

# **FCC - TEST REPORT**

Report Number	:	68.950.13.112.	01	Date of Issue	): _	September 22, 2013
Model	<u>:</u>	349765				
Product Type	<u>:</u>	MP7FSCT				
Applicant	<u>:</u>	ICON Health &	Fitness Inc	D.		
Address	: 1500 South 1000 West, Logan, UT 84321, USA					
Production Facility	: Wanlida Group Co., Ltd.					
Address	: Wanlida Industry Zone, Nanjing, Fujian, China 363601					
Test Result	:	■ Positive	□ Negati	ve		
Total pages including Appendices	:	25				
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# **Table of Content**

1	Tal	ble of Content	2
2		etails about the Test Laboratory	
3		escription of the Equipment Under Test	
4		mmary of Test Standards	
5		mmary of Test Results	
6		eneral Remarks	
7	Ted	chnical Requirement	8
	7.1	Conducted Emission	
	7.2	Conducted peak output power	11
	7.3	Spurious radiated emissions for transmitter	12
8	Tes	st Equipment	25
9	Svs	stem Measurement Uncertainty	25



# 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, Culture Creative Park, 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: WALTEK SERVICES(SHENZHEN) CO.,LTD.

1/F, Fukangkai Building, West Baima Rd, Songgang Street, Baoan District,

Shenzhen, Guangdong, P. R. China

Telephone: 86-755-83551033 Fax: 86-755-83552400

Report Number: 68.950.13.112.01 Page 3 of 25



## 3 Description of the Equipment Under Test

# **Description of the Equipment Under Test**

Product: MP7FSCT

Model no.: 349765

Options and accessories: NIL

Rating: DC 12V

Powered by external power supply: Adaptor Input: 100-240VAC, 50/60Hz

Adaptor Output: 12VDC

Antenna: Unique Antenna, NOT accessible by end user

Max. 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	T400	

Report Number: 68.950.13.112.01 Page 4 of 25



# 4 Summary of Test Standards

	Test Standards
FCC Part 15 Subpart C, Intentional	PART 15 – RADIO FREQUENCY DEVICES
Radiators, 10-1-12 Edition	Subpart C – Intentional Radiators



# 5 Summary of Test Results

Technical Requirements						
FCC Part 15 Subpart C 10-1-12 Edition	n					
Test Condition	Pages	•	Test Resu	ult	Test Location	
		Pass	Fail	N/A		
15.207 Conducted Emission AC Power Port	8				Test Site2	
15.247 (b) (1) Conducted peak output power	11				Test Site2	
15.247(d) Band edge compliance of RF emissions					Test Site2	
15.247(d) Spurious RF conducted emissions					Test Site2	
15.247(d) & 15.209 Spurious radiated emissions for transmitter	12				Test Site2	
15.247(a)(2) 6dB bandwidth				$\boxtimes$	Test Site2	
15.247(e) Power spectral density				$\boxtimes$	Test Site2	



#### 6 General Remarks

#### **Remarks**

This submittal(s) (test report) is intended for the Class 2 permissive change of FCC ID: OMC339918 to comply with Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C Rules

#### 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: 10 September 2013

Testing Start Date: 12 September 2013

Testing End Date: 17 September 2013

- Jiangsu TÜV Product Service Ltd. Shenzhen Branch -

Cuidy

Tested By 2013-09-22 Caidy Cai

EMC Test Engineer Date Name Signature

Peter Kong

Prepared By <u>2013-09-22 Peter Kang</u>
EMC Project Engineer Date Name Signature

Approved by 2013-09-22 Ken Li

EMC Project Manager Date Name Signature

Report Number: 68.950.13.112.01



# 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

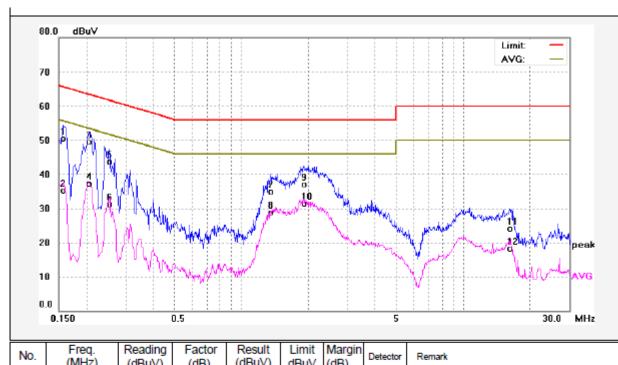
Frequency	QP Limit	AV Limit
MHz	dΒμV	dΒμV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

<sup>&</sup>quot;\*"Decreasing linearly with logarithm of the frequency



## **Conducted Emission**

EUT: 349765 Op Cond: Test Spec: Wifi On



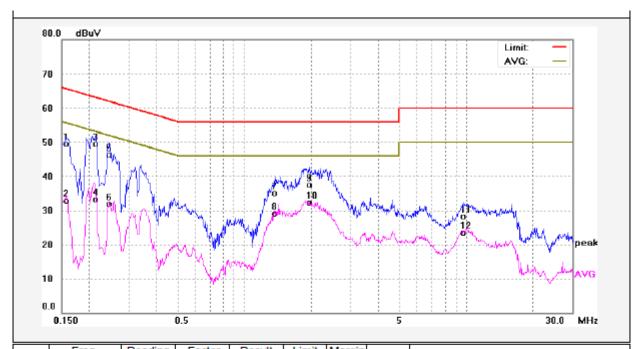
No.	Freq.	Reading	Factor	Result	Result   Limit   Margin   Dates	Detector	Remark	
IVO.	(MHz)	(dBuV)	(dB)	(dBuV)	dBuV	(dB)	Detector	Remark
1	0.1580	40.79	9.81	50.60	65.56	-14.96	QP	
2	0.1580	25.40	9.81	35.21	55.56	-20.35	AVG	
3	0.2060	39.66	9.84	49.50	63.36	-13.86	QP	
4	0.2060	27.47	9.84	37.31	53.36	-16.05	AVG	
5	0.2540	33.89	9.86	43.75	61.62	-17.87	QP	
6	0.2540	21.36	9.86	31.22	51.62	-20.40	AVG	
7	1.3540	24.95	10.00	34.95	56.00	-21.05	QP	
8	1.3540	18.81	10.00	28.81	46.00	-17.19	AVG	
9	1.9140	27.15	10.00	37.15	56.00	-18.85	QP	
10	1.9140	21.43	10.00	31.43	46.00	-14.57	AVG	
11	16.2180	13.20	10.97	24.17	60.00	-35.83	QP	
12	16.2180	7.25	10.97	18.22	50.00	-31.78	AVG	



## **Conducted Emission**

EUT: 349765

Op Cond: Test Spec: Wifi On and LAN Port On



No.	Freq.	Reading	Factor	_ liet	Detector	Remark		
	(MHz)	(dBuV)	(dB)	(dBuV)	dBuV	(dB)		
1	0.1580	39.77	9.81	49.58	65.56	-15.98	QP	
2	0.1580	23.03	9.81	32.84	55.56	-22.72	AVG	
3	0.2140	39.62	9.84	49.46	63.04	-13.58	QP	
4	0.2140	23.40	9.84	33.24	53.04	-19.80	AVG	
5	0.2460	36.45	9.85	46.30	61.89	-15.59	QP	
6	0.2460	22.09	9.85	31.94	51.89	-19.95	AVG	
7	1.3740	25.09	10.00	35.09	56.00	-20.91	QP	
8	1.3740	19.14	10.00	29.14	46.00	-16.86	AVG	
9	1.9500	27.47	10.00	37.47	56.00	-18.53	QP	
10	1.9500	22.23	10.00	32.23	46.00	-13.77	AVG	
11	9.6700	17.83	10.48	28.31	60.00	-31.69	QP	
12	9.6700	12.98	10.48	23.46	50.00	-26.54	AVG	



# 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	Limit	Limit
MHz	W	dBm
2400-2483.5	≤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	16.10	Pass	
	CH6 2437MHz	16.98	Pass	
	CH11 2462MHz	16.51	Pass	

WIFI Mode IEEE 802.11g modulation (6Mbps) Test Result

_	Frequency MHz	Conducted Peak Output Power dBm	Result
	CH1 2412MHz	21.40	Pass
	CH6 2437MHz	20.06	Pass
	CH11 2462MHz	18.73	Pass

WIFI Mode IEEE 802.11n HT20 modulation (6.5Mbps) Test Result

Frequency MHz	Output Power dBm	Result
CH1 2412MHz	21.11	Pass
CH6 2437MHz	20.33	Pass
CH11 2462MHz	20.63	Pass

Report Number: 68.950.13.112.01 Page 11 of 25



#### 7.3 Spurious radiated emissions for transmitter

#### **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

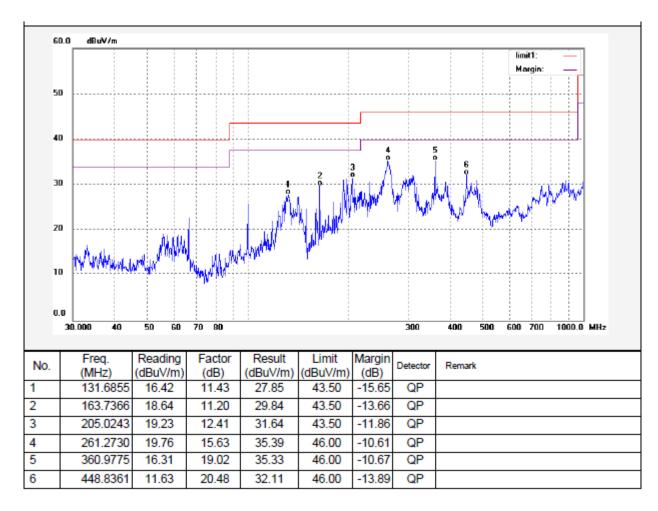
Frequency	Field Strength	Field Strength	Detector
MHz	uV/m	dBμV/m	
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK



EUT: 349765

Op Cond: 802.11b Low Channel

Test Spec: Horizontal Comment: 120V AC/60Hz

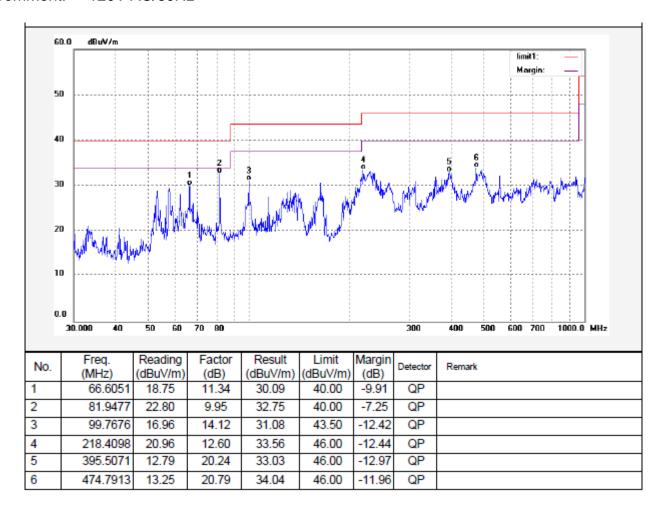




EUT: 349765

Op Cond: 802.11b Low Channel

Test Spec: Vertical

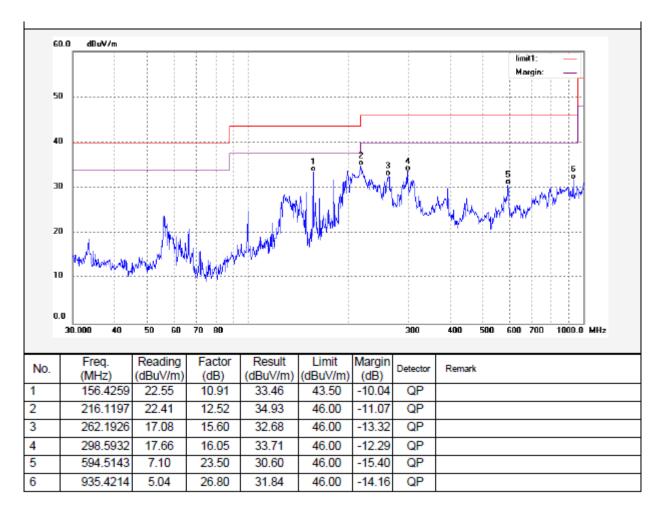




EUT: 349765

Op Cond: 802.11b Middle Channel

Test Spec: Horizontal Comment: 120V AC/60Hz

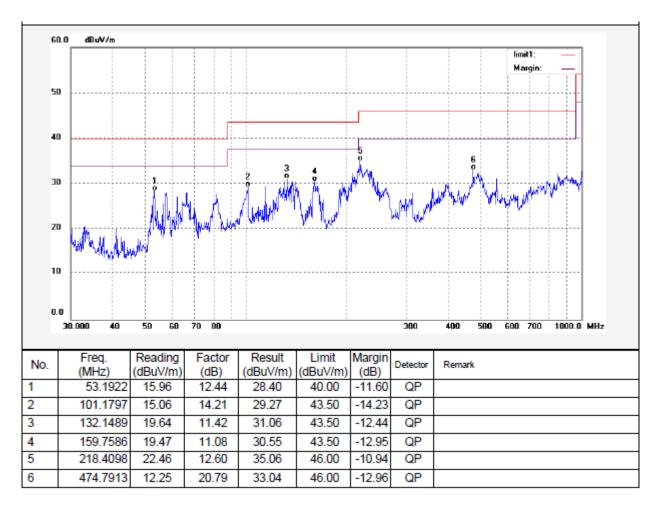




EUT: 349765

Op Cond: 802.11b Middle Channel

Test Spec: Vertical

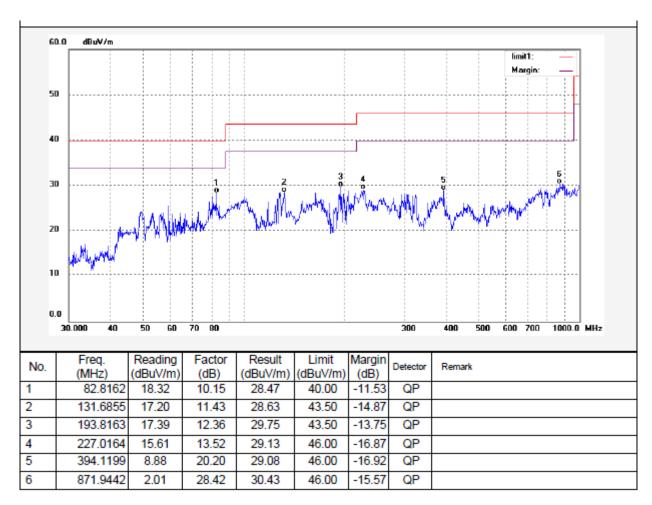




EUT: 349765

Op Cond: 802.11b High Channel

Test Spec: Horizontal Comment: 120V AC/60Hz

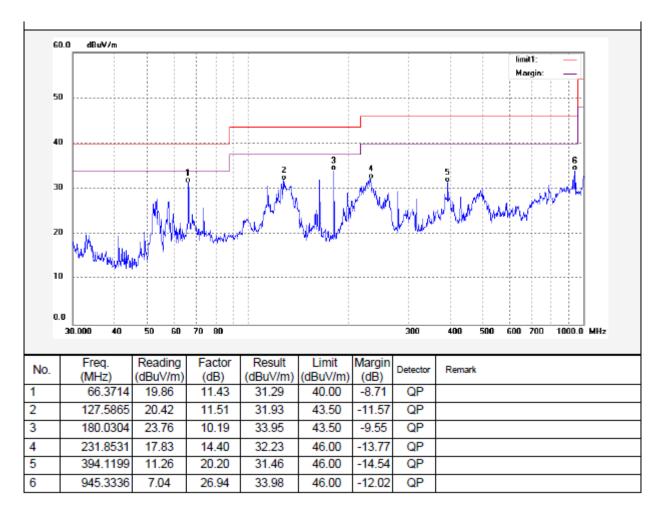




EUT: 349765

Op Cond: 802.11b High Channel

Test Spec: Vertical

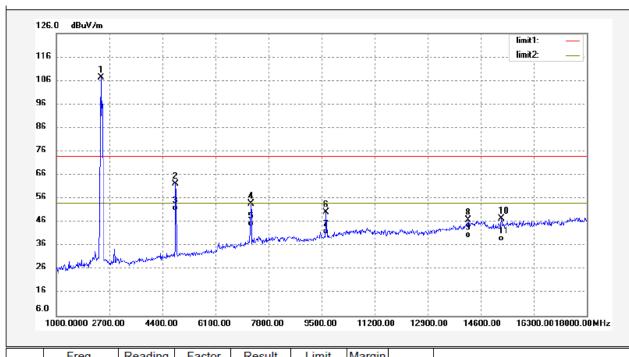




EUT: 349765

Op Cond: 802.11b Low Channel

Test Spec: Horizontal Comment: 120V AC/60Hz



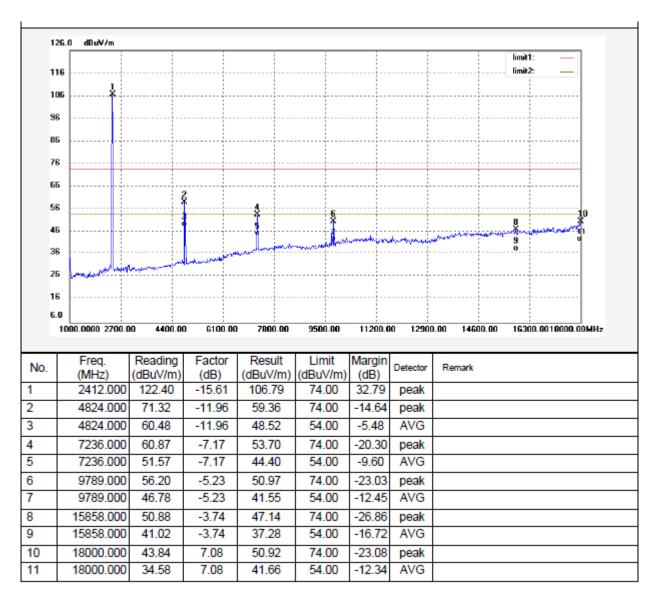
No.	Freq.	Reading	Factor	Result	Limit	Margin	Detector	Remark
INO.	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Detector	Remain
1	2412.000	122.74	-15.61	107.13	74.00	33.13	peak	
2	4824.000	74.17	-11.96	62.21	74.00	-11.79	peak	
3	4824.000	62.88	-11.96	50.92	54.00	-3.08	AVG	
4	7236.000	60.96	-7.17	53.79	74.00	-20.21	peak	
5	7236.000	51.54	-7.17	44.37	54.00	-9.63	AVG	
6	9653.000	55.95	-5.65	50.30	74.00	-23.70	peak	
7	9653.000	46.47	-5.65	40.82	54.00	-13.18	AVG	
8	14209.000	47.09	-0.06	47.03	74.00	-26.97	peak	
9	14209.000	39.58	-0.06	39.52	54.00	-14.48	AVG	
10	15263.000	49.77	-2.27	47.50	74.00	-26.50	peak	
11	15263.000	40.12	-2.27	37.85	54.00	-16.15	AVG	



EUT: 349765

Op Cond: 802.11b Low Channel

Test Spec: Vertical

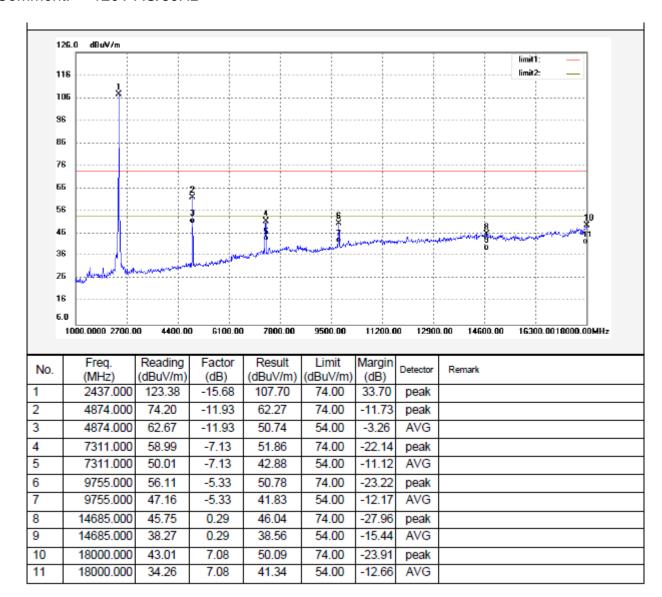




EUT: 349765

Op Cond: 802.11b Middle Channel

Test Spec: Horizontal Comment: 120V AC/60Hz

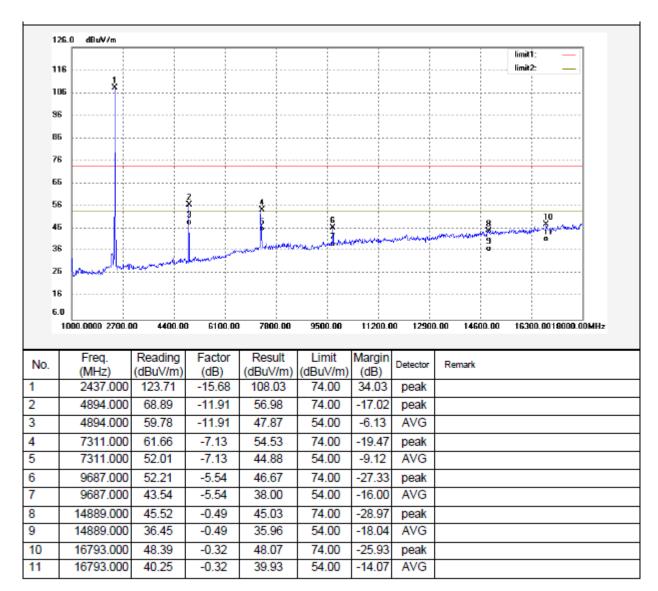




EUT: 349765

Op Cond: 802.11b Middle Channel

Test Spec: Vertical

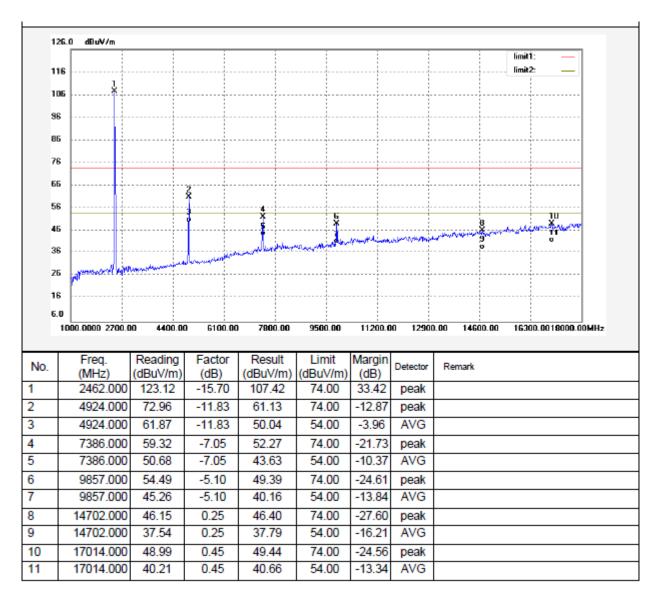




EUT: 349765

Op Cond: 802.11b High Channel

Test Spec: Horizontal Comment: 120V AC/60Hz



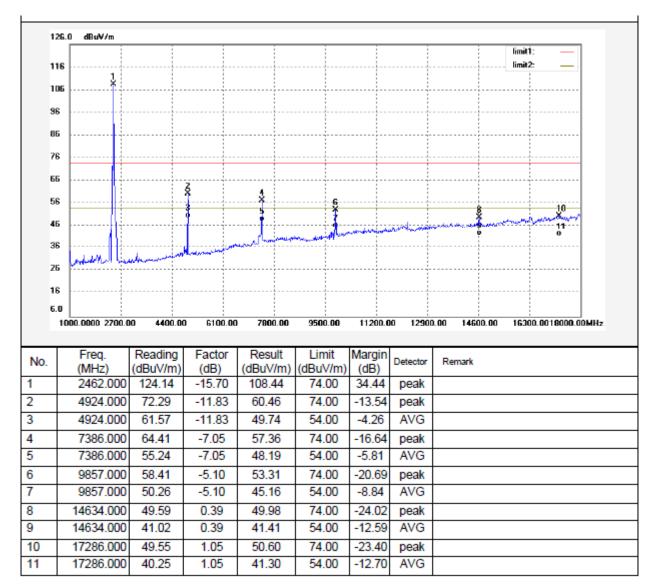


EUT: 349765

Op Cond: 802.11b High Channel

Test Spec: Vertical

Comment: 120V AC/60Hz



Remark1: Factor = Antenna factor + cable loss - preamplifier gain Remark2: All modes were tested, and only worst data listed



# 8 Test Equipment

TEST ITEM	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL.DUE.DAT E
CE	EMI Test Receiver	R&S	ESCI	100947	Sep. 20,2013
	LISN	R&S	ENV216	101215	Sep. 20,2013
	Cable	Тор	TYPE16(3.5 M)	-	Sep. 20,2013
Peak Power	EMI Test Receiver	R&S	ESCI	100947	Sep. 20,2013
RSE	EMC Analyzer	Agilent	E7405A	MY4511494 3	Sep. 20,2013
	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Apr.19,2014
	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr.19,2014
	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Apr.06,2014

## 9 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 (dBµV/m)	U=4.38dB (30MHz-25GHz)		
CE	Disturbance Voltage (dBµV)	U=3.60dB(150KHz-30MHz)		