8 - Peak Excursion To Average Ratio

8.1 Standard Applicable

According to §15.407(a)(6), the ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13dB across any 1MHz bandwidth or the emission bandwidth whichever is less.

8.2 Test Procedure

For this test, the EUT's antenna was removed and replaced with a SMA jack to UMP2.0 plug test cable, so output power levels were calculated from conducted emission levels.

The analyzer center frequency was set to the EUT carrier frequency. For the peak value trace A, the analyzer resolution and video bandwidth were set to 1MHz. Do a MAX HOLD, then VIEW. For the average value trace B, the analyzer resolution bandwidth was set to 1MHz, the video bandwidth was set to 30kHz. MAX HOLD then VIEW trace B also.

The delta from the peak value trace and the Average should not exceed 13dBm across any 1MHz bandwidth.

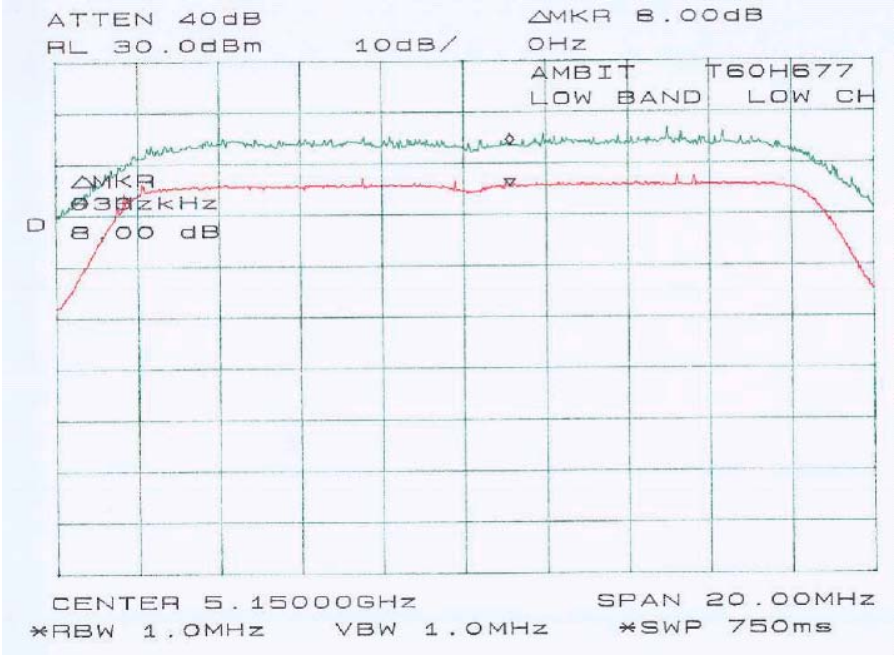
8.3 Equipment Lists

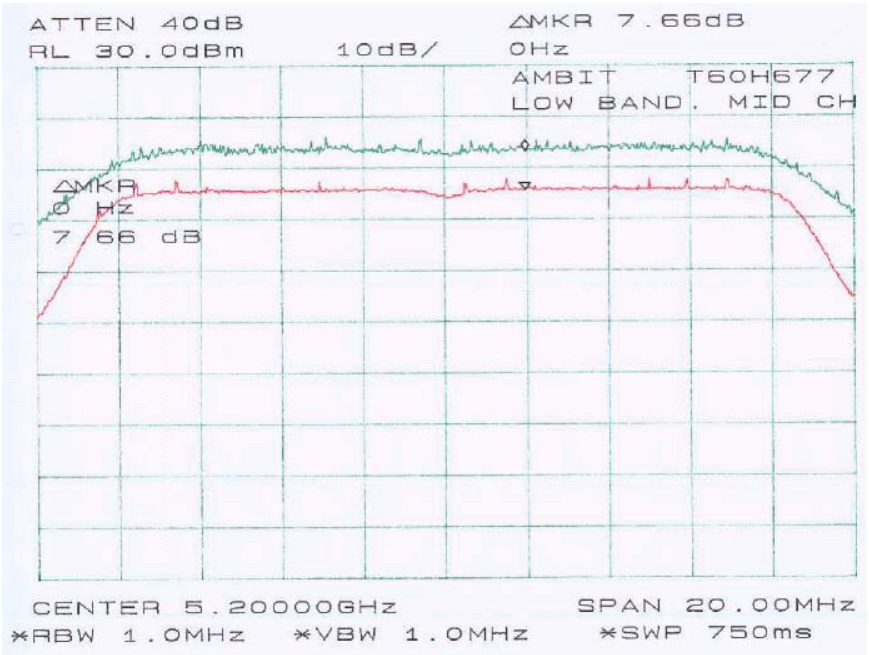
Manufacturer	Model No.	Description	Calibration Due Date
Agilent	8564E	Spectrum Analyzer	2004-08-26

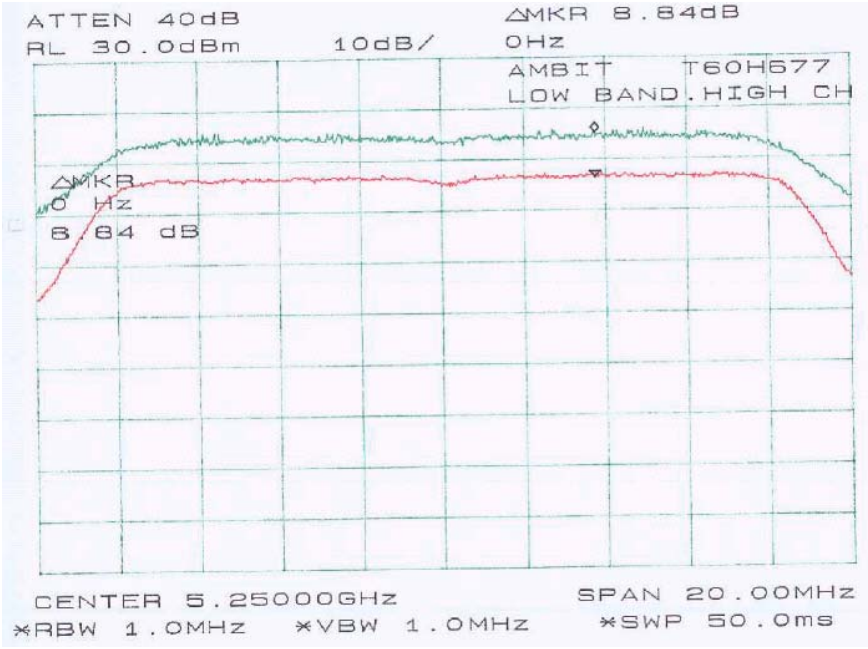
8.4 Test Result for 15.407

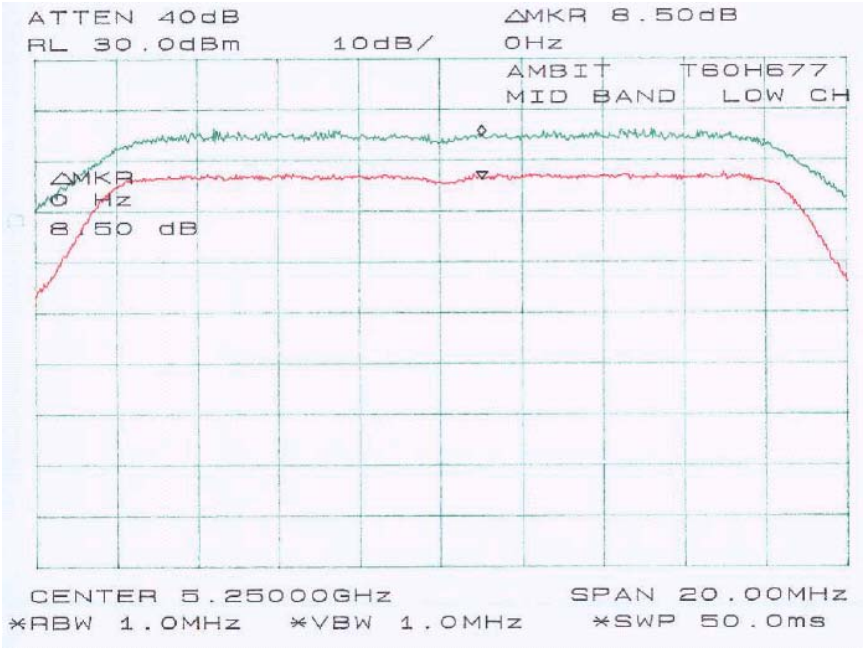
Band	Channel	Frequency (MHz)	Reading (dB)	Limit (dBm)	Result
Low	Low	5150	8.00	13	Compliant
	Mid	5200	7.66	13	Compliant
	High	5250	8.84	13	Compliant
Mid	Low	5250	8.50	13	Compliant
	Mid	5300	8.33	13	Compliant
	High	5330	8.00	13	Compliant
High	Low	5745	7.17	13	Compliant
	Mid	5775	7.17	13	Compliant
	High	5810	6.84	13	Compliant

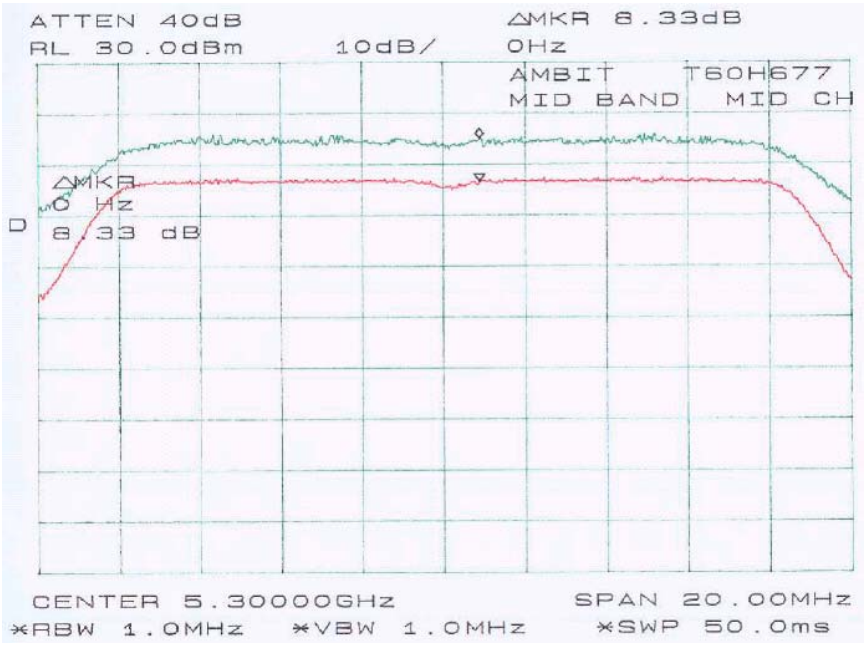
Please see the hereinafter plots for more detail.

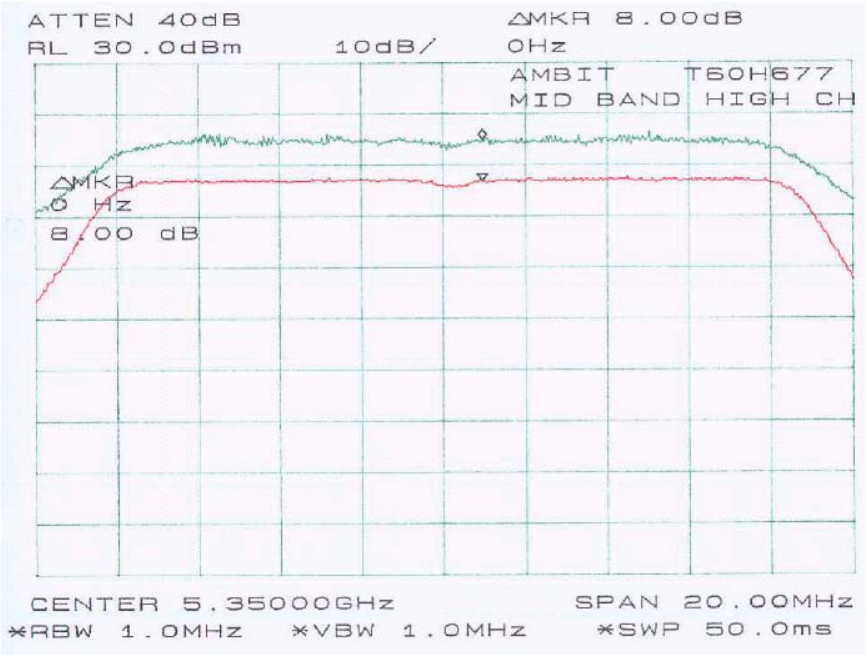

ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 8.00dB
0Hz
AMBIT T60H677
LOW BAND LOW CH
ΔMKR
638.kHz
8.00 dB
CENTER 5.15000GHz
SPAN 20.00MHz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 750ms

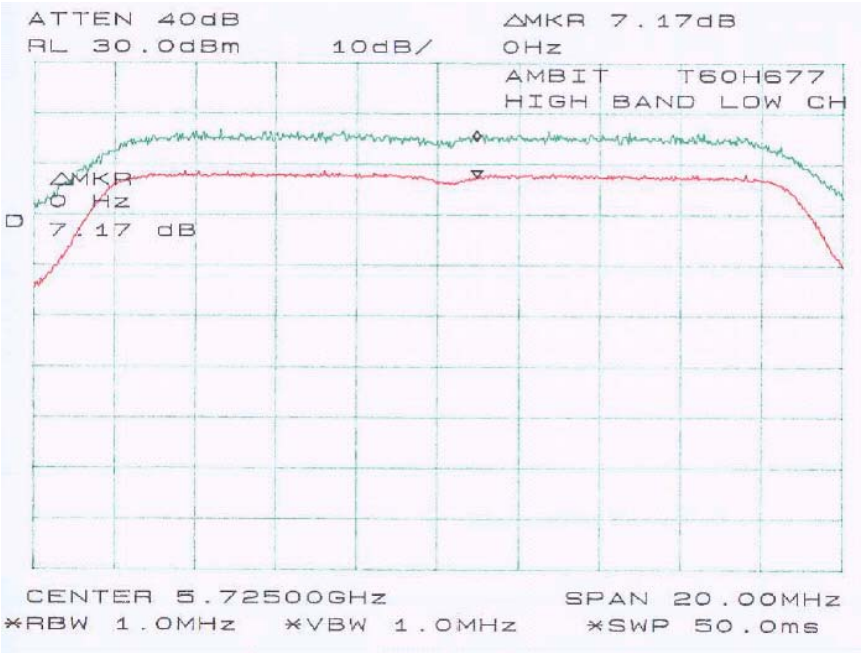

ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 7.66dB
0Hz
AMBIT T60H677
LOW BAND. MID CH
ΔMKR
0 Hz
7.66 dB
CENTER 5.20000GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 750ms

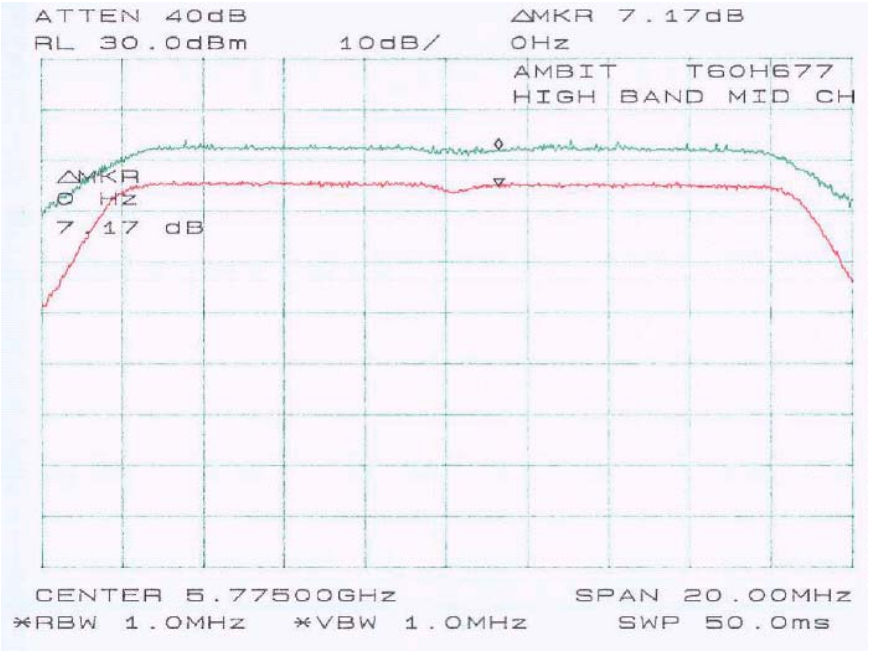

ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 8.84dB
0Hz
AMBIT T60H677
LOW BAND.HIGH CH
ΔMKR
0 Hz
8.84 dB
CENTER 5.25000GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms

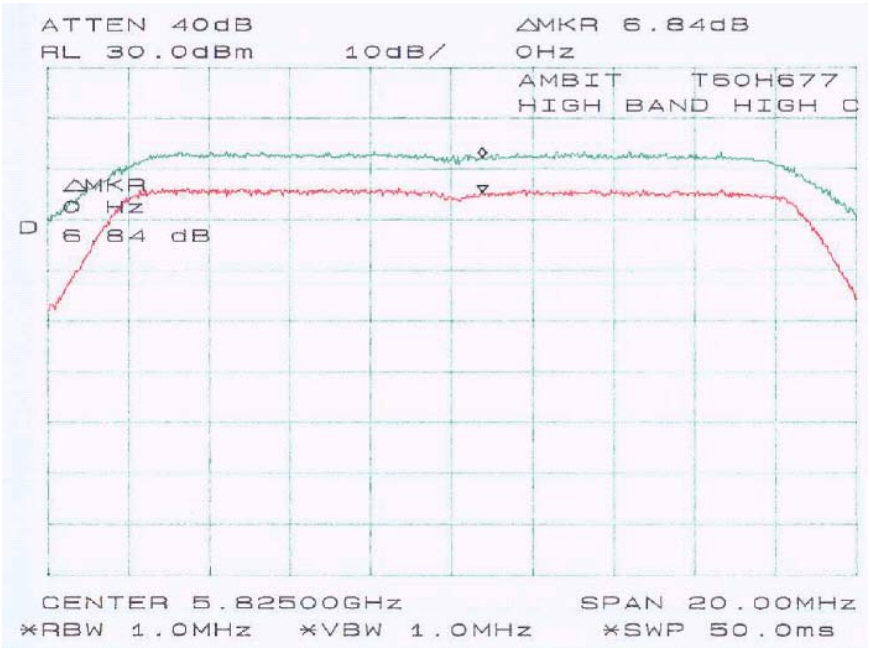

ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 8.50dB
0Hz
AMBIT T60H677
MID BAND LOW CH
ΔMKR
0 Hz
8.50 dB
CENTER 5.25000GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 8.33dB
0Hz
AMBIT T60H677
MID BAND MID CH
ΔMKR
0 Hz
8.33 dB
CENTER 5.30000GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 8.00dB
0Hz
AMBIT T60H677
MID BAND HIGH CH
ΔMKR
0 Hz
8.00 dB
CENTER 5.35000GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 7.17dB
0Hz
AMBIT T60H677
HIGH BAND LOW CH
ΔMKR
0 Hz
7.17 dB
CENTER 5.72500GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 7.17dB
0Hz
AMBIT T60H677
HIGH BAND MID CH
ΔMKR
0 Hz
7.17 dB
CENTER 5.77500GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR 6.84dB
0Hz
AMBIT T60H677
HIGH BAND HIGH C
ΔMKR
0 Hz
6.84 dB
D
CENTER 5.82500GHz
SPAN 20.00MHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms

9 - Out Of Band Emission for 15.407

9.1 Standard Applicable

§15.407 (b), undesirable emission limits: except as shown in paragraph (b)(6) of this section, the peak emission outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

§15.407 (b)(1), for transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

§15.407 (b)(2), for transmitters operating in the 5.25 – 5.35 GHz band: all emissions outside of the 5.15 – 5.25 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25 – 5.35 GHz band that generate emissions in the 5.15 – 5.25 GHz band must meet all applicable technical requirements for operation in the 5.15 – 5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15 – 5.25 GHz band.

§15.407 (b)(3), for transmitters operating in the 5.725 – 5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EURP of –17dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emission shall not exceed an EIRP of –27 dBm/MHz.

9.2 Test Procedure

For this test, the EUT's antenna was removed and replaced with a low loss cable, so output power levels were calculated from conducted emission levels.

The analyzer center frequency was set to the EUT carrier frequency. The analyzer resolution and video bandwidth were set to 1MHz. The entire band from 30kHz to 40GHz was investigated.

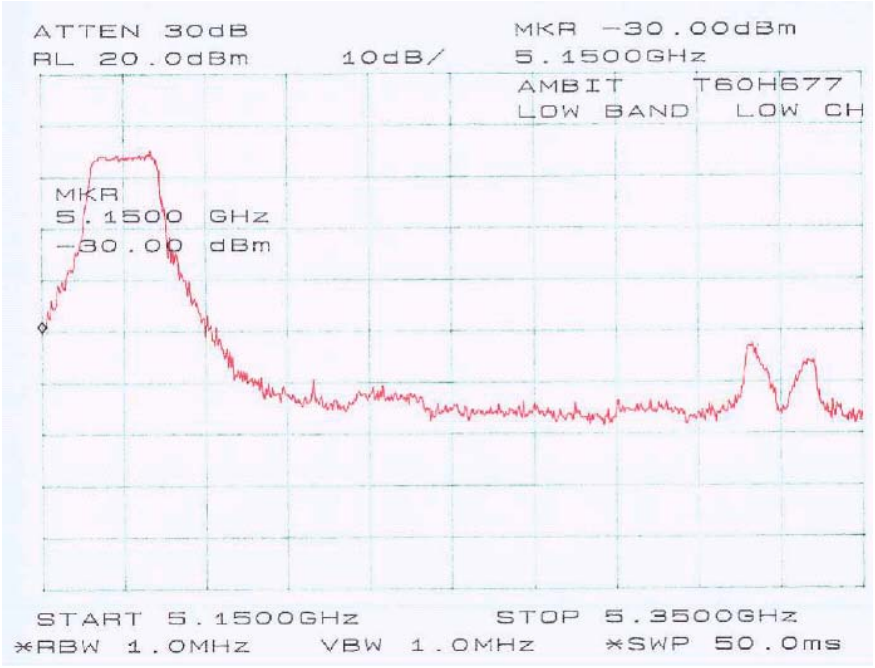
Every suspected signal was also investigated through radiated emission. Refer to section 15.205 restricted bands of operation.

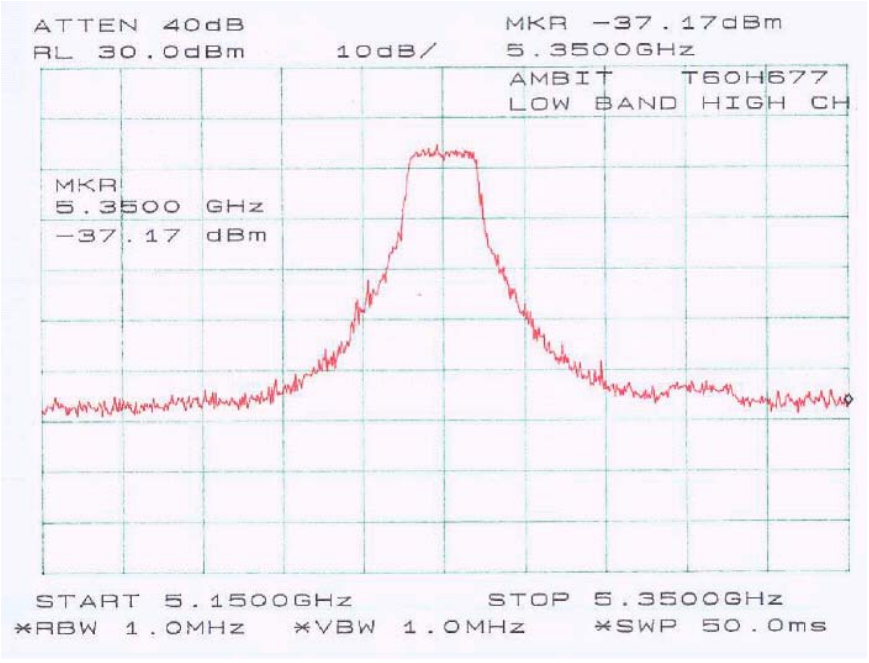
9.3 Equipment Lists

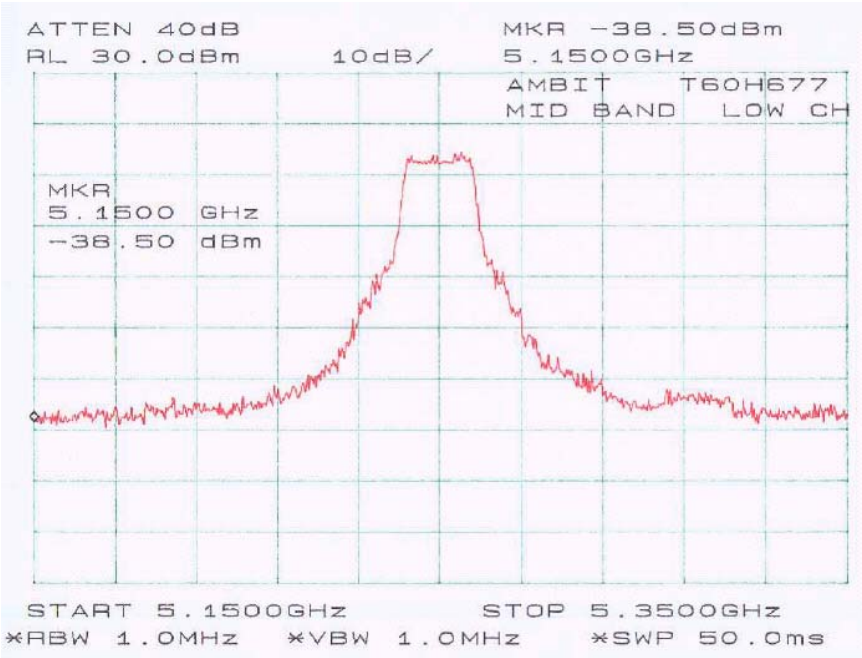
Manufacturer	Model No.	Description	Calibration Due Date
Agilent	8564E	Spectrum Analyzer	2004-08-26

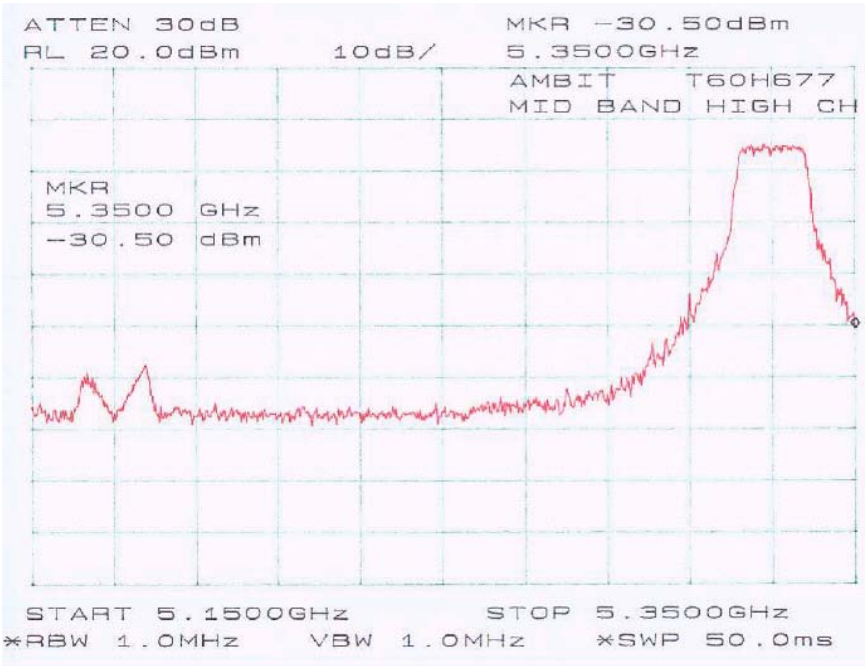
9.4 Test Result

Please refer to the following plots.

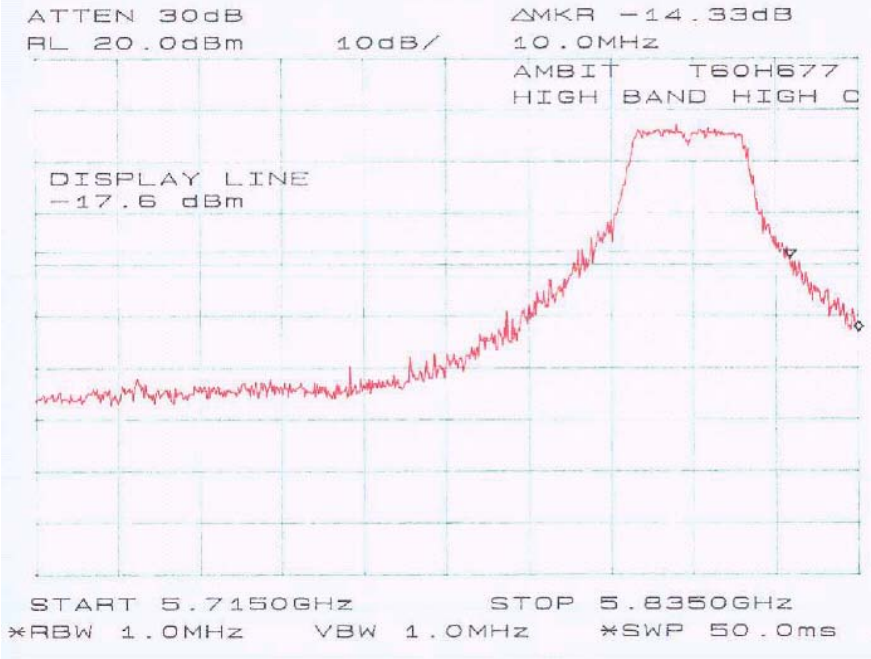

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -30.00dBm
5.1500GHz
AMBIT T60H677
LOW BAND LOW CH
MKR
5.1500 GHz
-30.00 dBm
START 5.1500GHz
STOP 5.3500GHz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -37.17dBm
5.3500GHz
AMBIT T60H677
LOW BAND HIGH CH
MKR
5.3500 GHz
-37.17 dBm
START 5.1500GHz
STOP 5.3500GHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -38.50dBm
5.1500GHz
AMBIT T60H677
MID BAND LOW CH
MKR
5.1500 GHz
-38.50 dBm
START 5.1500GHz
STOP 5.3500GHz
*RBW 1.0MHz
*VBW 1.0MHz
*SWP 50.0ms


ATTEN 30dB
RL 20.0dBm
10dB/
MKR -30.50dBm
5.3500GHz
AMBIT T60H677
MID BAND HIGH CH
MKR
5.3500 GHz
-30.50 dBm
START 5.1500GHz
STOP 5.3500GHz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 50.0ms


ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -6.33dB
-10.0MHz
AMBIT T60H677
HIGH BAND LOW CH
DISPLAY LINE
-23.7 dBm
START 5.7150GHz
STOP 5.8350GHz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 50.0ms


ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -14.33dB
10.0MHz
AMBIT T60H677
HIGH BAND HIGH C
DISPLAY LINE
-17.6 dBm
START 5.7150GHz
STOP 5.8350GHz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 50.0ms

10 - SPURIOUS EMISSION

10.1 Standard Applicable

According to §15.209 (a), except as provided elsewhere in the subpart of 15.209, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241

10.2 Measurement Procedure

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set the SA on Max-Hold Mode, and then keep the EUT in transmitting mode. Record all the signals from each channel until each one has been recorded.
4. Set the SA on View mode and then plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

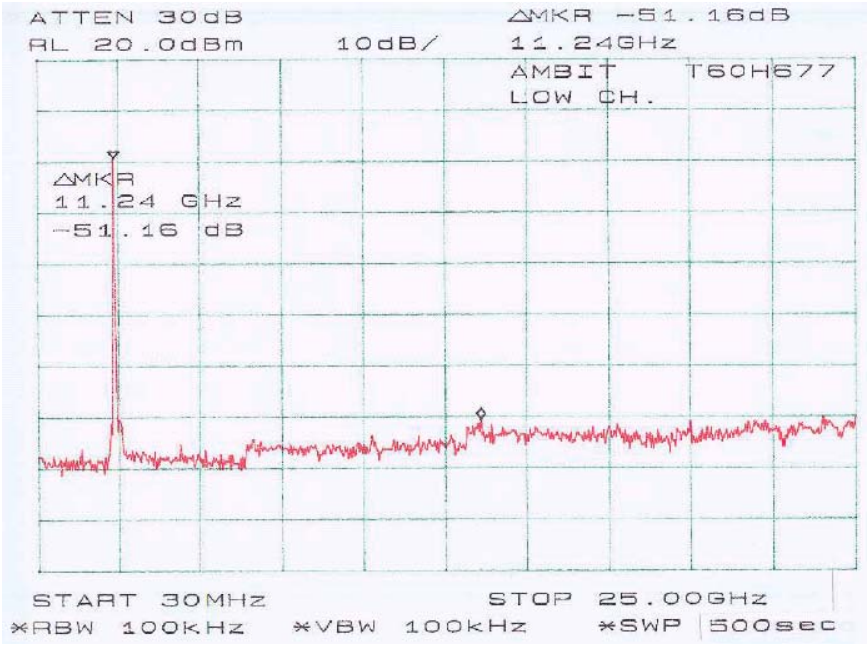
10.3 Equipment Lists

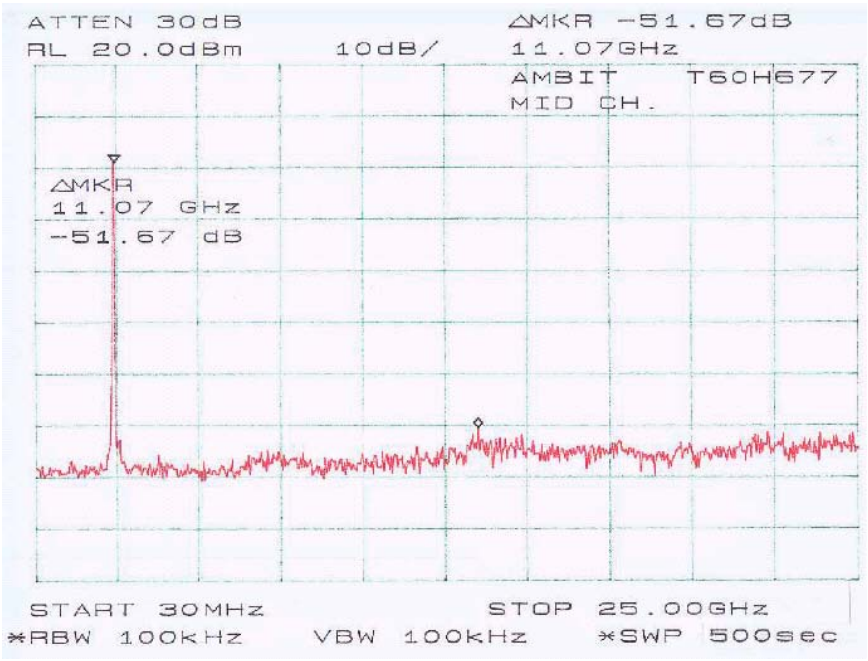
Manufacturer	Model No.	Description	Calibration Due Date
Agilent	8564E	Spectrum Analyzer	2004-08-26

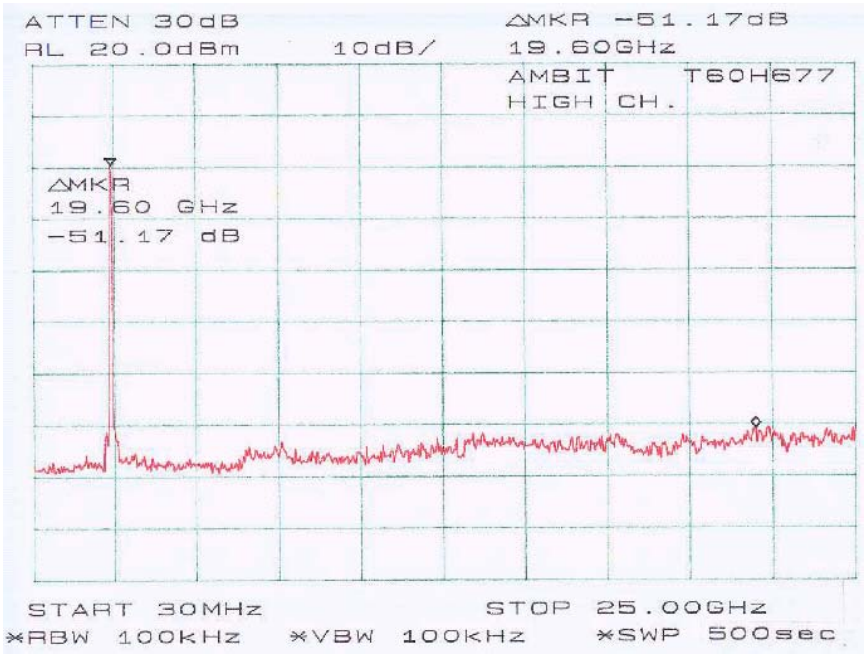
10.4 Measurement Result

Please refer to following pages for plots of spurious emission.

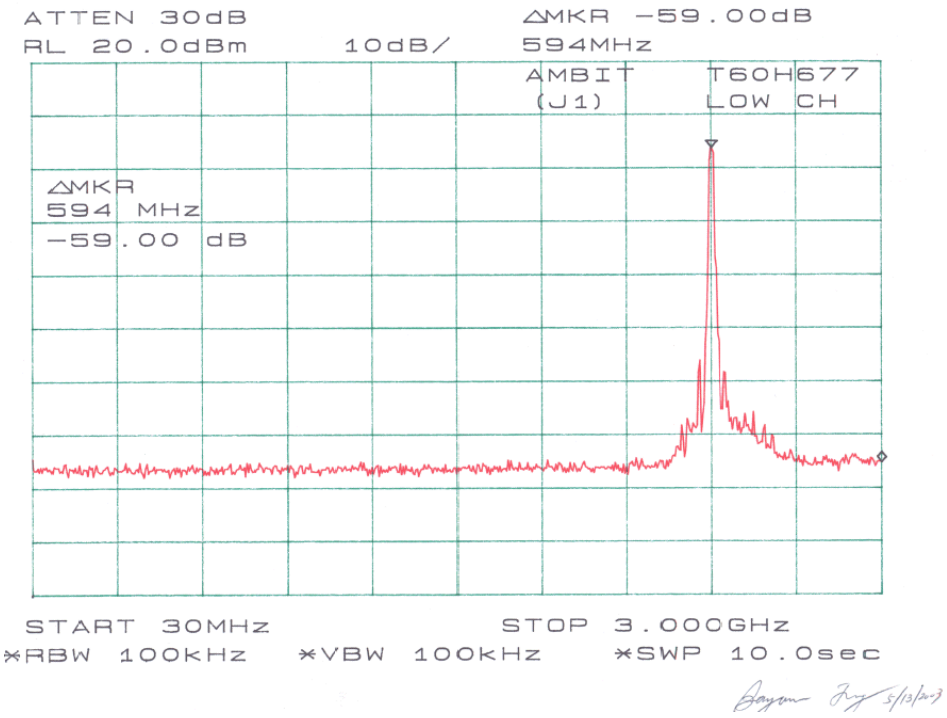
Plots of Spurious Emission for 802.11b (15.247)

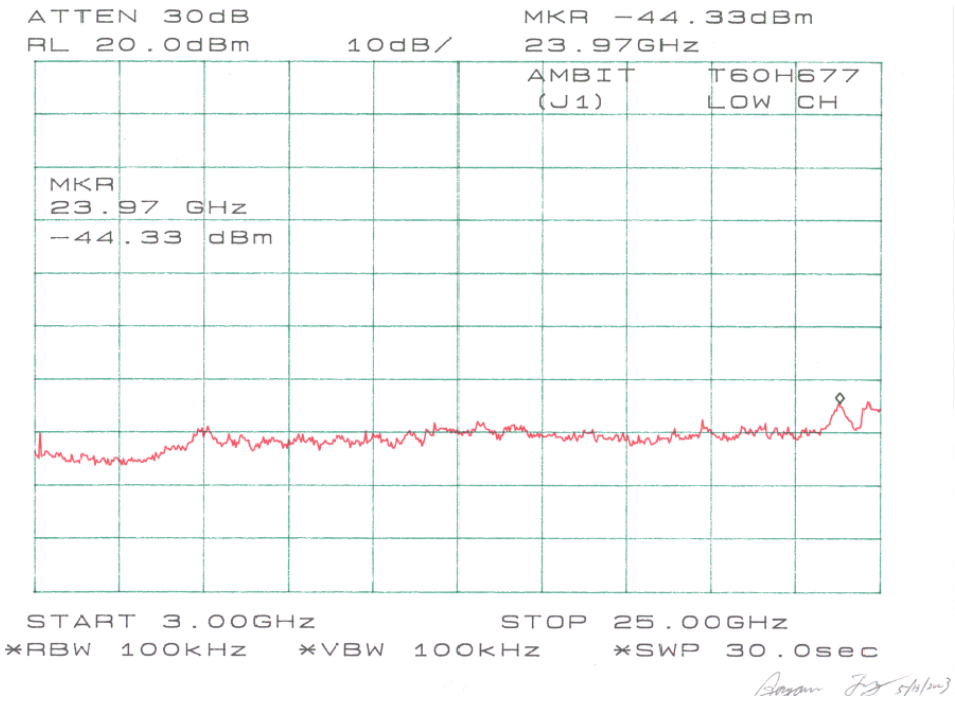


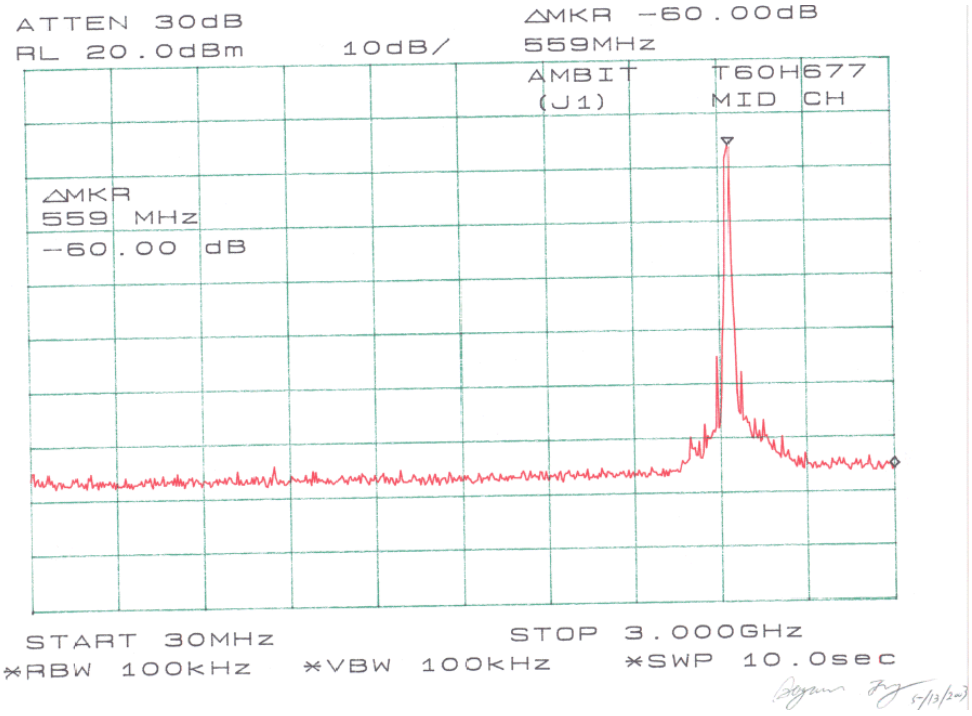


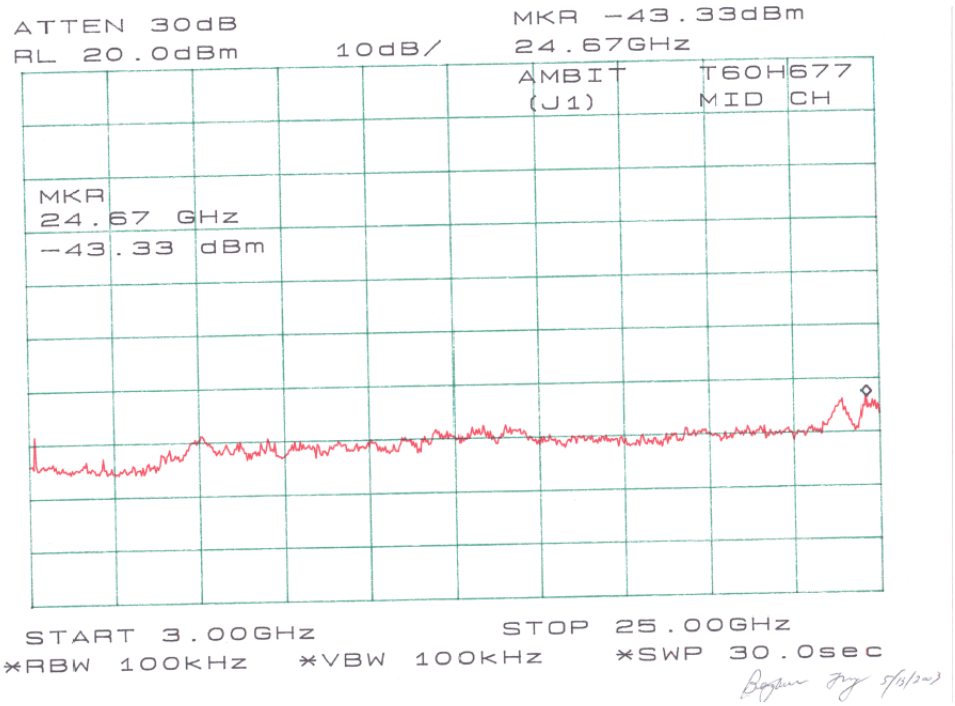


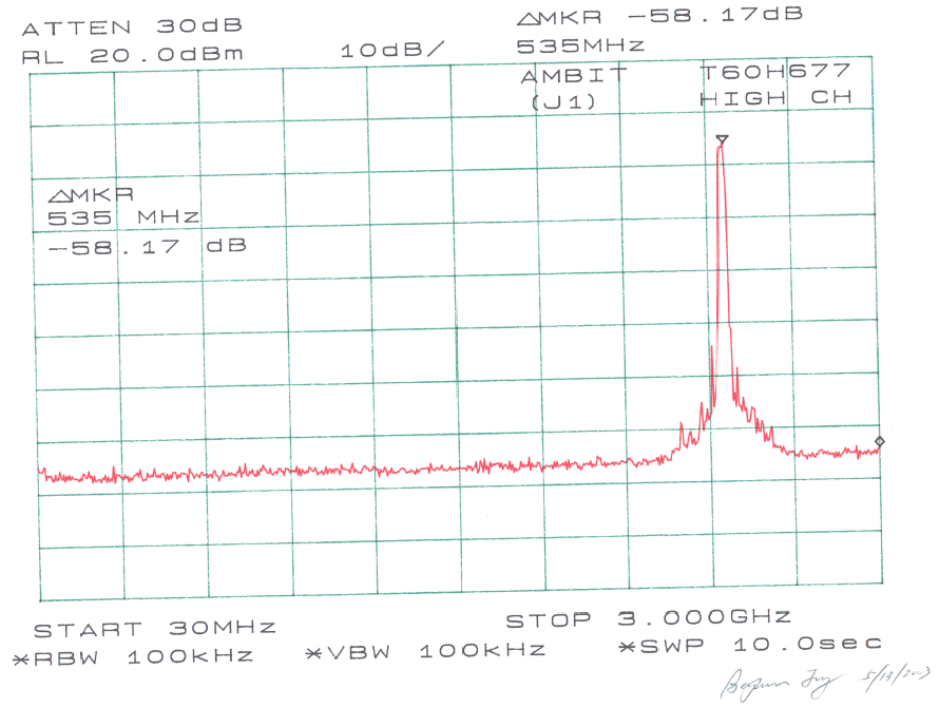
Plots of Spurious Emission for 802.11g (15.247)

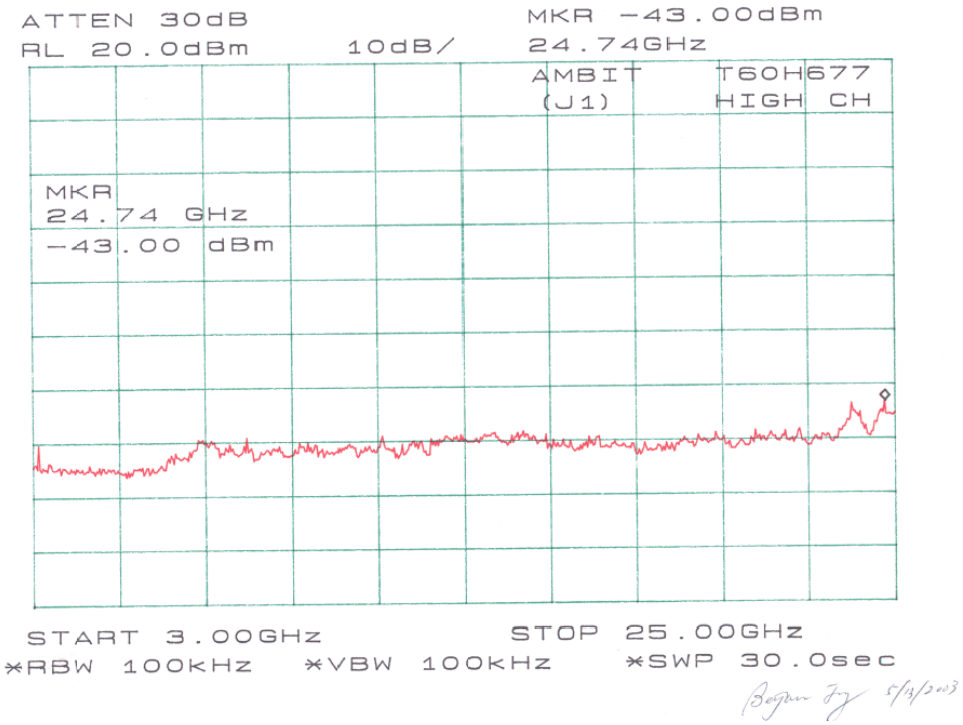



ATTEN 30dB
RL 20.0dBm
10dB/
MKR -44.33dBm
23.97GHz
AMBIT
(J1)
T60H677
LOW CH
MKR
23.97 GHz
-44.33 dBm
START 3.00GHz
STOP 25.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 30.0sec

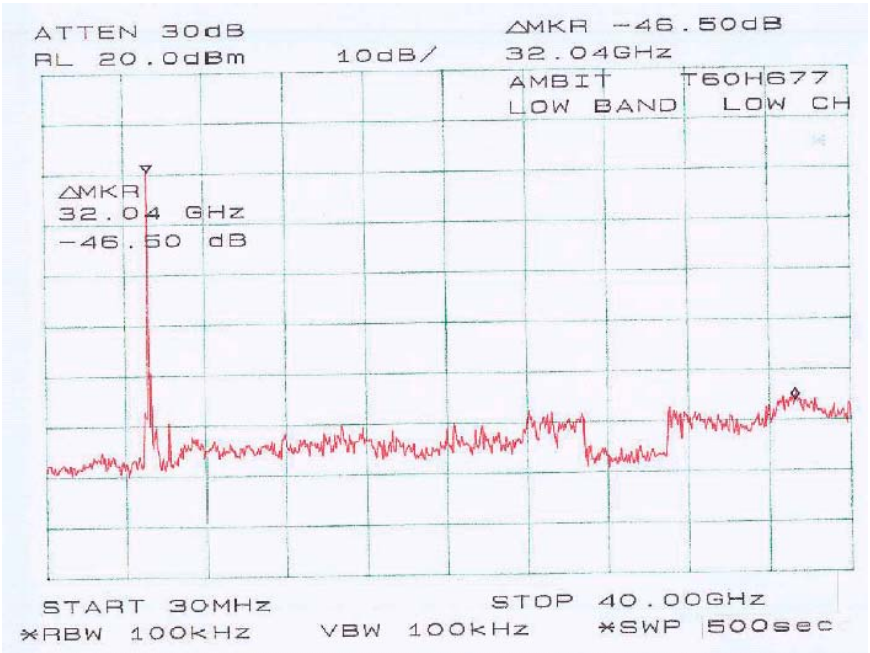

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -60.00dB
559MHz
AMBIT
(J1)
T60H677
MID CH
ΔMKR
559 MHz
-60.00 dB
START 30MHz
STOP 3.000GHz
*RBW 100kHz
*VBW 100kHz
*SWP 10.0sec

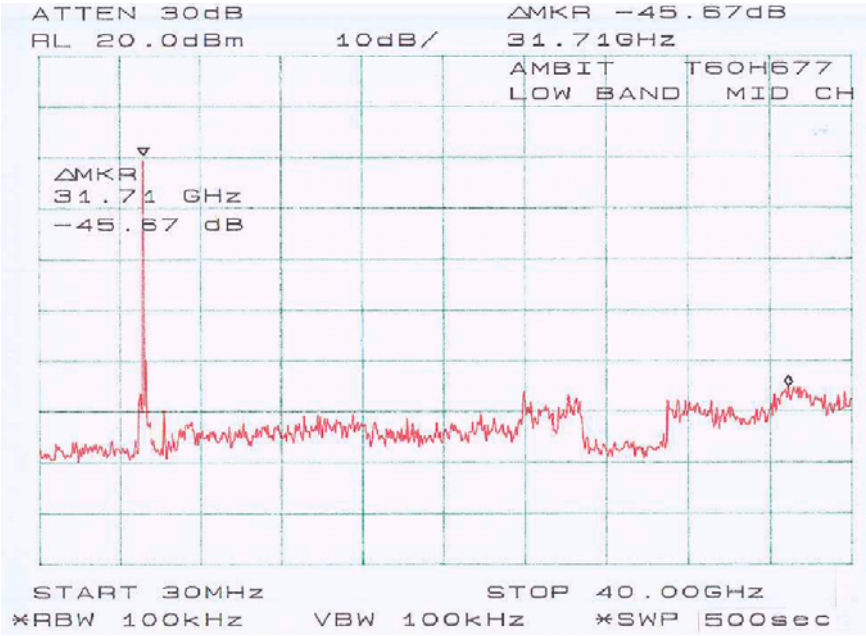

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -43.33dBm
24.67GHz
AMBIT
(J1)
T60H677
MID CH
MKR
24.67 GHz
-43.33 dBm
START 3.00GHz
STOP 25.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 30.0sec

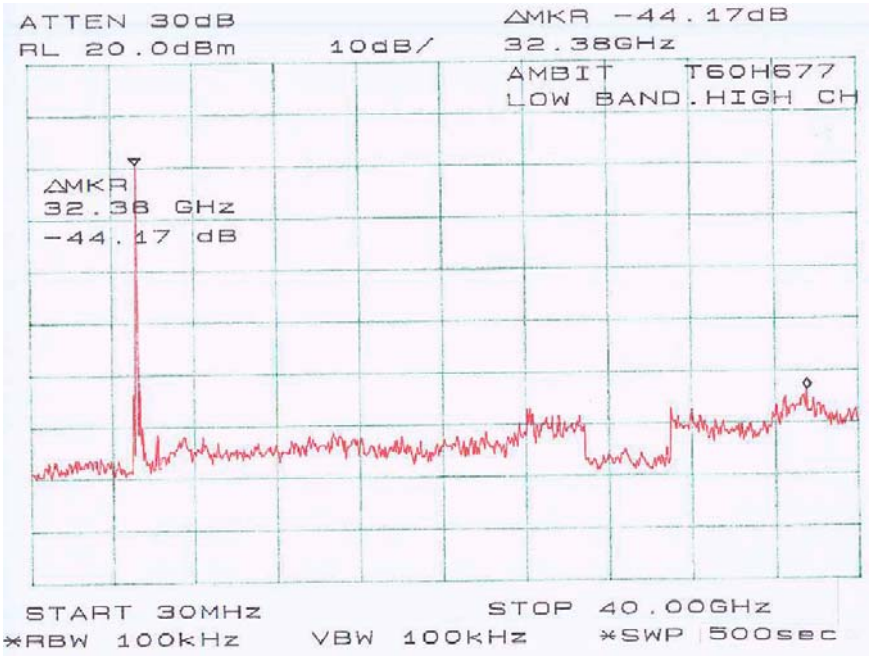

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -58.17dB
535MHz
AMBIT
(J1)
T60H677
HIGH CH
ΔMKR
535 MHz
-58.17 dB
START 30MHz
STOP 3.000GHz
*RBW 100kHz
*VBW 100kHz
*SWP 10.0sec

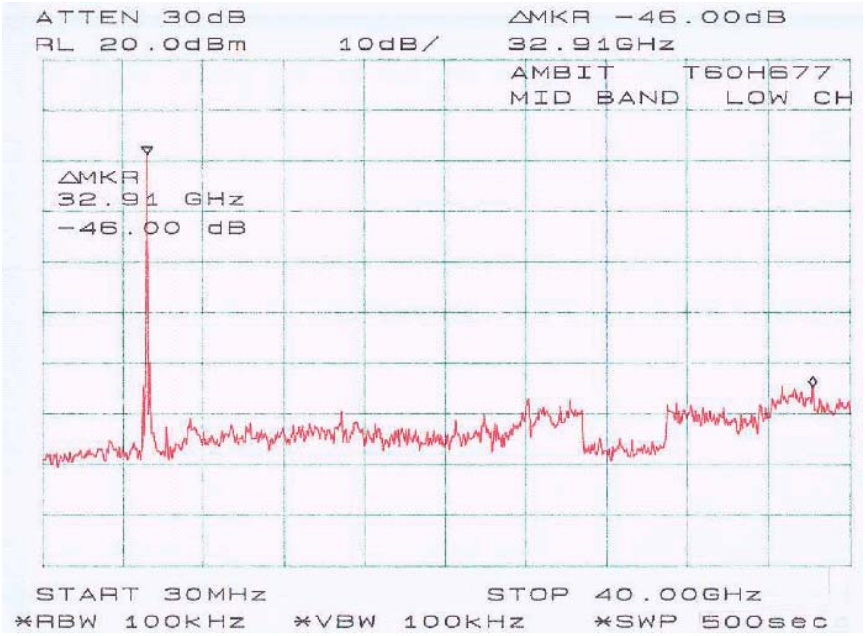


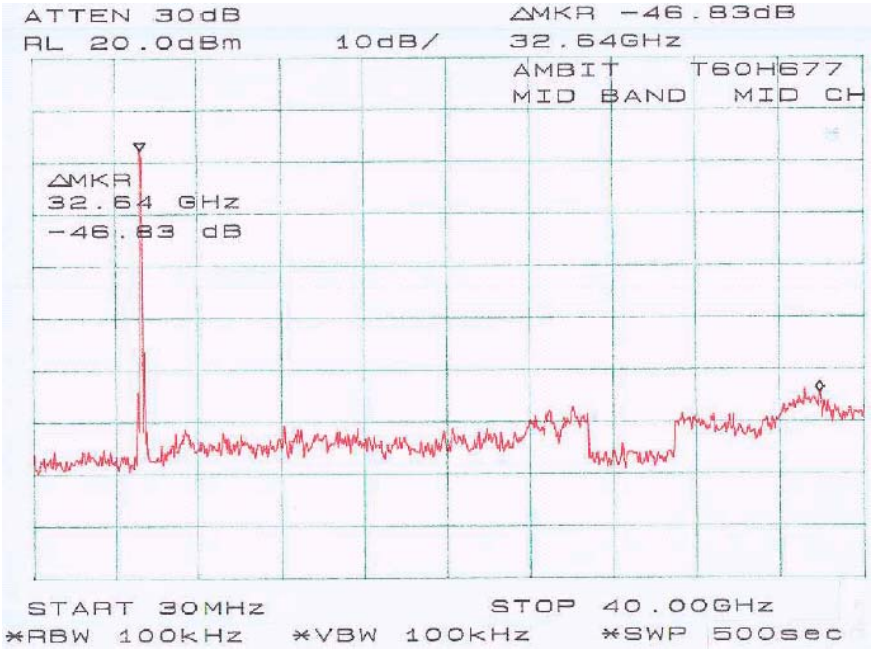
Plots of Spurious Emission for 802.11a (15.247)

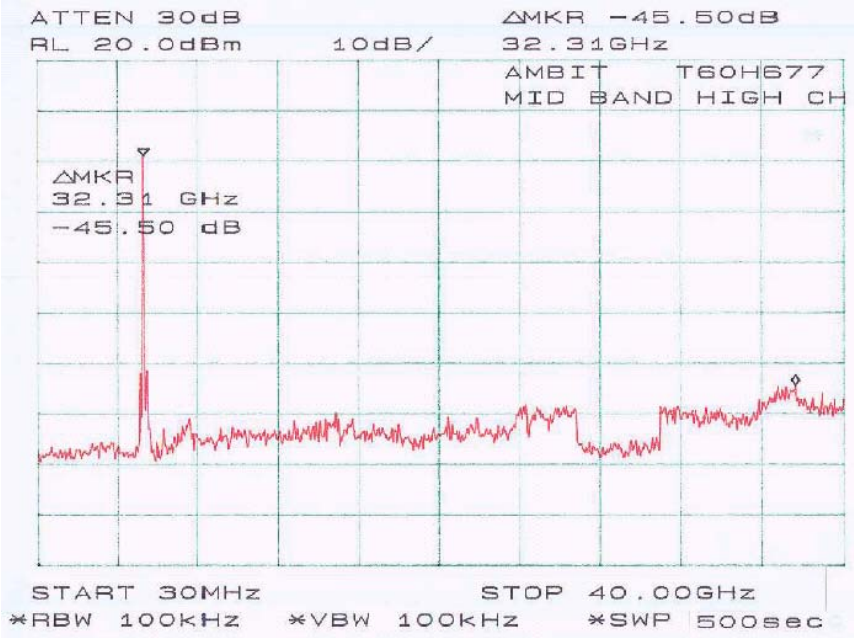


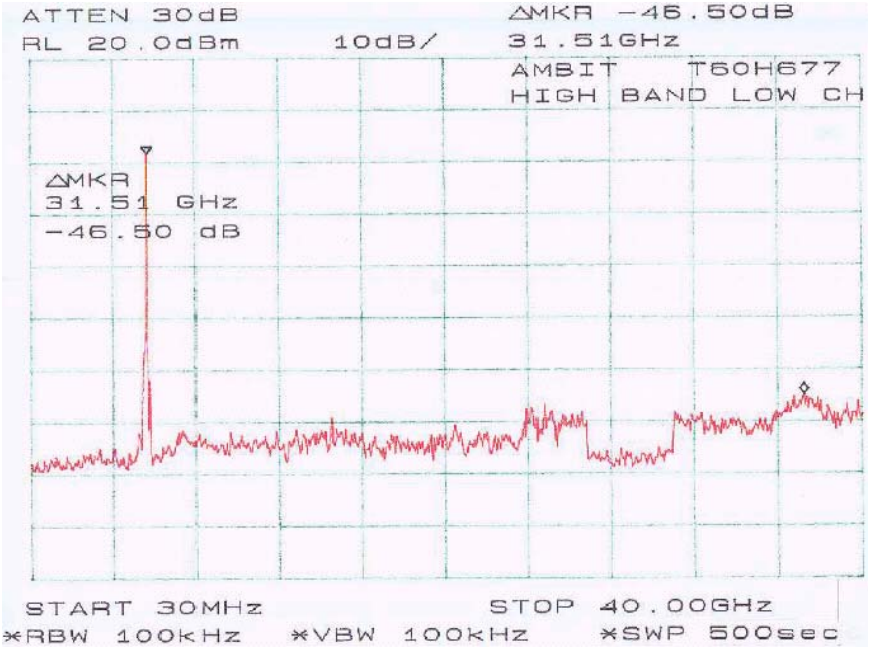

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -45.67dB
31.71GHz
AMBIT T60H677
LOW BAND MID CH
ΔMKR
31.71 GHz
-45.67 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
VBW 100kHz
*SWP 500sec

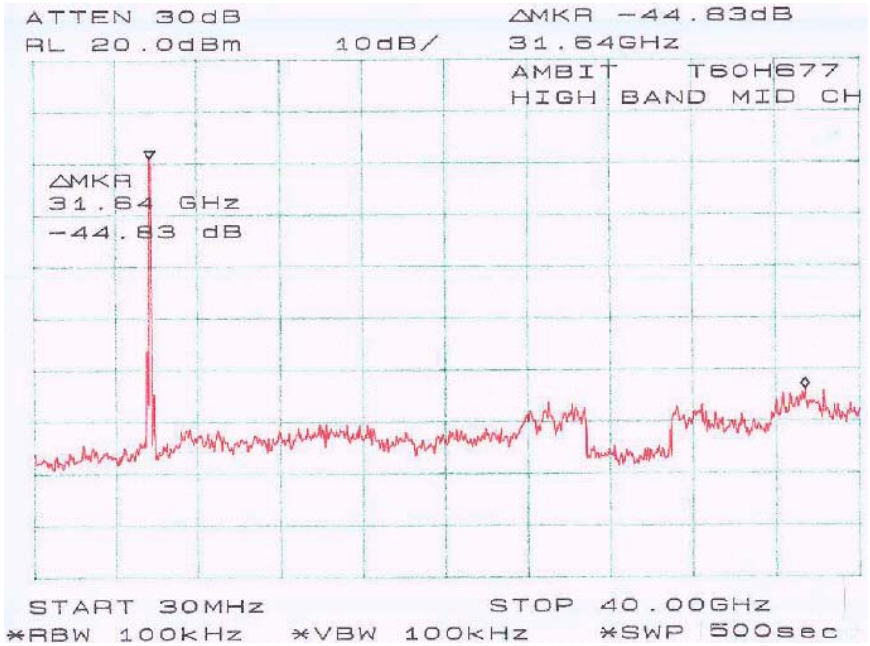

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -44.17dB
32.38GHz
AMBIT T60H677
LOW BAND.HIGH CH
ΔMKR
32.38 GHz
-44.17 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
VBW 100kHz
*SWP 500sec

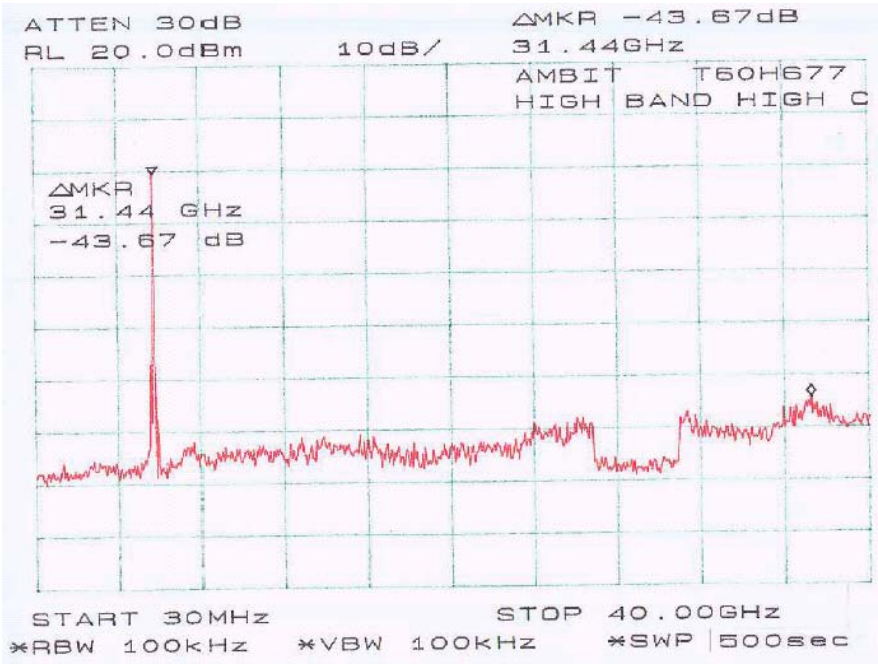

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -46.00dB
32.91GHz
AMBIT T60H677
MID BAND LOW CH
ΔMKR
32.91 GHz
-46.00 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 500sec


ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -46.83dB
32.64GHz
AMBIT T60H677
MID BAND MID CH
ΔMKR
32.64 GHz
-46.83 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 500sec


ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -45.50dB
32.31GHz
AMBIT T60H677
MID BAND HIGH CH
ΔMKR
32.31 GHz
-45.50 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 500sec


ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -46.50dB
31.51GHz
AMBIT T60H677
HIGH BAND LOW CH
ΔMKR
31.51 GHz
-46.50 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 500sec


ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -44.83dB
31.64GHz
AMBIT T60H677
HIGH BAND MID CH
ΔMKR
31.64 GHz
-44.83 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 500sec


ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -43.67dB
31.44GHz
AMBIT T60H677
HIGH BAND HIGH C
ΔMKR
31.44 GHz
-43.67 dB
START 30MHz
STOP 40.00GHz
*RBW 100kHz
*VBW 100kHz
*SWP 500sec

11 - ANTENNA REQUIREMENT

11.1 Standard Applicable

For intentional device, according to § 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 § 15.247 (1), if transmitting antennas of directional gain greater than 6 dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to § 15.407 (d), any U-NII device shall use a transmitting antenna that is an integral part of the device.

Refer to statement below for compliance.

“The antenna for the device is an integral antenna that the end user cannot access. Further the device is for outdoor use as detailed in the Users Manual and Operational Description, which are included in this application.”

11.2 Antenna Connected Construction

The antenna connector is designed with permanent attachment and no consideration of replacement.

12 - SPURIOUS RADIATED EMISSION

12.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at BACL is $\pm$4.0 dB.

According to §15.205, except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
[1]0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2655 – 2900	22.01 – 23.12
8.41425 – 8.41475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.57725	240 – 285	3345.8 – 3358	36.43 – 36.5
13.36 – 13.41	322 – 335.4	3600 – 4400	([2])

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510MHz
[2] Above 38.6

Except as provided in paragraph (d) and (e), the filed strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

According to §15.209, the device shall meet radiated emission general requirements.

Except for Class A device, the filed strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (Microvolts/meter)	dB (dBμV/meter)
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

12.2 EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup in accordance with the ANSI C63.4-2001. The specification used was the FCC 15 Subpart C limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The host PC system was connected with 120Vac/60Hz power source.

12.3 Spectrum Analyzer Setup

According to FCC CFR 47, Section 15.31, the EUT was tested to 50GHz. During the radiated emission test, the spectrum analyzer was set with the following configurations:

Start Frequency ..... 30 MHz
Stop Frequency 50GHz
Sweep Speed ..... Auto
IF Bandwidth ..... 1 MHz
Video Bandwidth ..... 1 MHz
Quasi-Peak Adapter Bandwidth ..... 120 kHz
Quasi-Peak Adapter Mode ..... Normal
Resolution Bandwidth 1MHz

12.4 Test Procedure

For the radiated emissions test, the Host PC system power cord was connected to the AC floor outlet since the power supply used in the EUT did not provide an accessory power outlet.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dBμV of specification limits), and are distinguished with a "**Qp**" in the data table.

12.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dBμV means the emission is 7dBμV below the maximum limit for Subpart C. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Subpart C Limit

12.6 Summary of Test Results

According to the data in section 12.7, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.207 and 15.247, and had the worst margin of:

EUT with Q1ZI2002 Antenna for 802.11b, 15.247

-12.4 dB at **4824.00 MHz** in the **Vertical** polarization, Low Channel

-13.6 dB at **7311.00 MHz** in the **Horizontal** polarization, Middle Channel

-13.5 dB at **7386.60 MHz** in the **Vertical** polarization, High Channel

-6.3 dB at **208.18 MHz** in the **Horizontal** polarization, Unwanted Emission

EUT with Q1ZI2002 Antenna for 802.11g, 15.247

-12.9 dB at **7236.00 MHz** in the **Horizontal** polarization, Low Channel

-13.3 dB at **7311.00 MHz** in the **Vertical** polarization, Middle Channel

-12.4 dB at **7386.00 MHz** in the **Vertical** polarization, High Channel

-5.6 dB at **208.10 MHz** in the **Horizontal** polarization, Unintentional Emission

EUT with Q1ZI2002 Antenna for 802.11a, 15.407

-11.1 dB at **15450.00 MHz** in the **Vertical** polarization, Low Band, Low Channel

-11.2 dB at **15600.00 MHz** in the **Horizontal** polarization, Low Band, Mid Channel

-11.1 dB at **15750.00 MHz** in the **Vertical** polarization, Low Band, High Channel

-11.1 dB at **15750.00 MHz** in the **Vertical** polarization, Mid Band, Low Channel

-12.3 dB at **15900.00 MHz** in the **Vertical** polarization, Mid Band, Mid Channel

-12.3 dB at **16050.00 MHz** in the **Vertical** polarization, Mid Band, High Channel

-12.4 dB at **17175.00 MHz** in the **Horizontal** polarization, High Band, Low Channel

-12.6 dB at **17325.00 MHz** in the **Horizontal** polarization, High Band, Mid Channel

-12.6 dB at **17475.00 MHz** in the **Vertical** polarization, High Band, High Channel

-5.4 dB at **480.13 MHz** in the **Vertical** polarization, Unwanted Emission

12.6.1 Final test data, EUT with Q1ZI2002 Antenna for 802.11b (15.247)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-25GHz											
2412.00	103.0	FUND/PEAK	90	1.5	V	28.1	3.4	35.2	99.3		
2412.00	98.2	FUND/PEAK	60	2.2	H	28.1	3.4	35.2	94.4		
2412.00	98.3	FUND/AVE	90	1.5	V	28.1	3.4	35.2	94.6		
2412.00	94.0	FUND/AVE	60	2.2	H	28.1	3.4	35.2	90.3		
4824.00	37.2	AVE	330	1.5	V	32.5	4.9	33.0	41.6	54	-12.4
7236.00	33.7	AVE	300	1.5	H	35.1	5.6	33.5	40.9	54	-13.1
7236.00	33.3	AVE	270	1.3	V	35.1	5.6	33.5	40.6	54	-13.4
4824.00	34.8	AVE	0	1.6	H	32.5	4.9	33.0	39.2	54	-14.8
7236.00	45.7	PEAK	270	1.3	V	35.1	5.6	33.5	52.9	74	-21.1
7236.00	45.5	PEAK	300	1.5	H	35.1	5.6	33.5	52.7	74	-21.3
4824.00	46.3	PEAK	330	1.5	V	32.5	4.9	33.0	50.7	74	-23.3
4824.00	45.0	PEAK	0	1.6	H	32.5	4.9	33.0	49.4	74	-24.6
Middle Channel, 1-25GHz											
2437.00	100.7	FUND/PEAK	0	1.0	V	28.1	3.4	35.2	96.9		
2437.00	96.0	FUND/PEAK	200	1.6	H	28.1	3.4	35.2	92.3		
2437.00	96.5	FUND/AVE	0	1.0	V	28.1	3.4	35.2	92.8		
2437.00	90.5	FUND/AVE	200	1.6	H	28.1	3.4	35.2	86.8		
7311.00	33.2	AVE	90	1.5	H	35.1	5.6	33.5	40.4	54	-13.6
7311.00	33.0	AVE	180	1.3	V	35.1	5.6	33.5	40.2	54	-13.8
4874.00	31.7	AVE	60	1.4	V	32.5	4.9	33.0	36.1	54	-17.9
4874.00	31.5	AVE	150	1.5	H	32.5	4.9	33.0	35.9	54	-18.1
7311.00	45.4	PEAK	90	1.5	H	35.1	5.6	33.5	52.6	74	-21.4
7311.00	45.2	PEAK	180	1.3	V	35.1	5.6	33.5	52.4	74	-21.6
4874.00	44.8	PEAK	60	1.4	V	32.5	4.9	33.0	49.2	74	-24.8
4874.00	44.2	PEAK	150	1.5	H	32.5	4.9	33.0	48.6	74	-25.4

12.6.1 Final test data, EUT with Q1ZI2002 Antenna for 802.11b (15.247, Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Channel, 1-25GHz											
2462.00	100.7	FUND/PEAK	330	2.2	V	28.1	3.4	35.2	96.9		
2462.00	98.0	FUND/PEAK	270	2.2	H	28.1	3.4	35.2	94.3		
2462.00	95.7	FUND/AVE	330	2.2	V	28.1	3.4	35.2	91.9		
2462.00	93.3	FUND/AVE	270	2.2	H	28.1	3.4	35.2	89.6		
7386.00	33.3	AVE	180	1.6	V	35.1	5.6	33.5	40.5	54	-13.5
7386.00	33.1	AVE	270	1.5	H	35.1	5.6	33.5	40.3	54	-13.7
4924.00	32.6	AVE	0	2.0	V	32.5	4.9	33.0	37.0	54	-17.0
4924.00	31.8	AVE	90	1.8	H	32.5	4.9	33.0	36.2	54	-17.8
7386.00	45.9	PEAK	180	1.6	V	35.1	5.6	33.5	53.1	74	-20.9
7386.00	45.2	PEAK	270	1.5	H	35.1	5.6	33.5	52.4	74	-21.6
4924.00	45.2	PEAK	0	2.0	V	32.5	4.9	33.0	49.6	74	-24.4
4924.00	44.7	PEAK	90	1.8	H	32.5	4.9	33.0	49.1	74	-24.9

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency MHz	Ampl. dBμV/m	Direction Degree	Height Meter	Polar H/V	Antenna dBμV/m	Cable Loss dBμV/m	Amp. dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
208.18	48.5	60	1.5	H	11.5	2.2	25.0	37.2	43.5	-6.3
479.99	42.8	0	1.8	V	17.8	3.1	25.0	38.7	46	-7.3
127.92	47.5	330	1.6	H	11.9	1.6	25.0	35.9	43.5	-7.6
576.06	38.5	180	2.0	V	19.3	3.0	25.0	35.8	46	-10.2
194.85	39.5	30	1.2	V	13.7	2.1	25.0	30.3	43.5	-13.2
226.18	39.2	200	1.0	V	11.8	2.2	25.0	28.1	46	-17.9

Note:

FUND = Fundamental
AVG = average

12.6.2 Final test data, EUT with Q1ZI2002 Antenna for 802.11g (15.247)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Channel, 1-25GHz											
2412.00	104.7	FUND/PEAK	330	2.2	V	28.1	3.4	35.2	100.9		
2412.00	99.3	FUND/PEAK	250	2.0	H	28.1	3.4	35.2	95.6		
2412.00	93.7	FUND/AVE	330	2.2	V	28.1	3.4	35.2	89.9		
2412.00	89.0	FUND/AVE	250	2.0	H	28.1	3.4	35.2	85.3		
7236.00	33.9	AVE	270	1.4	H	35.1	5.6	33.5	41.1	54	-12.9
7236.00	33.7	AVE	90	1.5	V	35.1	5.6	33.5	41.0	54	-13.0
4824.00	33.4	AVE	330	1.6	V	32.5	4.9	33.0	37.8	54	-16.2
4824.00	33.4	AVE	180	1.6	H	32.5	4.9	33.0	37.8	54	-16.2
7236.00	46.1	PEAK	270	1.4	H	35.1	5.6	33.5	53.3	74	-20.7
7236.00	45.1	PEAK	90	1.5	V	35.1	5.6	33.5	52.3	74	-21.7
4824.00	46.4	PEAK	330	1.6	V	32.5	4.9	33.0	50.8	74	-23.2
4824.00	46.2	PEAK	180	1.6	H	32.5	4.9	33.0	50.6	74	-23.4
Middle Channel, 1-25GHz											
2437.00	102.8	FUND/PEAK	0	1.0	V	28.1	3.4	35.2	99.1		
2437.00	99.0	FUND/PEAK	15	2.5	H	28.1	3.4	35.2	95.3		
2437.00	93.0	FUND/AVE	0	1.0	V	28.1	3.4	35.2	89.3		
2437.00	88.0	FUND/AVE	15	2.5	H	28.1	3.4	35.2	84.3		
7311.00	33.5	AVE	30	1.5	V	35.1	5.6	33.5	40.7	54	-13.3
7311.00	33.3	AVE	330	1.8	H	35.1	5.6	33.5	40.5	54	-13.5
4874.00	32.8	AVE	180	1.2	V	32.5	4.9	33.0	37.2	54	-16.8
4874.00	32.0	AVE	150	2.0	H	32.5	4.9	33.0	36.4	54	-17.6
7311.00	46.5	PEAK	30	1.5	V	35.1	5.6	33.5	53.7	74	-20.3
7311.00	46.3	PEAK	330	1.8	H	35.1	5.6	33.5	53.5	74	-20.5
4874.00	46.1	PEAK	180	1.2	V	32.5	4.9	33.0	50.5	74	-23.5
4874.00	45.7	PEAK	150	2.0	H	32.5	4.9	33.0	50.1	74	-23.9

12.6.2 Final test data, EUT with Q1ZI2002 Antenna for 802.11g (15.247, Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV /m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Channel, 1-25GHz											
2462.00	104.7	FUND/PEAK	180	1.0	V	28.1	3.4	35.2	100.9		
2462.00	100.0	FUND/PEAK	270	2.0	H	28.1	3.4	35.2	96.3		
2462.00	93.0	FUND/AVE	180	1.0	V	28.1	3.4	35.2	89.3		
2462.00	87.7	FUND/AVE	270	2.0	H	28.1	3.4	35.2	83.9		
7386.00	34.3	AVE	150	1.4	V	35.1	5.6	33.5	41.6	54	-12.4
7386.00	34.1	AVE	270	1.5	H	35.1	5.6	33.5	41.3	54	-12.7
4924.00	32.2	AVE	200	1.6	V	32.5	4.9	33.0	36.6	54	-17.4
4924.00	32.0	AVE	15	1.2	H	32.5	4.9	33.0	36.4	54	-17.6
7386.00	46.2	PEAK	150	1.4	V	35.1	5.6	33.5	53.4	74	-20.6
7386.00	45.7	PEAK	270	1.5	H	35.1	5.6	33.5	52.9	74	-21.1
4924.00	44.5	PEAK	15	1.2	H	32.5	4.9	33.0	48.9	74	-25.1
4924.00	44.3	PEAK	200	1.6	V	32.5	4.9	33.0	48.7	74	-25.3

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency MHz	Ampl. dBμV/m	Direction Degree	Height Meter	Polar H/V	Antenna dBμV/m	Cable Loss dBμV/m	Amp. dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
208.10	49.2	250	1.8	H	11.5	2.2	25.0	37.9	43.5	-5.6
480.00	43.3	180	2.0	V	18.3	3.1	25.0	39.7	46	-6.3
128.10	48.0	0	1.8	H	11.9	1.6	25.0	36.4	43.5	-7.1
576.04	38.7	0	1.6	V	19.3	3.0	25.0	36.0	46	-10.0
195.46	40.2	45	1.4	V	14.2	2.1	25.0	31.5	43.5	-12.0
226.45	38.5	220	1.2	V	11.8	2.2	25.0	27.5	46	-18.5

Note:

FUND = Fundamental
AVG = average

12.6.3 Final test data, EUT with Q1ZI2002 Antenna for 802.11a (15.407)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Band, Low Channel, 1-50GHz											
5150.00	100.8	FUND/PEAK	0	2.0	V	33.9	5.2	33.0	106.9		
5150.00	96.8	FUND/PEAK	0	1.8	H	33.9	5.2	33.0	102.9		
5150.00	90.2	FUND/AVE	0	2.0	V	33.9	5.2	33.0	96.2		
5150.00	86.0	FUND/AVE	0	1.8	H	33.9	5.2	33.0	92.1		
15450.00	35.5	AVE	330	1.3	V	35.1	5.6	33.3	42.9	54	-11.1
15450.00	35.5	AVE	0	1.4	H	35.1	5.6	33.3	42.9	54	-11.1
10300.00	32.8	AVE	150	1.6	V	35.1	5.6	34.5	39.1	54	-14.9
10300.00	32.7	AVE	330	1.5	H	35.1	5.6	34.5	38.9	54	-15.1
15450.00	46.8	PEAK	330	1.3	V	35.1	5.6	33.3	54.2	74	-19.8
15450.00	46.7	PEAK	0	1.4	H	35.1	5.6	33.3	54.1	74	-19.9
10300.00	46.0	PEAK	330	1.5	H	35.1	5.6	34.5	52.2	74	-21.8
10300.00	45.7	PEAK	150	1.6	V	35.1	5.6	34.5	51.9	74	-22.1
Low Band, Middle Channel, 1-50GHz											
5200.00	98.0	FUND/PEAK	45	1.8	V	33.9	5.2	33.0	104.1		
5200.00	95.3	FUND/PEAK	0	2.0	H	33.9	5.2	33.0	101.4		
5200.00	87.5	FUND/AVE	45	1.8	V	33.9	5.2	33.0	93.6		
5200.00	84.8	FUND/AVE	0	2.0	H	33.9	5.2	33.0	90.9		
15600.00	35.4	AVE	30	1.6	H	35.1	5.6	33.3	42.8	54	-11.2
15600.00	35.3	AVE	330	1.8	V	35.1	5.6	33.3	42.7	54	-11.3
10400.00	33.0	AVE	60	1.6	V	35.1	5.6	34.5	39.2	54	-14.8
10400.00	32.8	AVE	180	1.8	H	35.1	5.6	34.5	39.0	54	-15.0
15600.00	46.5	PEAK	30	1.6	H	35.1	5.6	33.3	53.9	74	-20.1
15600.00	46.3	PEAK	330	1.8	V	35.1	5.6	33.3	53.7	74	-20.3
10400.00	46.5	PEAK	60	1.6	V	35.1	5.6	34.5	52.7	74	-21.3
10400.00	45.8	PEAK	180	1.8	H	35.1	5.6	34.5	52.0	74	-22.0

12.6.3 Final test data, EUT with Q1ZI2002 Antenna for 802.11a (15.40, Continued)

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Low Band, High Channel, 1-50GHz											
5250.00	100.7	FUND/PEAK	0	1.7	V	33.9	5.2	33.0	106.7		
5250.00	97.7	FUND/PEAK	30	2.0	H	33.9	5.2	33.0	103.7		
5250.00	90.0	FUND/AVE	0	1.7	V	33.9	5.2	33.0	96.1		
5250.00	86.2	FUND/AVE	30	2.0	H	33.9	5.2	33.0	92.2		
15750.00	35.5	AVE	0	1.6	V	35.1	5.6	33.3	42.9	54	-11.1
15750.00	35.3	AVE	15	1.8	H	35.1	5.6	33.3	42.7	54	-11.3
10500.00	32.7	AVE	15	1.8	V	35.1	5.6	34.5	38.9	54	-15.1
10500.00	32.5	AVE	330	2.0	H	35.1	5.6	34.5	38.7	54	-15.3
15750.00	46.8	PEAK	0	1.6	V	35.1	5.6	33.3	54.2	74	-19.8
15750.00	46.7	PEAK	15	1.8	H	35.1	5.6	33.3	54.1	74	-19.9
10500.00	46.0	PEAK	330	2.0	H	35.1	5.6	34.5	52.2	74	-21.8
10500.00	45.9	PEAK	15	1.8	V	35.1	5.6	34.5	52.1	74	-21.9

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
Mid Band, Low Channel, 1-50GHz											
5250.00	100.7	FUND/PEAK	0	1.7	V	33.9	5.2	33.0	106.7		
5250.00	97.7	FUND/PEAK	30	2.0	H	33.9	5.2	33.0	103.7		
5250.00	90.0	FUND/AVE	0	1.7	V	33.9	5.2	33.0	96.1		
5250.00	86.2	FUND/AVE	30	2.0	H	33.9	5.2	33.0	92.2		
15750.00	35.5	AVE	0	1.6	V	35.1	5.6	33.3	42.9	54	-11.1
15750.00	35.3	AVE	15	1.8	H	35.1	5.6	33.3	42.7	54	-11.3
10500.00	32.7	AVE	15	1.8	V	35.1	5.6	34.5	38.9	54	-15.1
10500.00	32.5	AVE	330	2.0	H	35.1	5.6	34.5	38.7	54	-15.3
15750.00	46.8	PEAK	0	1.6	V	35.1	5.6	33.3	54.2	74	-19.8
15750.00	46.7	PEAK	15	1.8	H	35.1	5.6	33.3	54.1	74	-19.9
10500.00	46.0	PEAK	330	2.0	H	35.1	5.6	34.5	52.2	74	-21.8
10500.00	45.9	PEAK	15	1.8	V	35.1	5.6	34.5	52.1	74	-21.9
Mid Band, Middle Channel, 1-50GHz											
5300.00	100.0	FUND/PEAK	0	2.0	V	33.9	5.2	33.0	106.1		
5300.00	95.5	FUND/PEAK	15	2.5	H	33.9	5.2	33.0	101.6		
5300.00	89.8	FUND/AVE	0	2.0	V	33.9	5.2	33.0	95.9		
5300.00	85.0	FUND/AVE	15	2.5	H	33.9	5.2	33.0	91.1		
15900.00	34.3	AVE	270	1.7	V	35.1	5.6	33.3	41.7	54	-12.3
15900.00	34.0	AVE	60	1.5	H	35.1	5.6	33.3	41.4	54	-12.6
10600.00	32.7	AVE	150	1.2	V	35.1	5.6	34.5	38.9	54	-15.1
10600.00	32.7	AVE	30	1.3	H	35.1	5.6	34.5	38.9	54	-15.1
15900.00	46.2	PEAK	60	1.5	H	35.1	5.6	33.3	53.6	74	-20.4
15900.00	46.0	PEAK	270	1.7	V	35.1	5.6	33.3	53.4	74	-20.6
10600.00	45.8	PEAK	150	1.2	V	35.1	5.6	34.5	52.1	74	-21.9
10600.00	45.2	PEAK	30	1.3	H	35.1	5.6	34.5	51.4	74	-22.6
Mid Band, High Channel, 1-50GHz											
5350.00	97.8	FUND/PEAK	0	2.0	V	33.9	5.2	33.0	103.9		
5350.00	94.3	FUND/PEAK	180	1.8	H	33.9	5.2	33.0	100.4		
5350.00	87.0	FUND/AVE	0	2.0	V	33.9	5.2	33.0	93.1		
5350.00	83.7	FUND/AVE	180	1.8	H	33.9	5.2	33.0	89.7		
16050.00	34.3	AVE	0	1.5	V	35.1	5.6	33.3	41.7	54	-12.3
16050.00	34.2	AVE	200	1.8	H	35.1	5.6	33.3	41.6	54	-12.4
10700.00	32.7	AVE	150	1.6	H	35.1	5.6	34.5	38.9	54	-15.1
10700.00	32.6	AVE	330	2.0	V	35.1	5.6	34.5	38.8	54	-15.2
16050.00	46.0	PEAK	200	1.8	H	35.1	5.6	33.3	53.4	74	-20.6
16050.00	45.8	PEAK	0	1.5	V	35.1	5.6	33.3	53.2	74	-20.8
10700.00	45.5	PEAK	330	2.0	V	35.1	5.6	34.5	51.7	74	-22.3
10700.00	45.0	PEAK	150	1.6	H	35.1	5.6	34.5	51.2	74	-22.8

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
High Band, Low Channel, 1-50GHz											
5725.00	93.2	FUND/PEAK	0	1.8	V	34.1	5.4	33.0	99.7		
5725.00	94.2	FUND/PEAK	0	2.2	H	34.1	5.4	33.0	100.7		
5725.00	81.8	FUND/AVE	0	1.8	V	34.1	5.4	33.0	88.3		
5725.00	84.2	FUND/AVE	0	2.2	H	34.1	5.4	33.0	90.7		
17175.00	34.8	AVE	0	1.2	H	35.1	5.6	34.0	41.6	54	-12.4
17175.00	34.7	AVE	330	1.6	V	35.1	5.6	34.0	41.4	54	-12.6
11450.00	32.7	AVE	90	1.5	V	35.1	5.6	34.3	39.1	54	-14.9
11450.00	32.7	AVE	45	1.8	H	35.1	5.6	34.3	39.1	54	-14.9
17175.00	46.2	PEAK	0	1.2	H	35.1	5.6	34.0	52.9	74	-21.1
17175.00	45.8	PEAK	330	1.6	V	35.1	5.6	34.0	52.6	74	-21.4
11450.00	44.3	PEAK	45	1.8	H	35.1	5.6	34.3	50.7	74	-23.3
11450.00	44.2	PEAK	90	1.5	V	35.1	5.6	34.3	50.6	74	-23.4
High Band, Middle Channel, 1-50GHz											
5775.00	92.3	FUND/PEAK	0	1.5	V	34.1	5.4	33.0	98.8		
5775.00	94.7	FUND/PEAK	200	2.2	H	34.1	5.4	33.0	101.2		
5775.00	82.5	FUND/AVE	0	1.5	V	34.1	5.4	33.0	89.0		
5775.00	82.0	FUND/AVE	200	2.2	H	34.1	5.4	33.0	88.5		
17325.00	34.7	AVE	180	1.8	H	35.1	5.6	34.0	41.4	54	-12.6
17325.00	34.5	AVE	0	1.5	V	35.1	5.6	34.0	41.2	54	-12.8
11550.00	32.6	AVE	330	2.0	H	35.1	5.6	34.3	39.0	54	-15.0
11550.00	32.5	AVE	15	1.6	V	35.1	5.6	34.3	38.9	54	-15.1
17325.00	46.0	PEAK	0	1.5	V	35.1	5.6	34.0	52.7	74	-21.3
17325.00	45.2	PEAK	180	1.8	H	35.1	5.6	34.0	51.9	74	-22.1
11550.00	44.2	PEAK	15	1.6	V	35.1	5.6	34.3	50.6	74	-23.4
11550.00	43.8	PEAK	330	2.0	H	35.1	5.6	34.3	50.2	74	-23.8
High Band, High Channel, 1-50GHz											
5825.00	93.8	FUND/PEAK	0	2.0	V	34.1	5.4	33.0	100.3		
5825.00	93.7	FUND/PEAK	180	2.5	H	34.1	5.4	33.0	100.2		
5825.00	83.7	FUND/AVE	0	2.0	V	34.1	5.4	33.0	90.2		
5825.00	81.5	FUND/AVE	180	2.5	H	34.1	5.4	33.0	88.0		
17475.00	34.7	AVE	0	1.5	V	35.1	5.6	34.0	41.4	54	-12.6
17475.00	34.6	AVE	180	2.0	H	35.1	5.6	34.0	41.3	54	-12.7
11650.00	32.8	AVE	15	1.8	V	35.1	5.6	34.3	39.2	54	-14.8
11650.00	32.5	AVE	330	2.2	H	35.1	5.6	34.3	38.9	54	-15.1
17475.00	45.6	PEAK	0	1.5	V	35.1	5.6	34.0	52.3	74	-21.7
17475.00	45.2	PEAK	180	2.0	H	35.1	5.6	34.0	51.9	74	-22.1
11650.00	43.9	PEAK	15	1.8	V	35.1	5.6	34.3	50.3	74	-23.7
11650.00	43.5	PEAK	330	2.2	H	35.1	5.6	34.3	49.9	74	-24.1

Indicated			Table	Antenna		Correction Factor			FCC 15 Subpart B	
Frequency	Ampl.	Direction	Height	Polar	Antenna	Cable Loss	Amp.	Corr. Ampl.	Limit	Margin
MHz	dBμV/m	Degree	Meter	H/V	dBμV/m	dBμV/m	dB	dBμV/m	dBμV/m	dB
480.13	44.2	200	2.2	V	18.3	3.1	25.0	40.6	46	-5.4
208.00	49.0	90	2.0	H	11.5	2.2	25.0	37.7	43.5	-5.8
576.10	39.5	30	1.4	V	19.3	3.0	25.0	36.8	46	-9.2
127.93	45.2	220	1.8	H	11.9	1.6	25.0	33.6	43.5	-9.9
195.10	40.8	0	1.2	V	14.2	2.1	25.0	32.2	43.5	-11.4
227.05	40.1	220	1.5	V	11.8	2.2	25.0	29.1	46	-16.9

Note:

FUND = Fundamental
AVG = average

13 - CONDUCTED EMISSIONS

13.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BACL is $\pm$2.4 dB.

13.2 EUT Setup

The measurement was performed in the shield room, using the same setup per ANSI C63.4-2001 measurement procedure. The specification used was FCC 15 Subpart B limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The notebook PC was connected with 120Vac/60Hz power source.

13.3 Spectrum Analyzer Setup

The spectrum analyzer was set with the following configurations during the conduction test:

Start Frequency..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed..... Auto
IF Bandwidth..... 10 kHz
Video Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth..... 9 kHz
Quasi-Peak Adapter Mode..... Normal

13.4 Test Procedure

During the conducted emission test, the power cord of the host system was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of each modes tested to ensure EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within -4 dBμV of specification limits). Quasi-peak readings are distinguished with a "**Qp**".

13.4 Equipment Lists

Manufacturer	Model No.	Description	Calibration Due Date
Rohde&Schwarz	ESC530	EMI Test Receiver	2003-12-03

13.5 Summary of Test Results

According to the data in section 13.6, the EUT complies with the FCC Conducted margin for a Class B device, with the *worst* margin reading of:

-5.5 dBμV at 2.870 MHz in the Neutral mode

13.6 Conducted Emissions Test Data

LINE CONDUCTED EMISSIONS				FCC PART 15 CLASS B	
Frequency MHz	Amplitude dBμV	Detector Qp/Ave/Peak	Phase Line/Neutral	Limit dBμV	Margin dB
2.870	40.5	AVG	Neutral	46	-5.5
2.670	38.6	AVG	Neutral	46	-7.4
0.150	56.6	QP	Line	66	-9.4
0.155	55.9	QP	Neutral	66	-10.1
1.130	35.3	AVG	Line	46	-10.7
2.990	34.9	AVG	Line	46	-11.1
2.870	40.6	QP	Neutral	56	-15.4
0.150	38.8	AVG	Line	56	-17.2
2.670	38.3	QP	Neutral	56	-17.7
2.990	37.3	QP	Line	56	-18.7
1.130	35.4	QP	Line	56	-20.6
0.155	31.2	AVG	Neutral	56	-24.8

13.7 Plot of Conducted Emissions Test Data

Plot(s) of Conducted Emissions Test Data is presented hereinafter as reference.

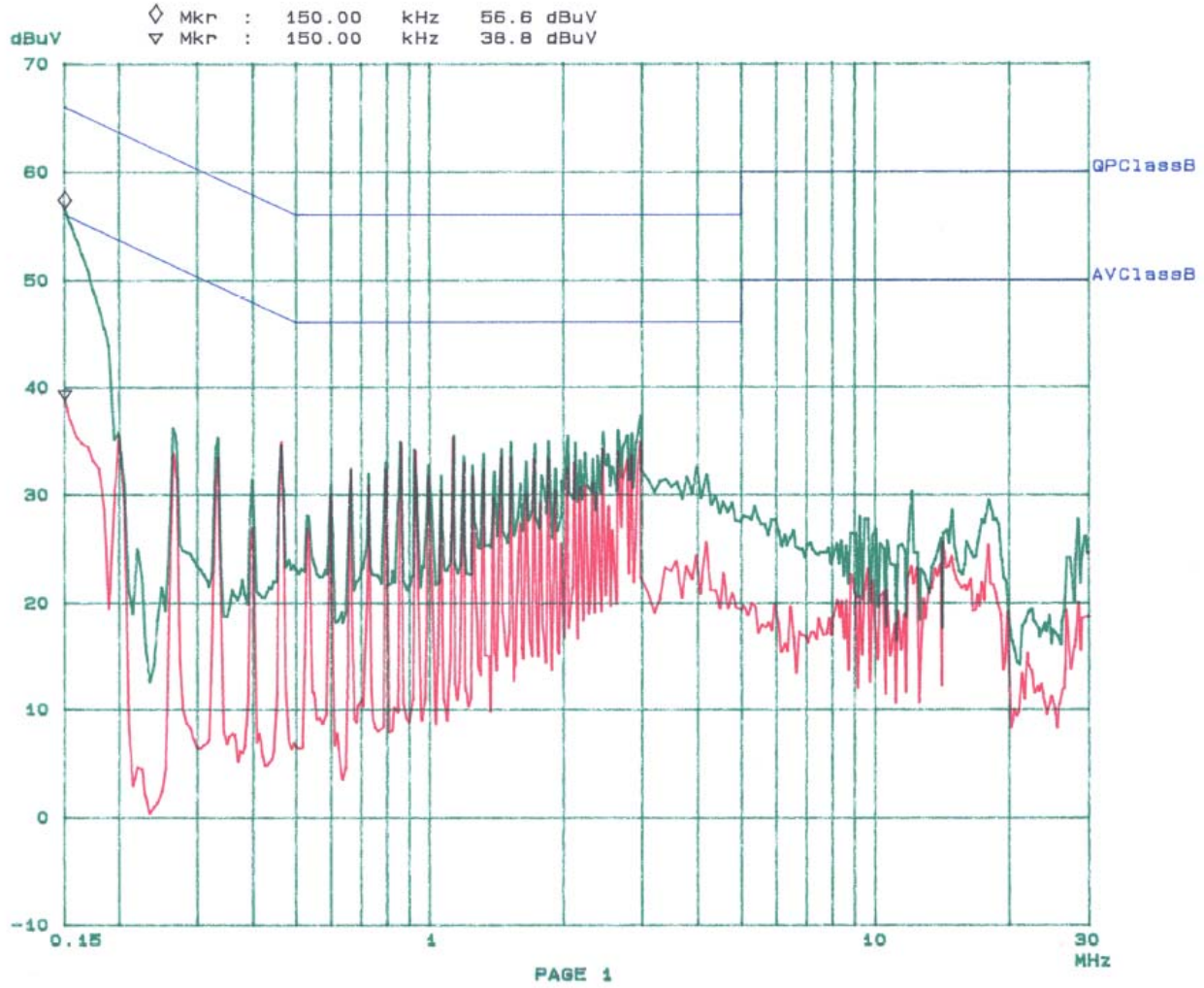
Bay Area Compliance Laboratory Corp 15. Aug 03 14:18
Class B

EUT: T60H677.03
Manuf: AMBIT
Op Cond: Normal
Operator: LING
Comment: L

Scan Settings (3 Ranges)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	1M	5k	9k	QP+AV	20ms	10dBLN	OFF
1M	3M	10k	9k	QP+AV	1ms	10dBLN	OFF
3M	30M	100k	9k	QP+AV	1ms	10dBLN	OFF

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



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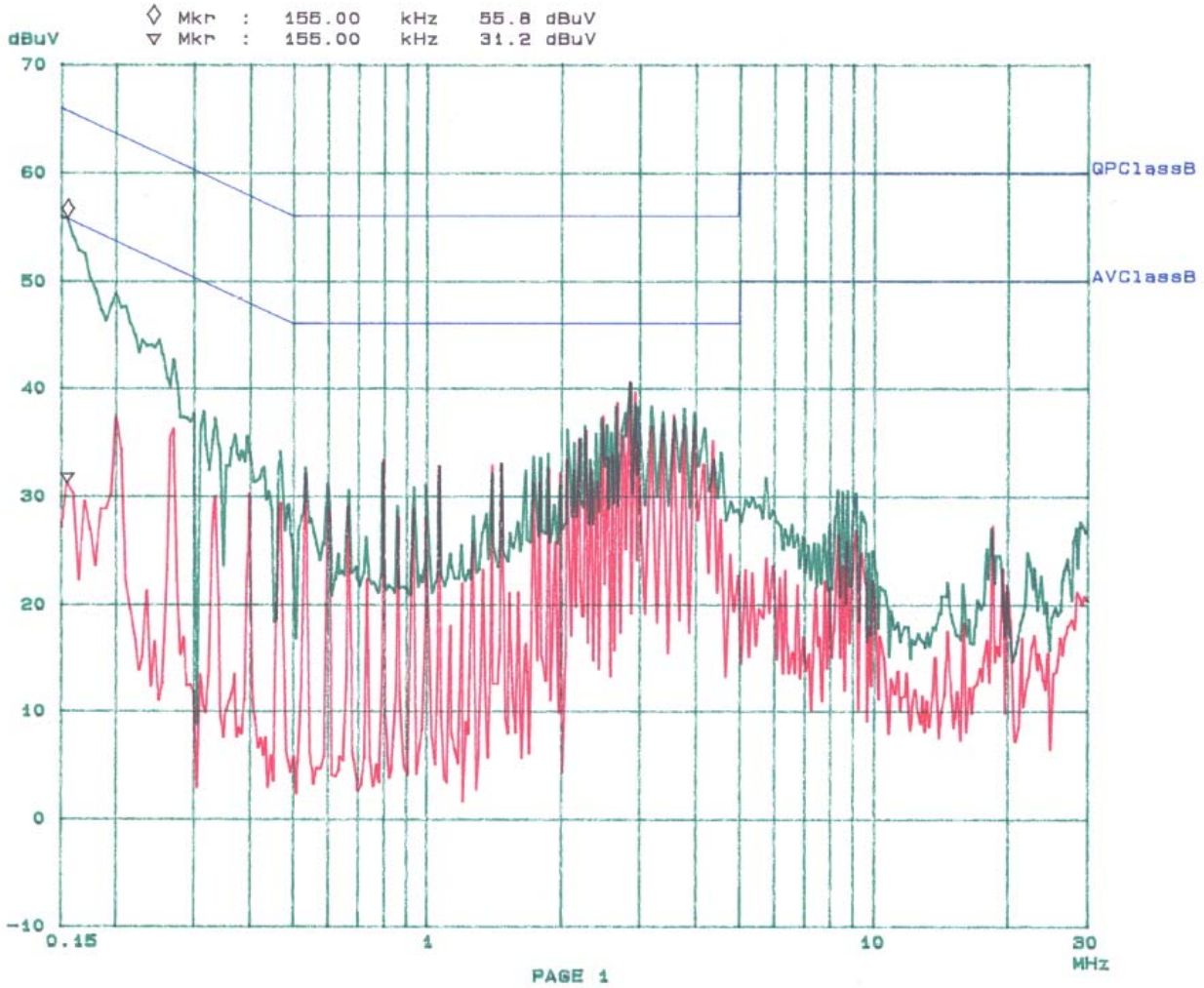
1ay Area Compliance Laboratory Corp 15. Aug 03 14:35
Class B

EUT: T60H677.03
Manuf: AMBIT
Op Cond: Normal
Operator: LING
Comment: N

Scan Settings (3 Ranges)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	1M	5k	9k	QP+AV	20ms	10dBLN	OFF
1M	3M	10k	9k	QP+AV	1ms	10dBLN	OFF
3M	30M	100k	9k	QP+AV	1ms	10dBLN	OFF

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



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14 - Discontinue Transmitting With Absence Of Data Or Operational Failure

According to § 15.407 (c), the device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the user of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application a description of how this requirement is met.

Please refer to respective technical description.

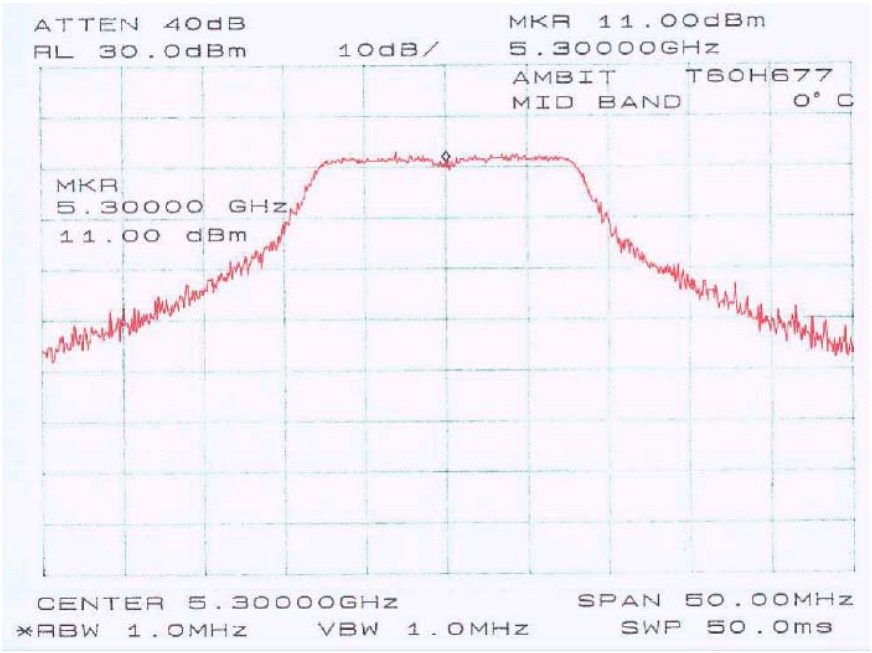
15 - Frequency Stability

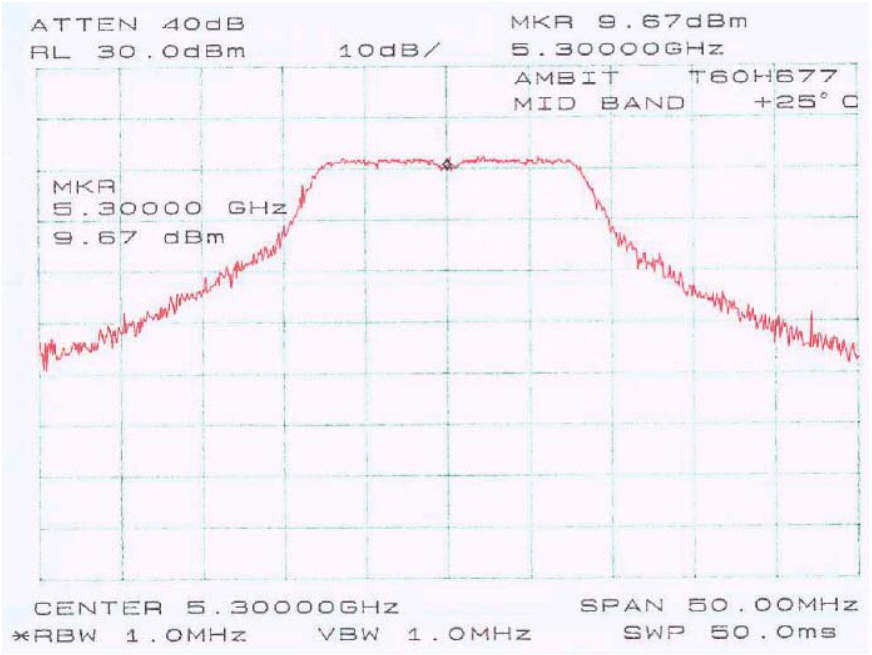
15.1 Standard Applicable

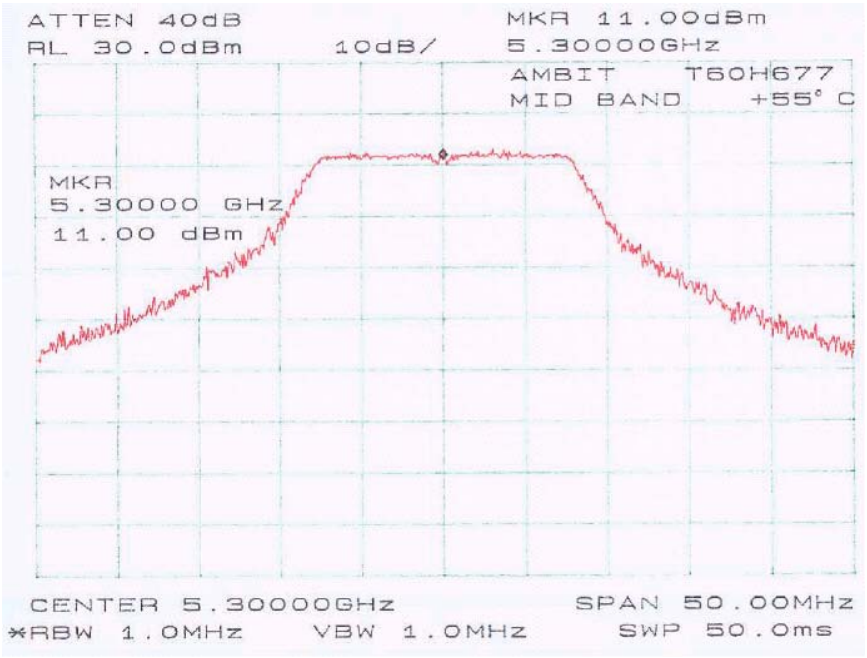
According to §15.407 (g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation .

15.2 Measurement Result

Please refer to following pages for plots of frequency stability.


ATTEN 40dB
RL 30.0dBm
10dB/
MKR 11.00dBm
5.30000GHz
AMBIT T60H677
MID BAND 0° C
MKR
5.30000 GHz
11.00 dBm
CENTER 5.30000GHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR 9.67dBm
5.30000GHz
AMBIT T60H677
MID BAND +25° C
MKR
5.30000 GHz
9.67 dBm
CENTER 5.30000GHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR 11.00dBm
5.30000GHz
AMBIT T60H677
MID BAND +55° C
MKR
5.30000 GHz
11.00 dBm
CENTER 5.30000GHz
SPAN 50.00MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms