

REV	Δ	Description	Sheet Effected	Date	Drawn	Checked
A				25/01/2009	M. Reuben	S.Cohen
B		Replaced 15.109 with 15.209	12, 22-26	28/07/2009	M. Reuben	S.Cohen
C		Corrected	22,23	05/08/2009	M. Reuben	S.Cohen


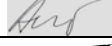

**EMC Laboratory**

**Homelogix**

**FCCID: GCD-SP-N6G**  
**Manufactured by**  
**ROSSLARE Enterprises LTD.**

**Test Report**  
**According to FCC Part 15 Requirements**

**January 2009**

	Function/Title	Name	Signature	Date
Prepared by	Technical Writer	M. Reuben		28/07/2009
Checked by	Test Engineer	I. Arbitman		28/07/2009
Approved by	EMC Lab. Manager	S.Cohen		6-Aug-09

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## 1 INTRODUCTION

### a. Scope

This document describes the measurement procedures and tests for FCC part 15 of the Homelogix Manufactured by Rosslare Ltd.

### b. Description of equipment Under Test.

Equipment Under Test:	Homelogix
FCCID	GCD-SP-N6G
Manufacturer:	Rosslare Ltd.
Serial Numbers:	0825-433A0
Mode of Operation:	TX MODE
Receiver operating frequency:	433.92 MHZ
Year of Manufacture:	2008

### c. Applicant Information:

Applicant:	Rosslare Ltd.
Applicant Address	Suite 912 Wing Fat Industrial Building, 12 Wang Tai Road, Kowloon Bay, Hong- Kong
Telephone:	+972-3-9386838
FAX:	+972-3-9386830
The testing was observed by:	ALLAN GREEN
Following applicant's personnel:	ALLAN GREEN

### d. Test Performance:




Date of reception for testing:	15/01/2009
Dates of testing	15/01/2009 – 25/01.2009
Test Laboratory Location	Elbit Systems Land and C <sup>4</sup> I – Tadiran Ltd., EMC LAB, Hashoftim 26 Holon 58102 ISRAEL Tel: 972-3-5574476 Fax: 972-3-5575320
Applicable EMC Specification:	
Code of Federal Regulations	47, FCC Docket 89-103, Part 15: Radio Frequency Devices, Sections 15.209, 15.231, 15.205 & 15.207

## 2 TEST SUMMARY AND SIGNATURES.

Elbit Systems Land and C<sup>4</sup>I – Tadiran Ltd., EMC Laboratory has completed testing of E.U.T in accordance with the requirements of the FCC Part 15 Regulations for Class B equipment.

The E.U.T was found to comply with the requirements of the FCC Part 15 Regulations given below

Test	Test Description	Section	PASS/FAIL
1	Bandwidth of the emission	15.231	PASS
2	Field strength of fundamental	15.231	PASS
3	Radiation emission	15.209	PASS
4	Radiation emission	15.231 & 15.205	PASS
5	Power Line Conducted Interference	15.207	PASS

	Function/Title	Name	Signature	Date
<b>Test performed by</b>	Test Engineer	I. Arbitman		23/07/2009
<b>Test Report prepared by</b>	Technical Writer	M. Reuben		23/07/2009
<b>Test Report Approved by</b>	EMC Lab. Manager	S Cohen		30/07/2009

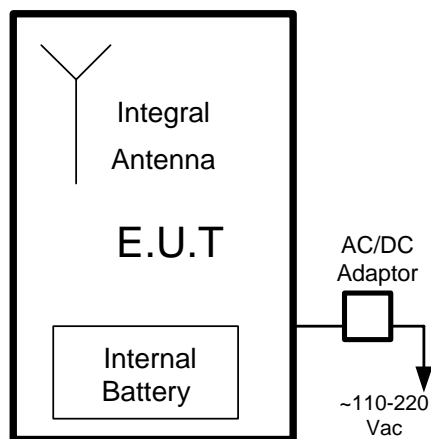
### **3 E.U.T INFORMATION**

#### **a. E.U.T description**

- (1) Station for Rosslare's SecuraCare Wireless Intrusion system. The Homelogix includes a transceiver that works on 433.92 or 868.35 MHz, depending on the device model. The device receives supervisory signals from the SecuraCare wireless devices during an intrusion event, or a supervisory period (between 20-60 min, depending on model). The Homelogix sends and receives ACK signals to the SA-80 Wireless siren during normal operation. The range of the devices from the Homelogix is a maximum of 300 meters, in line of sight. The Homelogix also acts as a telephone, with full features and recognition of standard dial tone. In an event of an emergency, the Homelogix will dial out to system programmed numbers, with a recorded message. The Homelogix also allows the user to dial into the phone via PSTN and configure the system, or listen-in (half-duplex)

#### **b. E.U.T Test Configuration**

E.U.T. test configuration is shown in figure bellow



*Figure 1: Test Configuration*

#### **c. E.U.T Mode of Operation description**

- (1) 433.92MHz TX Mode

#### 4 BANDWIDTH OF THE EMISSION PART 15.231—TEST RESULTS

E.U.T: Homelogix  
 S/N: 0825-433A0  
 Test Method: ANSI 63.4  
 Date: 22/01/2009  
 Relative Humidity: 29%  
 Ambient Temperature: 21c  
 Air Pressure: 1053hpa  
 Test Setup: Figure 1

Testing Engineer: I. Arbitman 

Date 22/01/2009

**a. Test Results Summary & Conclusions**

The E.U.T was found in compliance with Bandwidth of Radiated Emission fundamental frequency requirement

**b. Limits of bandwidth**

The test unit shall meet the limits of Table 4.b

*Table 4.b: Limits for Bandwidth*

Frequency (MHz)	Bandwidth Max Limits (%)	Bandwidth Max Limits (KHz)
433.9175	0.25	1085

**c. Test Instrumentation and Equipment**

*Table 4.c: Test Instrumentation and Equipment*

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	20.05.09
Broadband Antenna	BTA-L	FRANKONIA	15.05.09

**d. Test Results**

*Table 4.d: Bandwidth Test Result*

Frequency (MHz)	Bandwidth (KHz)	Bandwidth Max Limit(KHz)	Test Results Plot No	PASS/FAIL
433.9175	62.5	1085	1	PASS

**e. Procedure**

The Bandwidth is determined at the point 20db down from the modulated carrier, while the spectrum analyzer was set to “max hold” and R.B.W – 10 KHz.

## 5 FIELD STRENGTH OF FUNDAMENTAL PART 15.231-TEST RESULTS

E.U.T Homelogix  
 S/N: 0825-433A0  
 Test Method: ANSI 63.4  
 Date: 21/01/2009  
 Relative Humidity: 29%  
 Ambient Temperature: 20c  
 Air Pressure: 1053hpa  
 Test Setup: Figure 1

Testing Engineer: I. Arbitman  Date 21/01/2009

### a. Test Results Summary & Conclusions

The E.U.T was found in compliance with fundamental frequency requirement

### b. Limits of Field Strength for fundamental according 15.231

The test unit shall meet the limits of Table 5.b.

Table 5.b: Limits for Fundamental

Frequency (MHz)	Average Max Limits (dB $\mu$ V/m)	Peak Max Limits (dB $\mu$ V/m)
433.916	81	101

### c. Test Instrumentation and Equipment

Table 5.c: Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	20.05.09
Broadband Antenna	BTA-L	FRANKONIA	15.05.09

### d. Test Results

Table 5.d: Average Factor

TX Period( min)	Duty Cycle(min)	Average Factor(db)	Plot No
13.44ms	13.44/100=0.13	20log0.134=-17.43	17-22

Table 5.d.1: Peak Result of Fundamental

Frequency (MHz)	Peak Result (dB $\mu$ V/m)	peak Limits (dB $\mu$ V/m)	Margin ( dB)	Test Results Plot No	Pass/ Fail
433.916	96.2	101	4.8	2	PASS

Table 5.d.2: Average Result of Fundamental

Peak Result (dB $\mu$ V/m)	Average Factor	Calculation Results	Average Limits (dB $\mu$ V/m)	Margin ( dB)	Pass/ Fail
96.2	-17.43	78.77	81	2.23	PASS

### e. Test Procedure

The EUT was placed on the top of rotating table 0.8 meters above the ground and the table was rotated 360°, the height of antenna is varied from one to 4 meters (vertical and horizontal polarization) to determine the max field strength of fundamental



## 6 RADIATED EMISSION PART 15.231 & 15.205-TEST RESULTS

E.U.T	Homelogix
S/N:	0825-433A0
Test Method:	ANSI 63.4
Date:	22/01/2009
Relative Humidity:	29%
Ambient Temperature:	21c
Air Pressure:	1053hpa
Test Setup:	Figure 1 to 4

Testing Engineer: I. Arbitman 

Date 22/01/2009

a. **Test Results Summary & Conclusions**  
The E.U.T was found to be in compliance with 15.231

b. **Limits of Radiated Interference Field Strength according 15.231**  
The test unit shall meet the limits of Table 6.b.

*Table 6.b: Limits for 15.231(b)*

Frequency range(MHz)	Average Limits (dB $\mu$ V/m)	peak Limits (dB $\mu$ V/m)
0.009 – 3500	61	81

c. **Test Instrumentation and Equipment**

*Table 6.c: Test Instrumentation and Equipment*

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	20/05/2009
Loop Antenna	HFH2-Z2	R&S	14/05/2009
Double Ridge Guide Antenna(1-18GHz)	DRG-118/A	ARA	09/12/2009
Broadband Antenna	BTA-L	FRANKONIA	15/05/2009
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	09/04/2009
Low Noise Amplifier (1-4GHz)	AMM 003N	Avantek	11/06/2009
Low Noise Amplifier (2-18GHz)	PE 2-38	Planar	14/09/2009

d. **Preliminary Test Results**

*Table 6.d: Preliminary Test Results for intentional Emissions in TX Mode 15.231*

Antenna Polarization	Freq. Range MHz	Res. BW (kHz)	Test Results Plot No	PASS/FAIL
Both Hor.& Ver	0.009 – 0.15	0.2	3	PASS
	0.15 - 30	9	4	PASS
	30 - 1,000	120	5	PASS
	1,000 – 2,900	1000	6	PASS
	2,900 – 5,000	1000	7	PASS

**e. Final Results**

*Table 6.e: Six Highest Peak Emission Test Results*

Mode of Operation	Frequency (MHz)	Peak Reading (dB $\mu$ V/m)	Limit dB $\mu$ V/m	Margin (dB)	Pass/Fail
TX	433.924	72.6	81	-8.4	PASS
	871.466	66.8	81	-14.2	PASS

*Table 6.e1: Six Highest Average Emission Test Results*

Mode Of Operation	Frequency (MHz)	Calculated (dB $\mu$ V/m)(*)	Limit dB $\mu$ V/m	Margin (dB)	Pass/Fail
TX	871.466	49.37	61	-11.63	PASS

\* Calculated=Peak – Average Factor

**f. Test Procedure**

**(1) Preliminary Test Procedure**

- a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a chamber shielded
- b) The E.U.T was set 3 meters away from the receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) The Antenna height varied from one meter above the ground over its full-allowed range of travel and the table was rotated 360°to determine the maximum value of the field strength
- d) The antenna was set both horizontal and vertical polarization.

**(2) Final Test Procedure**

- a) The EUT was tested at open area for each suspected emission
- b) The test procedure was performed according paragraph (1) and figure 11

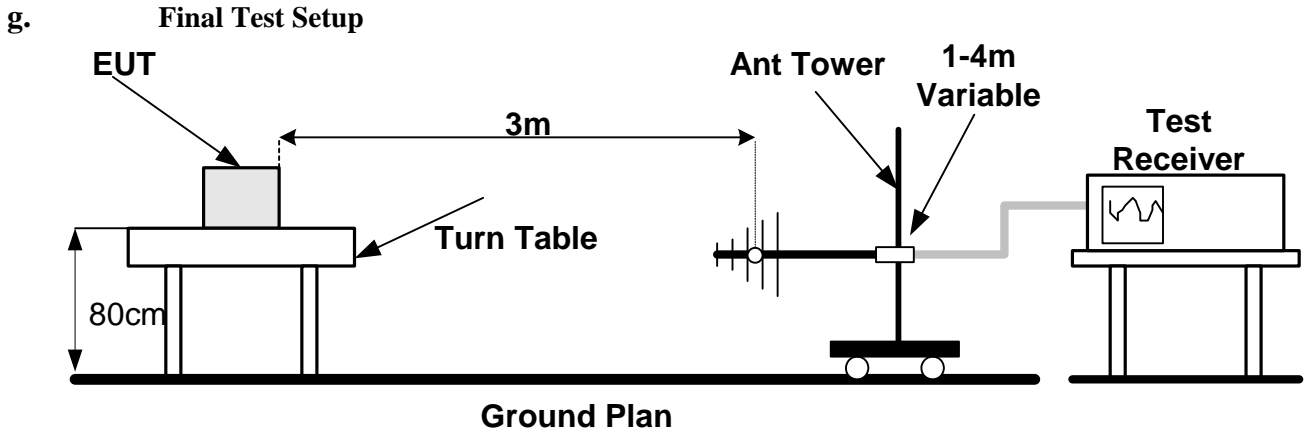


Figure 2: Radiated Emission Set up

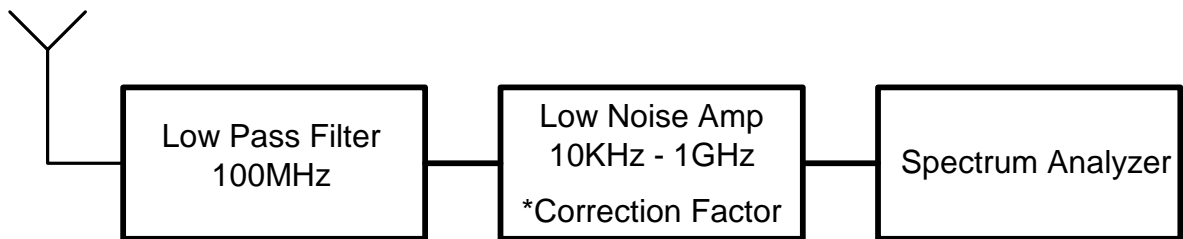


Figure 3: Radiated Emission test 10 KHz – 30 MHz

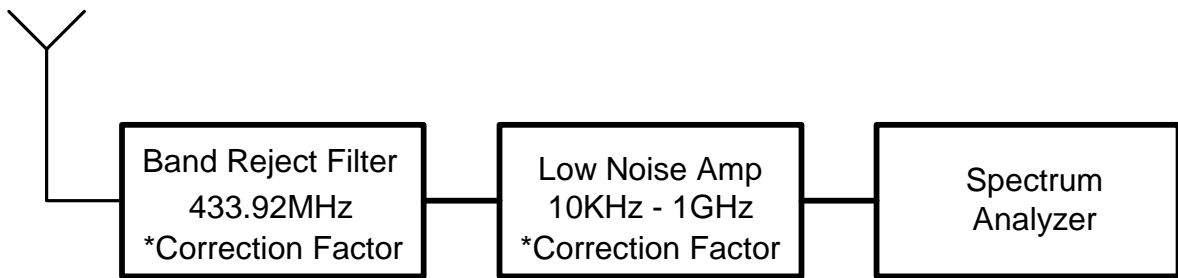


Figure 4: Radiated Emission test 30 MHz – 1 GHz

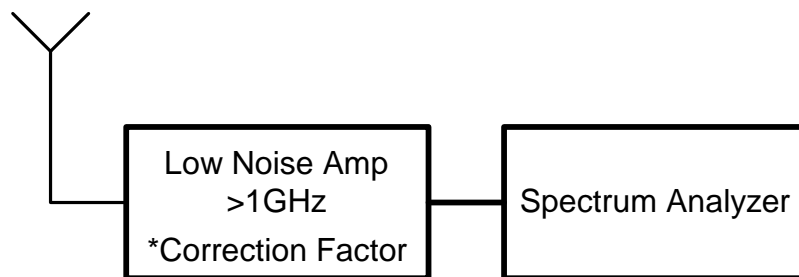


Figure 5: Radiated Emission test above 1 GHz

## 7 RADIATED EMISSION PART 15.209-TEST RESULTS

### a. Preliminary Radiated emission Test Result According Part 15.209

E.U.T Homelogix  
 S/N: 0825-433A0  
 Test Method: ANSI 63.4  
 Date: 23/07/2009  
 Relative Humidity: 29%  
 Ambient Temperature: 21c  
 Air Pressure: 1053hpa  
 Test Setup: Figure 1

Testing Engineer: I. Arbitman 

Date 23/07/2009

### b. Test Results Summary & Conclusions

The E.U.T was found in compliance with 15.209

### c. Limits of Radiated Interference Field Strength according 15.209

The test unit shall meet the limits of Table 7.c for Class B equipment.

*Table 7.c: Limits for 15.209 Class B equipment*

Frequency Range (MHz)	Field strength (microvolts/meter)	Measurement distances (meters)
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	2400/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

### d. Test Instrumentation and Equipment

*Table 7.d: Test Instrumentation and Equipment*

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	24/06/2010
Loop Antenna	HFH2-Z2	R&S	26/04/2011
Double Ridge Guide Antenna(1-18GHz)	DRG-118/A	ARA	09/12/2009
Broadband Antenna	BTA-L	FRANKONIA	28/07/2010
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	06/01/2010
Low Noise Amplifier (1-4GHz)	AMM 003N	Avantek	12/06/2010
Low Noise Amplifier (2-18GHz)	PE 2-38	Planar	14/09/2009

**e. Preliminary Results**

*Table 7.e: Preliminary Test Results for Unintentional Emissions in RX Mode 15.209*

Configuration	Antenna Polarization	Frequency Range MHz	Res. BW (kHz)	Test Results Plot No.	PASS/FAIL
TX	Vertical	0.09-0.15	0.2	8	PASS
		0.15-30	9	9	PASS
	Both	30-1000	120	10	PASS
		1000-2900	1000	11	PASS
		2900-5000		12	PASS

**f. Final Test Results**

*Table 7.f: Six Highest 15.209*

Nr	Frequency (MHz)	PK Value (dB $\mu$ V/m)	QP Value (dB $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	Result	Angle (degrees)	Height (m)	H/V
1	867.841	33.5	32.7	46	Pass	0	1.8	V

*Table 7.g: Six Highest 15.209*

Nr	Frequency (MHz)	PK Value (dB $\mu$ V/m)	AVG Value (dB $\mu$ V/m)	AVG Limit (dB $\mu$ V/m)	Result	Angle (degrees)	Height (m)	H/V
1	4773.051	53.5	46.4	54	Pass	0	1	H

**g. Test Procedure**

See paragraph 7.f

## 8 POWER LINE CONDUCTED INTERFERENCE PART 15.207-TEST RESULTS

### a. Preliminary Radiated emission Test Result According Part 15.207

E.U.T Homelogix  
 S/N: 0825-433A0  
 Test Method: ANSI 63.4  
 Date: 22/01/2009  
 Relative Humidity: 29%  
 Ambient Temperature: 21c  
 Air Pressure: 1053hpa  
 Test Setup: Figure 1

Testing Engineer: I. Arbitman 

Date 22/01/2009

### b. Test Results Summary & Conclusions

The E.U.T was found in compliance with 15.207

### c. Limits of Radiated Interference Field Strength according 15.207

The test unit shall meet the limits of Table 8c for Class B equipment.

*Table 8c: Limits for 15.207 Class B equipment*

Frequency (MHz)	Quasi Peak Limits (dB $\mu$ V)	Average Limits (dB $\mu$ V)
0.15 – 0.5	66 – 56	56 – 46
0.5 – 5.0	56	46
5.0 – 30	60	50

### d. Test Instrumentation and Equipment

*Table 8.d: Test Instrumentation and Equipment*

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	20/05/2009
Double Ridge Guide Antenna(1-18GHz)	DRG-118/A	ARA	09/12/2009
Broadband Antenna(30-1000MHz)	BTA-L	FRANKONIA	15/05/2009
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	09/04/2009
Low Noise Amplifier (1-4GHz)	AMM 003N	Avantek	11/06/2009
Low Noise Amplifier (2-18GHz)	PE 2-38	Planar	14/09/2009

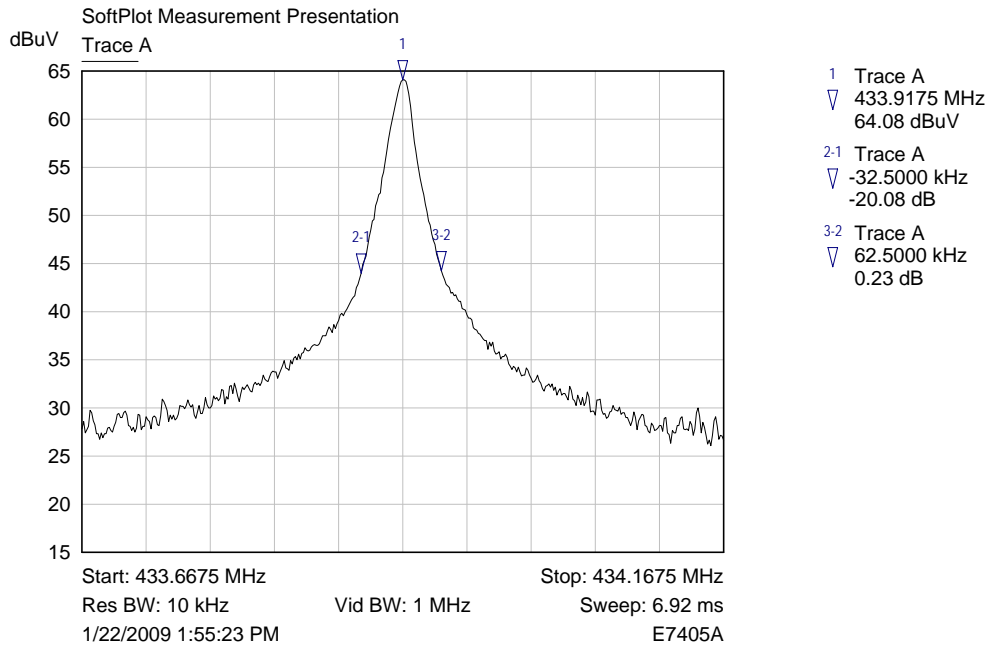
### e. Test Data

*Table 6.d: Test Results for Conducted Interference Part 15.207*

Tested Line	Freq. Range MHz	Res. BW (kHz)	Test Results Plot No	PASS/FAIL
Neutral	0.15 – 0.50	9	13	PASS
	0.50 - 30		14	PASS
Phase	0.15 – 0.50		15	PASS
	0.50 - 30		16	PASS

## 9 PLOTS

### a. BANDWIDTH OF THE EMISSION part 15.231



*Plot 1*

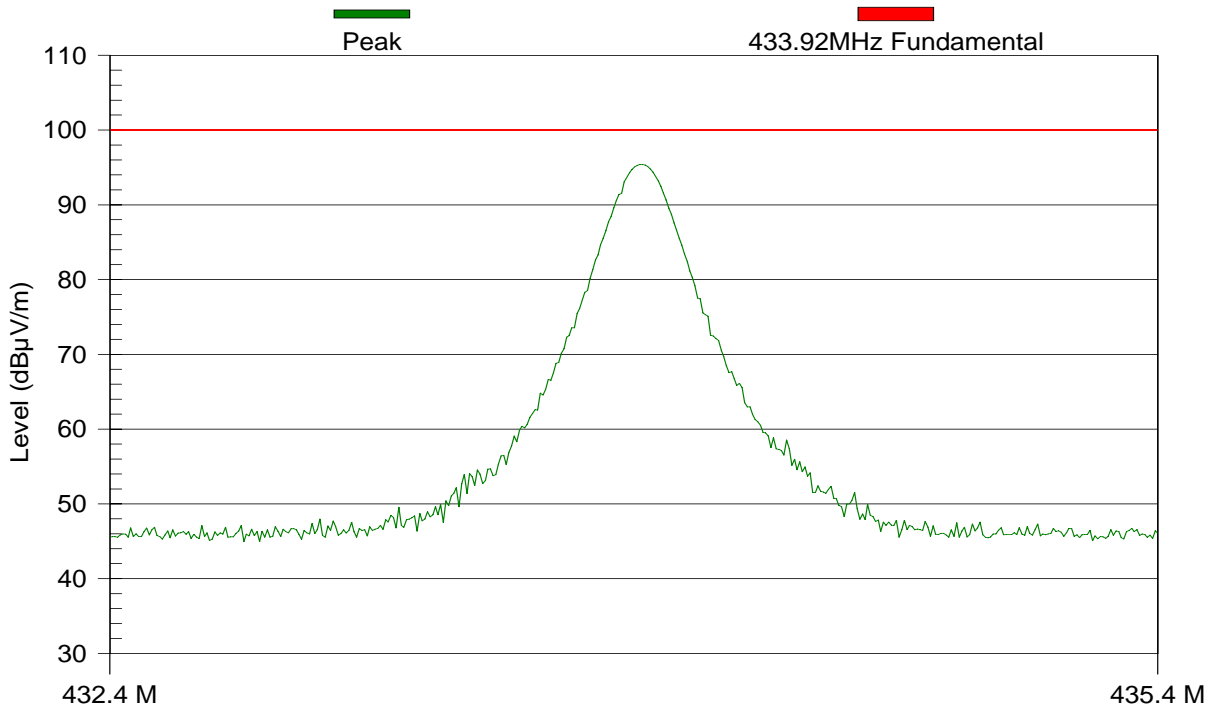
**b. Field strength of fundamental part 15.231**

*Test Results Plot No 2*

FCC Fundamental 433.92 MHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405 AC coupling
S/N:	0825-433A0	Ref. Level:	100 dB $\mu$ V
Date of Test:	21/01/2009	RBW:	100 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	Frankonia BTA red -L_A 3m	Sweep Time:	Auto: 10 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	No Description Available

TEST REMARKS: Wednesday, January 21, 2009 11:14:31 AM  
FIELD STRENGTH OF FUNDAMENTAL



Frequency (Hz)	
Frequency (MHz)	Pk (dB $\mu$ V/m)
433.916	96.2



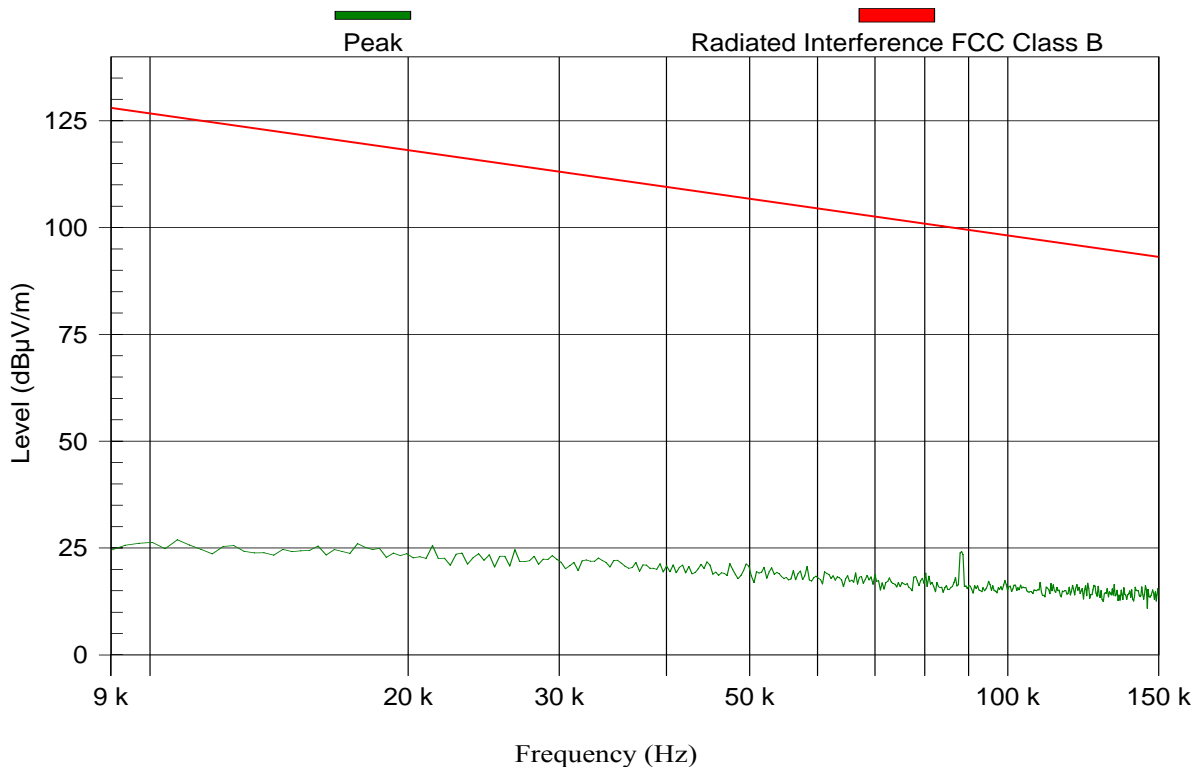
**c. Radiated emission part 15.231 & 15.205**

*Test Results Plot No 3*

RE FCC Class B 9-150 KHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:	0825-433A0	Ref. Level:	110 dB $\mu$ V
Date of Test:	22/01/2009	RBW:	200 Hz
Test Engineer:	Ilya Arbitman	VBW:	300 Hz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 12.69 s
Polarization:	Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS: Thursday, January 22, 2009 11:11:30 AM  
RADIATED EMISSION PART 15.231 & 15.205



MAXIMUM RESULT DEVIATION:

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

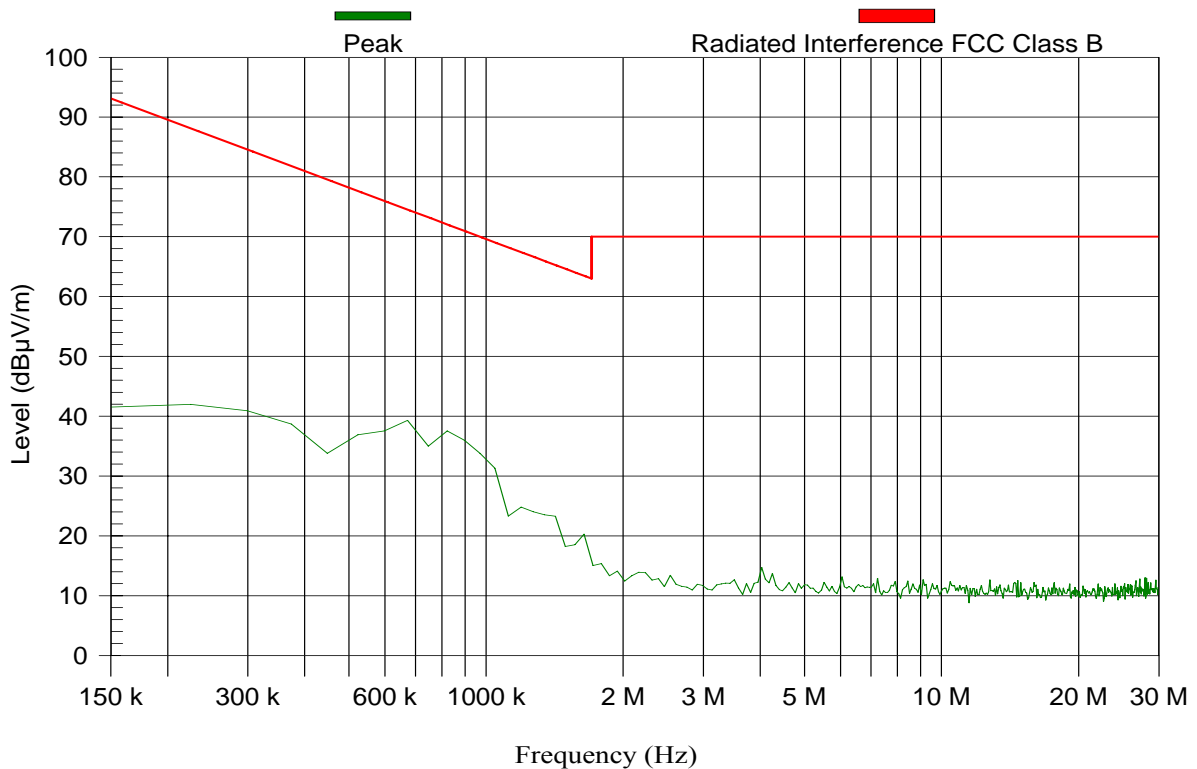
None

*Test Results Plot No 4*

RE FCC Class B 0.150-30 MHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:	0825-433A0	Ref. Level:	100 dB $\mu$ V
Date of Test:	22/01/2009	RBW:	9 kHz
Test Engineer:	Ilya Arbitman	VBW:	30 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 840.04 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS: Thursday, January 22, 2009 11:15:44 AM  
RADIATED EMISSION PART 15.231 & 15.205



MAXIMUM RESULT DEVIATION:

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

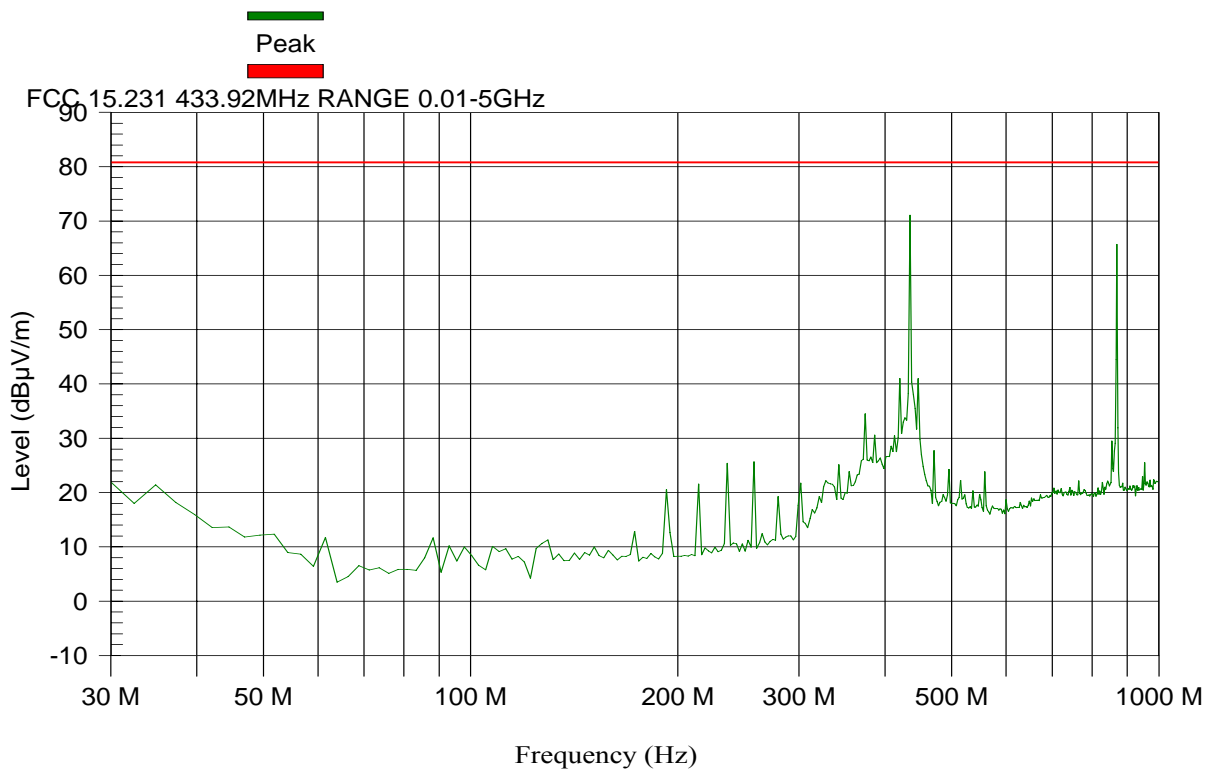
None

*Test Results Plot No 5*

FCC 30-1000 MHz - TX - HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405 AC coupling
S/N:	0825-433A0	Ref. Level:	90 dB $\mu$ V
Date of Test:	21/01/2009	RBW:	120 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	Frankonia BTA red -L A 3m	Sweep Time:	Auto: 151.88 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS: Wednesday, January 21, 2009 3:44:18 PM  
RADIATED EMISSION PART 15.231 & 15.205



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

Nr	Frequency (MHz)	PK Value (dB $\mu$ V/m)	PK Limit (dB $\mu$ V/m)	Result	Angle (degrees)	Height (m)	H/V
1	433.924	72.6	80.8	Pass	115	1.1	H
2	871.466	66.8	80.8	Pass	180	1.5	H

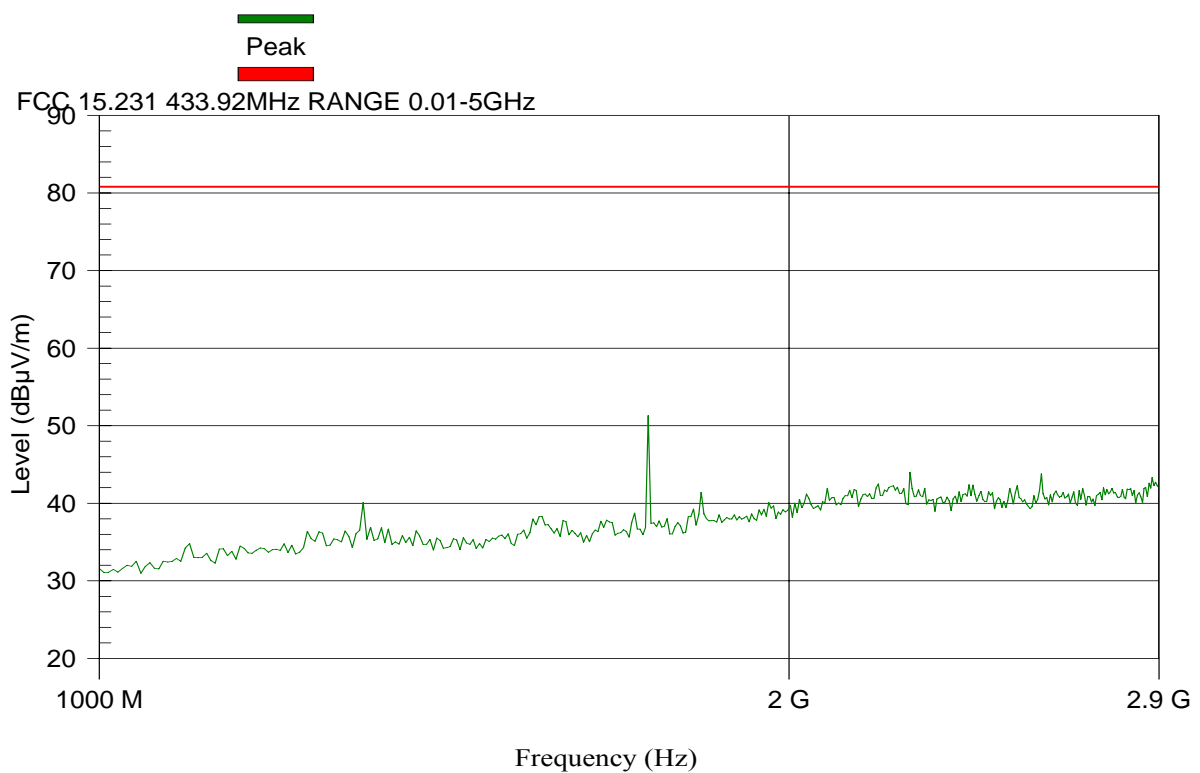
*Test Results Plot No 6*

FCC 1-2.9 GHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405 AC coupling
S/N:	0825-433A0	Ref. Level:	90 dB $\mu$ V
Date of Test:	21/01/2009	RBW:	1000 kHz
Test Engineer:	Ilya Arbitman	VBW:	3 MHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 10 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	pre amp 1GHz-4GHz

TEST REMARKS: Wednesday, January 21, 2009 3:54:27 PM

RADIATED EMISSION PART 15.231 & 15.205



MAXIMUM RESULT DEVIATION:

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

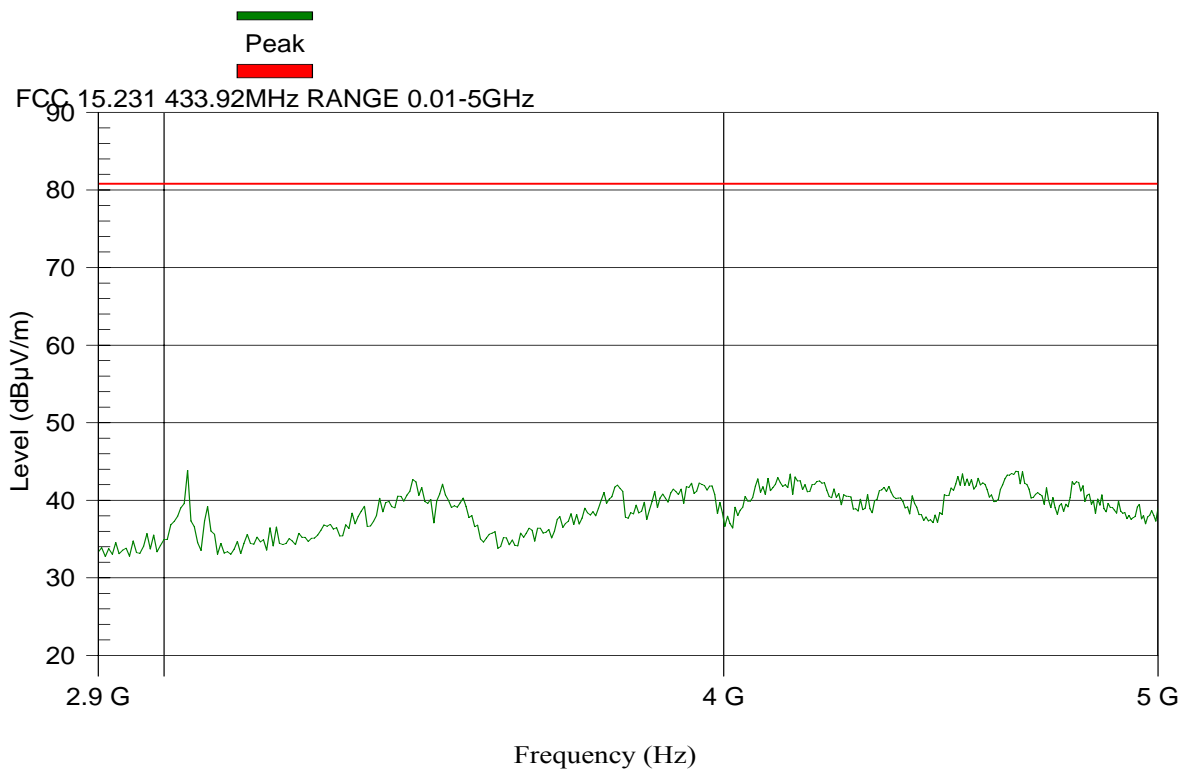
None

*Test Results Plot No 7*

FCC 2.9-5 GHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405 AC coupling
S/N:	0825-433A0	Ref. Level:	90 dB $\mu$ V
Date of Test:	21/01/2009	RBW:	1000 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 10 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	PLANAR 2-18 GHz 40dB

TEST REMARKS: Wednesday, January 21, 2009 5:01:49 PM  
RADIATED EMISSION PART 15.231 & 15.205



MAXIMUM RESULT DEVIATION:

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

**d. Radiated emission part 15.209**

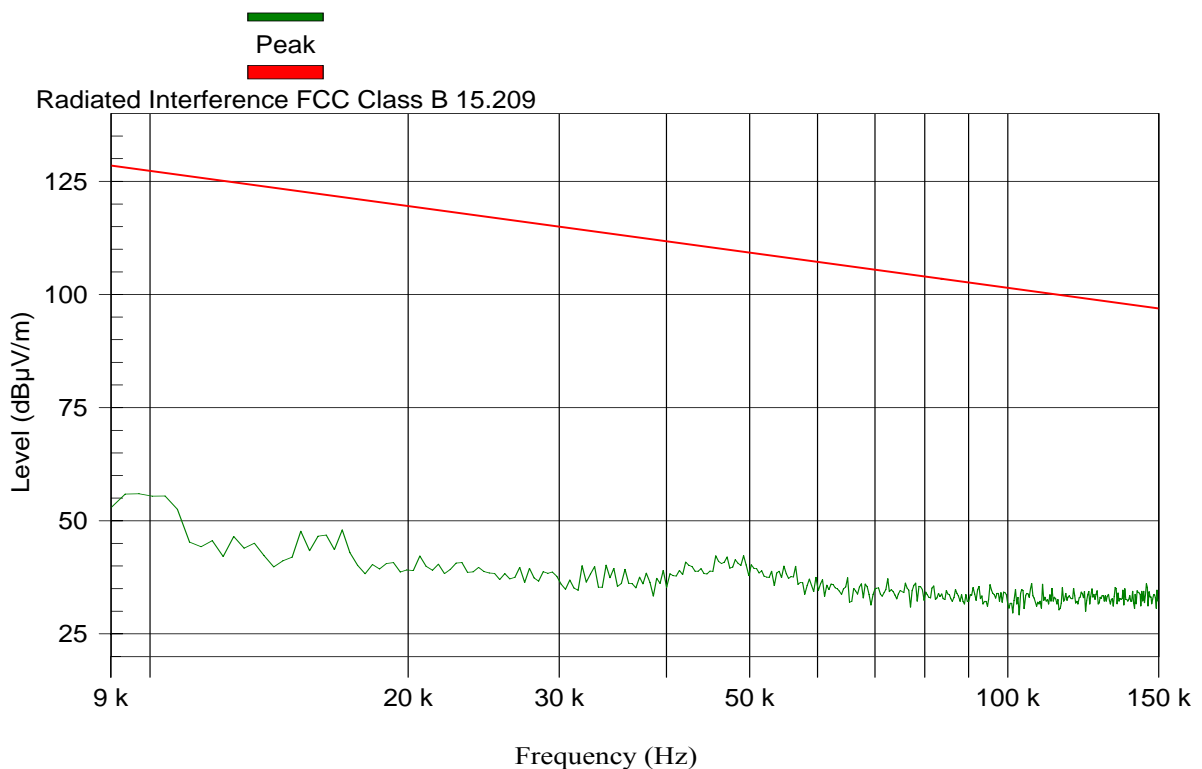
*Test Results Plot No 8*

RE FCC Class B 9-150 KHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:		Ref. Level:	110 dB $\mu$ V
Date of Test:		RBW:	200 Hz
Test Engineer:	Ilya Arbitman	VBW:	300 Hz
Antenna:	R&S 9K-30M LOOP ANTENNA	Sweep Time:	Auto: 12.69 s
Polarization:	Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

**TEST REMARKS:** Wednesday, July 22, 2009 6:29:56 PM

FCC PART 15.209



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

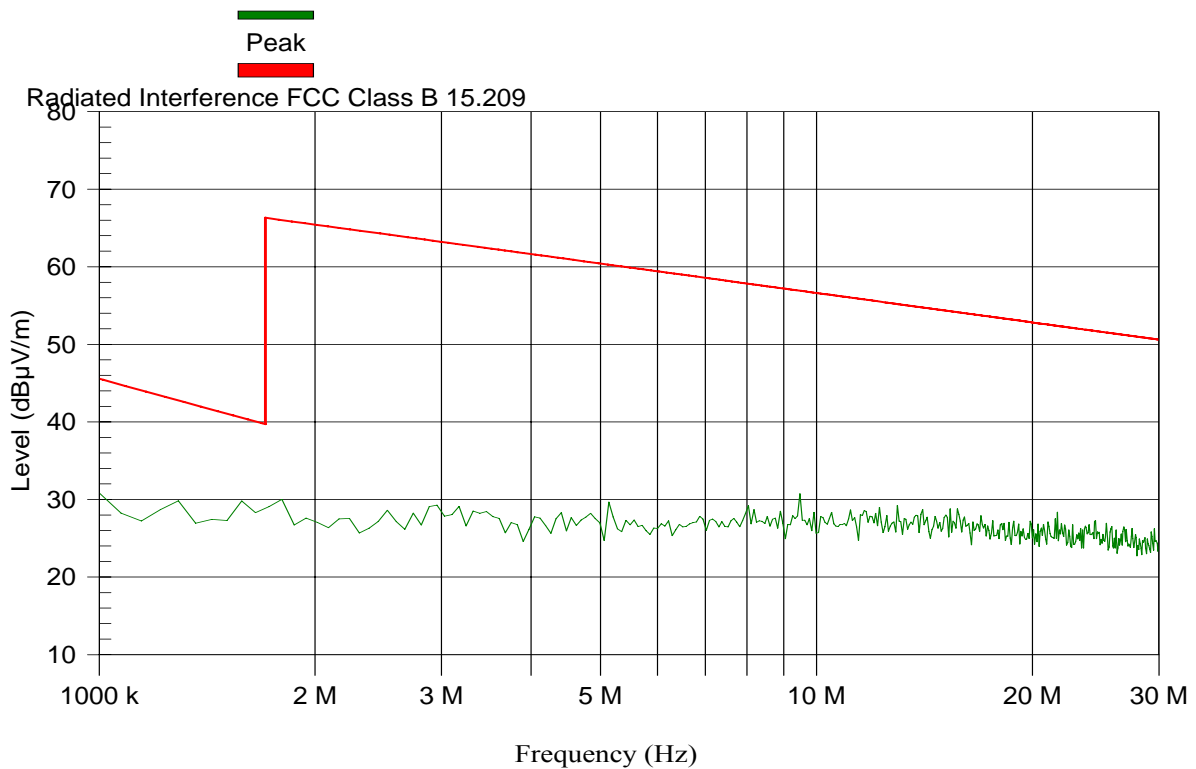
*Test Results Plot No 9*

RE FCC Class B 0.150-30MHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:		Ref. Level:	100 dB $\mu$ V
Date of Test:		RBW:	9 kHz
Test Engineer:	Ilya Arbitman	VBW:	30 kHz
Antenna:	R&S 9K-30M LOOP ANTENNA	Sweep Time:	Auto: 816.12 ms
Polarization:	Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

**TEST REMARKS:** Wednesday, July 22, 2009 6:30:07 PM

FCC PART 15.209



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

Nr	Frequency (MHz)	PK MaxHold (dB $\mu$ V/m)	PK Limit (dB $\mu$ V/m)	Result	Angle (degrees)	Height (m)	H/V
1	1	30.846	45.562	Pass	1	1	H
2	1.218	28.207	43.4	Pass	1	1	V
3	1.29	29.818	42.765	Pass	1	1	H
4	1.435	27.438	41.594	Pass	1	1	H
5	1.58	29.809	40.537	Pass	1	1	V

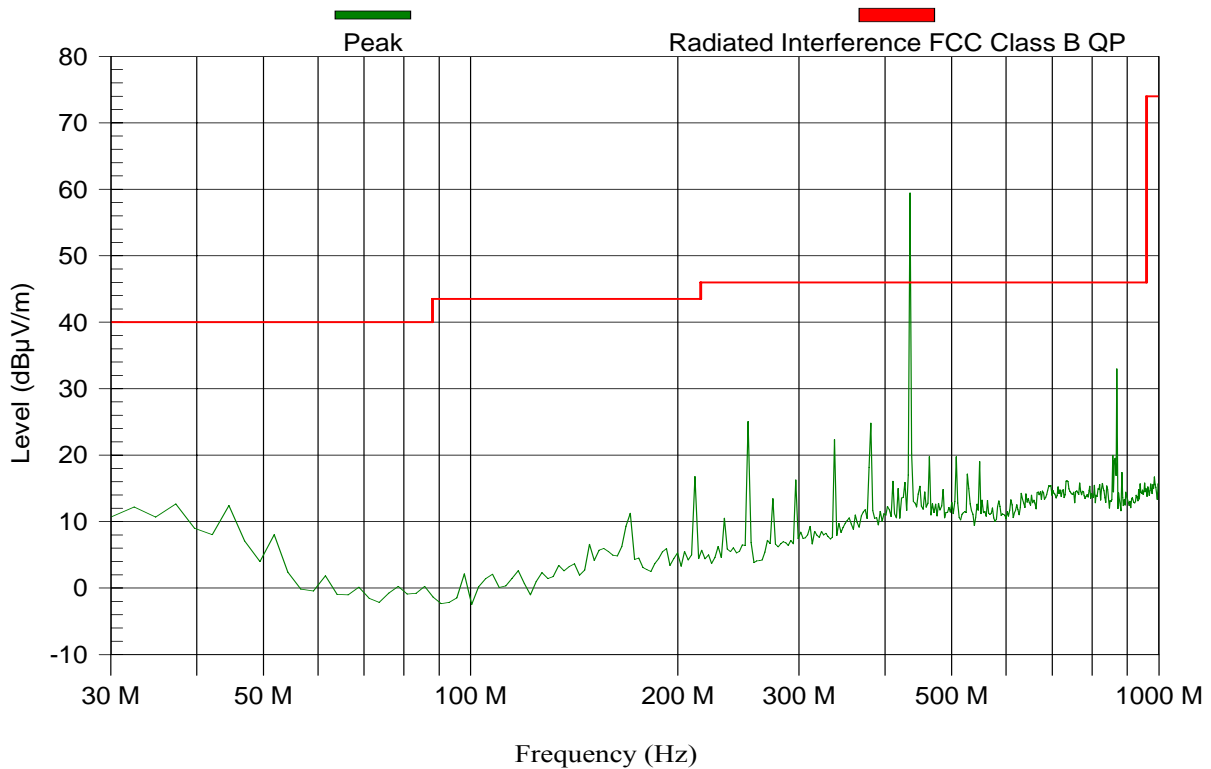
*Test Results Plot No 10*

RE FCC Class B 30-1000MHz Spurious Emission

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405 AC coupling
S/N:		Ref. Level:	70 dB $\mu$ V
Date of Test:		RBW:	120 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	Frankonia BTA red -L_A 3m	Sweep Time:	Auto: 151.88 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

**TEST REMARKS:** Wednesday, July 22, 2009 5:12:57 PM

FCC PATH 15.209



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

Nr	Frequency (MHz)	PK Value (dB $\mu$ V/m)	QP Value (dB $\mu$ V/m)	PK Limit (dB $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	Result	Angle (degrees)	Height (m)	H/V
1	434.975	59.4	10	46	46	Pass	0	1.8	V
2	867.841	33.5	32.7	46	46	Pass	0	1.8	V



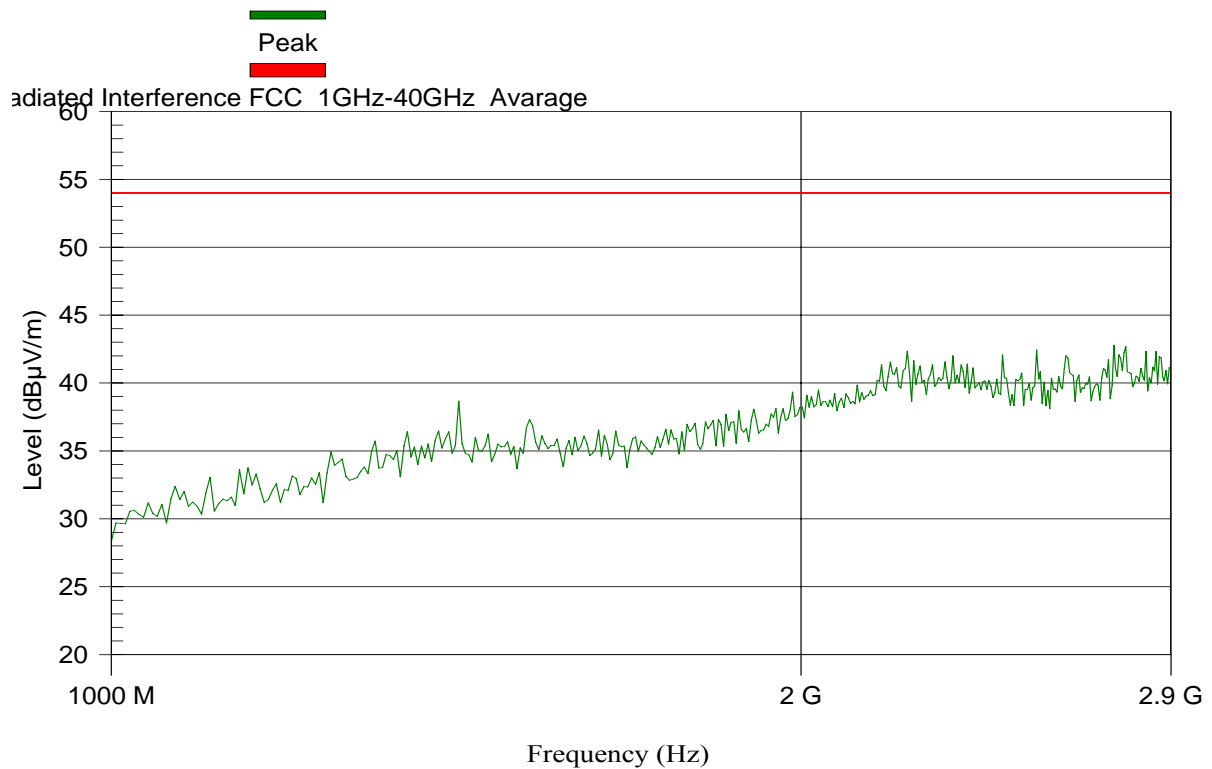
*Test Results Plot No 11*

FCC 1-2.9GHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405 AC coupling
S/N:		Ref. Level:	90 dB $\mu$ V
Date of Test:		RBW:	1000 kHz
Test Engineer:	Ilya Arbitman	VBW:	3 MHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 10 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	pre amp 1GHz-4GHz

**TEST REMARKS:** Thursday, July 23, 2009 9:41:18 AM

FCC PART 15.209



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

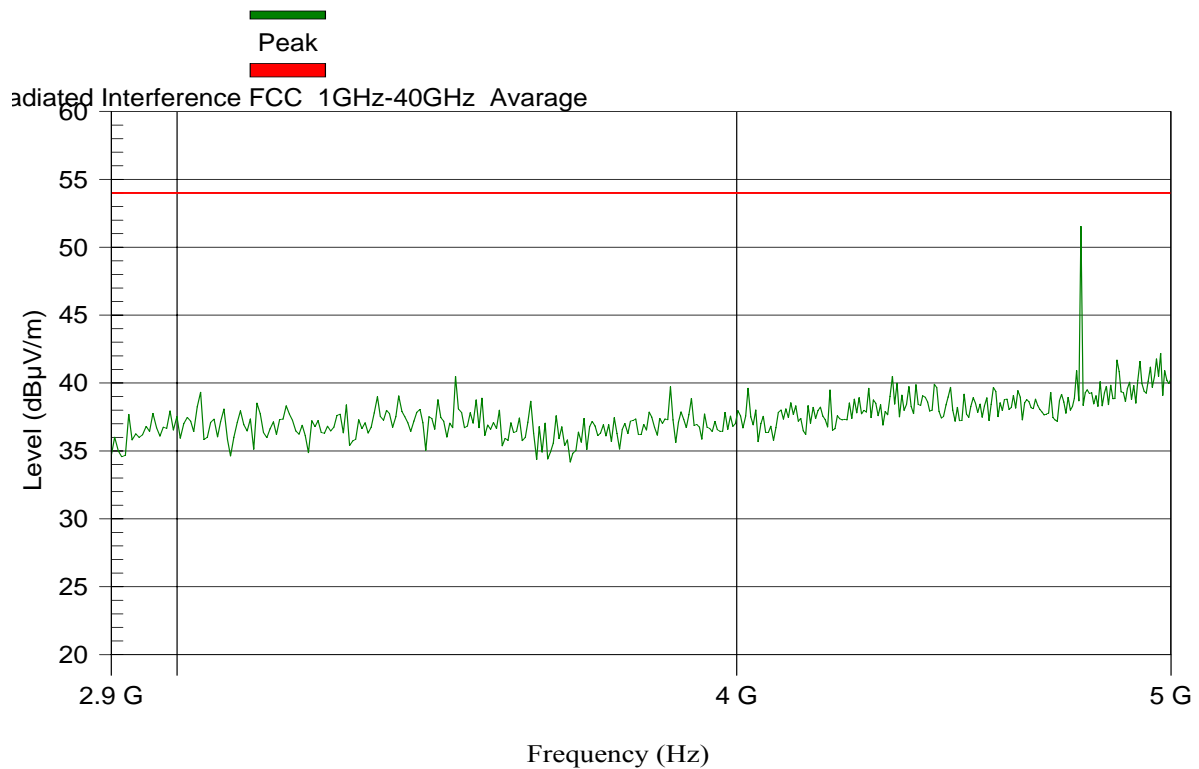
Test Results Plot No 12

FCC 2.9-5GHz

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMLOGIX	Spect Analyzer	Hewlett Packard 7405 AC coupling
S/N:		Ref. Level:	90 dB $\mu$ V
Date of Test:		RBW:	1000 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 10 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	PLANAR 2-18 GHz 40dB

**TEST REMARKS:** Thursday, July 23, 2009 9:33:25 AM

FCC PART 15.209



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

Nr	Frequency (MHz)	PK Value (dB $\mu$ V/m)	AVG Value (dB $\mu$ V/m)	PK Limit (dB $\mu$ V/m)	AVG Limit (dB $\mu$ V/m)	Result	Angle (degrees)	Height (m)	H/V
1	4773.051	53.5	46.4	54	54	Pass	0	1	H

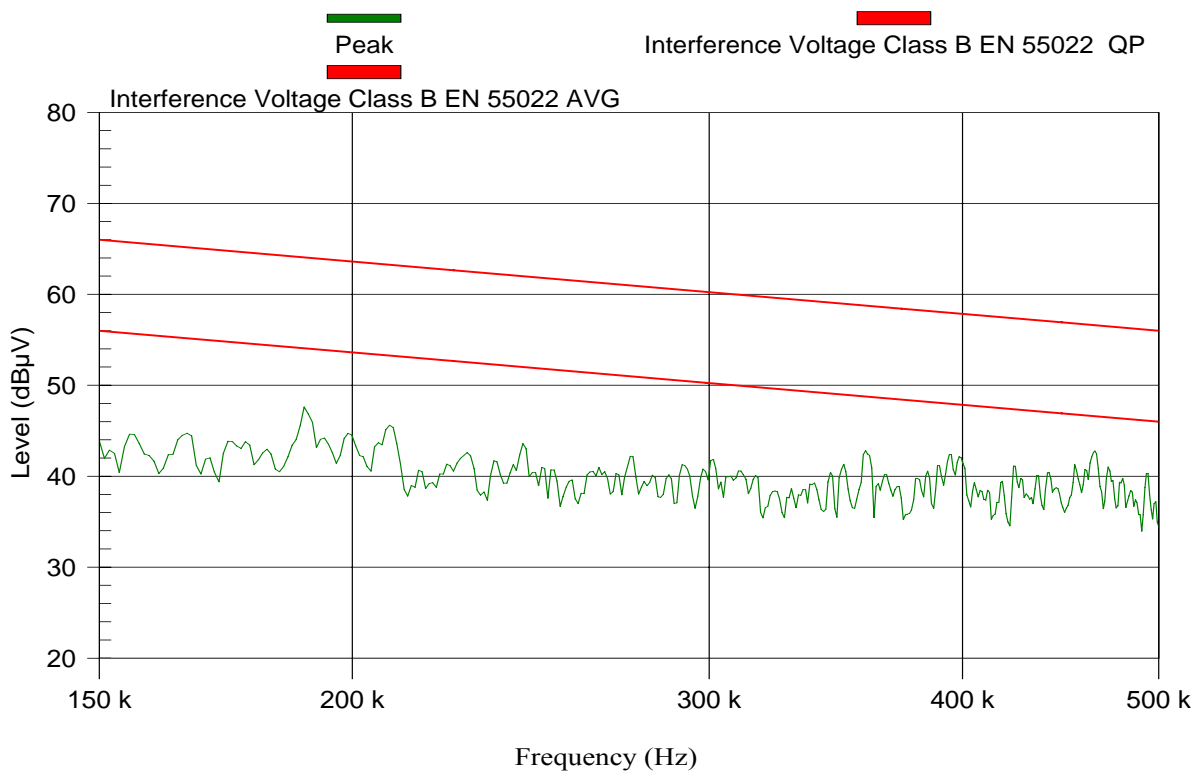
**e. Power Line Conducted interference part 15.207**

Test Results Plot No 13

FCC Part 15 0.15-0.50 MHz - NEUTRAL

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMELOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:	0825-433A0	Ref. Level:	80 dB $\mu$ V
Date of Test:	25/01/2009	RBW:	9 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 11.52 ms
Polarization:	1  polarization	Pre Amplifier	Attenuator 20db

**TEST REMARKS:** Sunday, January 25, 2009 10:16:06 AM  
NEUTRAL LEAD; WITH P.S: D48-13.8-0800(2A-107)



MAXIMUM RESULT DEVIATION:

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

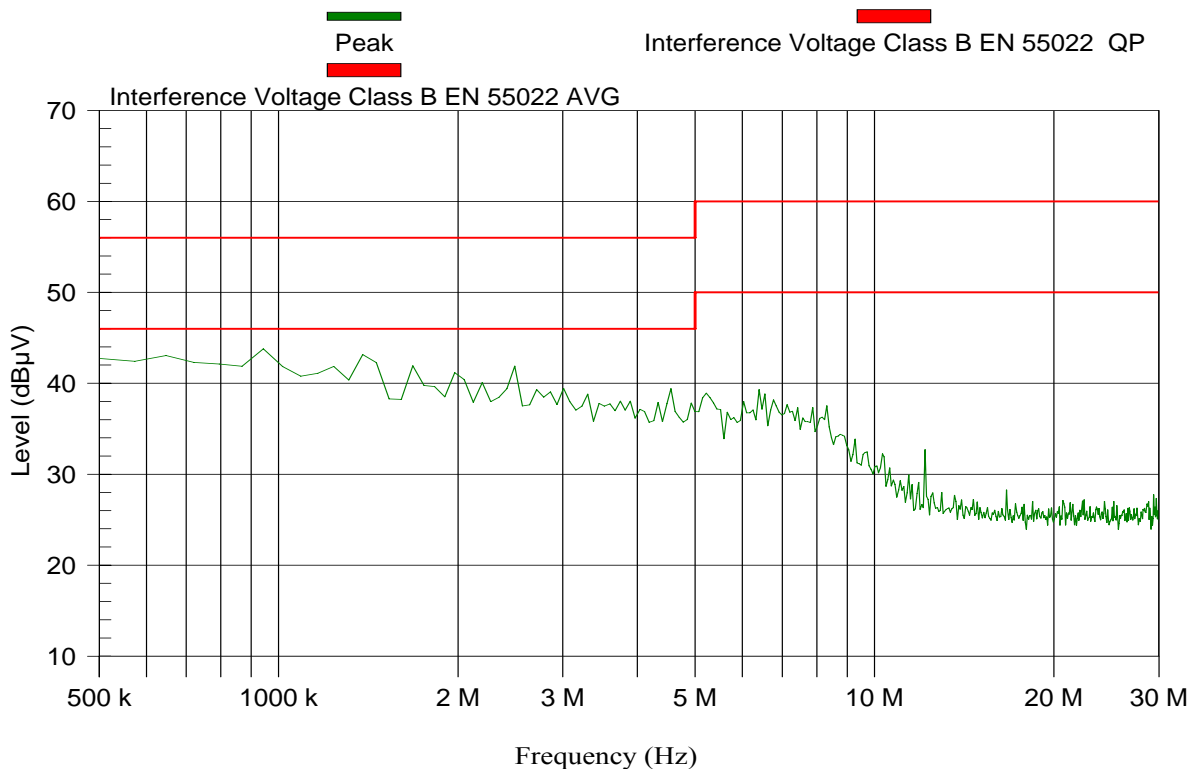
Nr	Frequency (MHz)	PK MaxHold (dB $\mu$ V)	AVG Value (dB $\mu$ V)	QP Value (dB $\mu$ V)	AVG Limit (dB $\mu$ V)	QP Limit (dB $\mu$ V)	Result	Line
1	0.15	48.4	34.2	42.6	56	66	Pass	Neutral
2	0.358	44.4	29.9	38.2	48.8	58.8	Pass	Neutral
3	0.39	44.2	29.6	38.1	48.1	58.1	Pass	Neutral
4	0.453	43.6	29.3	37.8	46.8	56.8	Pass	Neutral
5	0.483	43.8	29.2	37.5	46.3	56.3	Pass	Neutral

*Test Results Plot No 14*

FCC Part 15 0.5-30 MHz - NEUTRAL

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMOLOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:	0825-433A0	Ref. Level:	60 dB $\mu$ V
Date of Test:	25/01/2009	RBW:	9 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 819.45 ms
Polarization:	4  polarization	Pre Amplifier	Attenuator 20db

**TEST REMARKS:** Sunday, January 25, 2009 10:24:56 AM  
NEUTRAL LEAD; WITH P.S: D48-13.8-0800(2A-107)



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

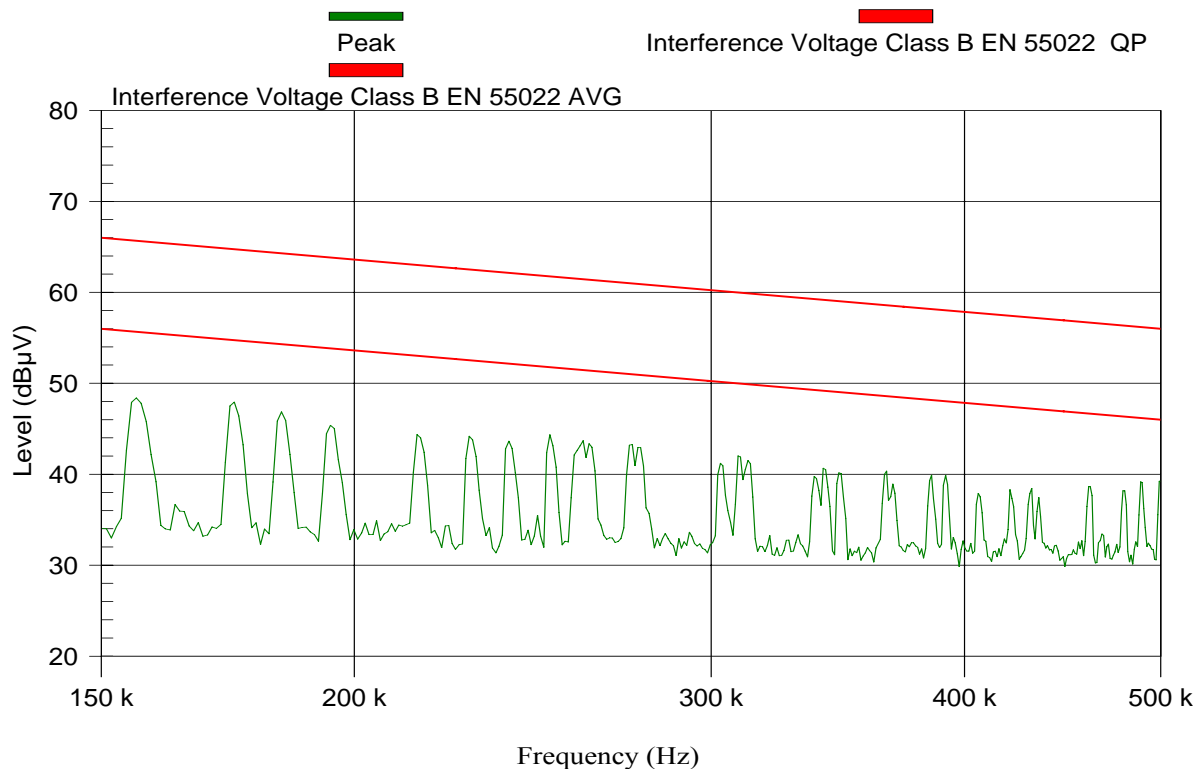
Nr	Frequency (MHz)	PK MaxHold (dB $\mu$ V)	AVG Value (dB $\mu$ V)	QP Value (dB $\mu$ V)	AVG Limit (dB $\mu$ V)	QP Limit (dB $\mu$ V)	Result	Line
1	0.532	44.9	32.8	39.2	46	56	PASS	Neutral
2	0.94	42.6	28.1	36.6	46	56	PASS	Neutral
3	1.223	43.3	27.5	35.9	46	56	PASS	Neutral
4	1.412	41.4	27.2	35.7	46	56	PASS	Neutral
5	1.715	40.6	26.9	35.3	46	56	PASS	Neutral
6	2.161	40.9	26.5	34.7	46	56	PASS	Neutral

*Test Results Plot No 15*

FCC Part 15 0.15-0.50 MHz - PHASE

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMOLOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:	0825-433A0	Ref. Level:	80 dB $\mu$ V
Date of Test:	25/01/2009	RBW:	9 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 11.52 ms
Polarization:	2  polarization	Pre Amplifier	Attenuator 20db

**TEST REMARKS:** Sunday, January 25, 2009 10:29:16 AM  
PHASE LEAD; WITH P.S: D48-13.8-0800(2A-107)



**MAXIMUM RESULT DEVIATION:**

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

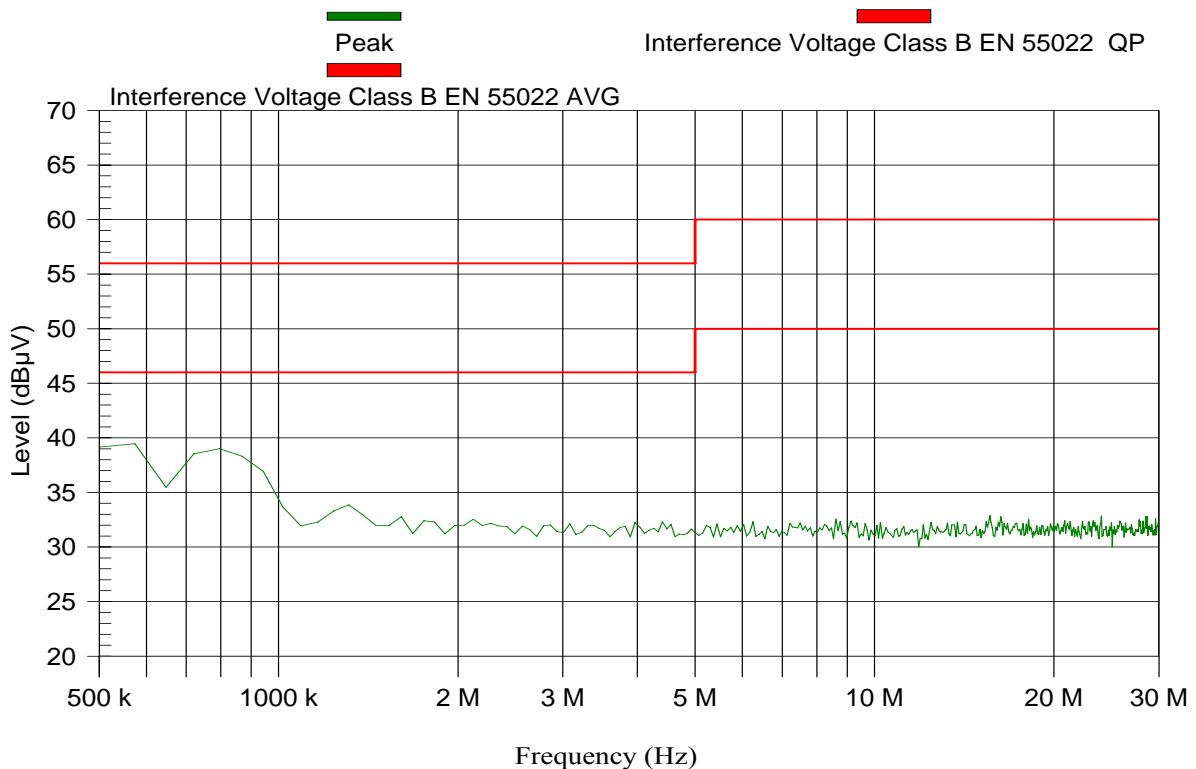
Nr	Frequency (MHz)	PK MaxHold (dB $\mu$ V)	AVG Value (dB $\mu$ V)	QP Value (dB $\mu$ V)	AVG Limit (dB $\mu$ V)	QP Limit (dB $\mu$ V)	Result	Line
1	0.15	48.6	3.6	41.8	56	66	Pass	Line 1

*Test Results Plot No 16*

FCC Part 15 0.5-30 MHz - PHASE

Test & EUT General Information		Receiver Setting	
EUT Name:	HOMELOGIX	Spect Analyzer	Hewlett Packard 7405A DC Coupling
S/N:	0825-433A0	Ref. Level:	80 dB $\mu$ V
Date of Test:	25/01/2009	RBW:	9 kHz
Test Engineer:	Ilya Arbitman	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 819.45 ms
Polarization:	3  polarization	Pre Amplifier	Attenuator 20db

**TEST REMARKS:** Sunday, January 25, 2009 10:30:30 AM  
PHASE LEAD; WITH P.S: D48-13.8-0800 (2A-107)



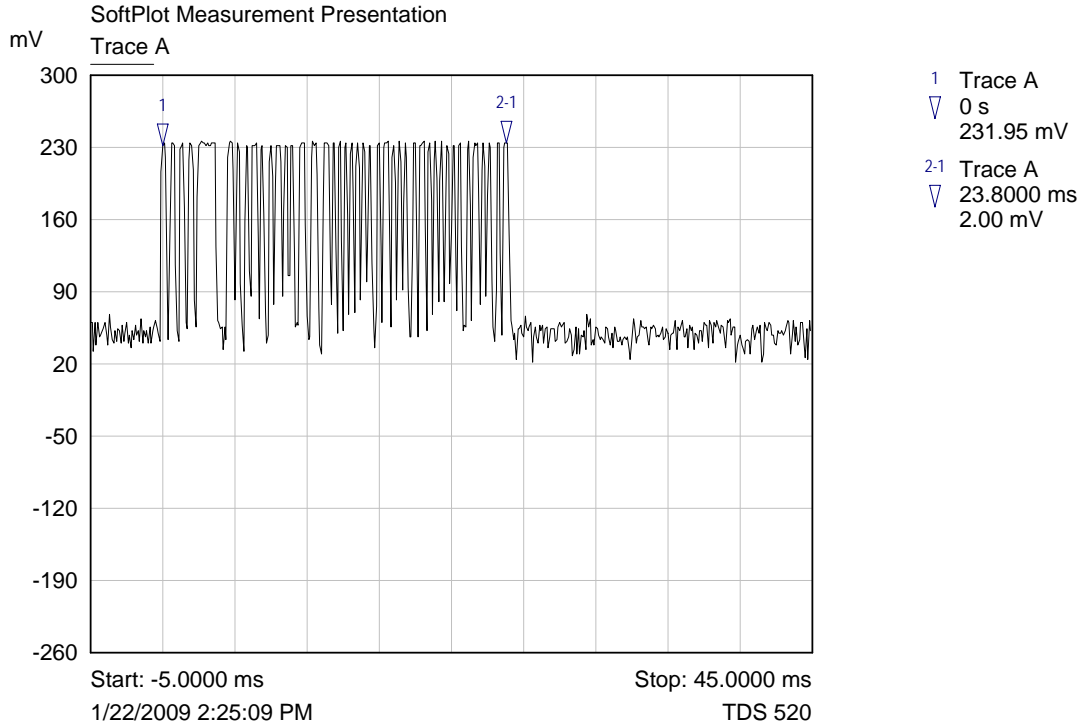
MAXIMUM RESULT DEVIATION:

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

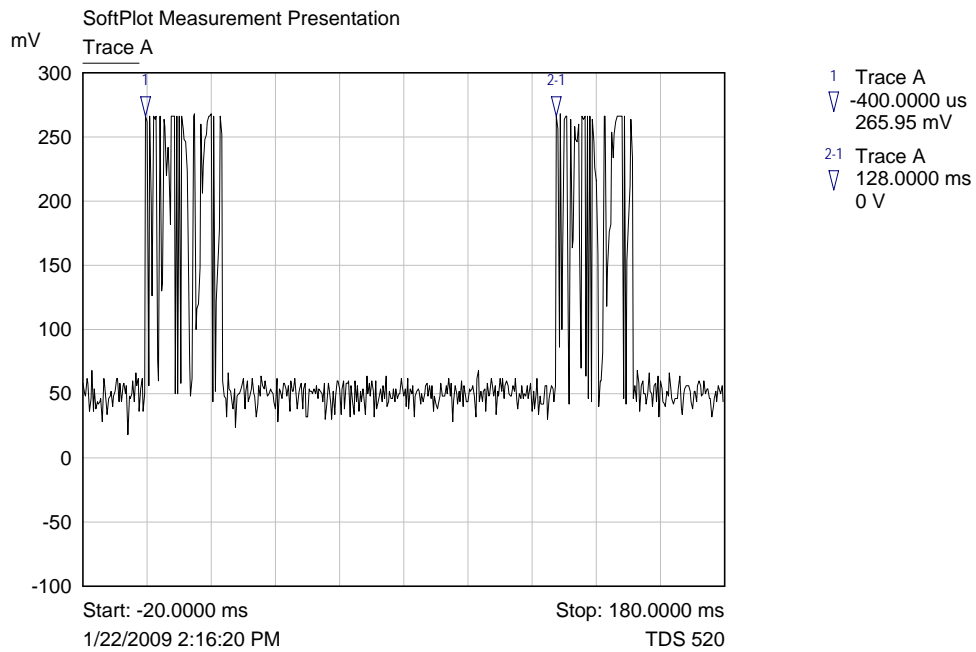
*Test Results Plot No 17*

Transmission time

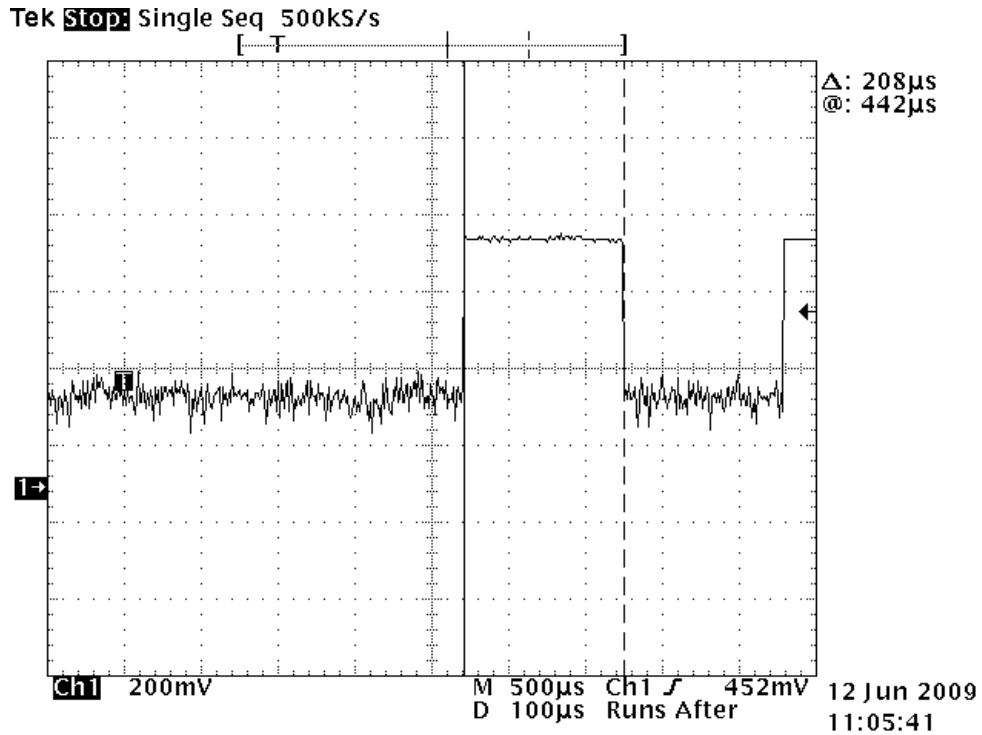


*Test Results Plot No 18*

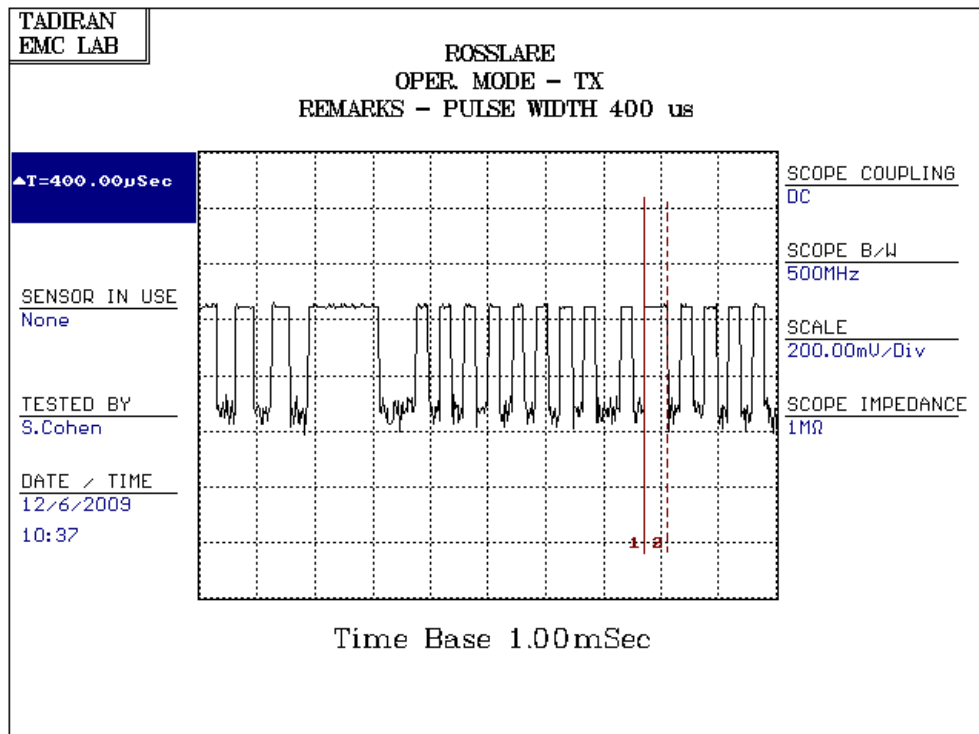
Repetitive transmission time



Test Results Plot No 19



Test Results Plot No 20







## **10 CORRECTION FACTORS**

DOUBLE RIDGE HORN Model 3105 S/N:00-50C2-1C-C468 2052 Antenna Factor

<b>Frequency (MHz)</b>	<b>Antenna Factor (db/m)</b>
1000	24.4
2000	26.2
3000	30
4000	32.6
5000	33.8
6000	34.9
7000	36.2
8000	36.9
9000	37.8
10000	38.4
11000	39.1
12000	40.1
13000	42
14000	40.6
15000	39.3
16000	40.3

Antenna Factor for broadband antenna model BTA-L S/N:00-50C2-1C-C468 980045L

Frequency (KHz)	Ant. Factor (db/m)	Frequency (KHz)	Ant. Factor (db/m)
30	19.05	300	14.35
32	19.13	310	14.28
34	18.74	320	14.43
36	18.03	330	14.13
38	16.61	340	14.48
40	15.44	350	14.89
45	13.66	360	15.12
50	11.52	370	15.70
55	10.04	380	15.78
60	7.68	390	16.22
65	6.11	400	16,45
70	5.47	425	16.99
75	5.98	450	17.59
80	6.86	475	17.28
85	7.20	500	17.69
90	7.47	525	18.91
95	7.23	550	19.06
100	7.20	575	18.20
105	7.30	600	18.87
110	7.37	625	18.81
115	7.02	650	19.64
120	6.82	675	19.92
125	7.05	700	20.66
130	7.83	725	21.08
135	9.61	750	21.53
140	7.93	775	22.39
145	8.03	800	22.66
150	8.29	825	22.87
160	8.72	850	22.65
170	9.18	875	23.12
180	9.05	900	23.70
190	9.80	925	23.40
200	10.61	950	23.43
210	10.34	975	23.30
220	11.21	1000	24.02
230	11.69		
240	11.62		
250	11.85		
260	12.45		
270	13.16		
280	13.48		
290	13.74		

## **11 ABBREVIATIONS AND ACRONYMS**

The following abbreviations and acronyms are applicable in this document

BW	Bandwidth
R.BW	Resolution Bandwidth
V.BW	Video Bandwidth
db	Decibel
EMI	Electromagnetic interference
E.U.T	Equipment under test
LISN	Line impedance stabilization network
S/N	Serial number
QP	Quasi peak
PK	Peak

**12 PHOTOGRAPHS**



