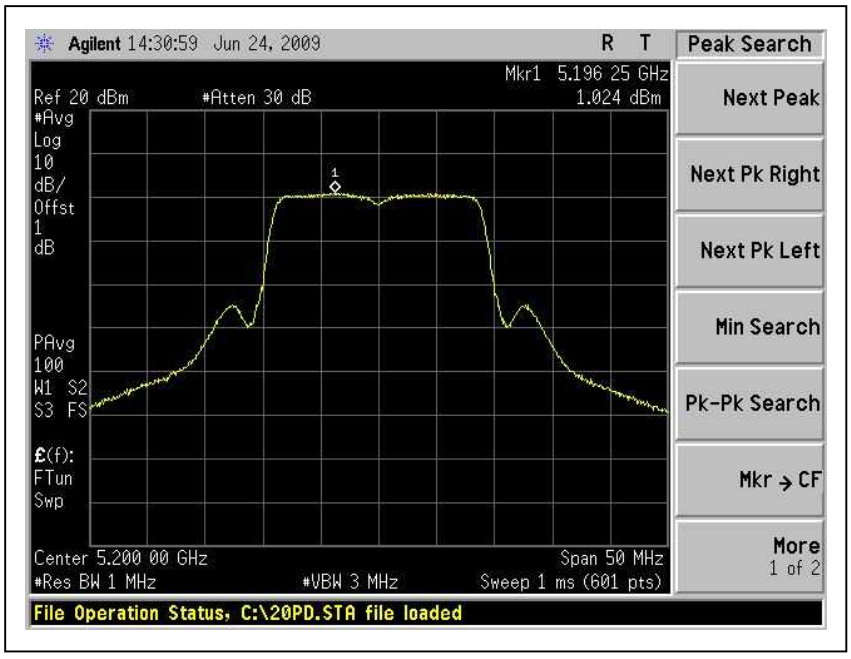
CH48


Agilent 14:34:15 Jun 24, 2009
R L
Peak Search
Mkr1 5.243 08 GHz
Ref 20 dBm
#Atten 30 dB
0.292 dBm
Next Peak
#Avg
Log
10
dB/
Offst
1
dB
Next Pk Right
Next Pk Left
Min Search
PAvg
100
W1 S2
S3 FS
Pk-Pk Search
£(f):
FTun
Swp
Mkr → CF
More
1 of 2
Center 5.240 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PD.STA file loaded

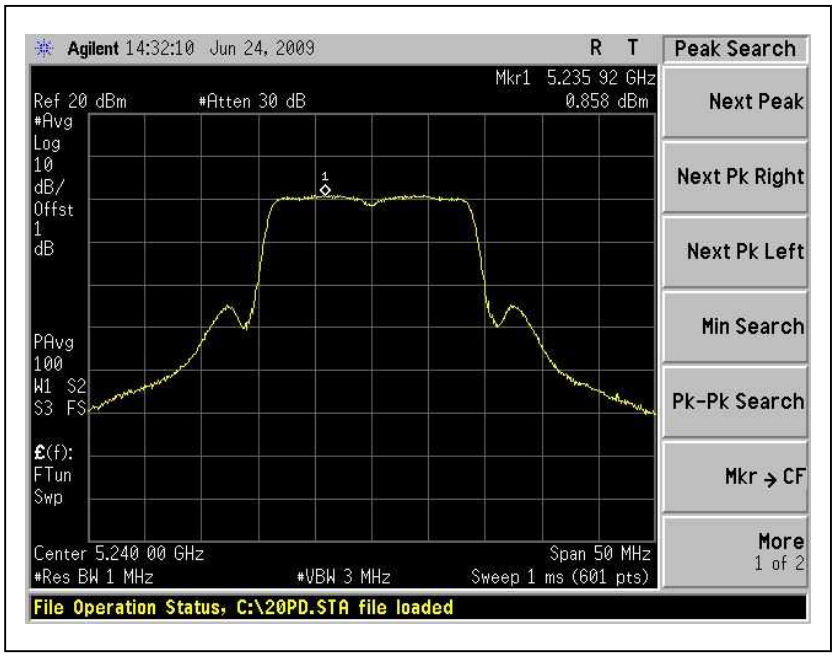
For Chain (1) : CH36



CH40



CH48

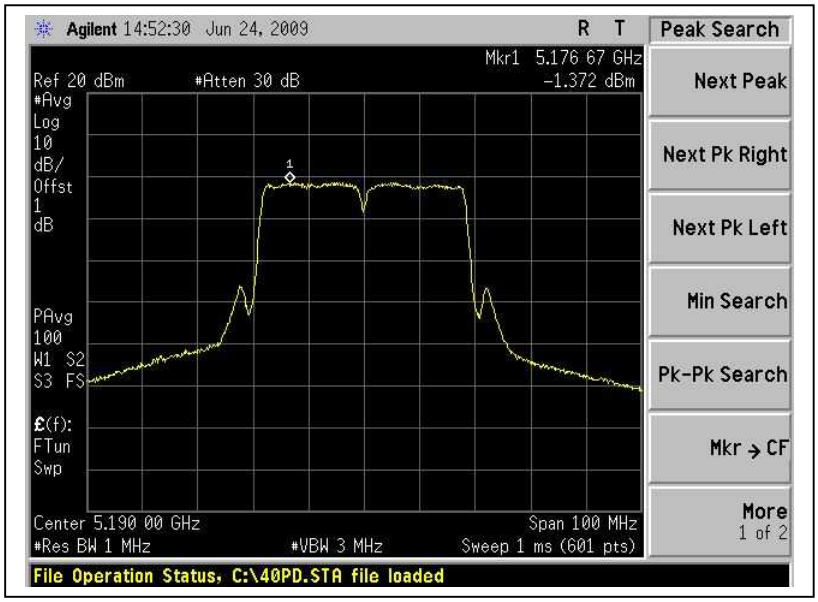

Agilent 14:32:10 Jun 24, 2009
R T
Peak Search
Mkr1 5.235 92 GHz
0.858 dBm
Ref 20 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
1
dB
PAvg
100
W1 S2
S3 FS
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Center 5.240 00 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\20PD.STA file loaded

DRAFT 802.11n (40MHz) OFDM MODULATION:

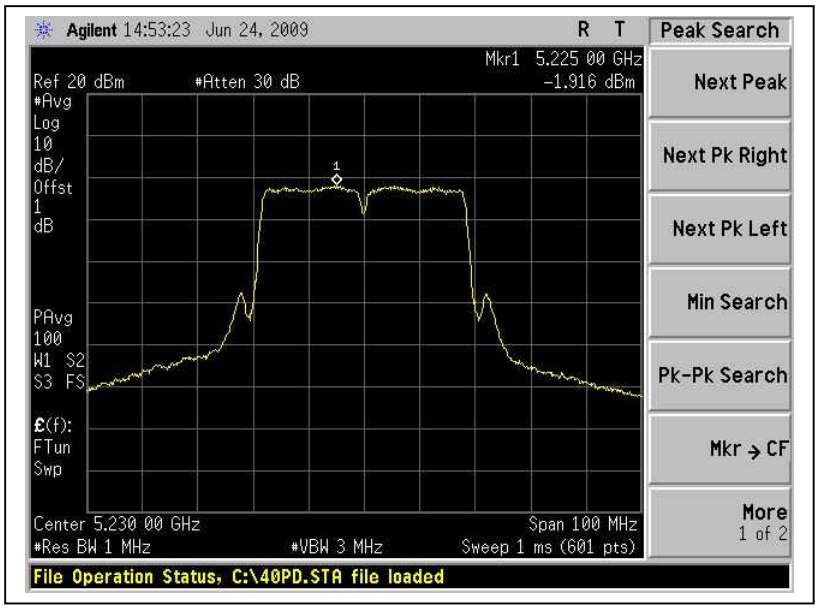
MODULATION TYPE	BPSK	**TRANSFER RATE**	13.5Mbps
INPUT POWER	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL OUTPUT POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
		Chain (0)	Chain(1)			
1	5190	-1.4	-1.0	1.8	4	PASS
2	5230	-1.9	-0.7	1.8	4	PASS

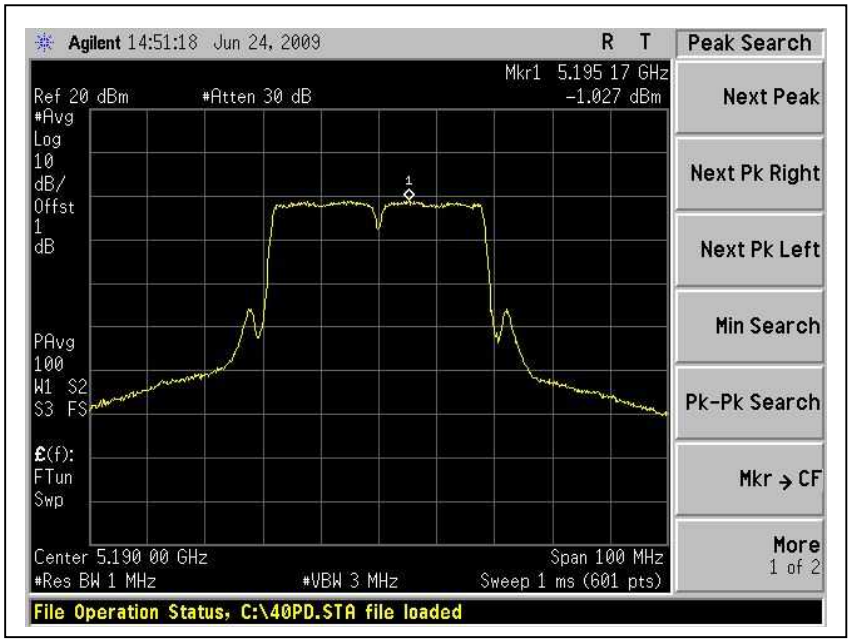
For Chain (0) : CH38



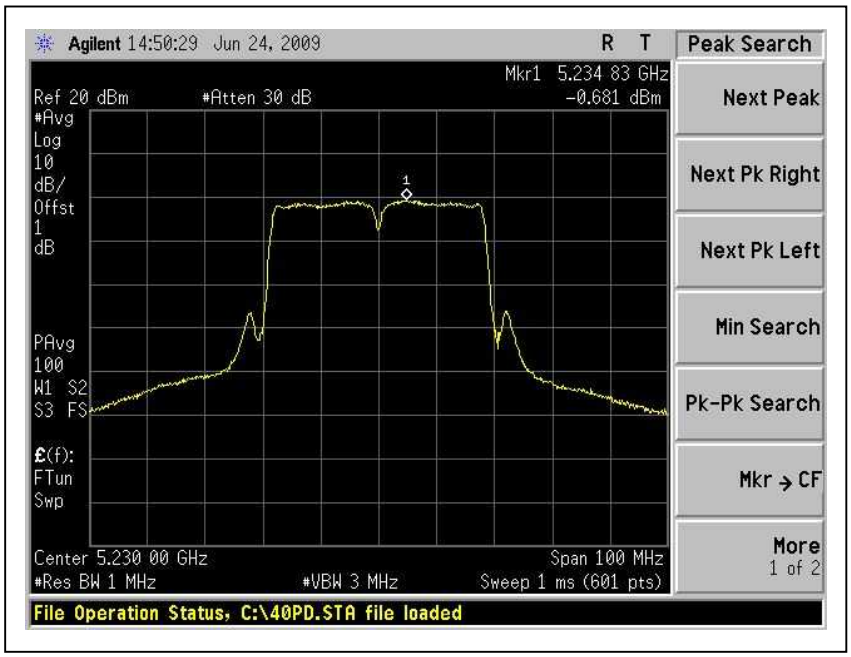
CH46



For Chain (1) : CH38



CH46



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 DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

NOTE:

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

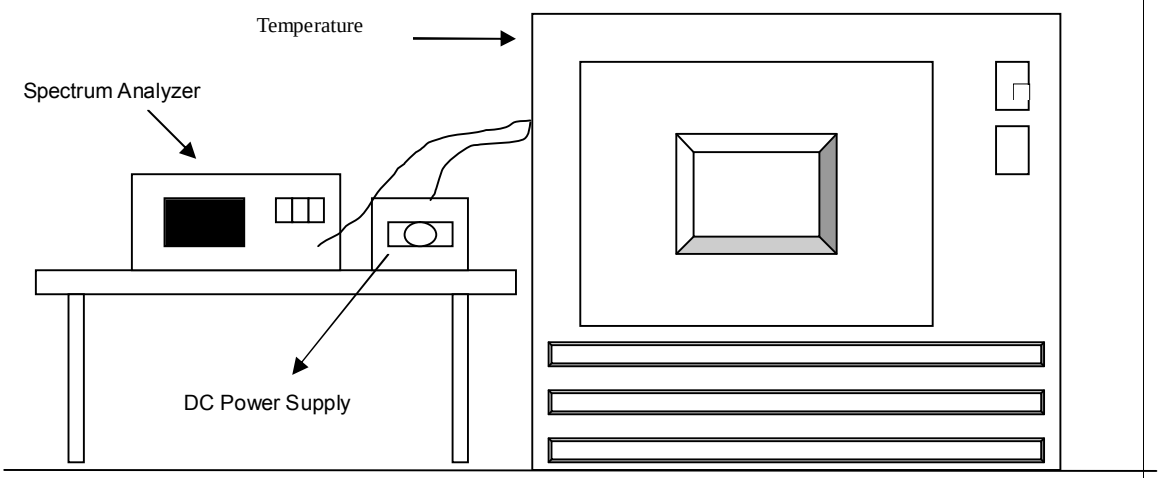
4.6.3 TEST PROCEDURE

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

Operating frequency: 5180MHz					Limit : ± 0.02%		
Temp. (℃)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5180.0216	0.000417	5180.0219	0.000423	5180.0220	0.000425
	110	5180.0216	0.000417	5180.0218	0.000421	5180.0220	0.000425
	93.5	5180.0218	0.000421	5180.0216	0.000417	5180.0220	0.000425
40	126.5	5179.9733	0.000515	5179.9828	0.000332	5179.9825	0.000338
	110	5179.9734	0.000514	5179.9828	0.000332	5179.9827	0.000334
	93.5	5179.9833	0.000322	5179.9831	0.000326	5179.9824	0.000340
30	126.5	5180.0158	0.000305	5180.0142	0.000274	5180.0122	0.000236
	110	5180.0156	0.000301	5180.0162	0.000313	5180.0142	0.000274
	93.5	5180.0156	0.000301	5180.0132	0.000255	5180.0122	0.000236
20	126.5	5180.0152	0.000293	5180.0102	0.000197	5180.0062	0.000120
	110	5180.0152	0.000293	5180.0132	0.000255	5180.0092	0.000178
	93.5	5180.0152	0.000293	5180.0092	0.000178	5180.0072	0.000139
10	126.5	5179.9968	0.000062	5179.9963	0.000071	5179.9960	0.000077
	110	5179.9968	0.000062	5179.9965	0.000068	5179.9963	0.000071
	93.5	5179.9968	0.000062	5179.9963	0.000071	5179.9960	0.000077
0	126.5	5179.9923	0.000149	5179.992	0.000154	5179.9917	0.000160
	110	5179.9924	0.000147	5179.9924	0.000147	5179.9921	0.000153
	93.5	5179.9923	0.000149	5179.992	0.000154	5179.9917	0.000160
-10	126.5	5179.9774	0.000436	5179.9771	0.000442	5179.9769	0.000446
	110	5179.9774	0.000436	5179.9773	0.000438	5179.9770	0.000444
	93.5	5179.9774	0.000436	5179.9771	0.000442	5179.9768	0.000448
-20	126.5	5179.9976	0.000046	5179.9974	0.000050	5179.9971	0.000056
	110	5179.9976	0.000046	5179.9974	0.000050	5179.9973	0.000052
	93.5	5179.9976	0.000046	5179.9973	0.000052	5179.9970	0.000058
-30	126.5	5180.0082	0.000158	5180.0032	0.000062	5180.0032	0.000062
	110	5180.0082	0.000158	5180.0062	0.000120	5180.0042	0.000081
	93.5	5180.0062	0.000120	5180.0032	0.000062	5180.0032	0.000062

4.7 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.7.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

NOTE:

1. 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 lose cable. Set RBW 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

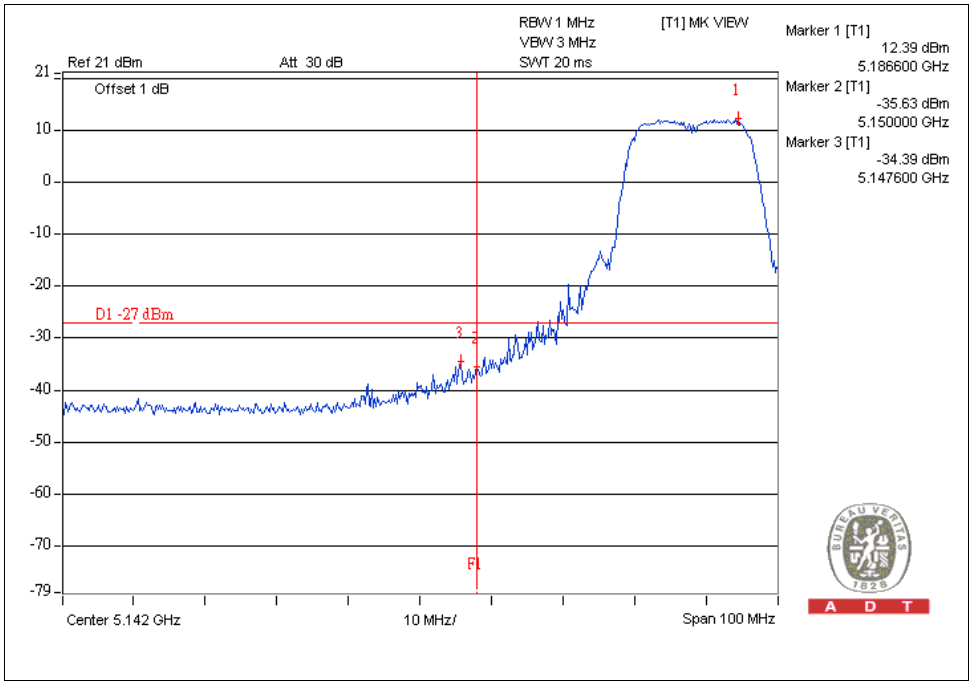
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.7.4 TEST RESULTS

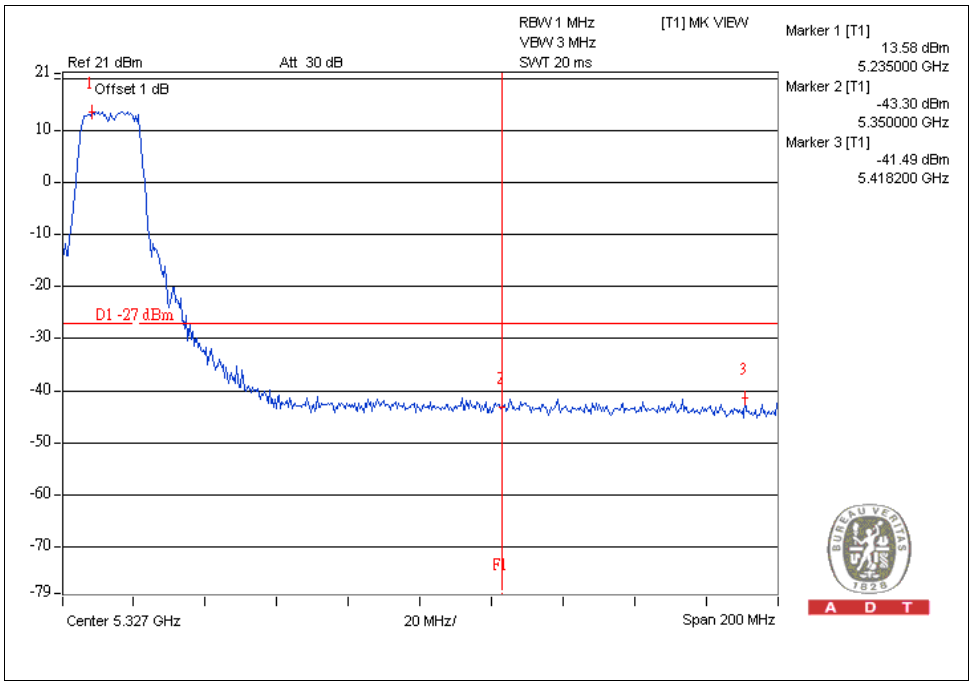
For 5.15 to 5.25GHz band:
The spectrum plots (Peak RBW=1MHz, VBW=3MHz) are attached on the following pages.

802.11a OFDM modulation

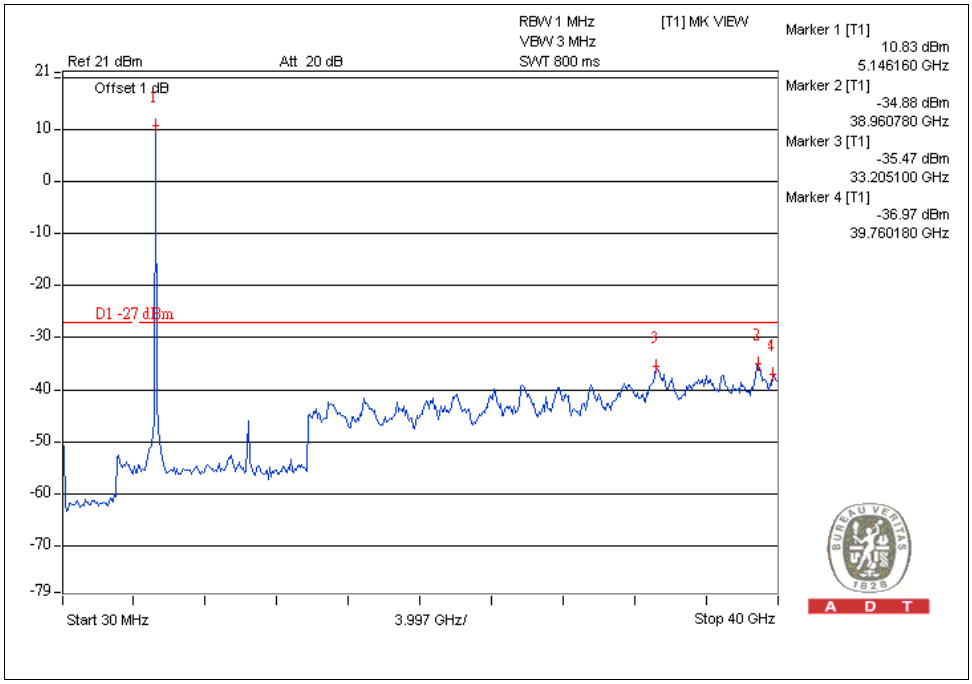
CH 36



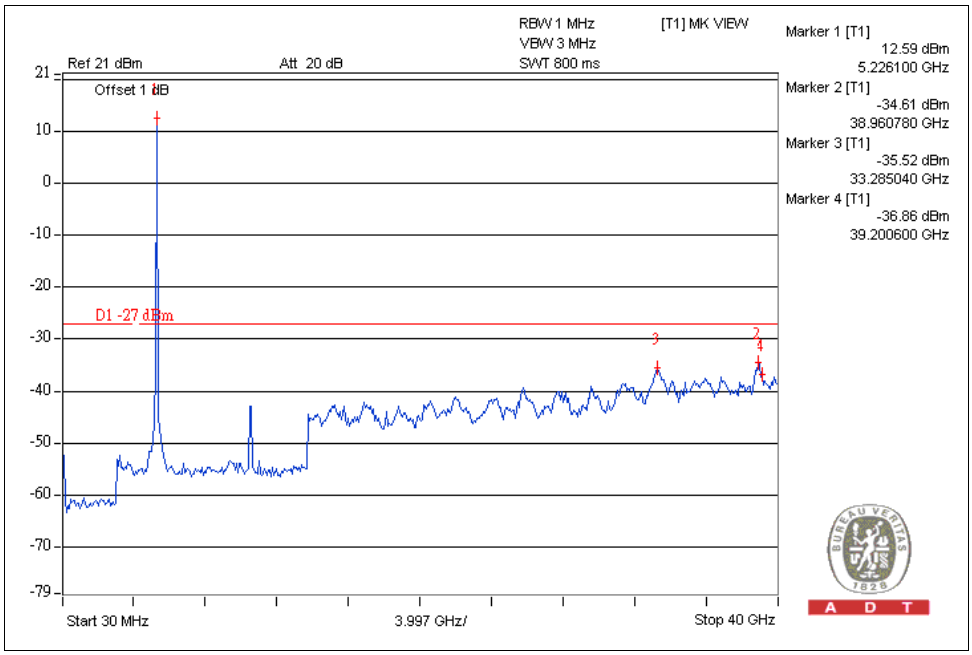
CH 48



CH 36

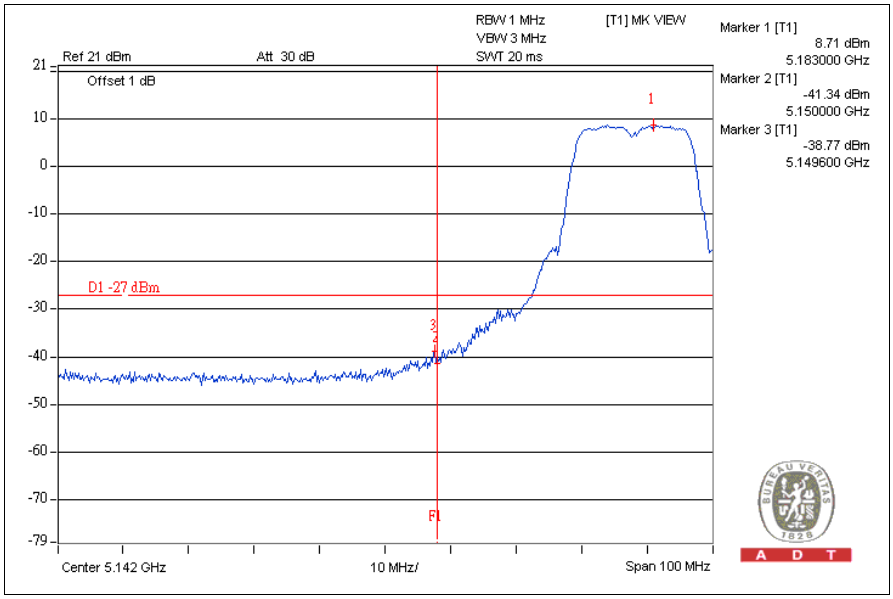

RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
10.83 dBm
5.146160 GHz
Marker 2 [T1]
-34.88 dBm
38.960780 GHz
Marker 3 [T1]
-35.47 dBm
33.205100 GHz
Marker 4 [T1]
-36.97 dBm
39.760180 GHz
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Start 30 MHz
3.997 GHz/
Stop 40 GHz

CH 48

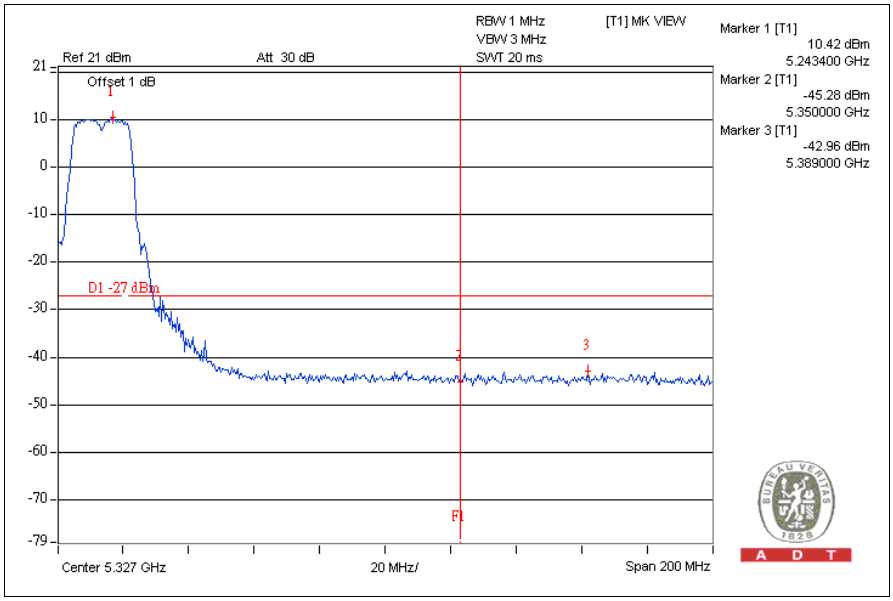

RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
12.59 dBm
5.226100 GHz
Marker 2 [T1]
-34.61 dBm
38.960780 GHz
Marker 3 [T1]
-35.52 dBm
33.285040 GHz
Marker 4 [T1]
-36.86 dBm
39.200600 GHz
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Start 30 MHz
3.997 GHz/
Stop 40 GHz

DRAFT 802.11n (20MHz) OFDM MODULATION:

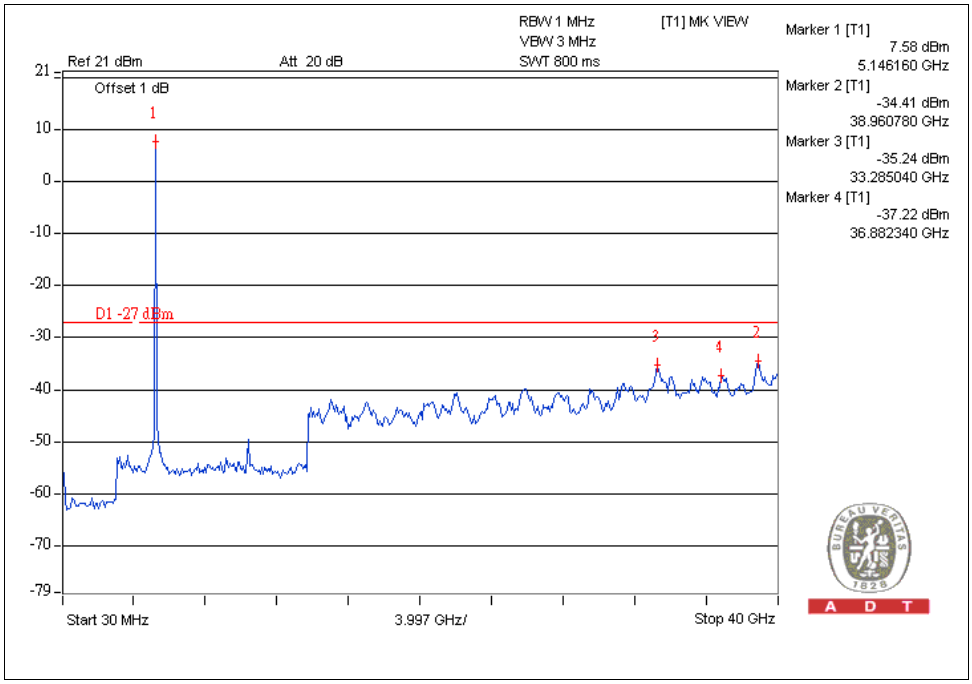
CH36



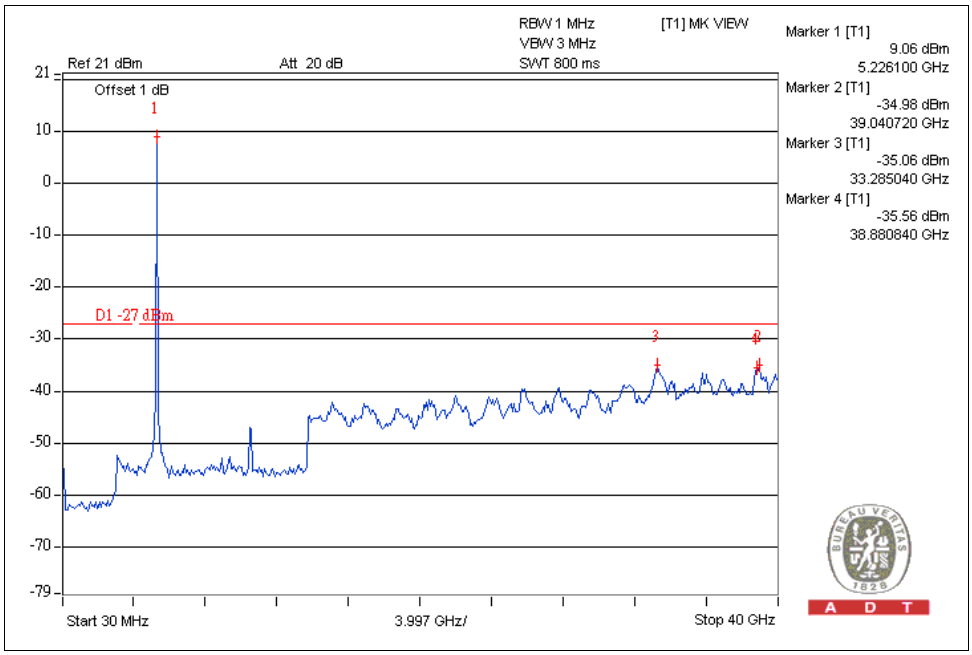
CH48



CH36

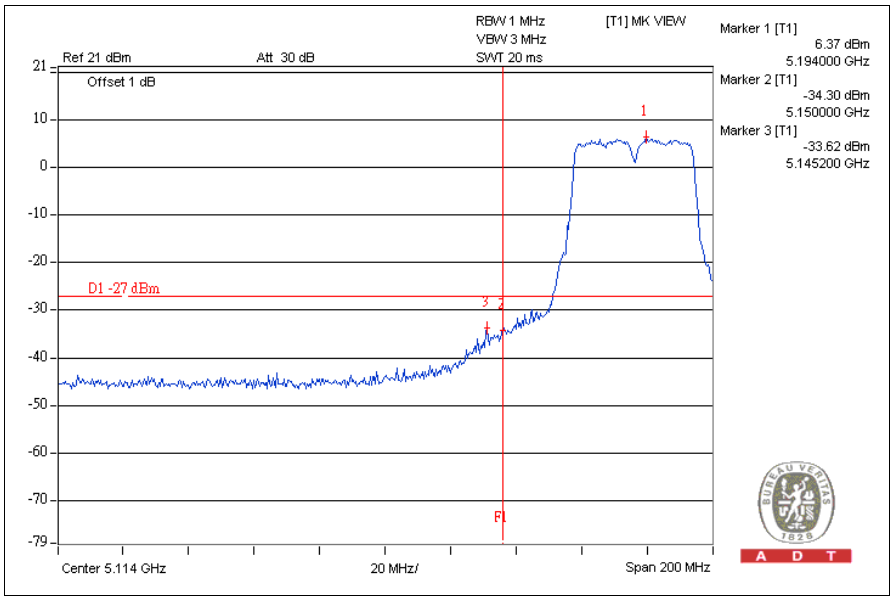

RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
7.58 dBm
5.146160 GHz
Marker 2 [T1]
-34.41 dBm
38.960780 GHz
Marker 3 [T1]
-35.24 dBm
33.285040 GHz
Marker 4 [T1]
-37.22 dBm
36.882340 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

CH48

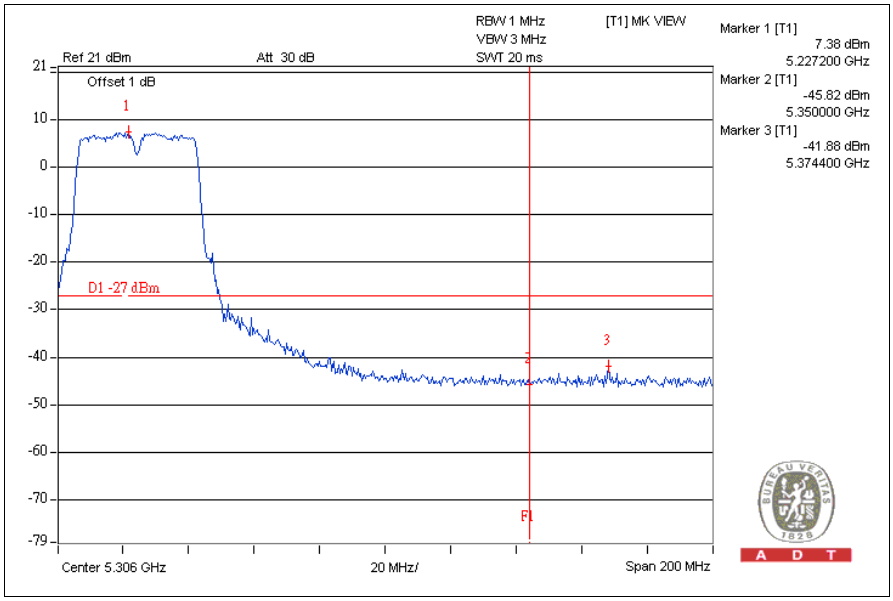

RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
9.06 dBm
5.226100 GHz
Marker 2 [T1]
-34.98 dBm
39.040720 GHz
Marker 3 [T1]
-35.06 dBm
33.285040 GHz
Marker 4 [T1]
-35.56 dBm
38.880840 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

DRAFT 802.11n (40MHz) OFDM MODULATION:

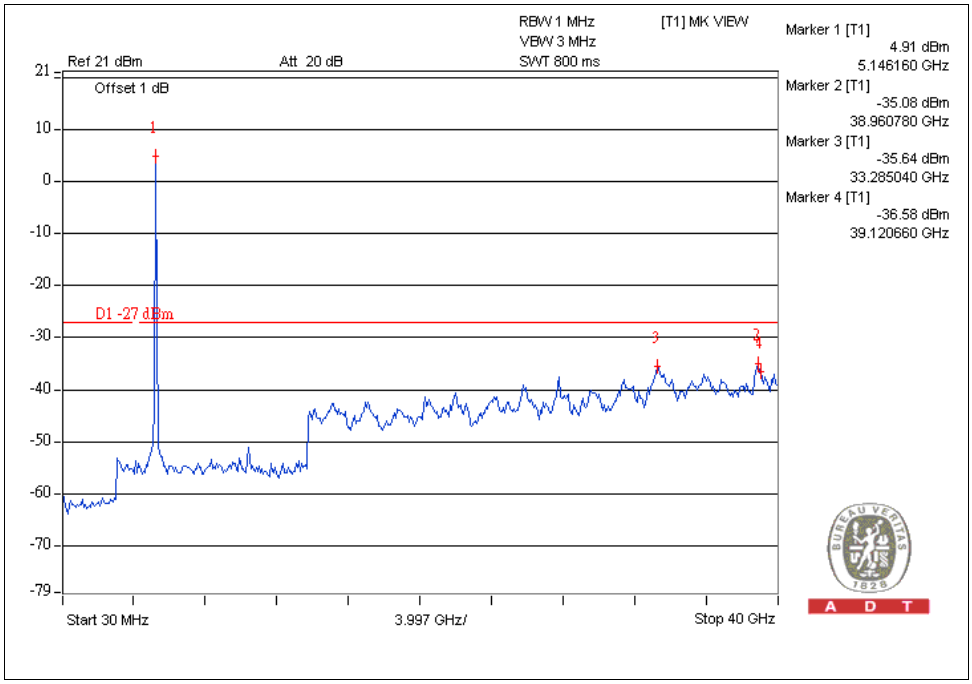
CH38



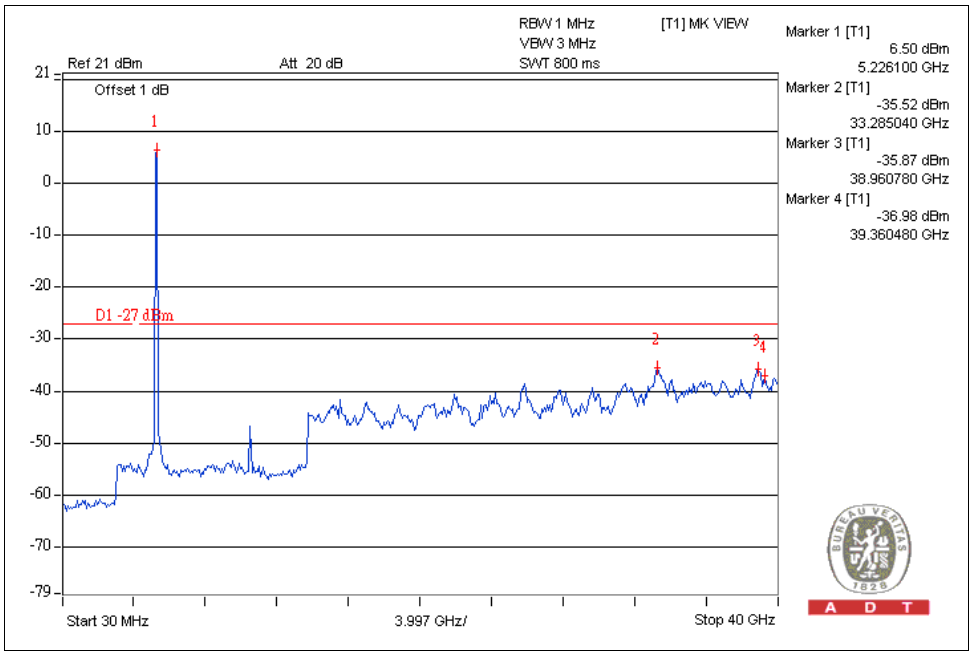
CH46



CH38


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
4.91 dBm
5.146160 GHz
Marker 2 [T1]
-35.08 dBm
38.960780 GHz
Marker 3 [T1]
-35.64 dBm
33.285040 GHz
Marker 4 [T1]
-36.58 dBm
39.120660 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

CH46


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
6.50 dBm
5.226100 GHz
Marker 2 [T1]
-35.52 dBm
33.285040 GHz
Marker 3 [T1]
-35.87 dBm
38.960780 GHz
Marker 4 [T1]
-36.98 dBm
39.360480 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

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

There are three antennas provided to this EUT, please refer to the following table:

Transmitter / Circuit	Antenna Gain		Antenna Type	Connector
	For 2.4GHz Gain (dBi)	For 5GHz Gain (dBi)		
Chain(0)	4	3.5	PIFA	NA
Chain(1)	4	3.5	PIFA	NA
Chain(2)	4	3.5	PIFA	NA

5. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, 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
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	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

6.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.

--- END ---