



Product Service

FCC- TEST REPORT

Report Number : **68.760.12.077.01** Date of Issue: 25 July 2012

Model : **KT700VCI**

Product Type : Vehicle Diagnosis

Applicant : Bosch Automotive Diagnostics Equipment (Shenzhen) Limited

Address : 5/F,A, Gardon City Cyber Port, Nanhai Road No.1079,
Nanshan District, Shenzhen518067 P.R. China

Production Facility : Bosch Automotive Diagnostics Equipment (Shenzhen) Limited

Address : 5/F,A, Gardon City Cyber Port, Nanhai Road No.1079,
Nanshan District, Shenzhen518067 P.R. China

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including
Appendices : 43

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test site1:

Company name: Jiangsu TÜV Product Service Ltd. – Shenzhen Branch
6th Floor, H Hall,
Century Craftwork Culture Square,
No. 4001, Fuqiang Road,
Futian District 518048,
Shenzhen,P.R.C.

Telephone: 86 755 8828 6998

Fax: 86 755 8828 5299

Test site2:

Company name: Audix Technology (shenzhen) Co.,Ltd
Block Shenzhen, Science & Industry Park,
Nantou, Shenzhen,
Guangdong,
China

Telephone: 86 755 2663 9496

Fax: 86 755 2663 2877

3 Description of the Equipment Under Test

Description of the Equipment Under Test

Product: Vehicle Diagnosis

Model no.: KT700VCI

Brand Name: BOSCH

Options and accessories: NIL

Rating: 7-32VDC
Charged by external adapter FJ-SW1402800T:
Adaptor Input: 100-240VAC, 50/60Hz, 1.5A Max
Adaptor Output: 14VDC, 2800mA
or charged by Lead-acid battery power sources used on vehicles

Antenna Gain: 1dBi

RF Transmission Frequency: 2412-2462MHz

Description of the EUT: NIL

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
Notebook	Lenovo	T61	-

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C, 10-1-2011 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

5 Summary of Test Results

Technical Requirements					
FCC Part 15 Subpart C					
Test Condition	Pages	Test Result			Test site
		Pass	Fail	N/A	
15.207 Conducted Emission AC Power Port	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test site2
15.247 (b) (1) Conducted peak output power	12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test site2
15.247(d) Band edge compliance of RF emissions	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test site2
15.247(d) Spurious RF conducted emissions	24	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test site2
15.247(d) 15.209 Spurious radiated emissions	32	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test site2
15.247(a)(2) 6dB bandwidth	35	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test site2
15.247(e) Power spectral density	39	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test site2

6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: WSO-KT700VCI complies with Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C Rules.

All the configurations of the product were tested and only the worst test results are listed in the report.

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

The Equipment Under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: 11 May 2011

Testing Start Date: 29 May 2011

Testing End Date: 5 July 2012

- Jiangsu TÜV Product Service Ltd. – Shenzhen Branch -

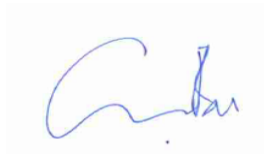
Reviewed by:

Prepared by:

Tested by:



Ken Li
EMC Project Manager



Cookies Bu
EMC Project Engineer



Leo Li
EMC Test Engineer

7 Technical Requirement

7.1 Conducted Emission

Test Method

- 1 The EUT was placed on a table, which is 0.8m above ground plane
- 2 The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
- 3 Maximum procedure was performed to ensure EUT compliance
- 4 A EMI test receiver is used to test the emissions from both sides of AC line

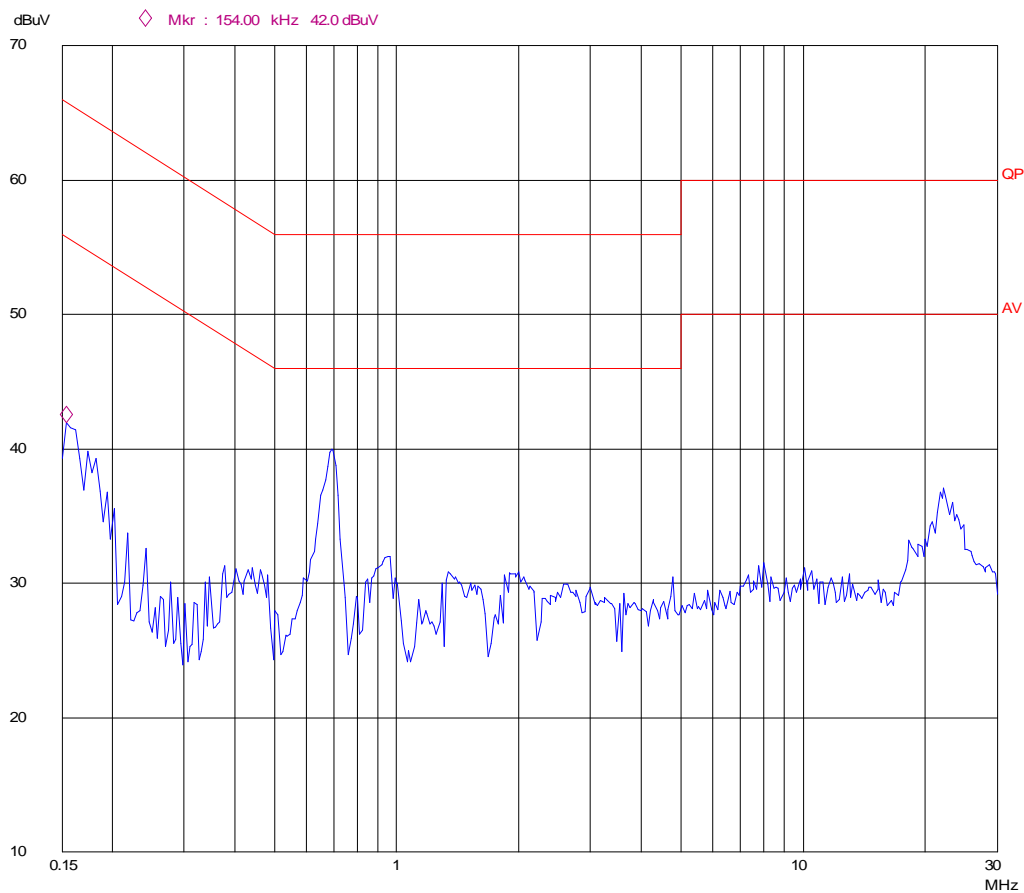
Limit

Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

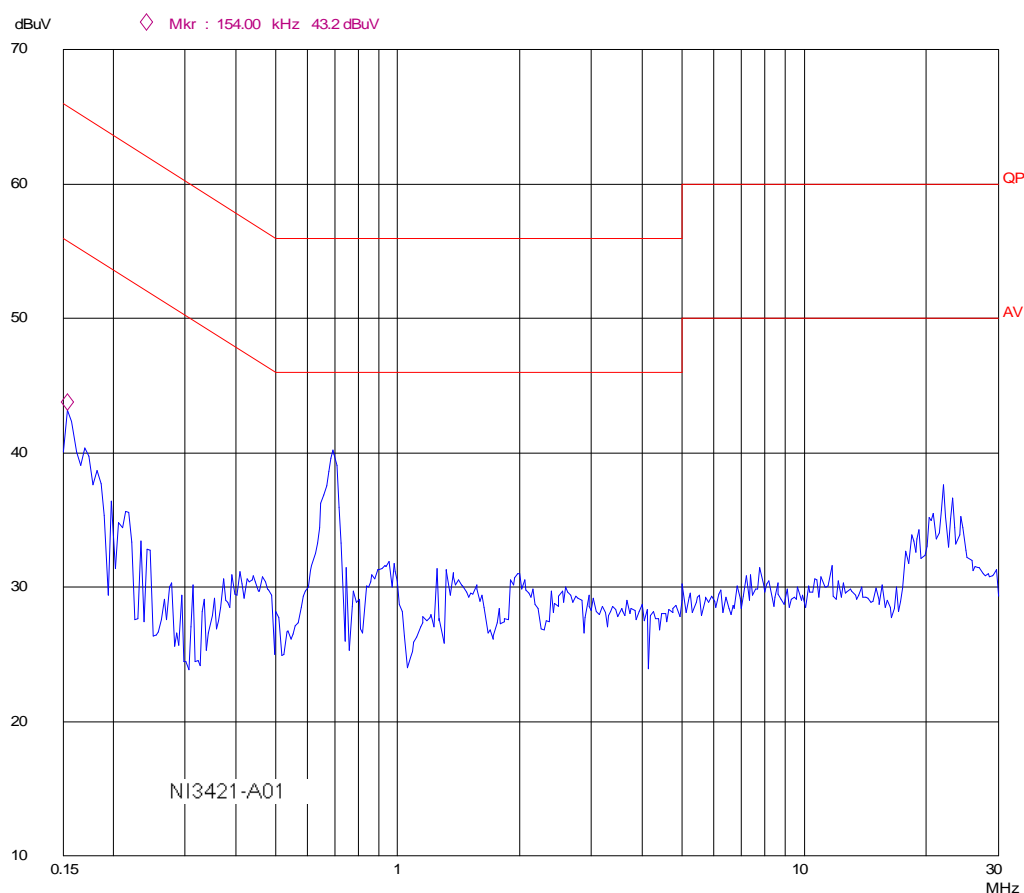
Conducted Emission

Op Cond: WiFi transmitting
Test Spec: AC line, Live
Comment: AC 120V/60Hz



Conducted Emission

Op Cond: WiFi transmitting
Test Spec: AC line, Neutral
Comment: AC 120V/60Hz



Test Equipment List

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
Test Receiver	Rohde & Schwarz	ESCS30	100162	May 29, 2013
L.I.S.N.	Rohde & Schwarz	ENV216	101161	May 29, 2013
50Ω Coaxial Switch	Anritsu	MP59B	6100214550	N/A
Voltage Probe	Rohde & Schwarz	TK9416	N/A	May 29, 2013
I.S.N	Teseq GmbH	ISN T800	30327	May 29, 2013
LCL adaoter	Teseq GmbH	ADT800-Cat.5	30327.01	May 29, 2013
LCL adaoter	Teseq GmbH	ADT800-Cat.3	30327.02	May 29, 2013
LCL adaoter	Teseq GmbH	ADT800-R	30327.02	May 29, 2013

7.2 Conducted peak output power

Test Method

The transmitter output is connected to the Spectrum analyzer. The Spectrum analyzer is set to the peak power detection.

Limits for conducted peak output power measurements

Frequency Range MHz	Limit W	Limit dBm
2400-2483	≤ 1	≤ 30

Conducted peak output power

WIFI Mode IEEE 802.11b modulation (1Mbps) Test Result

Frequency MHz	Conducted Peak Output Power dBm	Result
CH1 2412MHz	13.28	Pass
CH6 2437MHz	12.82	Pass
CH11 2462MHz	12.46	Pass



Product Service

Test Equipment

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL DUE DATE
Spectrum Analyzer	Agilent	E4446A	US44300459	May 08, 2013

7.3 Band edge compliance of RF emissions

Test Method

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.4 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW and VBW to 1MHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength.

The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW and VBW to 100kHz, to measure the conducted peak band edge.

Limits

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see Section 15.205(c)).

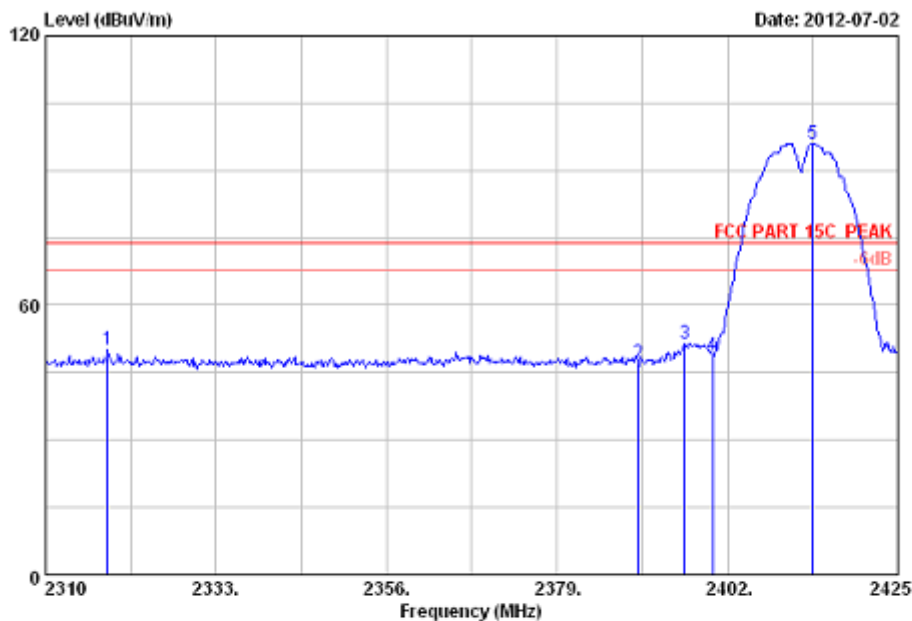
Frequency MHz	Limit Average dBuV/m	Limit Peak dBuV/m
Below 2390 Above 2483.5	54	74

Band edge compliance of RF emissions

WIFI Mode IEEE 802.11b modulation (1 Mbps) Test Result

Peak Low Edge plot:

Vertical:



Site no. : 3m Chamber Data no. : 19
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Automotive diagnostic equipment
 Power supply : DC 14V From Adapter Input AC 230V/50Hz
 Test mode : IEEE802.11b CH 1 2412MHz Tx

Power Level 5

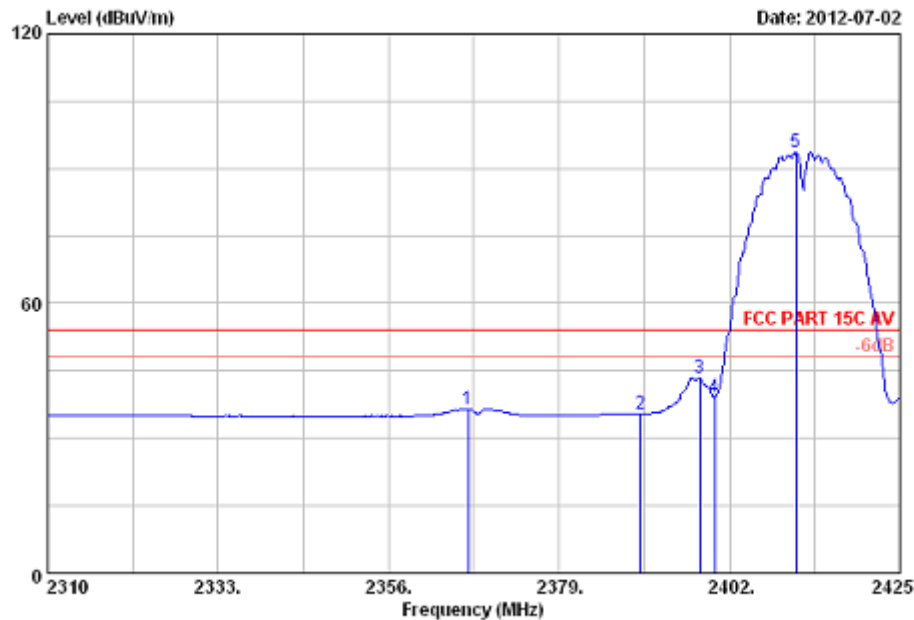
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2318.395	27.86	5.89	34.43	50.71	50.03	74.00	23.97	Peak
2	2390.000	27.96	6.01	34.44	47.72	47.25	74.00	26.75	Peak
3	2396.250	27.96	6.01	34.44	52.10	51.63	74.00	22.37	Peak
4	2400.000	27.96	6.01	34.44	49.26	48.79	74.00	25.21	Peak
5	2413.500	27.98	6.03	34.44	96.49	96.06	74.00	-22.06	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Band edge compliance of RF emissions

Average Low Edge plot:
Vertical:



Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Leo-Li
EUT : Automotive diagnostic equipment
Power supply : DC 14V From Adapter Input AC 230V/50Hz
Test mode : IEEE802.11b CH 1 2412MHz Tx

Power Level 5

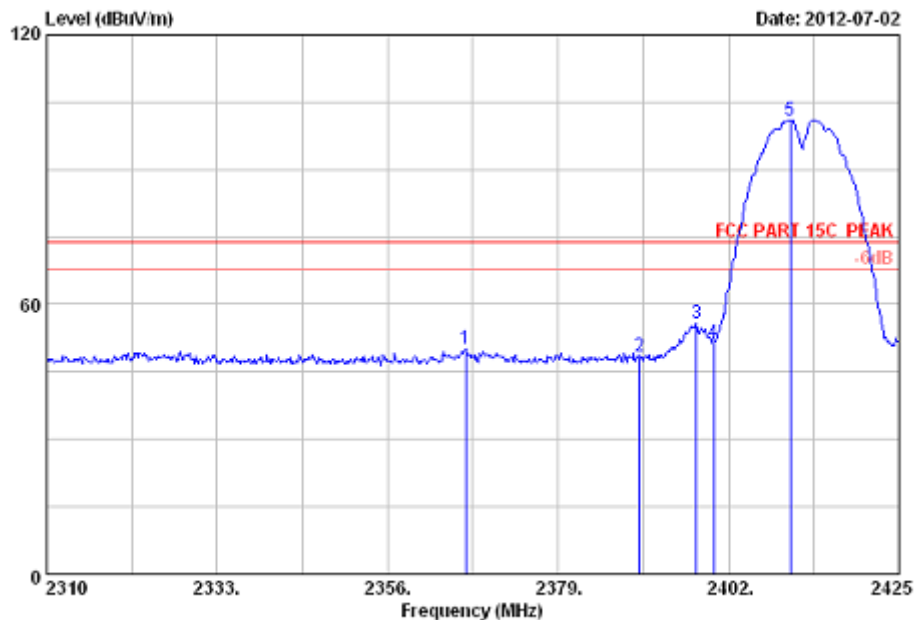
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2366.695	27.91	5.98	34.44	37.13	36.58	54.00	17.42	Average
2	2390.000	27.96	6.01	34.44	35.98	35.51	54.00	18.49	Average
3	2397.975	27.96	6.01	34.44	43.93	43.46	54.00	10.54	Average
4	2400.000	27.96	6.01	34.44	39.66	39.19	54.00	14.81	Average
5	2410.970	27.98	6.03	34.44	94.00	93.57	54.00	-39.57	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Band edge compliance of RF emissions

Peak Low Edge plot:
Horizontal:



Site no. : 3m Chamber Data no. : 21
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Automotive diagnostic equipment
 Power supply : DC 14V From Adapter Input AC 230V/50Hz
 Test mode : IEEE802.11b CH 1 2412MHz Tx

Power Level 5

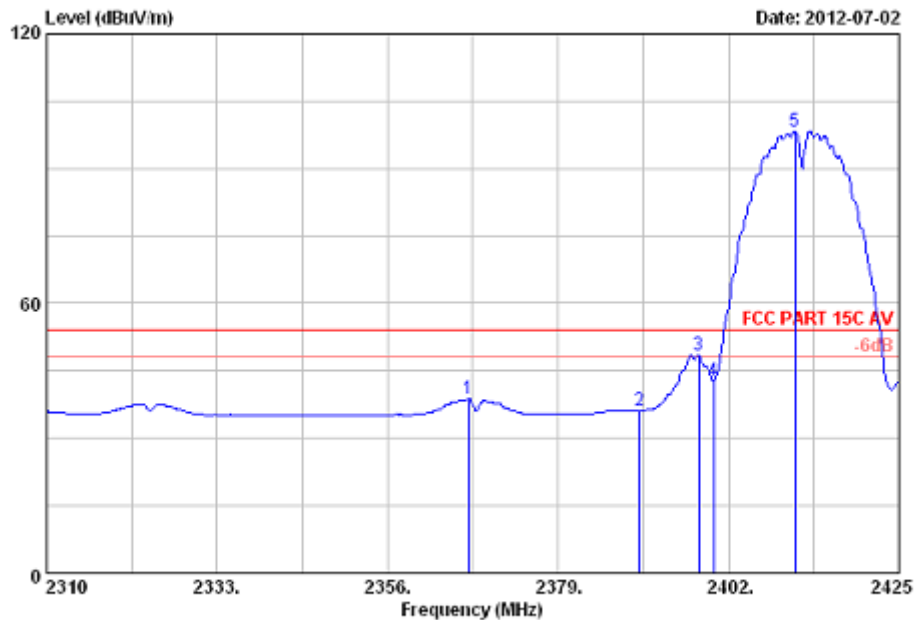
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2366.580	27.91	5.98	34.44	50.55	50.00	74.00	24.00	Peak
2	2390.000	27.96	6.01	34.44	48.96	48.49	74.00	25.51	Peak
3	2397.630	27.96	6.01	34.44	56.16	55.69	74.00	18.31	Peak
4	2400.000	27.96	6.01	34.44	52.05	51.58	74.00	22.42	Peak
5	2410.395	27.98	6.03	34.44	101.48	101.05	74.00	-27.05	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported

Band edge compliance of RF emissions

Average Low Edge plot:
Horizontal:



Site no. : 3m Chamber Data no. : 22
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Leo-Li
EUT : Automotive diagnostic equipment
Power supply : DC 14V From Adapter Input AC 230V/50Hz
Test mode : IEEE802.11b CH 1 2412MHz Tx

Power Level 5

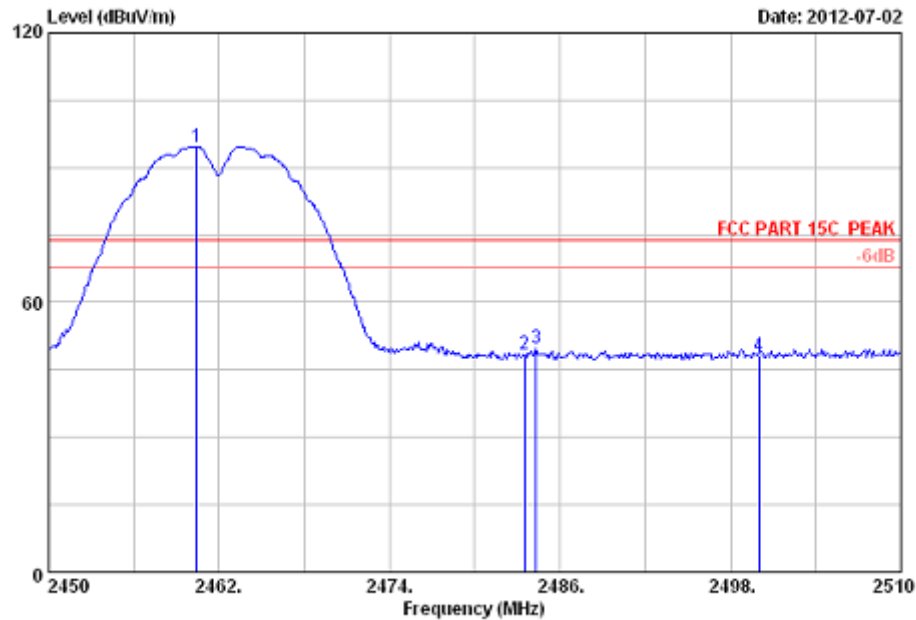
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2366.925	27.91	5.98	34.44	39.34	38.79	54.00	15.21	Average
2	2390.000	27.96	6.01	34.44	36.63	36.16	54.00	17.84	Average
3	2397.975	27.96	6.01	34.44	48.88	48.41	54.00	5.59	Average
4	2400.000	27.96	6.01	34.44	43.29	42.82	54.00	11.18	Average
5	2410.970	27.98	6.03	34.44	98.67	98.24	54.00	-44.24	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Band edge compliance of RF emissions

Peak High Edge plot:
Vertical:



Site no. : 3m Chamber Data no. : 9
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15C PEAK
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Automotive diagnostic equipment
 Power supply : DC 14V From Adapter Input AC 230V/50Hz
 Test mode : IEEE802.11b CH 11 2462MHz Tx

Power Level 5

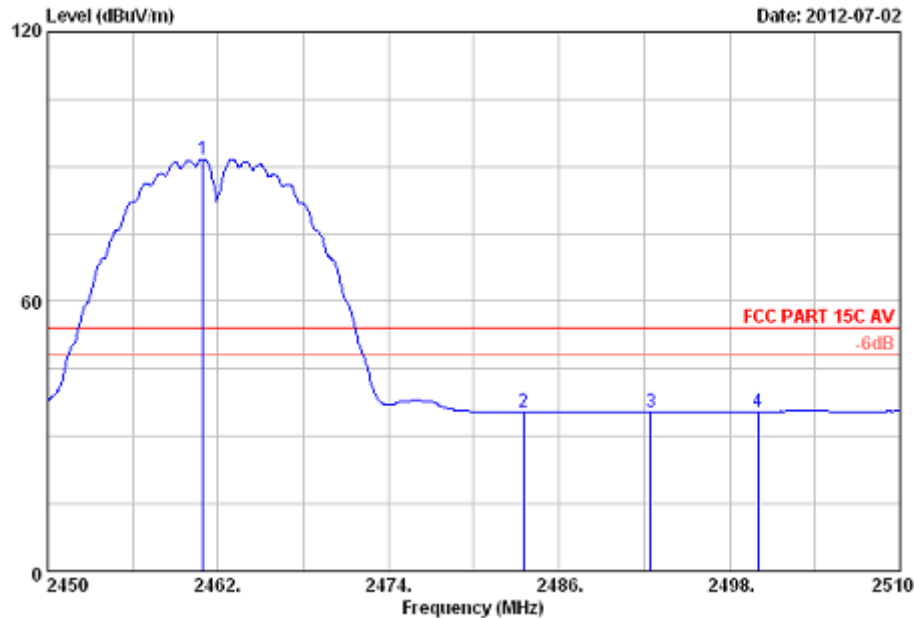
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.380	28.05	6.12	34.44	95.01	94.74	74.00	-20.74	Peak
2	2483.500	28.08	6.15	34.45	48.66	48.44	74.00	25.56	Peak
3	2484.320	28.08	6.15	34.45	50.07	49.85	74.00	24.15	Peak
4	2500.000	28.10	6.18	34.45	48.27	48.10	74.00	25.90	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Band edge compliance of RF emissions

Average High Edge plot:
Vertical:



Site no. : 3m Chamber Data no. : 10
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Leo-Li
EUT : Automotive diagnostic equipment
Power supply : DC 14V From Adapter Input AC 230V/50Hz
Test mode : IEEE802.11b CH 11 2462MHz Tx

Power Level 5

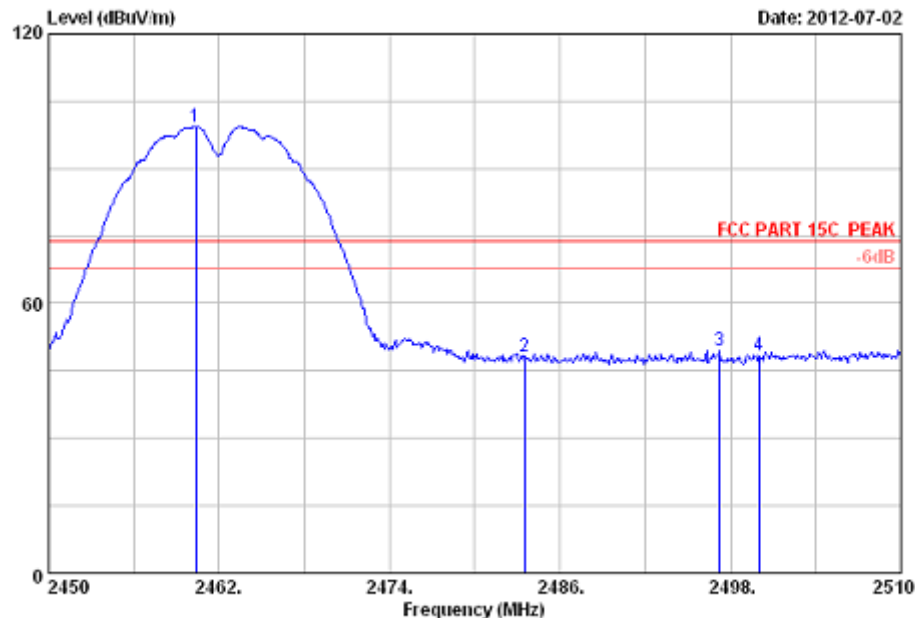
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.920	28.05	6.12	34.44	91.99	91.72	54.00	-37.72	Average
2	2483.500	28.08	6.15	34.45	35.69	35.47	54.00	18.53	Average
3	2492.480	28.10	6.18	34.45	35.70	35.53	54.00	18.47	Average
4	2500.000	28.10	6.18	34.45	35.63	35.46	54.00	18.54	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.

Band edge compliance of RF emissions

Peak High Edge plot:
Horizontal:



Site no. : 3m Chamber Data no. : 7
Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Leo-Li
EUT : Automotive diagnostic equipment
Power supply : DC 14V From Adapter Input AC 230V/50Hz
Test mode : IEEE802.11b CH 11 2462MHz Tx

Power Level 5

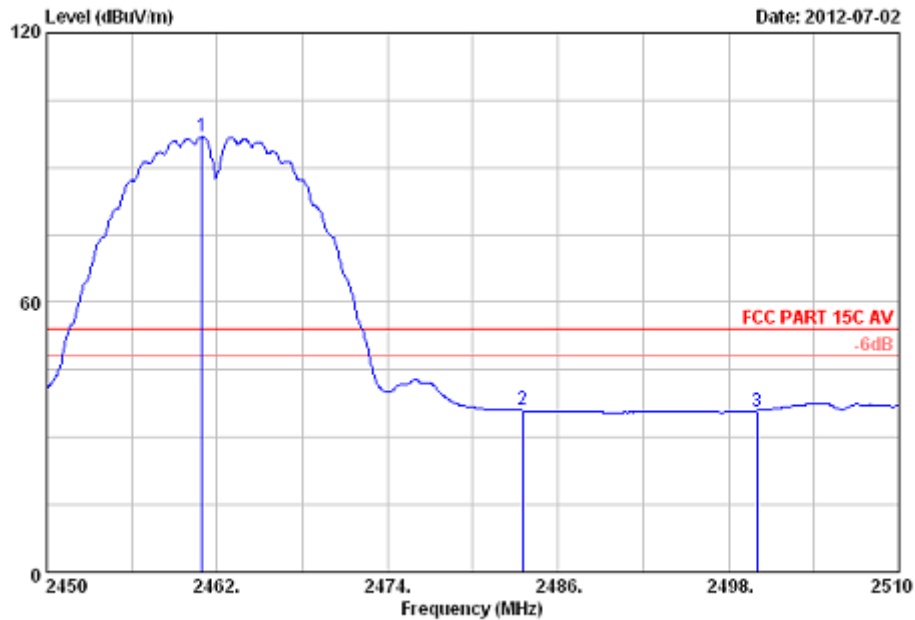
	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.320	28.05	6.12	34.44	99.56	99.29	74.00	-25.29	Peak
2	2483.500	28.08	6.15	34.45	48.35	48.13	74.00	25.87	Peak
3	2497.220	28.10	6.18	34.45	49.54	49.37	74.00	24.63	Peak
4	2500.000	28.10	6.18	34.45	48.55	48.38	74.00	25.62	Peak

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Band edge compliance of RF emissions

Average High Edge plot:
Horizontal:



Site no. : 3m Chamber Data no. : 8
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15C AV
 Env. / Ins. : 23°C/54% Engineer : Leo-Li
 EUT : Automotive diagnostic equipment
 Power supply : DC 14V From Adapter Input AC 230V/50Hz
 Test mode : IEEE802.11b CH 11 2462MHz Tx

Power Level 5

	Freq. (MHz)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.920	28.05	6.12	34.44	97.12	96.85	54.00	-42.85	Average
2	2483.500	28.08	6.15	34.45	36.16	35.94	54.00	18.06	Average
3	2500.000	28.10	6.18	34.45	36.10	35.93	54.00	18.07	Average

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Product Service

Test Equipment List

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL DUE DATE
Spectrum	Agilent	E4446A	US44300459	May 08, 2013
Amp	HP	8449B	3008A02495	May 08, 2013
Antenna	EMCO	3115	9607-4877	May 17, 2013
Bilog Antenna	Schaffner	CBL6111C	2598	Dec.14, 2012
HF Cable	Hubersuhne	Sucoflex104	---	May 08, 2013

7.4 Spurious RF conducted emissions

Test Method

The transmitter output is connected to the Spectrum analyzer. The Spectrum analyzer is set to the peak power detection.

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

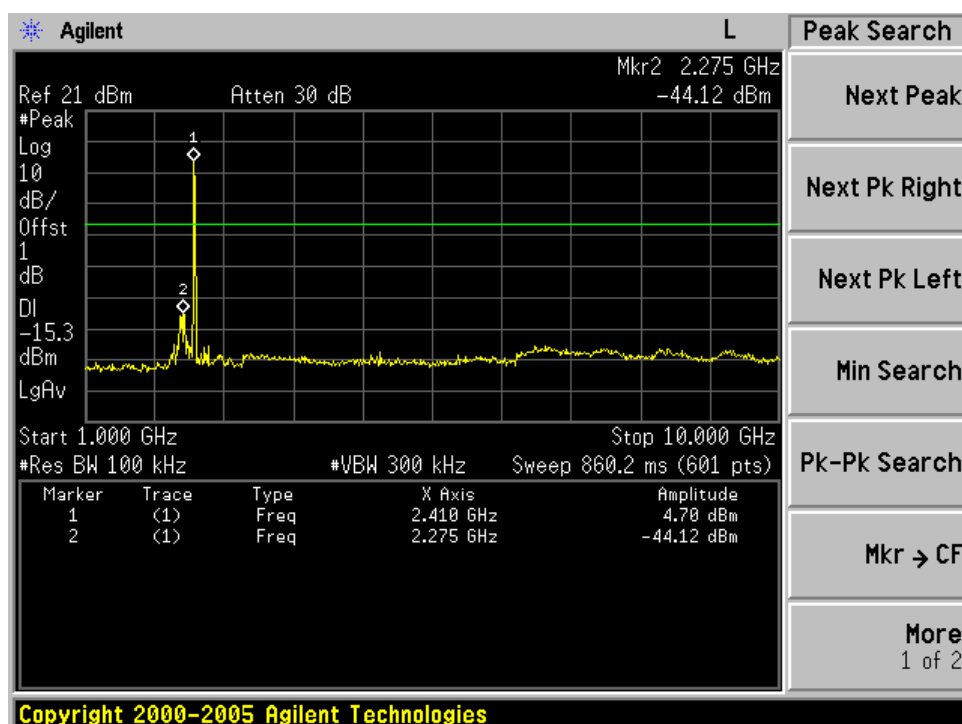
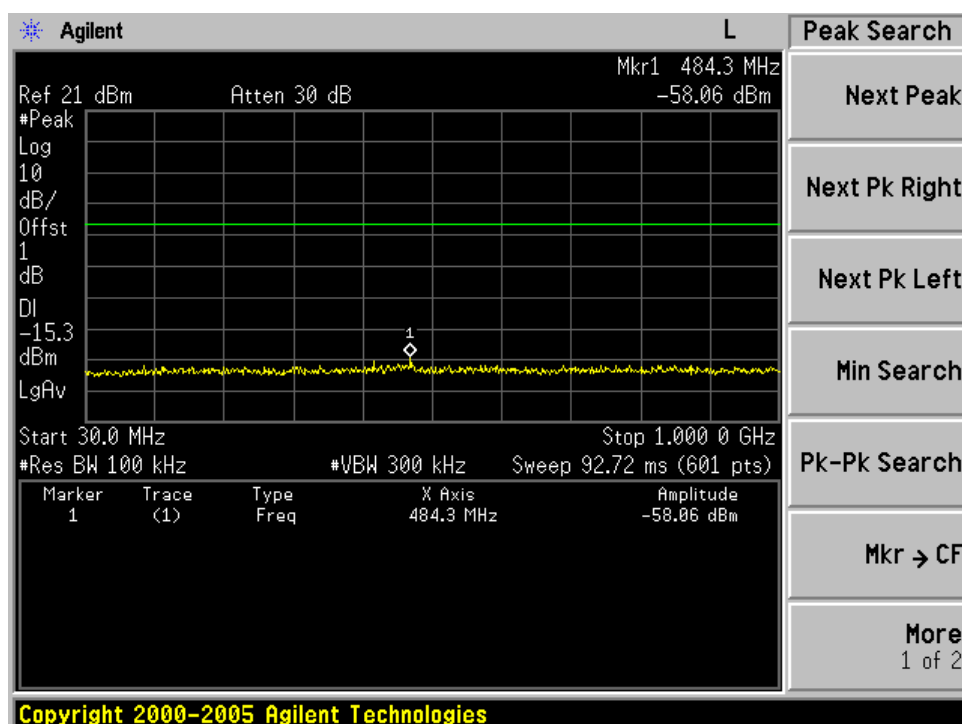
The resolution bandwidth(RBW) and the video bandwidth (VBW) of the spectrum analyzer were respectively set to 100kHz and 300kHz.

Limit

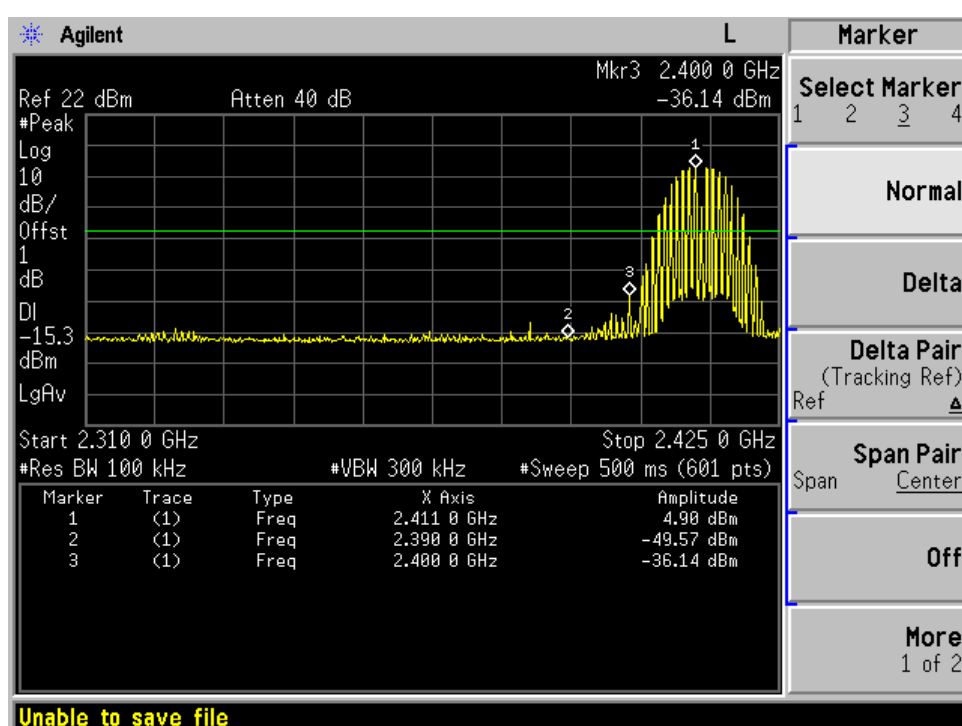
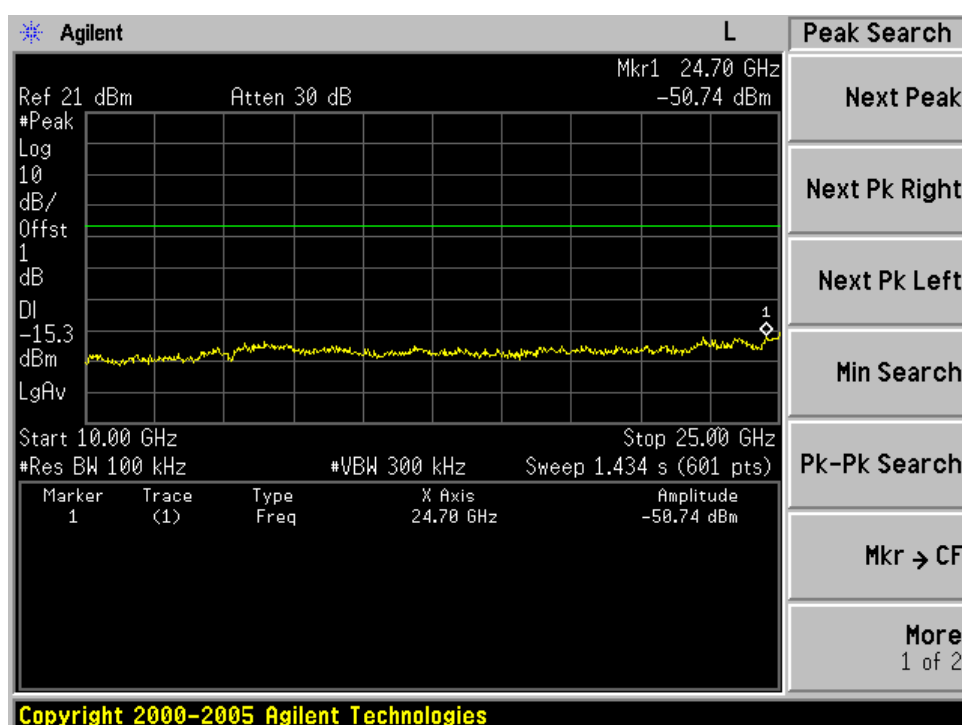
Frequency Range MHz	Limit (dBc)
30-25000	-20

Spurious RF conducted emissions

WIFI Mode IEEE 802.11b modulation (1 Mbps) Test Result
2412MHz

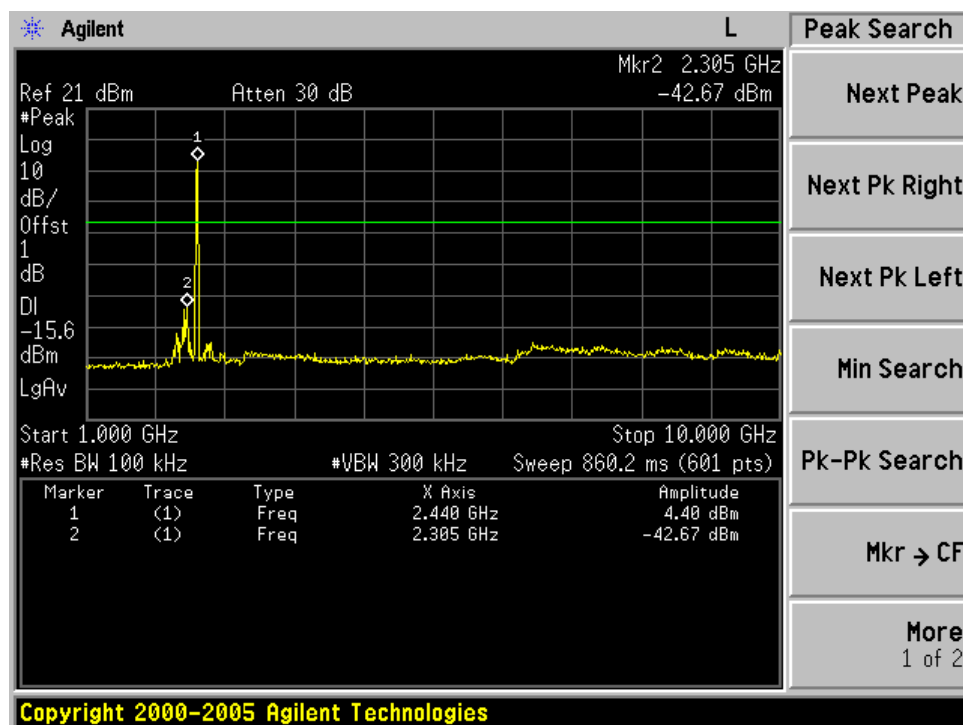
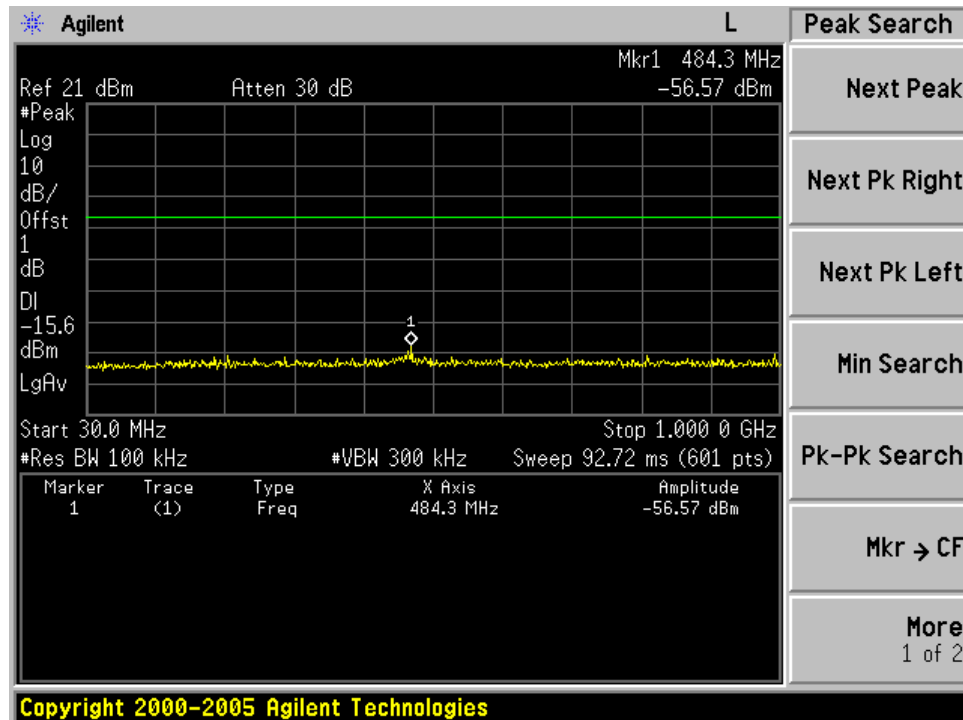


Spurious RF conducted emissions

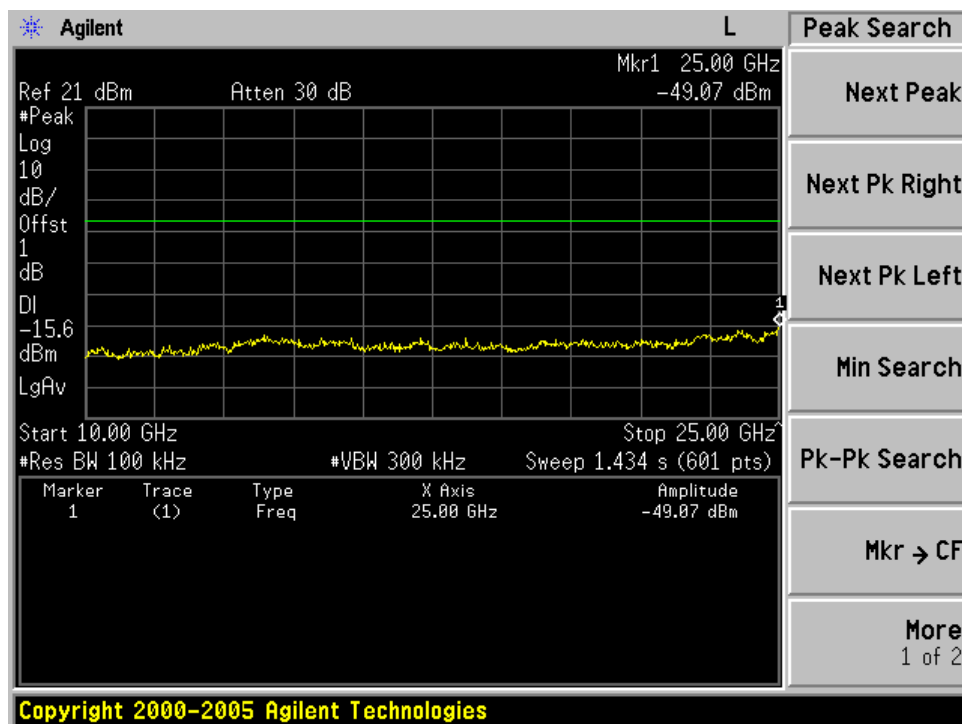


Spurious RF conducted emissions

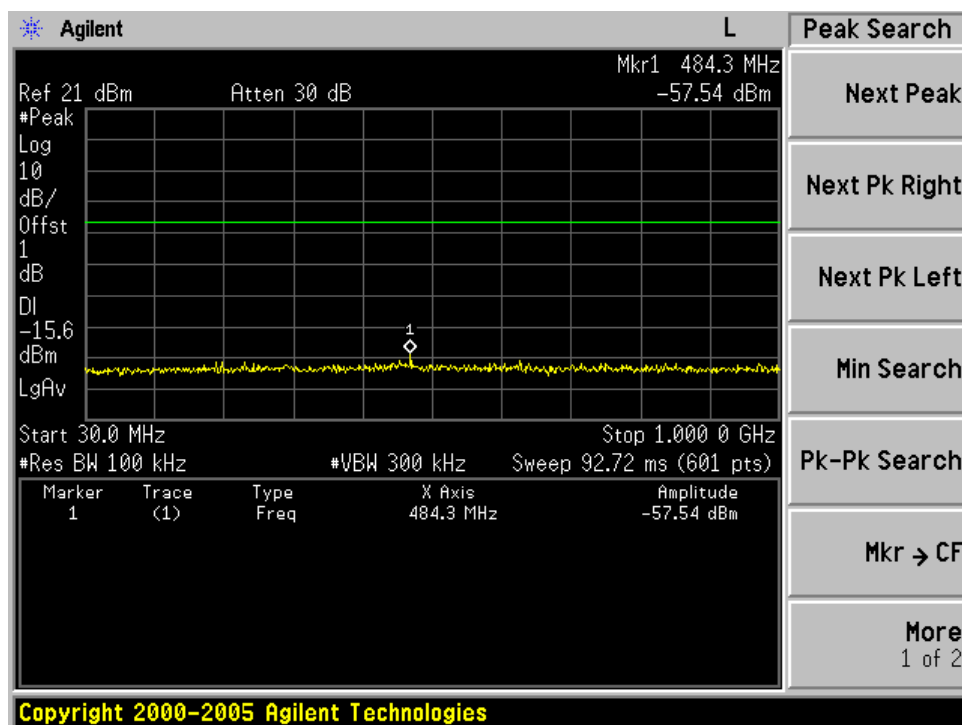
2437MHz



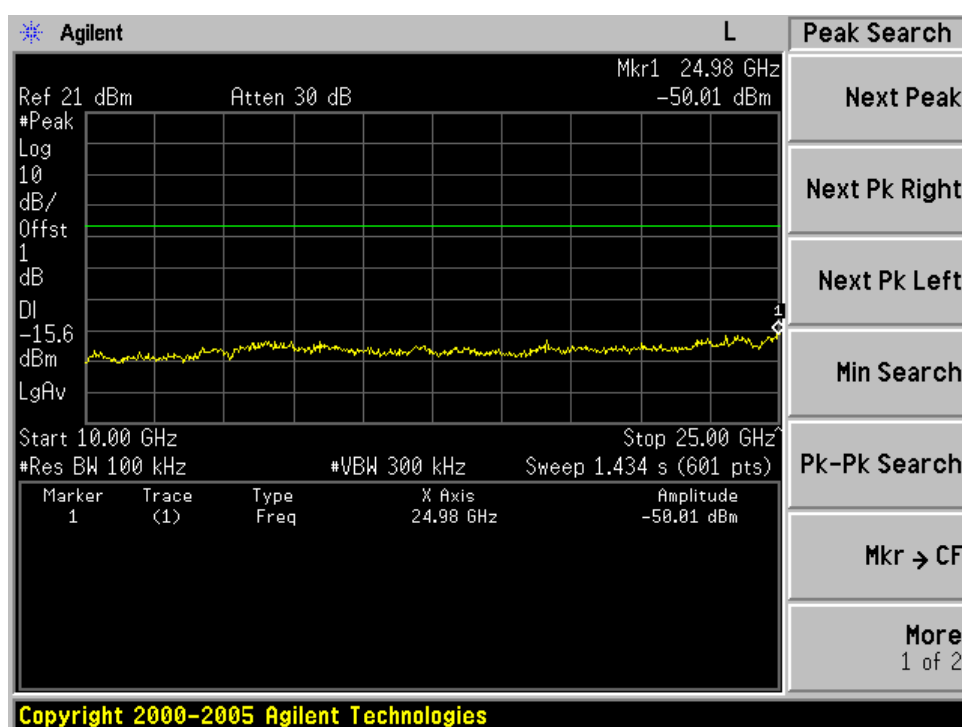
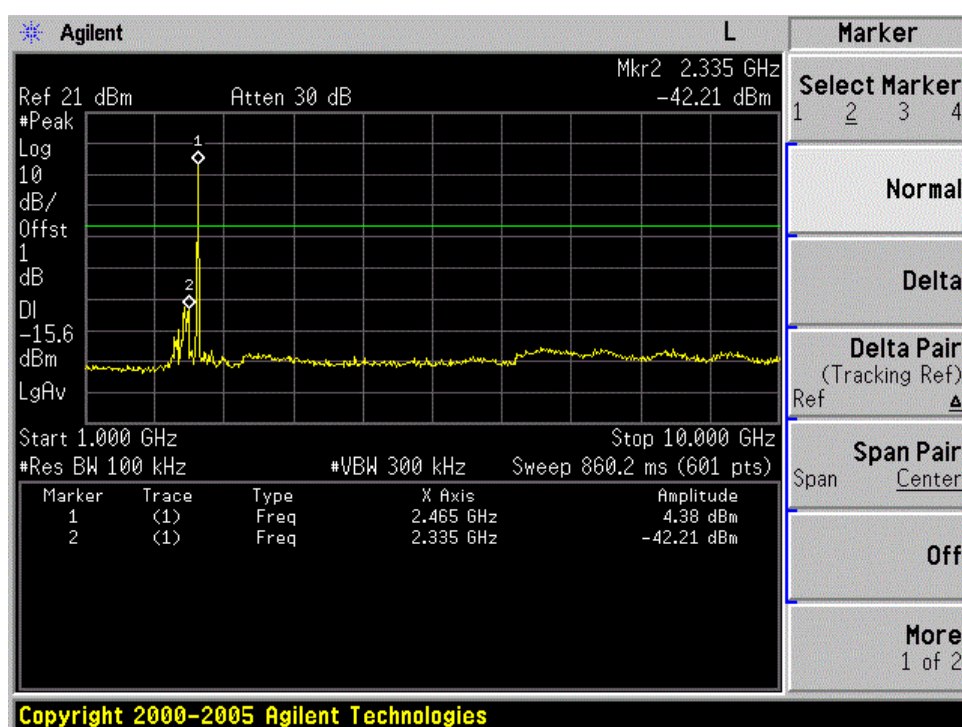
Spurious RF conducted emissions



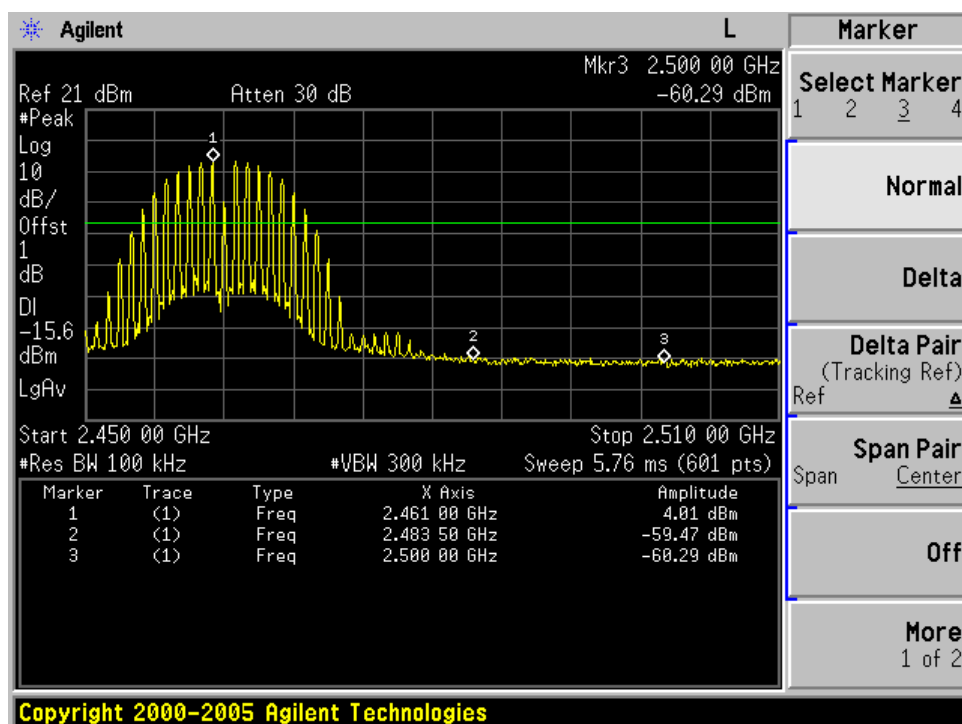
2462MHz



Spurious RF conducted emissions



Spurious RF conducted emissions



Test Equipment List

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL.DUE.DATE
Spectrum Analyzer	Agilent	E4446A	US44300459	2013-05-08

7.5 Spurious radiated emissions for transmitter and receiver

Test Method

- 1 The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2 The turntable shall be rotated for 360 degrees to determine the position of maximum emission level
- 3 EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4 Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5 Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

Limit

Frequency MHz	Field Strength uV/m	Field Strength dBμV/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

Transmitter Spurious radiated emissions

WIFI Mode IEEE 802.11b modulation (1 Mbps) CH1 2412MHz Test Result

Frequency	Antenna Factor	Cable Loss	Amp. Factor	Reading	Emission Level	Polarization	Limit	Detector	Result
MHz	dB/m	dB	dB	dBμV	dBμV/m		dBμV/m		
46.60	10.05	0.57	-	27.60	38.22	Vertical	40.00	QP	Pass
175.025	9.29	1.01	-	24.20	34.50	Vertical	43.50	QP	Pass
2278.92	27.79	5.83	34.43	52.34	51.53	Horizontal	74	PK	Pass
2278.92	27.79	5.83	34.43	44.62	43.81	Horizontal	54	AV	Pass
2278.92	27.79	5.83	34.43	56.74	55.93	Vertical	74	PK	Pass
2278.92	27.79	5.83	34.43	51.74	50.93	Vertical	54	AV	Pass
4824	32.89	8.53	34.6	43.4	50.22	Horizontal	74	PK	Pass
4824	32.89	8.53	34.6	31.74	38.56	Horizontal	54	AV	Pass
-	-	-	-	-	-	-	-	-	-

WIFI Mode IEEE 802.11b modulation (1 Mbps) CH6 2437MHz Test Result

Frequency	Antenna Factor	Cable Loss	Amp. Factor	Reading	Emission Level	Polarization	Limit	Detector	Result
MHz	dB/m	dB	dB	dBμV	dBμV/m		dBμV/m		
2262	27.76	5.81	34.43	56.66	55.8	Horizontal	74	PK	Pass
2262	27.76	5.81	34.43	51.84	50.98	Horizontal	54	AV	Pass
2262	27.76	5.81	34.43	53.11	52.25	Vertical	74	PK	Pass
2262	27.76	5.81	34.43	46.62	45.76	Vertical	54	AV	Pass
4874	32.98	8.58	34.6	43.5	50.46	Vertical	74	PK	Pass
4874	32.98	8.58	34.6	31.14	38.1	Vertical	54	AV	Pass
-	-	-	-	-	-	-	-	-	-

WIFI Mode IEEE 802.11b modulation (1 Mbps) CH11 2462MHz Test Result

Frequency	Antenna Factor	Cable Loss	Amp. Factor	Reading	Emission Level	Polarization	Limit	Detector	Result
MHz	dB/m	dB	dB	dBμV	dBμV/m		dBμV/m		
2282	27.79	5.83	34.43	53.5	52.69	Vertical	74	PK	Pass
2282	27.79	5.83	34.43	43.6	42.79	Vertical	54	AV	Pass
2286	27.81	5.83	34.43	58.54	57.75	Horizontal	74	PK	Pass
2286	27.81	5.83	34.43	54.54	53.75	Horizontal	54	AV	Pass
4924	33.08	8.62	34.6	43.71	50.81	Horizontal	74	PK	Pass
4924	33.08	8.62	34.6	31.46	38.56	Horizontal	54	AV	Pass
-	-	-	-	-	-	-	-	-	-

Remark:

- (1) QP Emission Level= Antenna Factor +Cable Loss + Reading
 PK Emission Level= Antenna Factor +Cable Loss - Amp. factor + Reading
 AV Emission Level= PK Emission Level+20log(dutycycle)
- (2) Data of measurement within this frequency range shown “-” in the table above means the reading of emissions are attenuated more than 20db below the permissible limits or the field strength is too small to be measured.

Test Equipment List

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL DUE DATE
Spectrum	Agilent	E4446A	US44300459	2013-05-08
Amp	HP	8449B	3008A02495	2013-05-08
Antenna	EMCO	3115	9607-4877	2013-05-17
Bilog Antenna	Schaffner	CBL6111C	2598	2013-12-14
HF Cable	Hubersuhne	Sucoflex104	---	2013-05-08

7.6 6 dB bandwidth & 99% bandwidth

Test Method

- 1 Place the EUT on the table and set it in the transmitting mode.
- 2 Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3 Mark the peak frequency and –6dB (upper and lower) frequency.

Limit

Limit [kHz]

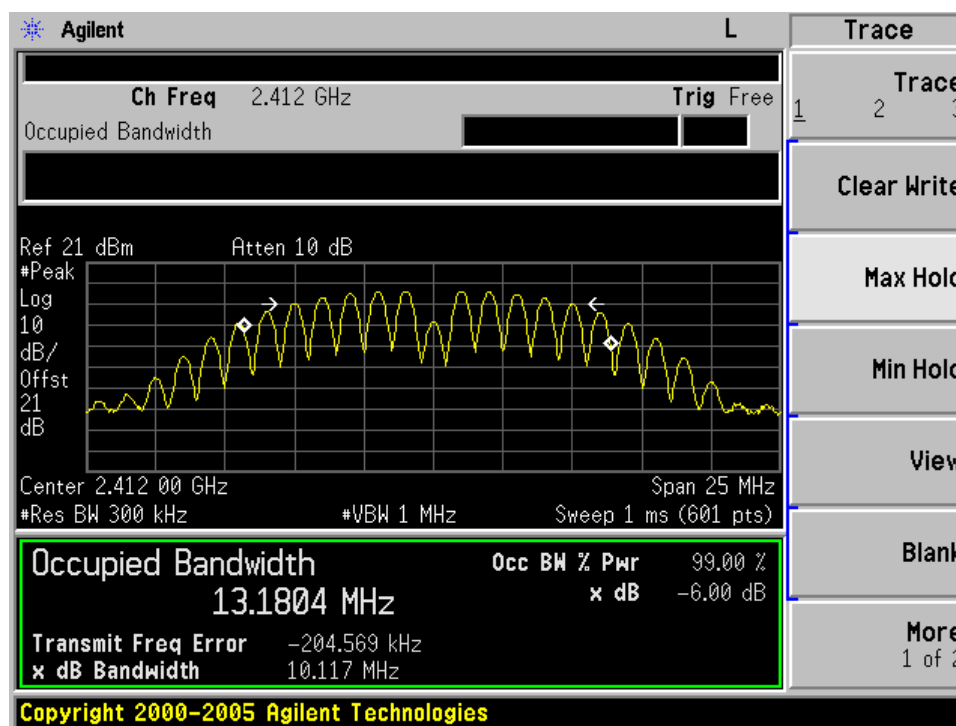
≥ 500

6 dB bandwidth & 99% bandwidth

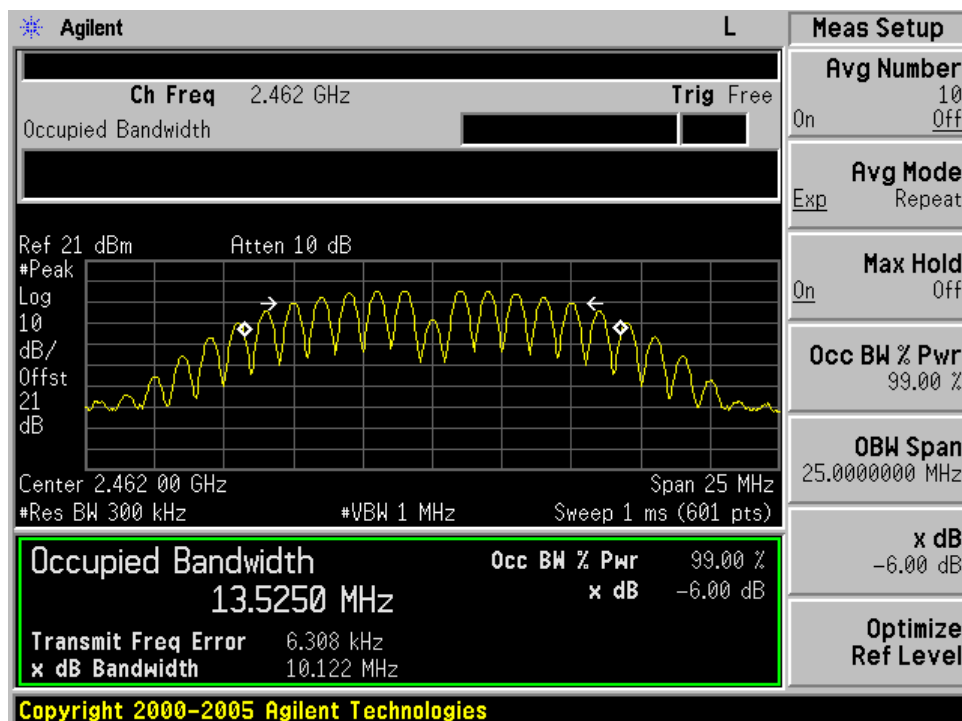
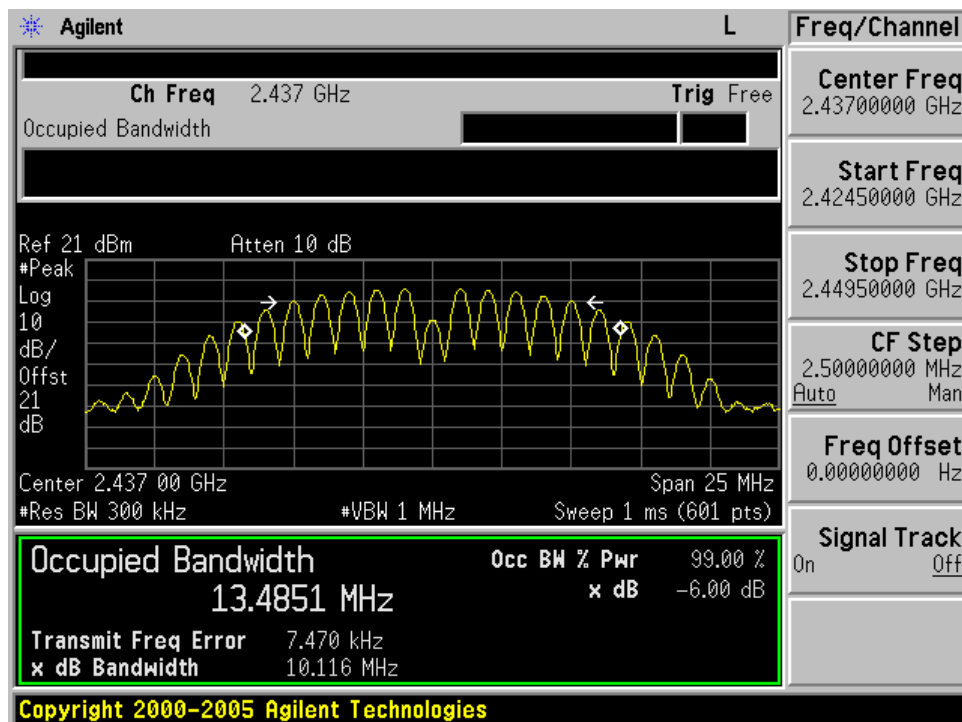
WIFI Mode IEEE 802.11b modulation (1Mbps) Test Result

Frequency MHz	6 dB Bandwidth MHz	Limit kHz	Result
2412	10.117	≥ 500	Pass
2437	10.116	≥ 500	Pass
2462	10.122	≥ 500	Pass

Frequency MHz	%99 Bandwidth MHz	Limit kHz	Result
2412	13.1804	--	Pass
2437	13.4851	--	Pass
2462	13.5250	--	Pass



6 dB bandwidth & 99% bandwidth





Product Service

Test Equipment

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL.DUE.DATE
Spectrum Analyzer	Agilent	E4446A	MY41440292	2013-05-08

7.7 Power spectral density

Test Method

- 1 Place the EUT on the table and set it in transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 2 Set the spectrum analyzer as RBW = 3 kHz, VBW = 10 kHz, Span = 300kHz, Sweep = 100 s
- 3 Record the max reading.

Limit

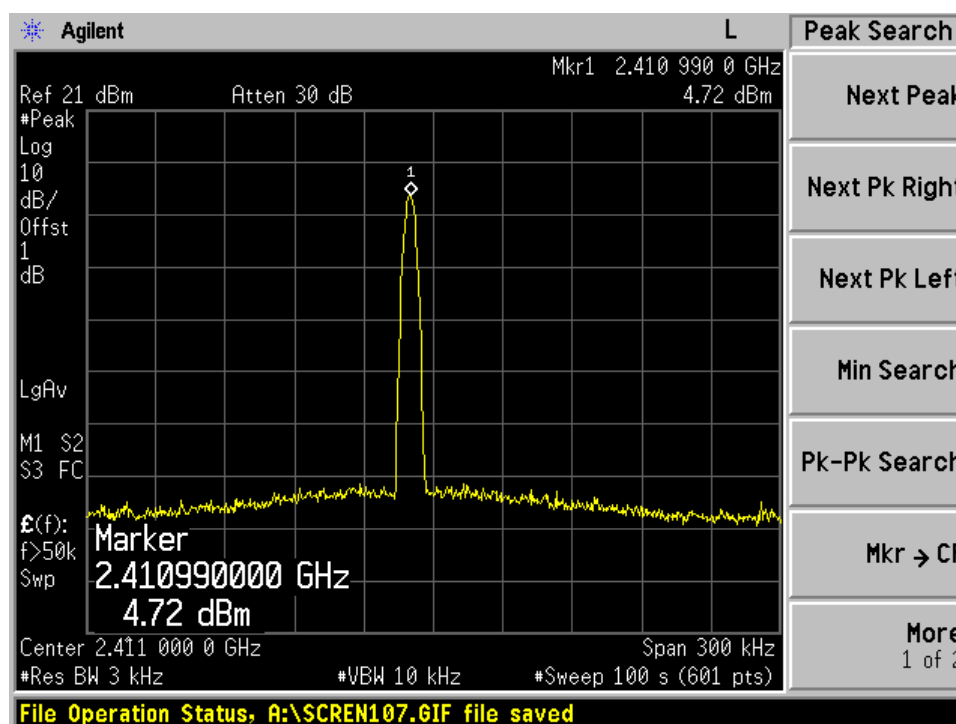
Limit
dBm / 3 kHz

8

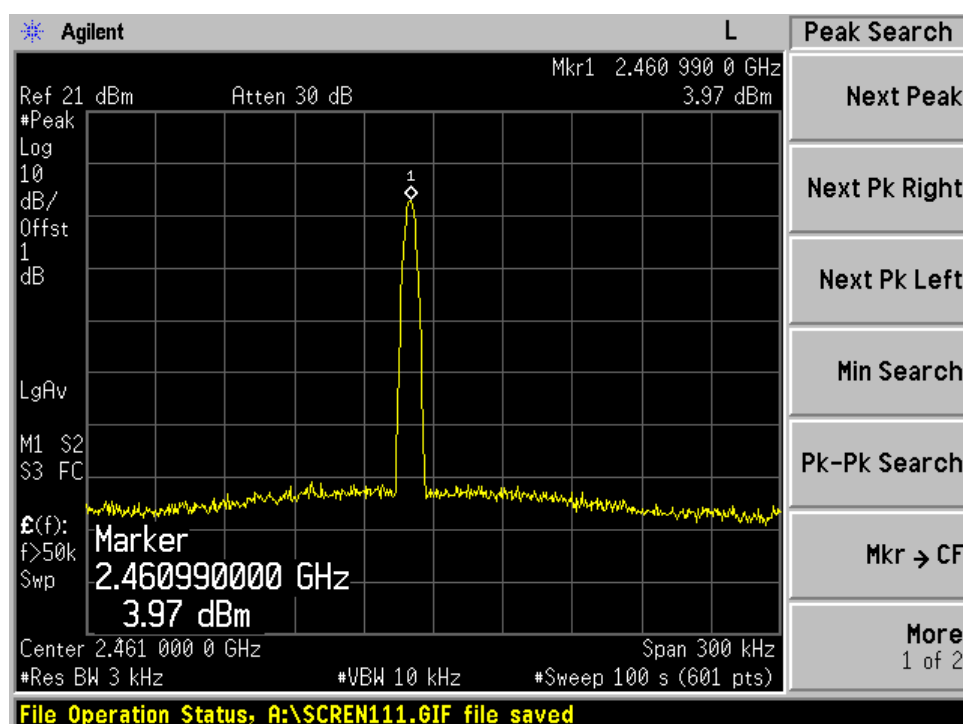
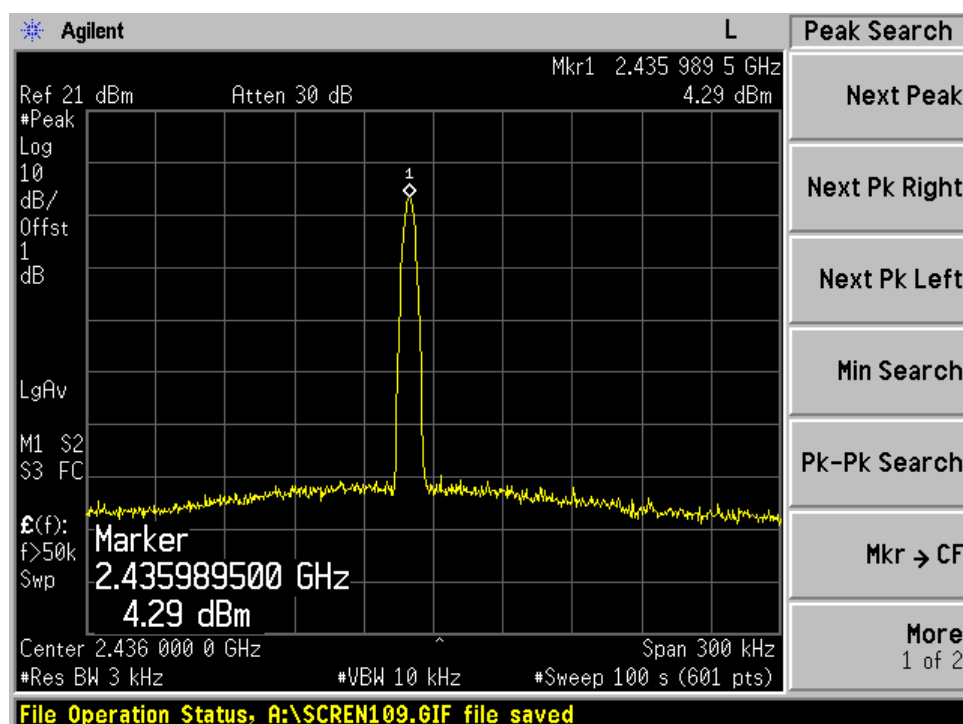
Power spectral density

WIFI Mode IEEE 802.11b modulation (1Mbps) Test Result

Frequency MHz	PSD dBm	Result
2412	4.72	Pass
2437	4.29	Pass
2462	3.97	Pass



Power spectral density



Test Equipment

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL.DUE.DATE
Spectrum Analyzer	Agilent	E4446A	MY41440292	2013-05-08

8 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty

Items		Extended Uncertainty
RE	Field strength (dB μ V/m)	U=4.60dB (30MHz-25GHz)
CE	Disturbance Voltage (dB μ V)	U=3.50dB(150KHz-30MHz)