

REV	Δ	Description	Sheet Effected	Date	Drawn	Checked
A				01.09.05	D.Lanuel	S.Cohen
B			9	02.10.05	D.Lanuel	S.Cohen

EMC Laboratory

Ga-ofdm-900

**Manufactured by
WaveIP Ltd.**

EMC Test Report

According FCC Part 15 Requirements

SEP 2005

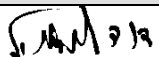
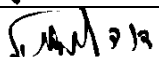
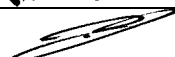
	Function/Title	Name	Signature	Date
Prepared by	Test Engineer	D.Lanuel		02.10.05
Checked by	Test Engineer	D.Lanuel		02.10.05
Approved by	EMC Lab. Manager	S.Cohen		02.10.05

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1 GENERAL Information

a. Description of equipment under test

Equipment Under Test:	Ga-ofdm-900
FCCID:	QQ2-GAOFDM900
Manufacturer:	WaveIP.
Serial Numbers:	00-50C21CCE27
Mode of Operation:	TX MODE
Operating frequency:	902-928MHZ
Year of Manufacture:	2005

b. Applicant Information:

Applicant:	WaveIP Ltd.
Applicant Address	TAVOR Building YOKNEAM
Telephone:	+972-4-9937333
FAX:	+972-4-9592614
The testing was observed by:	Yoram Singer
Following applicant's personnel:	Yoram Singer

c. Test Performance:

Date of reception for testing:	09.08.05
Dates of testing	09.08.05 - 10.08.05
Test Laboratory Location	TADIRAN EMC LAB, Hashoftim 26 Holon 58102 ISRAEL Tel: 972-3-5574476 Fax: 972-3-5575320

Applicable EMC Specification:	Federal Communication Commission (FCC), Code of Federal Regulations 47, FCC Docket 89-103, Part 15: Radio Frequency Devices, Sections 15.109, 15.209 & 15.207, 15.205, 15.247.
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2 Test Summary and Signatures.

TADIRAN EMC Laboratory has completed testing of E.U.T in accordance with the requirements of the FCC 15.247

The E.U.T was found to comply with the requirements of the FCC Part 15.247 Regulations given below

Test Description	Specification Reference	Date of Testing	Test Report Paragraph	Compliance PASS/FAIL
Occupied 6db bandwidth	15.247 (a) (2)	09/08/05	4	PASS
Max peak output power	15.247 (b) (3)	09/08/05	5	PASS
Out of band Conducted emission	15.247 (c)	09/08/05	6	PASS
Spurious emission radiated In Restricted band	15.209 15.205(a ,c)	09/08/05	7	PASS
Peak power spectral density	15.247 (d)	09/08/05	8	PASS
Unintentional radiated emission	15.109	09/08/05	9	PASS
Conducted emission	15.207	09/08/05	10	pass

a. **Test performed by:**

Mr. D. Lanuel Test Engineer



b. **Test Report prepared by:**

Mr. D. Lanuel Test Engineer



c. **Test Report Approved by:**

Mr. Samuel Cohen EMC Lab. Manager



3 EUT Description

a. General

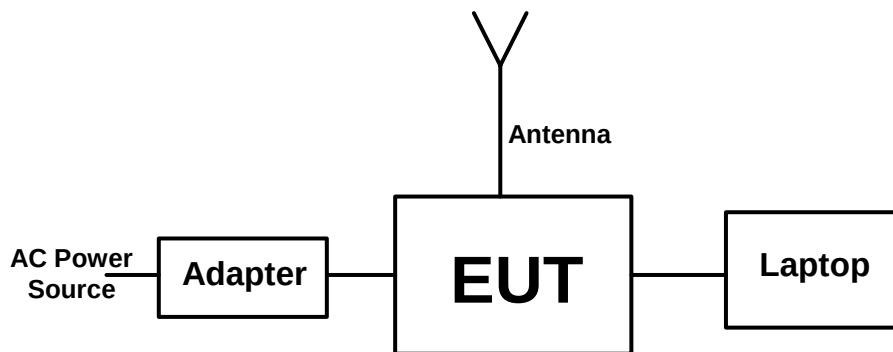
Model Number(s): Ga-ofdm-900

Brief Description (Purpose of Device):

GigAccess™ 900 is WaveIP's wireless point-to-point and point-to-multipoint broadband communication system. The basic subsystem is composed of a single sector, which consists of an AU (Access Unit) and up to 128 SUs (Subscriber Units). Each sector is a stand-alone communication network operating on a star topology with a gateway to the WAN, which allows two-way communication between the SUs and the WAN via the AU. A Sector may be divided into sub sectors, which are consecutive to the SUs within the sector.

b. E.U.T Test Configuration

EUT test configuration is shown in figure bellow



c. E.U.T Mode of Operation description

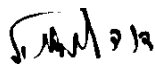
- (1) Transmit 30dbm-912MHz
- (2) Transmit 30dbm-915MHz
- (3) Transmit 30dbm-918MHz
- (4) Standby

- (5) Transmitter Power Source
Adapter 220VAC/12VDC

4 Occupied Bandwidth for DSSS System According to 15.247(a) (2)

E.U.T: Ga-ofdm-900 S/N: 0050C21CCE27
Test Method: ANSI 63.4
Date: 09/08/05
Relative Humidity: 26%
Ambient Temperature: 22c
Air Pressure: 1047hpa

Testing Engineer: D.Lanuel



Date 16/08/05

a. Test Results Summary & Conclusions

The E.U.T was found in compliance with OCCUPIED BANDWIDTH

b. Limits of bandwidth

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

Table 4.b Limits For Bandwidth

Operating Frequency (MHz)	Minimum allowed bandwidth
902 - 928	≥500KHz for 6dbc

c. Test Results

Table 4.c Bandwidth Test Result

Frequency (MHz)	Min Bandwidth (MHz)	Bandwidth Max Limit(KHz)	Plot Results	PASS/ FAIL
912	17.87	≥500KHz	Plot-1	PASS
915	17.37		Plot-2	PASS
918	17.42		Plot-3	PASS

d. Test Instrumentation and Equipment

Table 4.d Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
Broadband Antenna	BTA-L	FRANKONIA	10.04.06
20db attenuator	2525-200	ATM	18.03.06

e. **Test Procedure**

The EUT output was connected to the spectrum analyzer through 40db attenuator,
The test set up are shown in figure 4e bellow

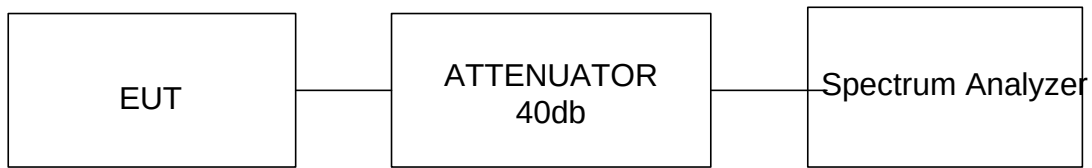


Figure 4e Test Setup for Occupied Bandwidth test

5 Maximum peak output power test according 15.247(b) (3)

E.U.T: Ga-ofdm-900 S/N: 0050C21CCE27
Test Method: ANSI 63.4
Date: 09/08/05
Relative Humidity: 26%
Ambient Temperature: 22c
Air Pressure: 1047hpa
Test Setup: Figure 5e

Testing Engineer: D.Lanuel



Date 16/08/05

a. Test Results Summary & Conclusions

The E.U.T was found in compliance with peak output power requirement

b. Limits

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

Table 5.b Limits For Fundamental

Operating frequency range (MHz)	Peak Max Limits(dbm)
902 - 928	30 (1W)

c. Test Results

Table 5.c Peak output power Result

Frequency (MHz)	Peak Result	peak Limits	Margined (dB)	Plots Result	Pass/Fail
912MHz	26.04*	30dbm (1W)	3.96	Plot-4	PASS
915MHz	26.1*		3.9	Plot-5	PASS
918MHz	26.22*		3.78	Plot-6	PASS

*See calculation bellow-based on test procedure paragraph 5e

(1) 912MHz peak power calculation –based on plot-4

- a) *BW correction factor is: $10\log 6\text{db BW of emission/analyzer RBW}$*
b) *$10\log 17.625/3=7.69$*
c) *Output power: $18.35+7.69=26.04$*

(2) 915MHz peak power calculation –based on plot-8

- a) *BW correction factor is: $10\log 6\text{db BW of emission/analyzer RBW}$*
b) *$10\log 17.625/3=7.69$*
c) *Output power: $18.41+7.69=26.1$*

(3) 918MHz peak power calculation –based on plot-9

- a) *BW correction factor is: $10\log 6\text{db BW of emission/analyzer RBW}$*
b) *$10\log 17.625/3=7.69$*
c) *Output power: $18.53+7.69=26.22$*

d. **Test Instrumentation and Equipment**

Table 5.d Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
20db attenuator	2525-200	ATM	18.03.06

e. Test Procedure

- (1) Spectrum analyzer measured the transmitter peak output power while the RBW of analyzer is 3MHz and the RBW of transmitter is 20MHz.
- (2) When the analyzer RBW is not large enough as required. The peak output power procedure is as follows:
 - a) *Set the RBW and VBW to the maximum available.*
 - b) *Set the band limit to 6db*
 - c) *Set sweep to automatic*
 - d) *Set the span just enough to capture the emission*
 - e) *Use the peak detector on max hold*
 - f) *Set the analyzer on linear mode display*
 - g) *Let the emission stabilize before making a final reading*

BW correction factor is: $10\log 6\text{db BW of emission/analyzer RBW}$

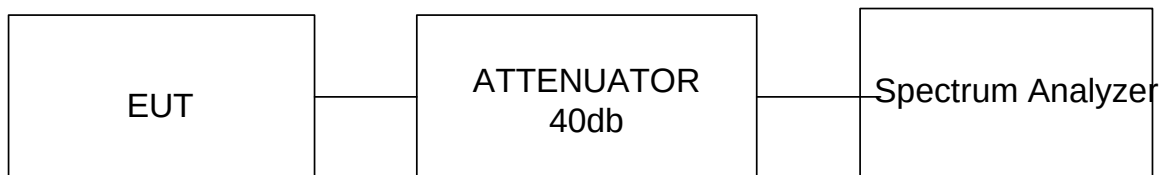


Figure 5e Test Setup for Peak output power

6 Out of band conducted emission test according to 15.247(c)

E.U.T: Ga-ofdm-900 S/N: 0050C21CCE27
Test Method: ANSI 63.4
Date: 09/08/05
Relative Humidity: 26%
Ambient Temperature: 22c
Air Pressure: 1047hpa
Test Setup: Figure 6.e

Testing Engineer: D.Lanuel



Date 16/08/05

a. Test Results Summary & Conclusions

The E.U.T was found in compliance with Out of band conducted emission test according to 15.247(c)

b. Limits of out of band conducted emission according to 15.247 (c)

The test unit shall meet the limits of Table 6.b.

Table 6.b Limits For 15.247(c)

Frequency range(MHz)	Peak power at BW-100KHz	Limits dbm (20dbc)
0.009 – 9200	6.26 (see plots 5, 6)	-13.74

c. Test Results

Table 6.c Results For 15.247(c)

Operating Frequency (MHz)	Frequency range (MHz)	Results (dB μ V/m)	Plots Result
915MHz	0.009 – 9200	All emission were found Min 30db below the specified limits	7 - 13

d. **Test Instrumentation and Equipment**

Table 6.d Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
20db attenuator	2525-200	ATM	18.03.06

e. **Test Procedure**

The EUT output was connected to the spectrum analyzer through 40db attenuator. The test set up is shown in figure 6e bellow.

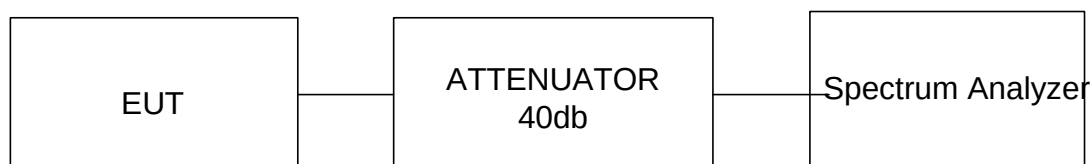


Figure 6e Test Setup for Conducted emission

7 Radiated emission in restricted bands test according 15.247(c), 15.205 and 15.209

E.U.T: Ga-ofdm-900 S/N: 0050C21CCE27
Test Method: ANSI 63.4
Date: 16/08/05
Relative Humidity: 26%
Ambient Temperature: 22c
Air Pressure: 1047hpa
Test Setup: Figure 7.e – 7.e.6

Testing Engineer: D.Lanuel



Date 20/11/04

a. Test Results Summary & Conclusions

The E.U.T was found in compliance with radiated emission restricted band test

- b. **Limit:** Radiated emission, which fall in the restricted bandwidth must comply with 15.209(a) Limits. See limits in table 7b bellow.

Table 7.b Limits For 15.209 Class B equipment

Frequency Range (MHz)	Quasi-peak Limits (dB μ V/m)	Peak Limit	Average Limit
0.009 – 0.49	128 – 93.8	NA	NA
0.49 – 1.705	73.8 – 63.0		
1.705 - 30	69.5		
30 - 88	40		
88 - 216	43.5		
216 - 960	46		
960 - 1000	54	74	54
Above 1000	NA		

c. Results

(1) Preliminary Results

Table 7.c1 Preliminary test results

Configuration	Transmitting Frequency	Frequency Range	Plots Results	PASS/FAIL
8dbi antenna Integrated	912MHz	9KHz-9.2GHz	14 - 26	PASS
	915MHz		27 - 39	PASS
	918MHz		40 - 52	PASS
12.5dbi Flat Panel Antenna	912MHz		53 - 65	PASS
	915MHz		66 - 78	PASS
	918MHz		79 - 91	PASS

(2) Final Test Results

Table 7c2 Six Highest

Operating Frequency (MHz)	Frequency range (MHz)	Results (dB μ V/m)	Plots Result
915MHz	0.009 – 9200	All emission IN RESTRICTED BAND were found Min 20db below the specified limits	14 - 89

d. **Test Instrumentation and Equipment**

Table 7.d Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
Double Ridge Guide Ant	3105	EMCO	24.04.06
Broadband Antenna	BTA-L	FRANKONIA	10.04.06
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	14.01.06
Low Noise Amplifier (1-4GHz)	AMM 003N	AVANTEK	14.01.06
Low Noise Amplifier (2-6GHz)	MWA-02060	ELISRA	14.01.06
Low Noise Amplifier (6-18GHz)	MWA-06180	ELISRA	14.01.06
Low pass filter 100MHz	LD110	FSY	17.04.06
Low pass filter 700MHz	360A	HP	18.05.06
Band reject filter 902 – 928MHz	BRF 900	TADIRAN	20.05.06
Attenuator 20db	2525-20	ATW	18.03.06
Attenuator 3db	AN9146	WEINSCHTEL	23.06.06
Attenuator 6db	AP2542	WEINSCHTEL	23.06.06

e. Test Procedure

(1) -General

- a) *The test was performed with transmitter operating 3-carrier frequency, F_{min} -912MHz, F_{center} -915MHz, and F_{max} -928 MHz.*
- b) *The test was performed according tests setup in paragraph 7e*

(2) 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.*

(3) Final Test Procedure

- a) *The EUT was tested at open area for each suspected emission*
- b) *The test procedure was performed according paragraph (2) and figure 7e*

f. Final Test Setup

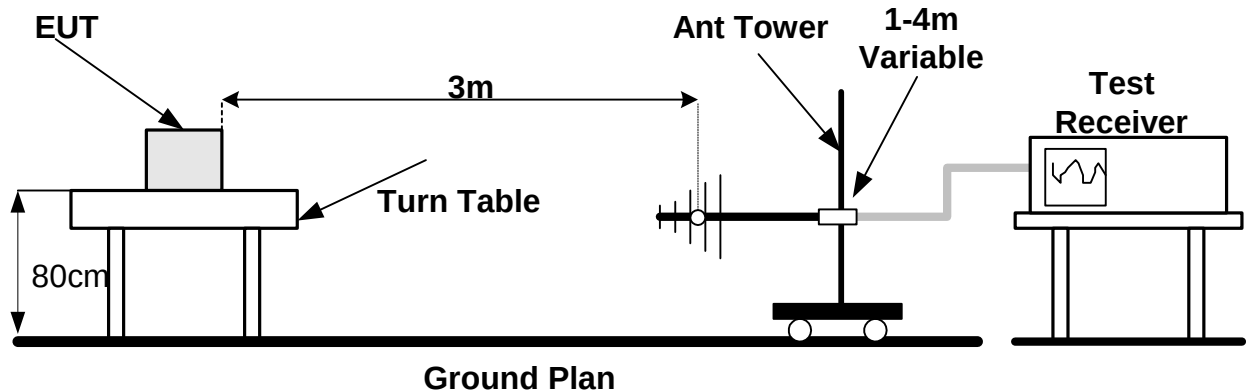


Figure 7e Radiated Emission Set up

(1) Tests Setup

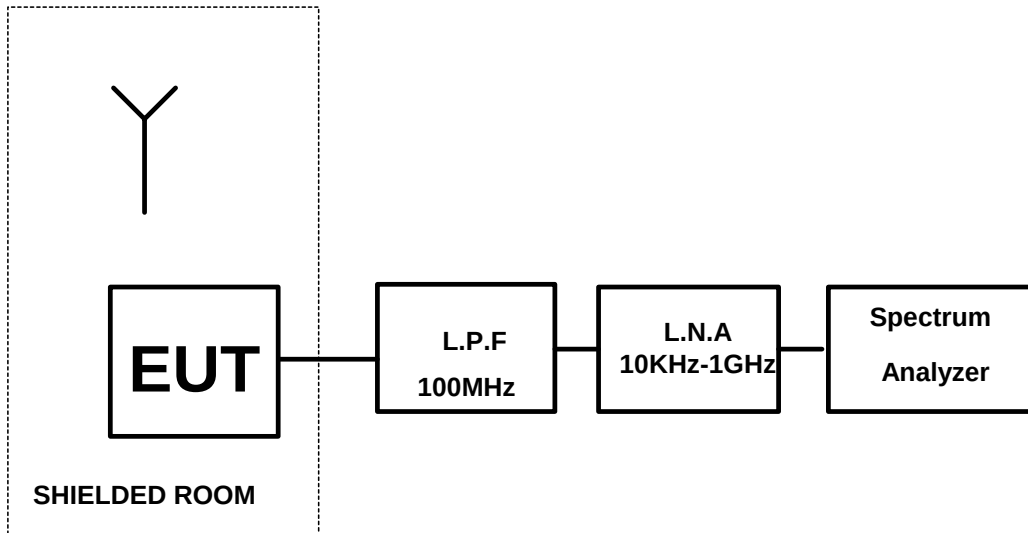


Figure 7.e.1 Radiated emission Test setup for freq range of 10 KHz – 100MHz

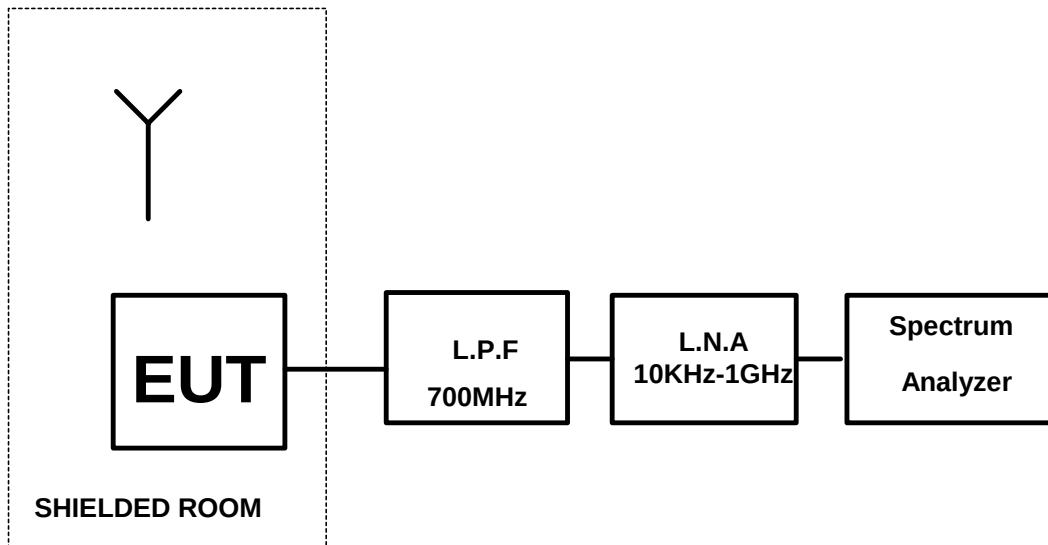


Figure 7.e.2 Radiated emission Test setup for freq range of 100MHz – 700MHz

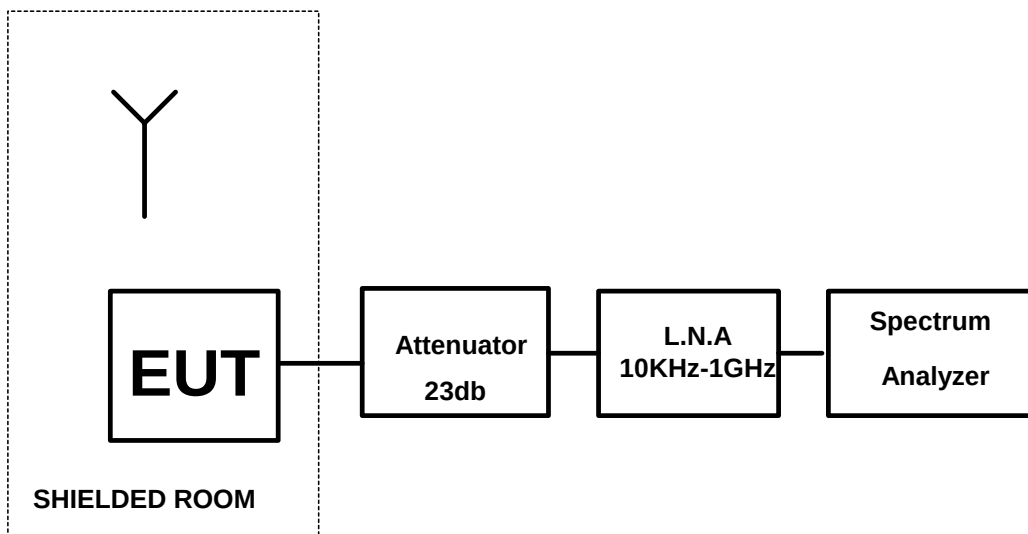


Figure 7.e.3 Radiated emission Test setup for freq range of 960MHz – 1GHz

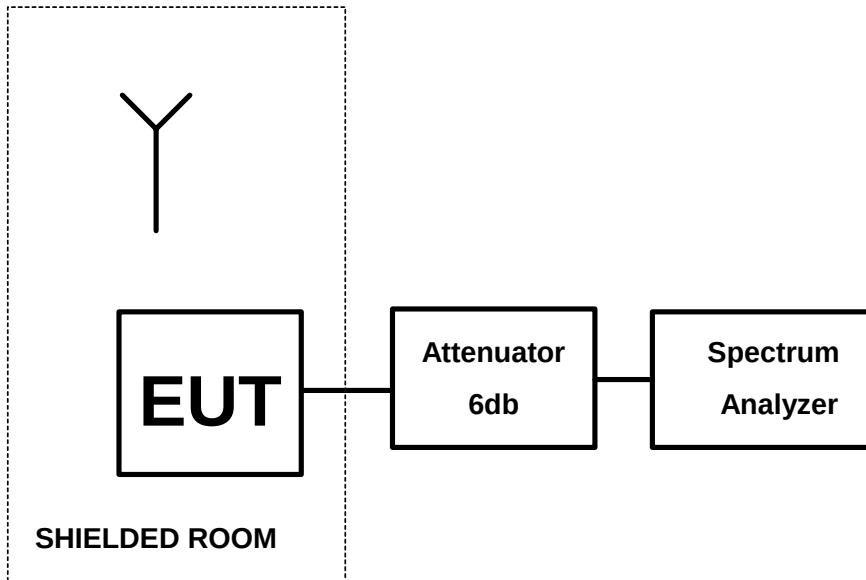


Figure 7.e.4 Radiated emission Test setup for freq range of 1GHz – 2GHz

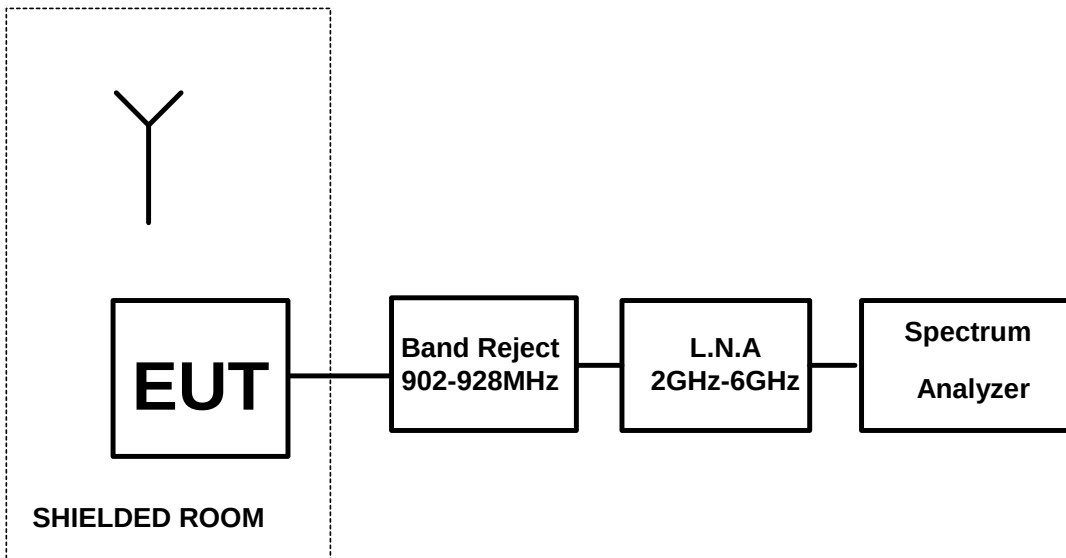


Figure 7.e.5 Radiated emission Test setup for freq range of 2GHz – 6GHz

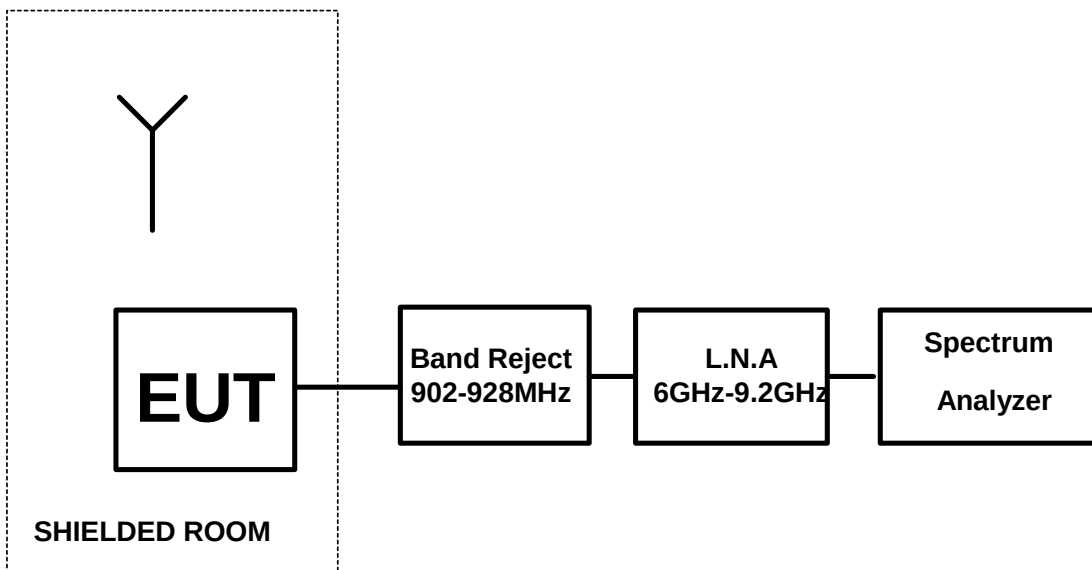
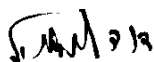


Figure 7.e.6 Radiated emission Test setup for freq range of 6Hz – 9.2GHz

8 Peak power spectral density of DSSS according 15.247d

E.U.T: Ga-ofdm-900 S/N: 0050C21CCE27
Test Method: ANSI 63.4
Date: 09/08/05
Relative Humidity: 26%
Ambient Temperature: 22c
Air Pressure: 1047hpa
Test Setup: Figure 8.e

Testing Engineer: D.Lanuel



Date 16/08/05

a. Test Results Summary & Conclusions

The E.U.T was found in compliance peak power spectral density test

b. Limit

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dbm in any 3 KHz band during any time interval of continuous transmission

c. Test Results

Table 8.d Test Results

Carrier Frequency(MHz)	Measured peak power spectral density (dbm)	Plots
912	-7.87	92, 93
915	-8.56	94, 95
918	-8.86	96, 97

d. Test Instrumentation and Equipment

Table 8.d Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
20db attenuator	2525-200	ATM	18.03.06

e. **Procedure**

The EUT RF output was connected to the spectrum analyzer through 40db attenuator according to test setup bellow.

The test was performed with transmitter operating 3-carrier frequency, F_{min} -912MHz, F_{center} -915MHz, and F_{max} -928 MHz.

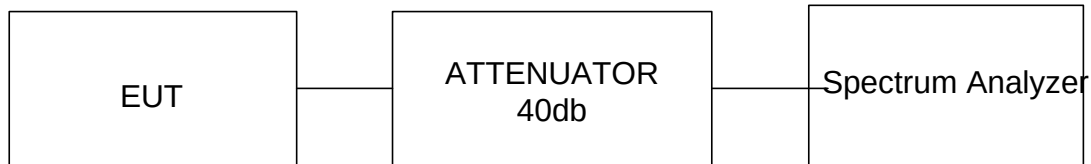
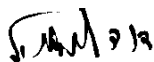


Figure 8e Test Setup for peak power spectral density

9 Unintentional radiated emission test according to 15.109

E.U.T: Ga-ofdm-900 S/N: 0050C21CCE27
Test Method: ANSI 63.4
Date: 09/08/05
Relative Humidity: 26%
Ambient Temperature: 22c
Air Pressure: 1047hpa

Testing Engineer: D.Lanuel



Date 16/08/05

a. Test Results Summary & Conclusions

The E.U.T was found in compliance with unintentional radiated emission requirements.

b. Limit:

Unintentional radiated emission must comply with 15.109 Limits. See limits in table 9b below.

Table 9b Limits For 15.109 Class B equipment

Frequency Range (MHz)	Quasi-peak Limits (dB μ V/m)	Peak Limit	Average Limit
30 - 88	40	NA	NA
88 - 216	43.5		
216 - 960	46		
960 - 1000	54		
Above 1000	NA	74	54

c. Test Results

Table 9.c Preliminary test results

Configuration	Antenna Polarization	Frequency Range(MHz)	Plots Results	PASS/ FAIL
6dbi antenna Integrated	Both	30-1000	98	PASS
		1-2.8GHz	99	PASS
		2.8 – 6GHz	100	PASS
		6GHz – 6.5GHz	101	PASS
		6.5GHz – 9.2GHz	102	PASS

Table 9c1 Six Highest 15.109

Freq. (MHz)	QP Reading (dbμV/m)	QP Limit (dbμV/m)	Margin (db)	Compliance PASS/FAIL	Plots
30.006	34	40	-6	PASS	96
30.639	36.9	40	-3.1	PASS	
34.112	37.6	40	-2.4	PASS	
42.95	33.3	40	-6.7	PASS	

d. Test Instrumentation and Equipment

Table 9.d Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
Double Ridge Guide Antenna(1-18GHz)	3105	EMCO	24.04.06
Broadband Antenna(30-1000MHz)	BTA-L	FRANKONIA	10.04.06
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	14.01.06
Low Noise Amplifier (1-4GHz)	SMC-09	MITEQ	14.01.06
Low Noise Amplifier (2-6GHz)	SMC-09	MITEQ	14.01.06
Low Noise Amplifier (6-10GHz)	SMC-09	MITEQ	14.01.06

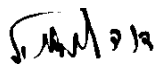
e. Procedure

The EUT output was connected to the spectrum analyzer through appropriate low noise amplifier while the EUT is in STBY mode.

10 Conducted emission test according to 15.207.15.107

E.U.T: Ga-ofdm-900 S/N: 0050C21CCE27-C3-3D
Test Method: ANSI 63.4
Date: 09/08/05
Relative Humidity: 26%
Ambient Temperature: 22c
Air Pressure: 1047hpa
Test Setup: Figure CE-2

Testing Engineer: D.Lanuel



Date 16/08/05

a. Test Results Summary & Conclusions

The E.U.T was found in compliance with conducted emission power leads requirements.

b. Limit:

Conducted emission must comply with 15.207 Limits. See limits in table 10b bellow.

Table 10.b Limits For 15.207 Class B equipment

Frequency (MHz)	Quasi-peak Limits (dB μ V/m)
0.15 – 0.5	66-56
0.5 - 5	56
5 - 30	60

c. Test Results –P LOTS 122,123

Table 10.c Test results

Frequency Range (MHz)	Tested Line	Plots Results	PASS/FAIL
0.15 - 30	PHASE	103	PASS
0.15 - 30	NEUTRAL	104	PASS

Table 10.c1 Six Highest 15.207

Freq. MHz	QP Reading (db μ V/m)	Limit (db μ V/m)	Margin (db)	Plots
1.525	51.6	56	-5.4	103
1.826	52.8	56	-3.2	104

d. **Test Instrumentation and Equipment**

Table 10.d Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
LISN	DC-AC-20A/01	TADIRAN	N.P.C.R
20DB attenuator	2525	ATM	18.03.06

e. **Test Procedure**

- The EUT was placed on the top of table 1m by 1.5m, raised 0.8 meters above the conducting ground plane
- The rear panel of the EUT was located 40cm to the vertical wall of the screen room
- Each EUT power leads were individually connected through an LISN to the input power source. Unused 50 ohm connector of the LISN was terminated in 50ohm and other was connected to the spectrum analyzer through 20db attenuator for maximum conducted interference

f. **Test setup**

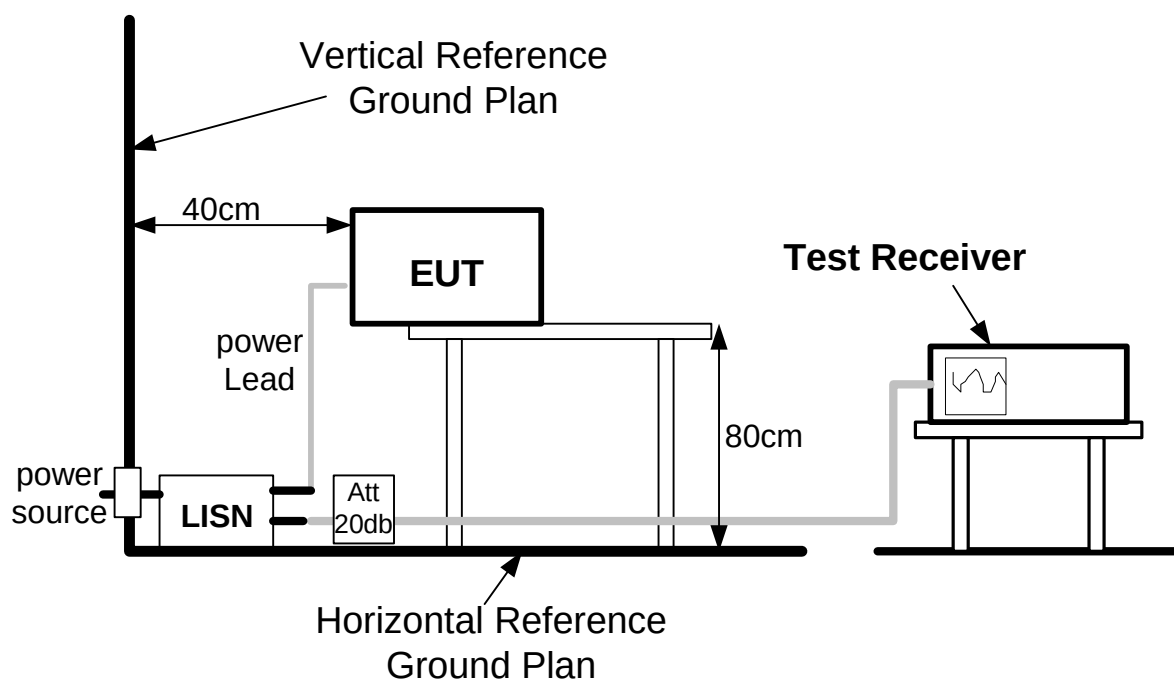


Figure- 1 Conducted emission Test Configuration

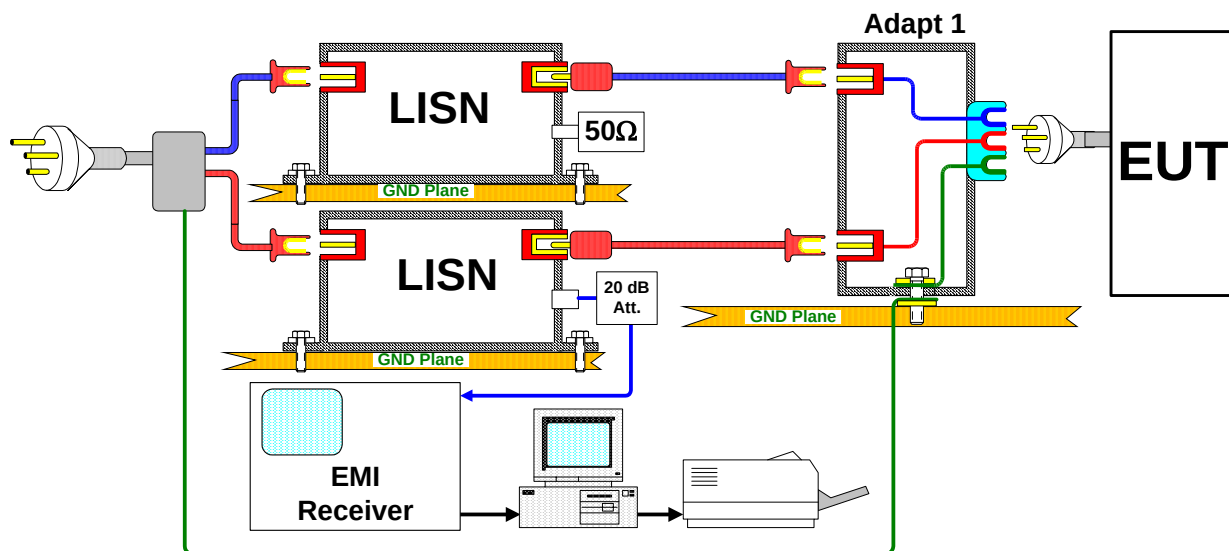
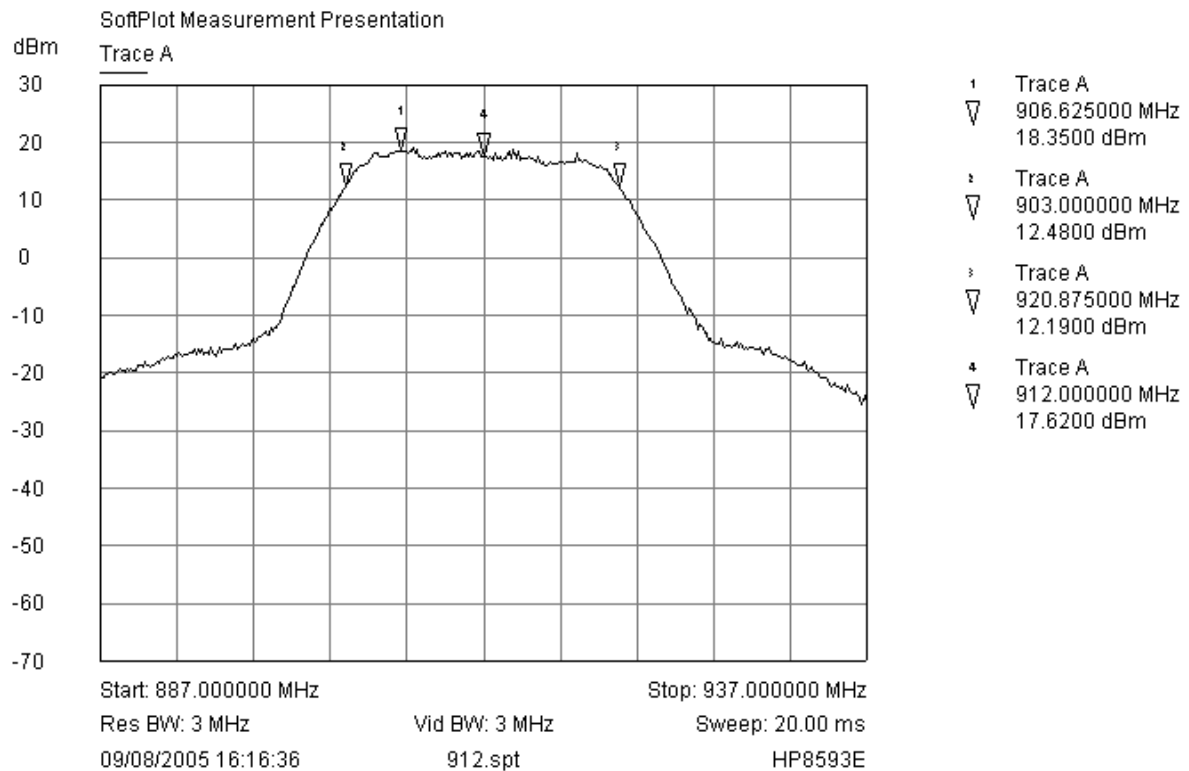


Figure- 2 Conducted emission Test setup

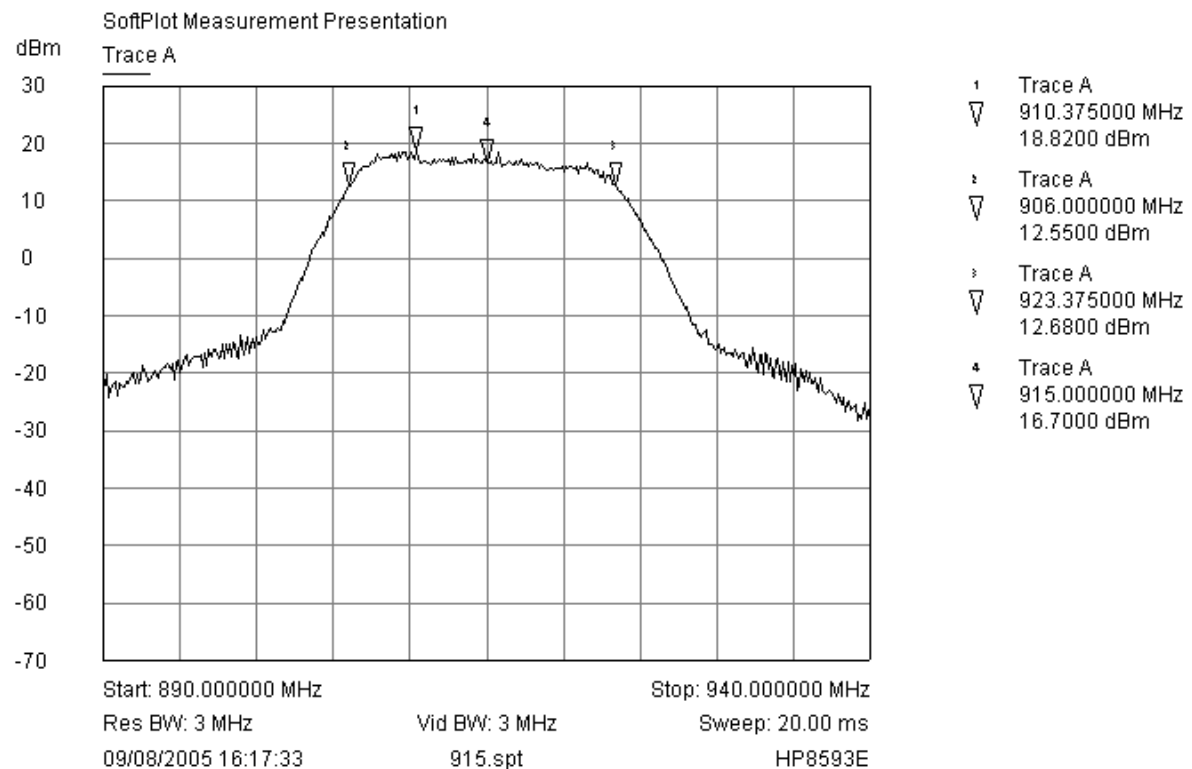
11 Plots

a. Occupied bandwidth plots 1-3

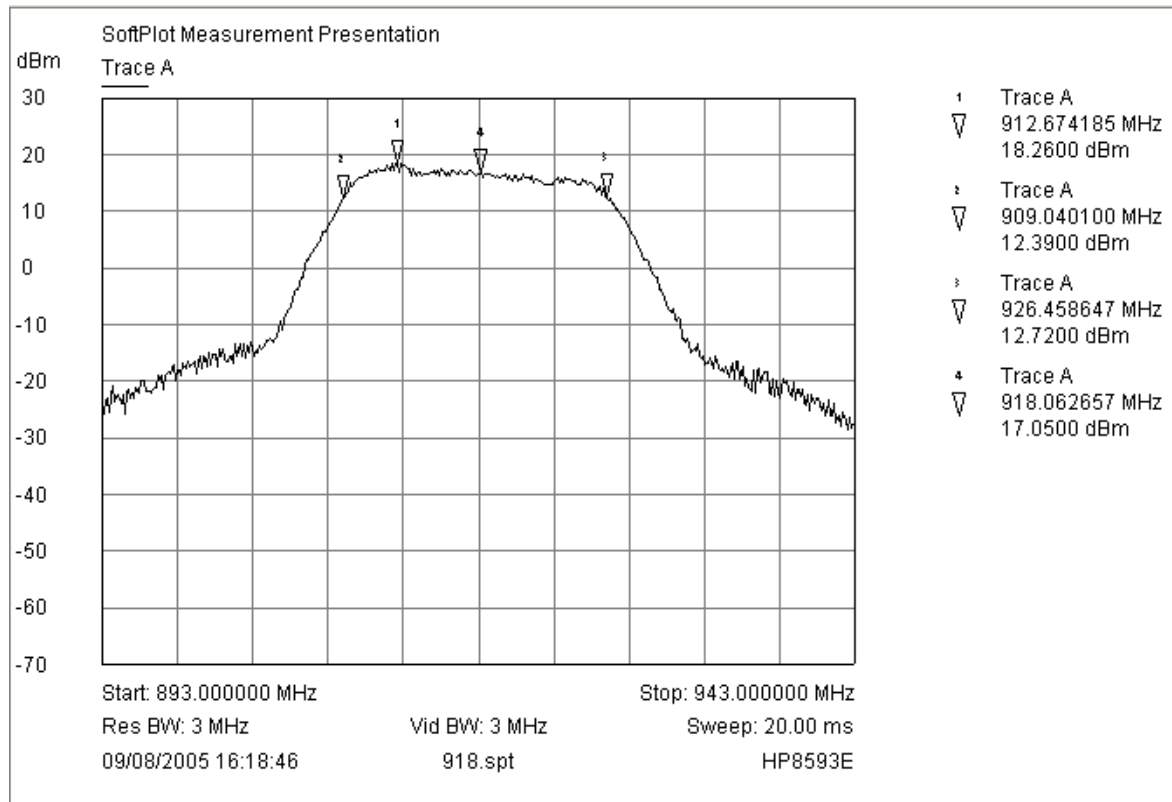
Test Results Plot No 1



Test Results Plot No 2

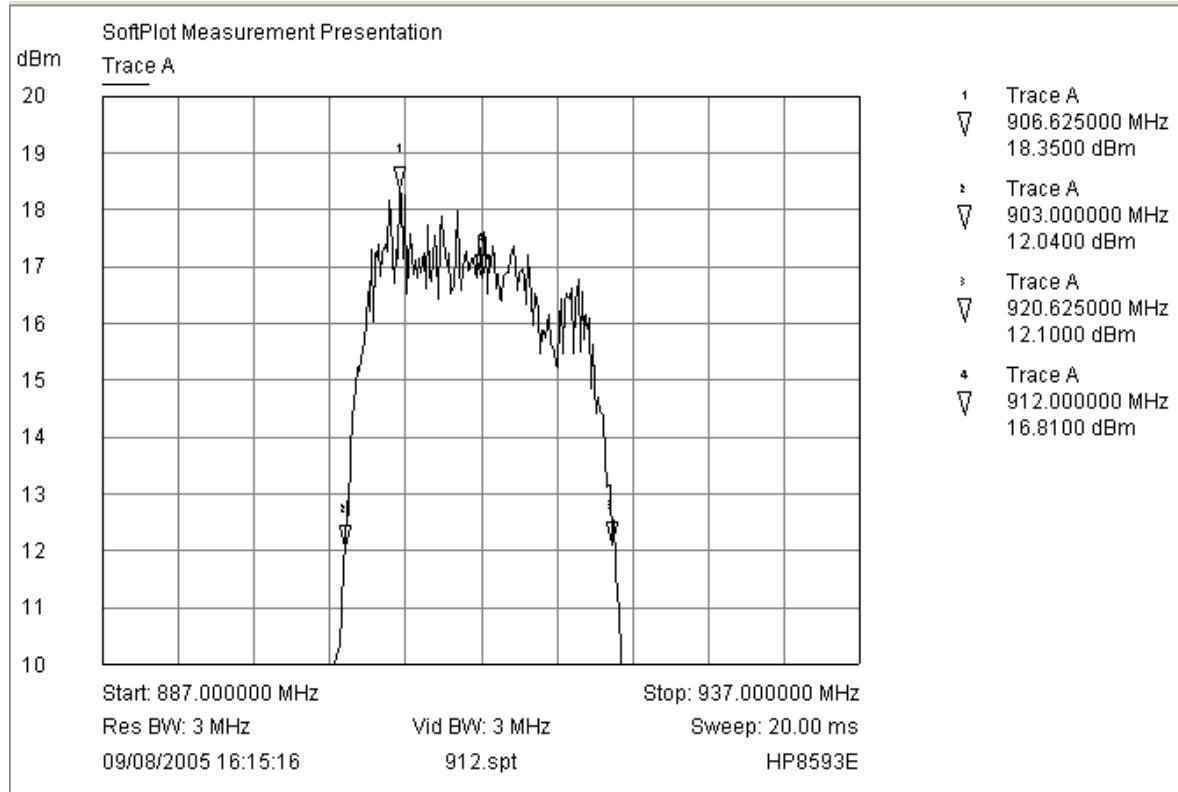


Test Results Plot No 3

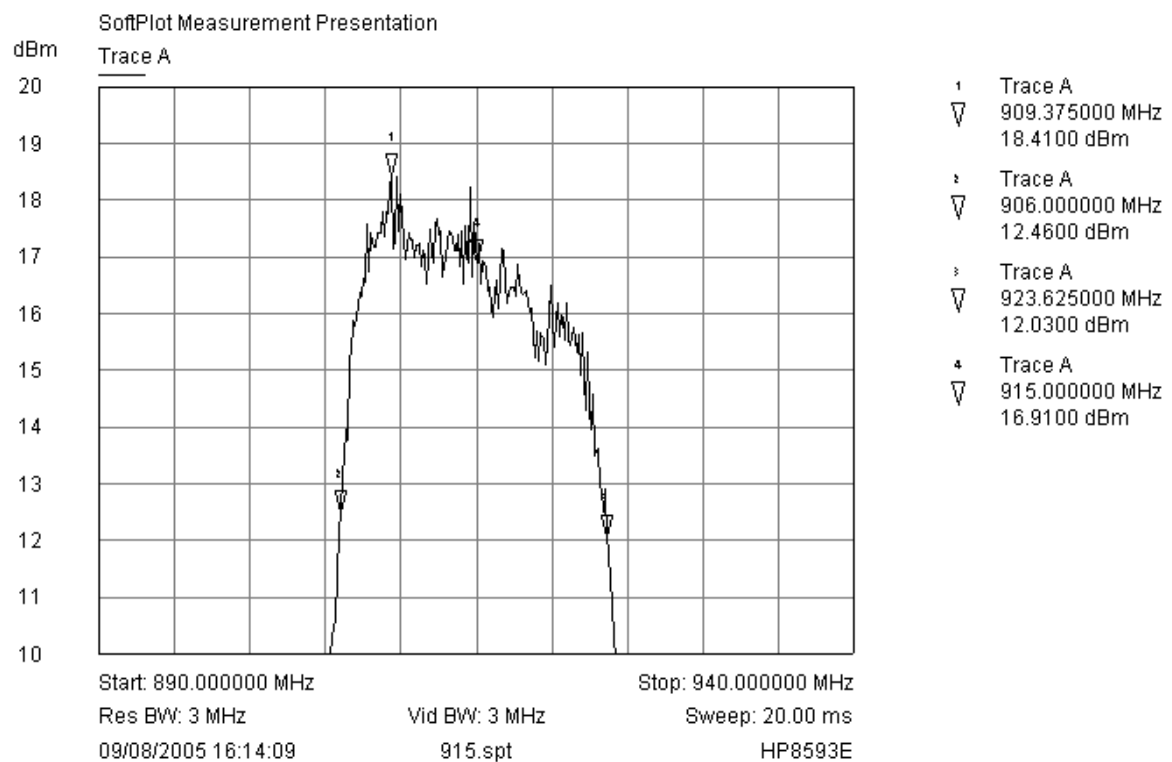


b. **Maximum peak output power plots 4-6**

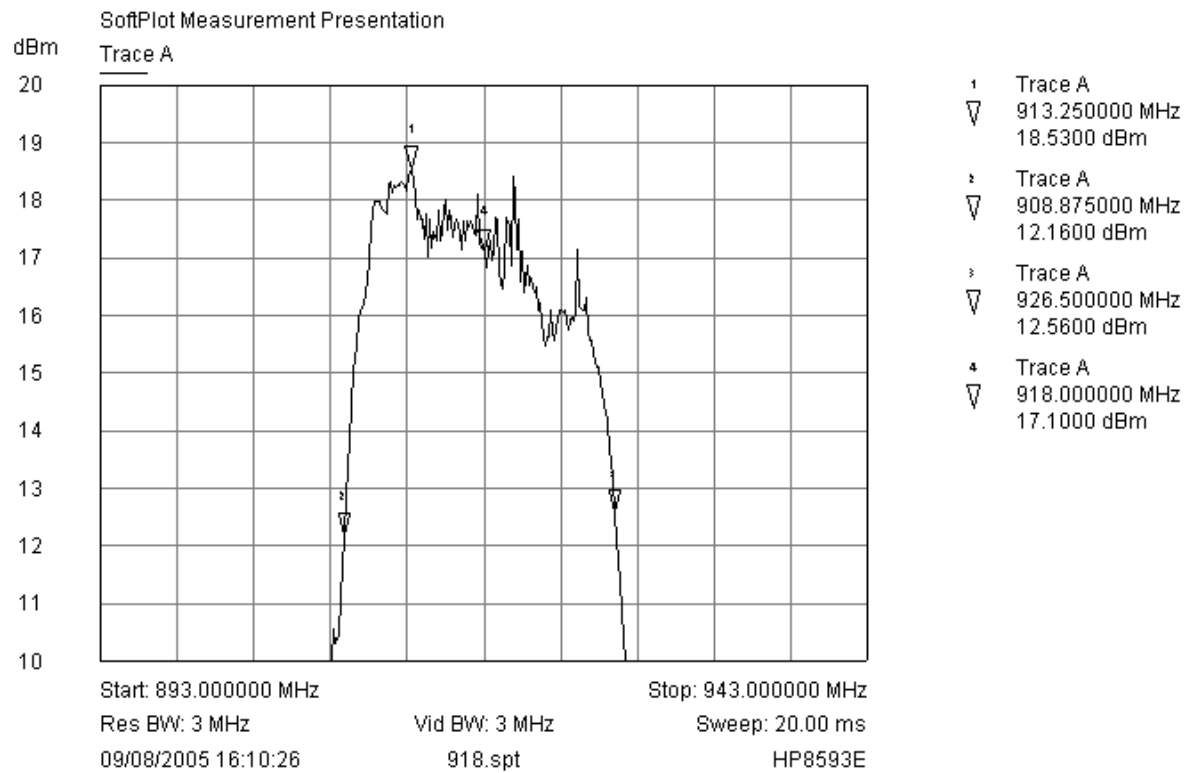
Test Results Plot No 4



Test Results Plot No 5

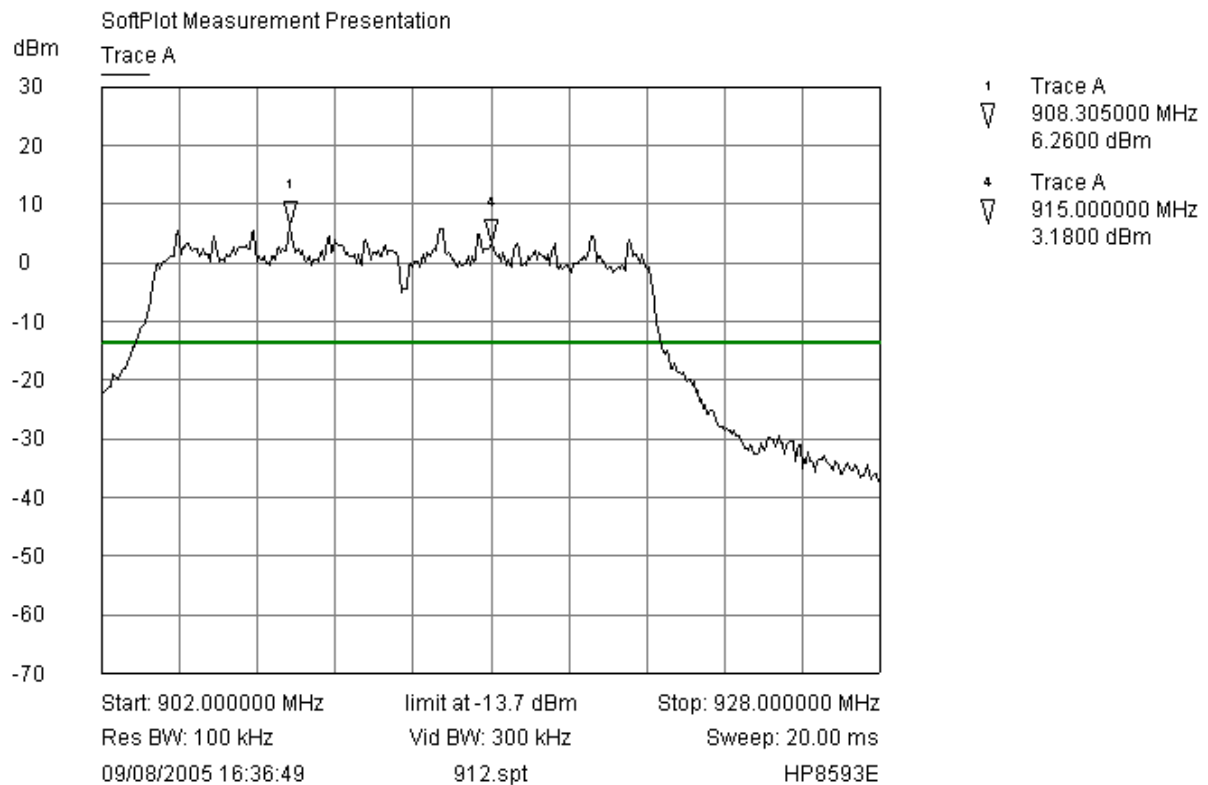


Test Results Plot No 6

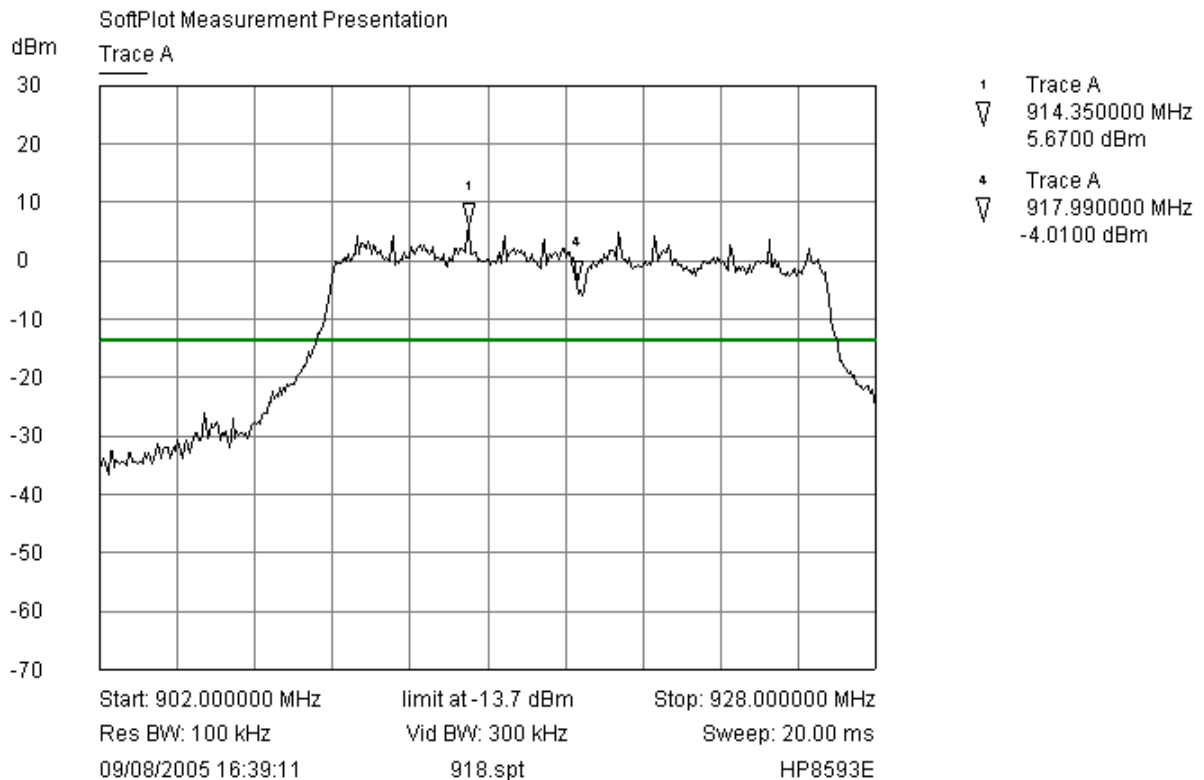


c. Out of band emission 7 – 13

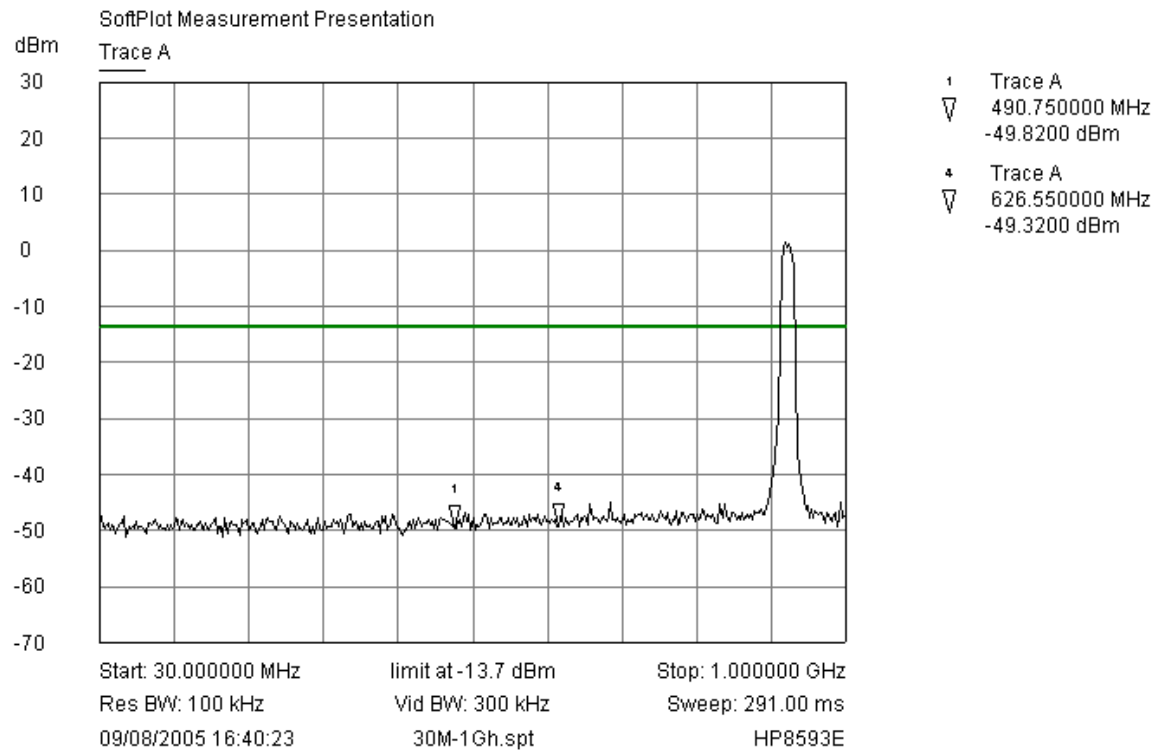
Test Results Plot No 7



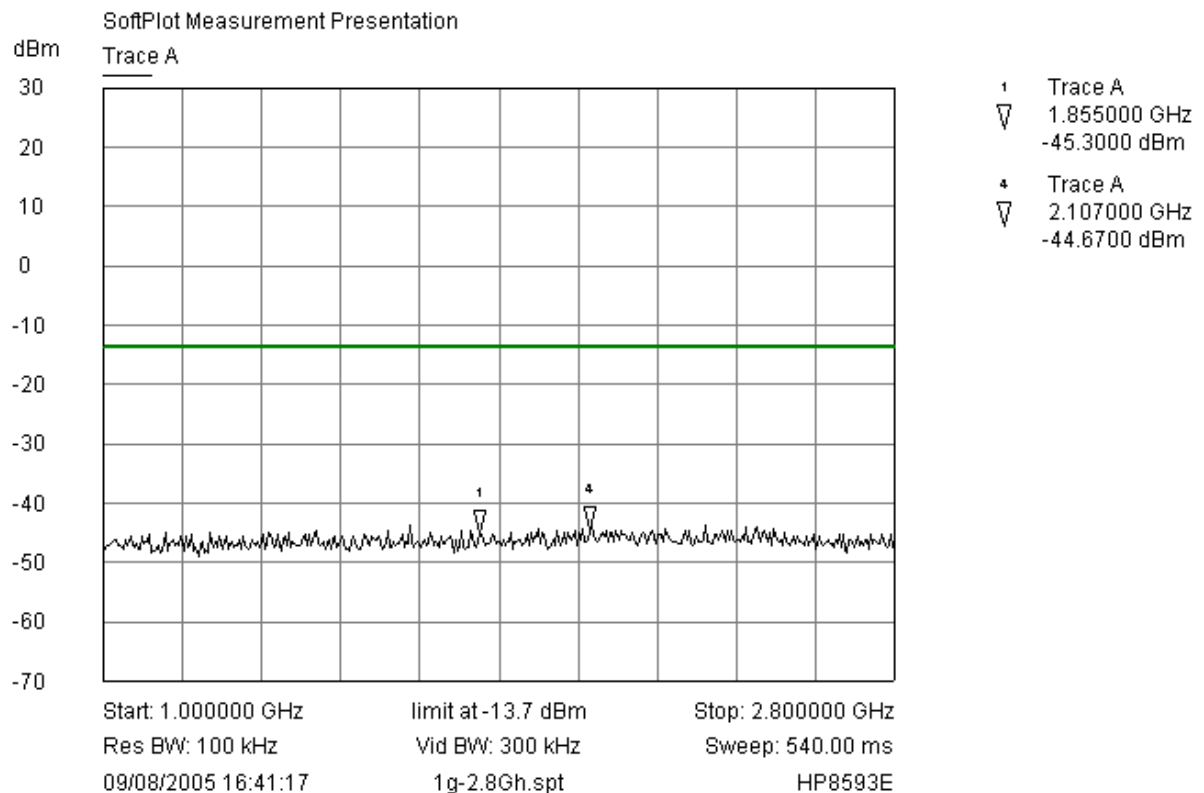
Test Results Plot No 8



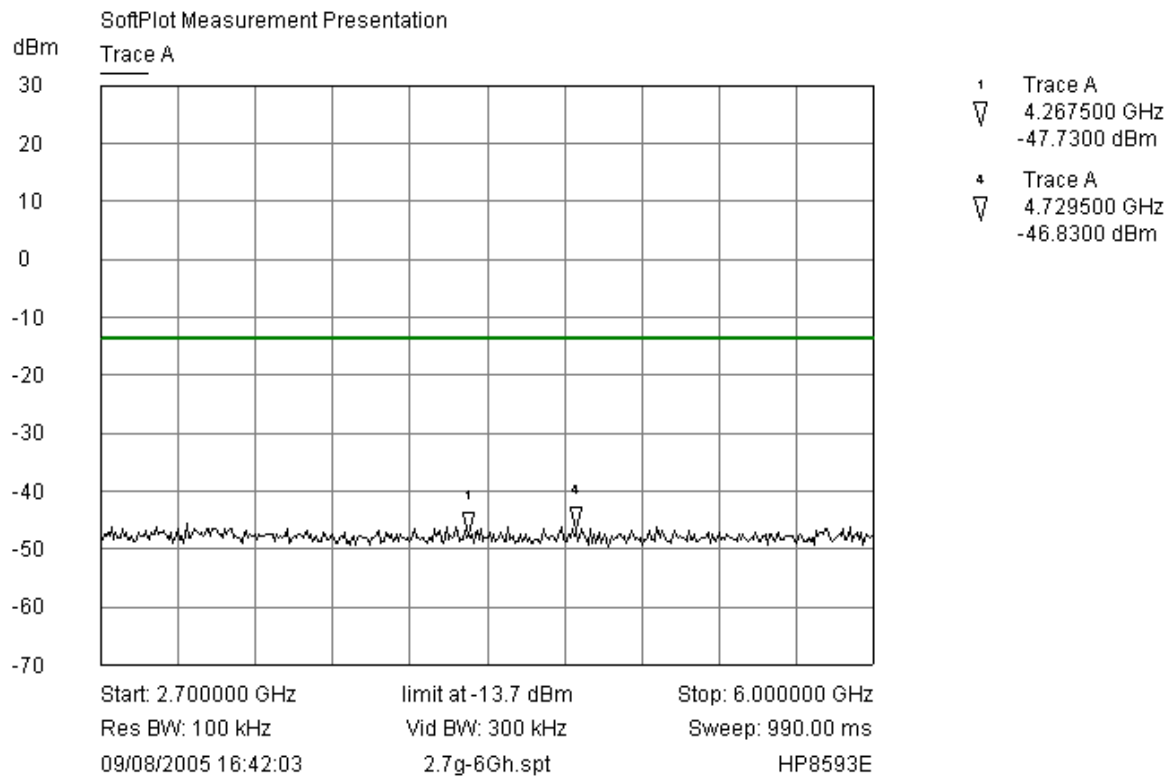
Test Results Plot No 9



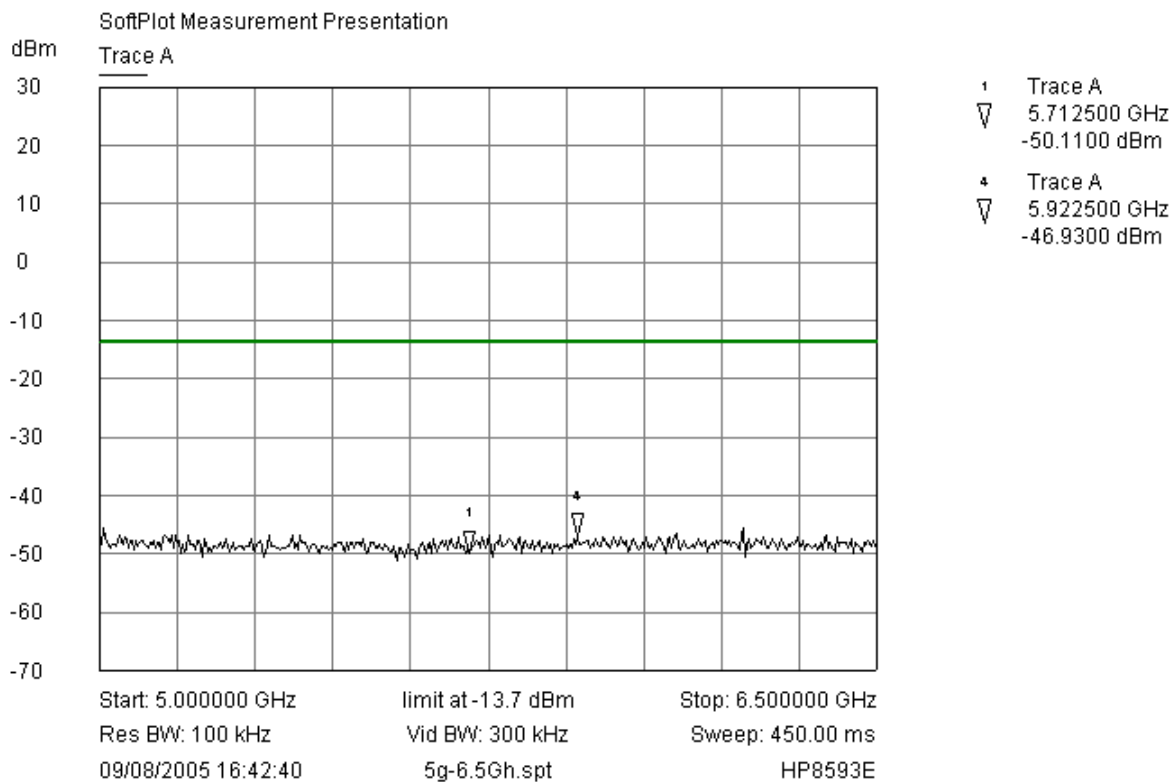
Test Results Plot No 10



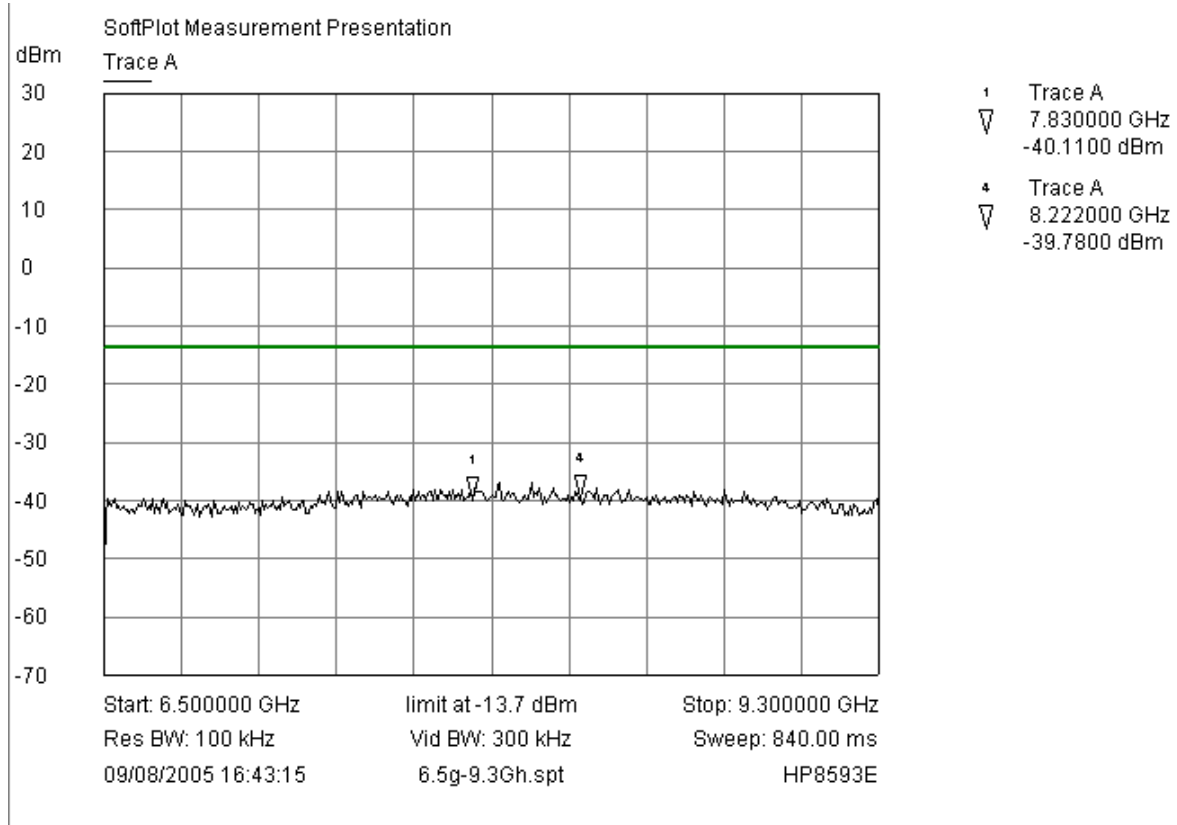
Test Results Plot No 11



Test Results Plot No 12



Test Results Plot No 13



d. Radiated spurious Emission in restricted band

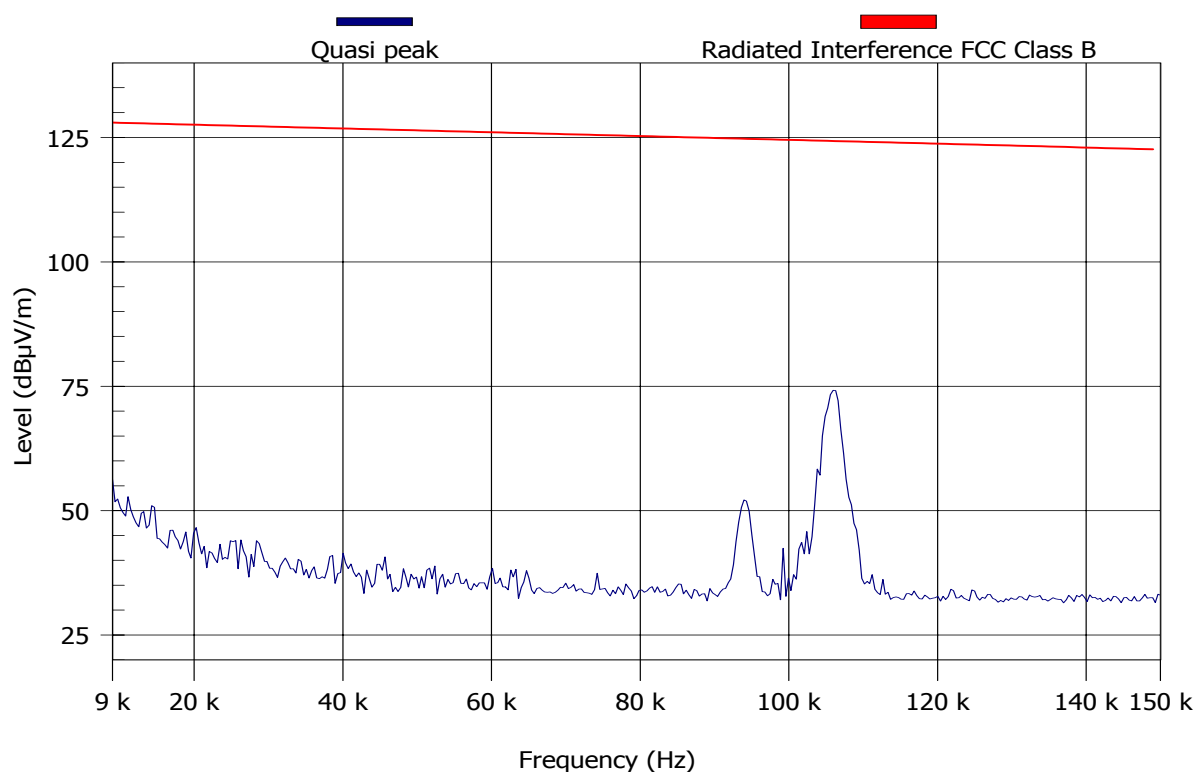
(1) Transmit Frequency 912 MHz Antenna-Integrated 8dbi plots 14 – 26

Test Results Plot No 14

FCC 15.205 RESTRICTED 0.009-0.15MHz 912 8dbi omni VER

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

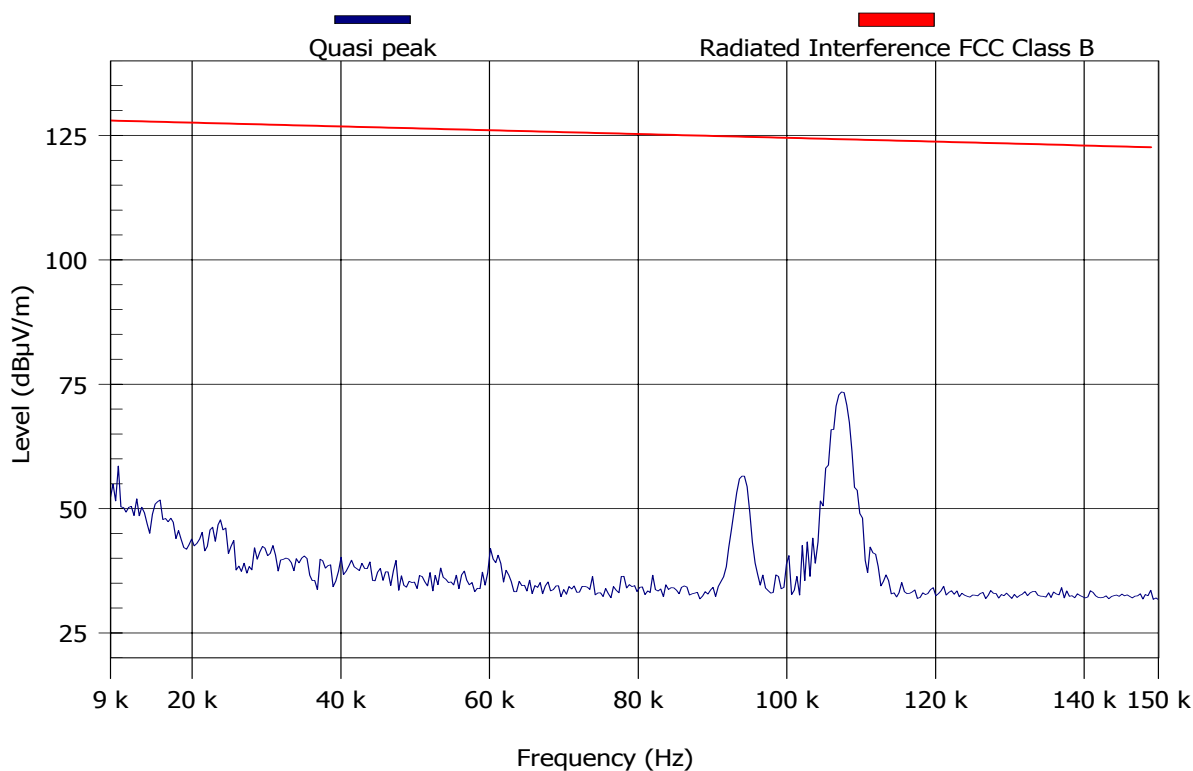
None

Test Results Plot No 15

FCC 15.205 RESTRICTED 0.009-0.15MHz 912 8dbi omni HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

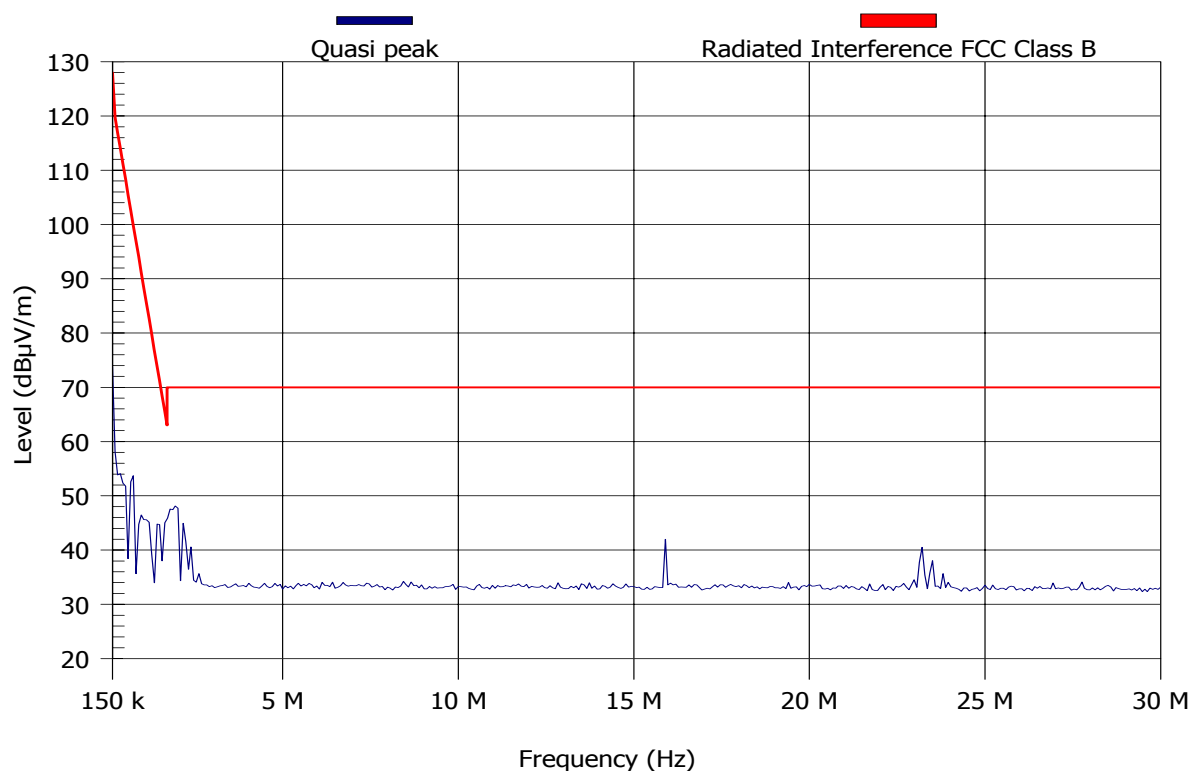
None

Test Results Plot No 16

FCC 15.205 RESTRICTED 0.15-30MHz 912 8dbi omni VER

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

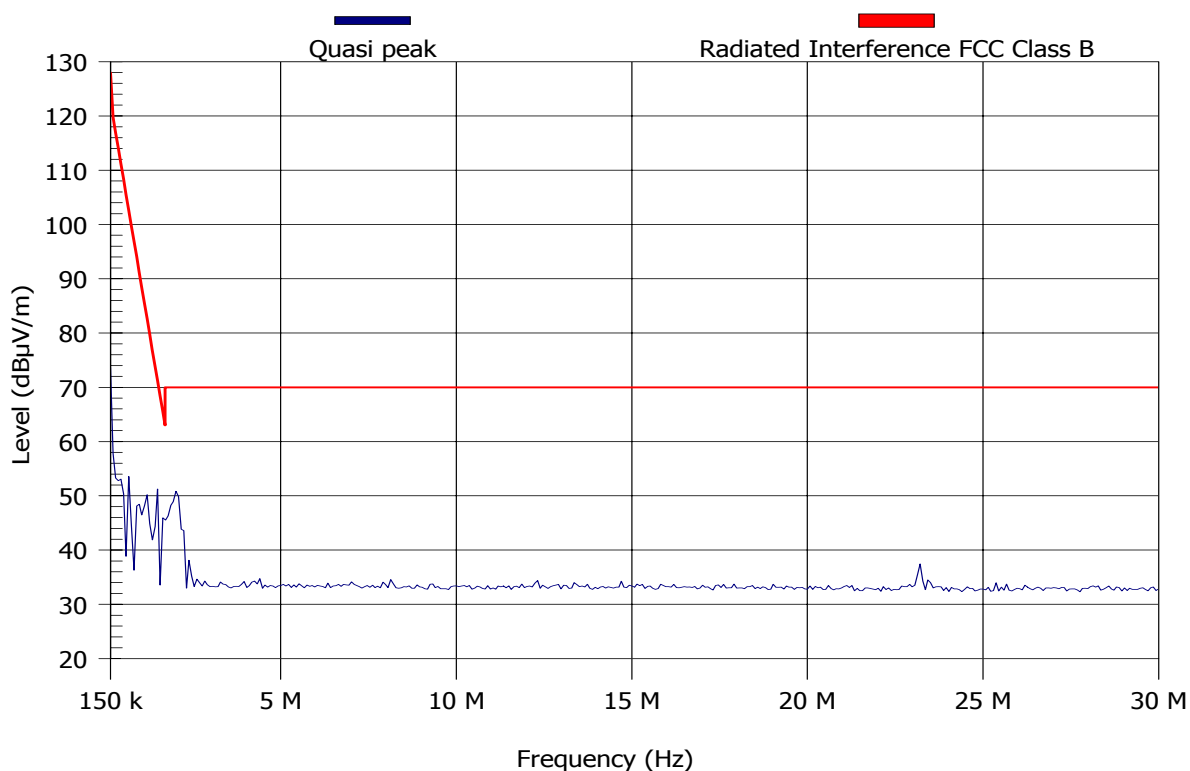
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 17

FCC 15.205 RESTRICTED 0.15-30MHz 912 8dbi omni HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

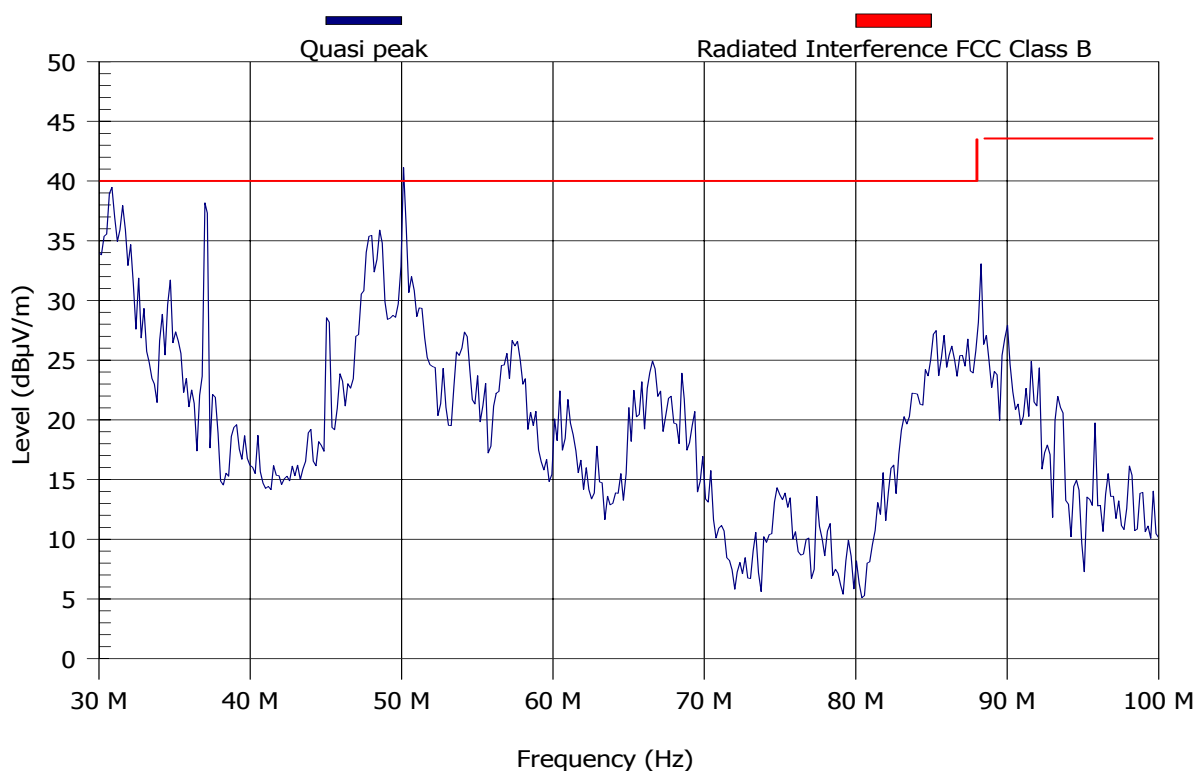
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 18

FCC 15.205 RESTRICTED 30-100MHz 912 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS:


MAXIMUM RESULT DEVIATION:

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

N	Freq r (MHz)	PK (dB μ V/m)	Q.P Results	Q.P Limit	Pass/ Fail	Angl e (deg)	Hi (m)	H/V
1	30.631	38.5	35.1	40	Pass	240	1	V
2	*36.997	43.5	43.5	40	Fail	240	1	V
3	47.793	34.7	33.1	40	Pass	120	1.6	V
4	47.809	35.7	34.7	40	Pass	240	1.3	V
5	47.821	35.6	32.9	40	Pass	240	1.3	V
6	*50.026	41.5	40.9	40	Fail	240	1.3	V

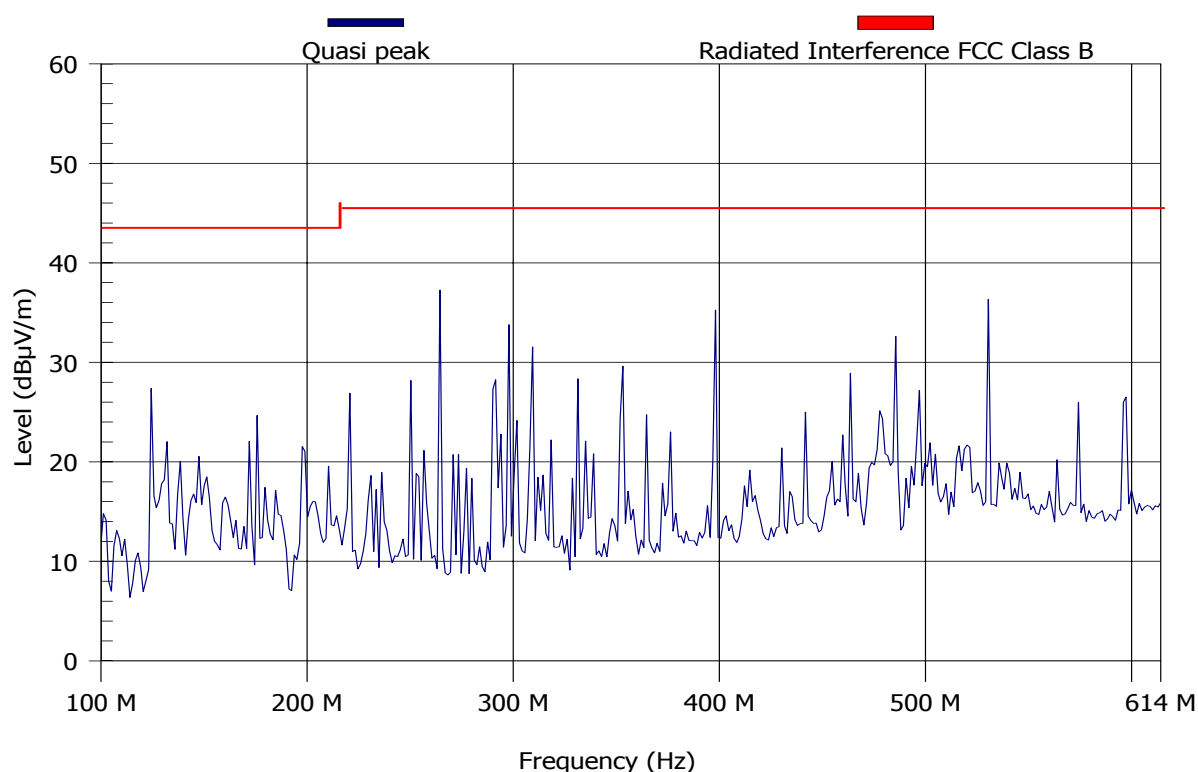
*Not in restricted band

Test Results Plot No 19

FCC 15.205 RESTRICTED 100-600MHz 912 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 107.08 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

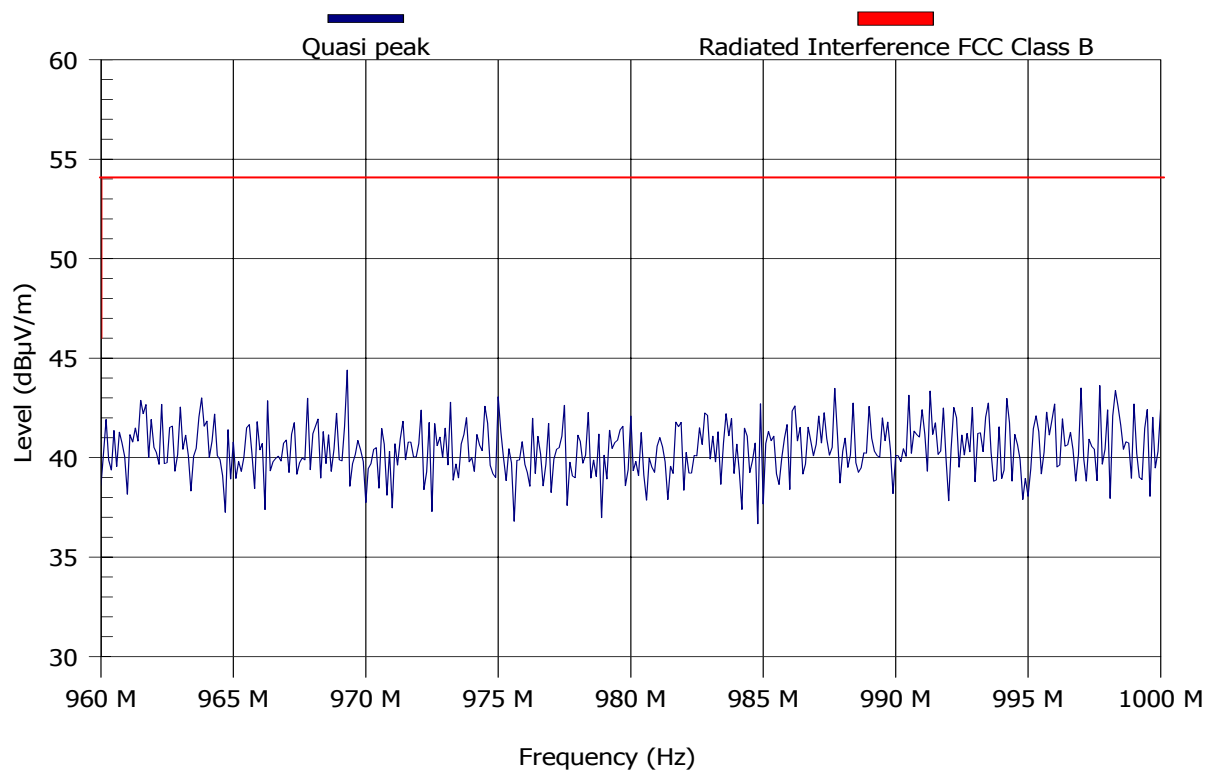
None

Test Results Plot No 20

FCC 15.205 RESTRICTED 900-1GHz 912 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

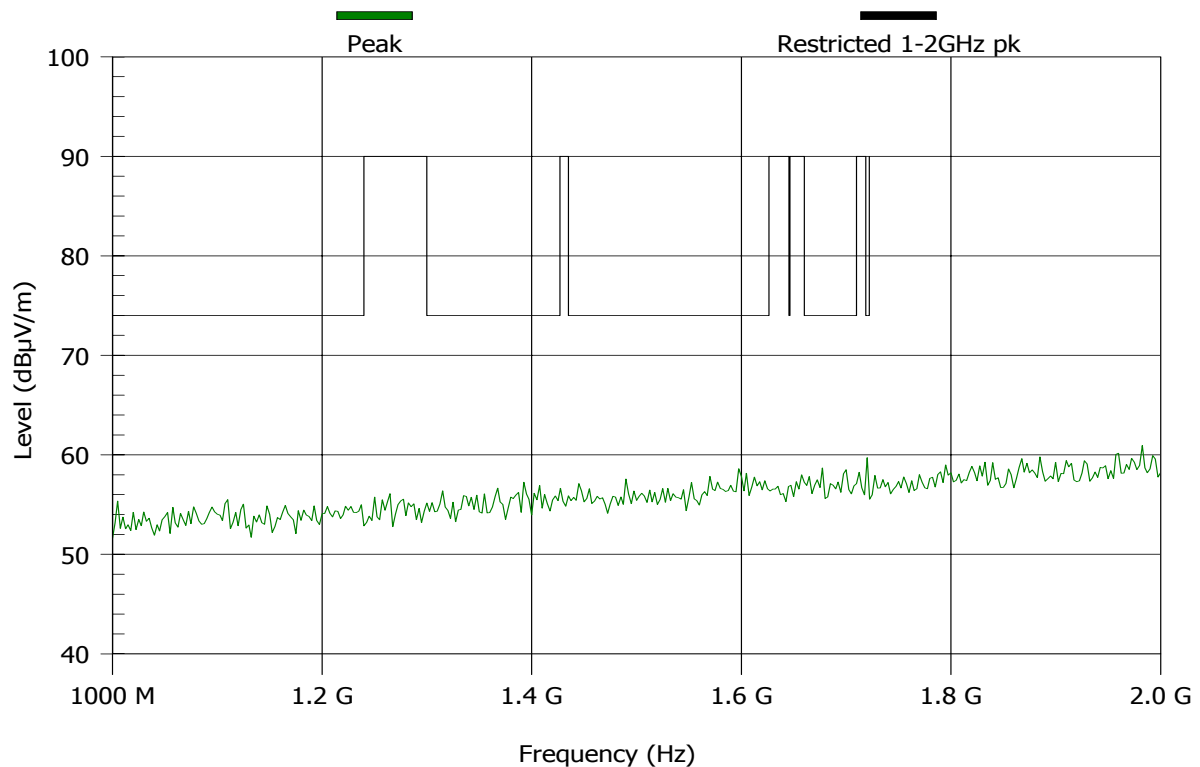
TEST REMARKS:



Test Results Plot No 21
FCC 15.205 RESTRICTED 1-2GHz 912 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

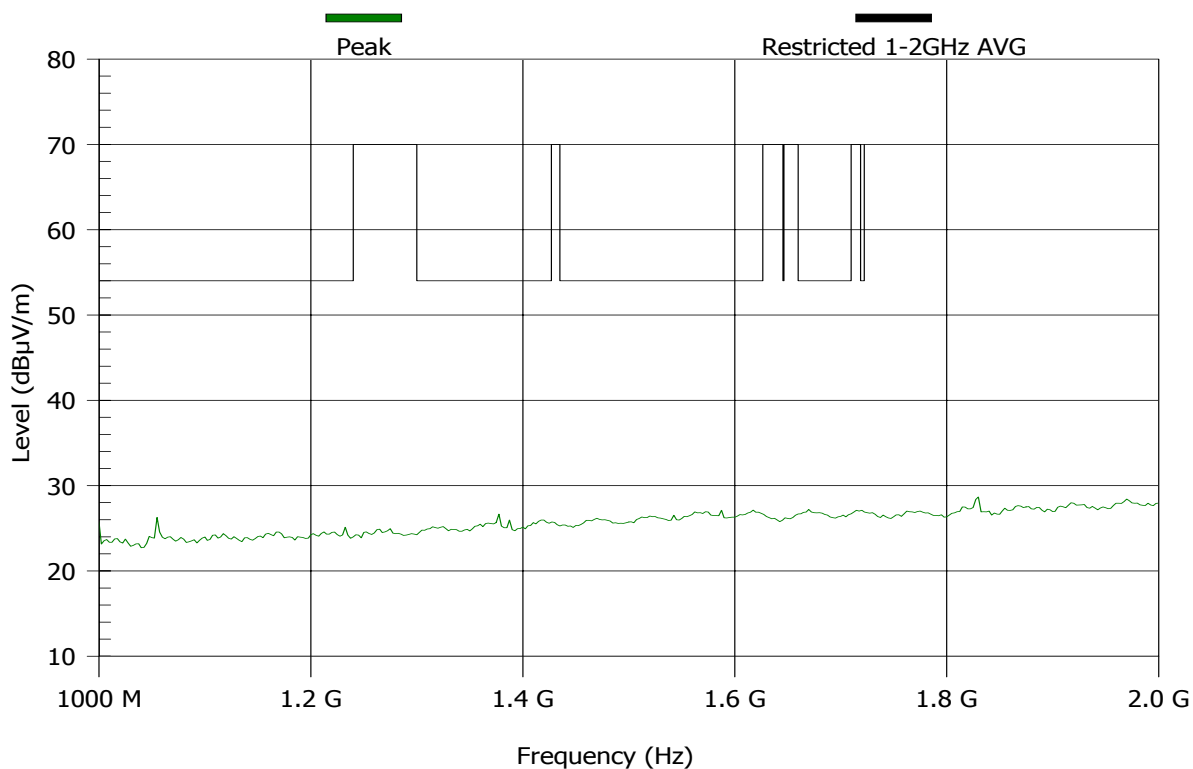
None

Test Results Plot No 22

FCC 15.205 RESTRICTED 1-2GHz 912 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 3 s
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

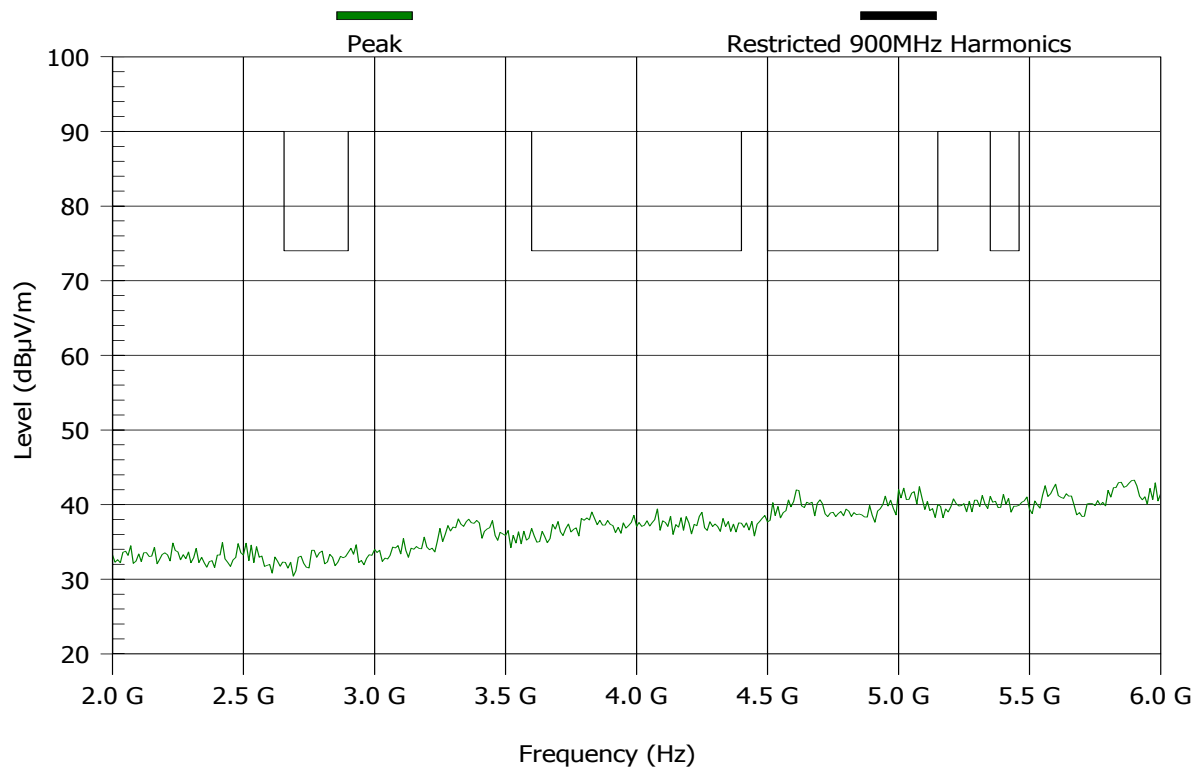
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

Test Results Plot No 23
FCC 15.205 RESTRICTED 2-6GHz 912 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 66.43 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

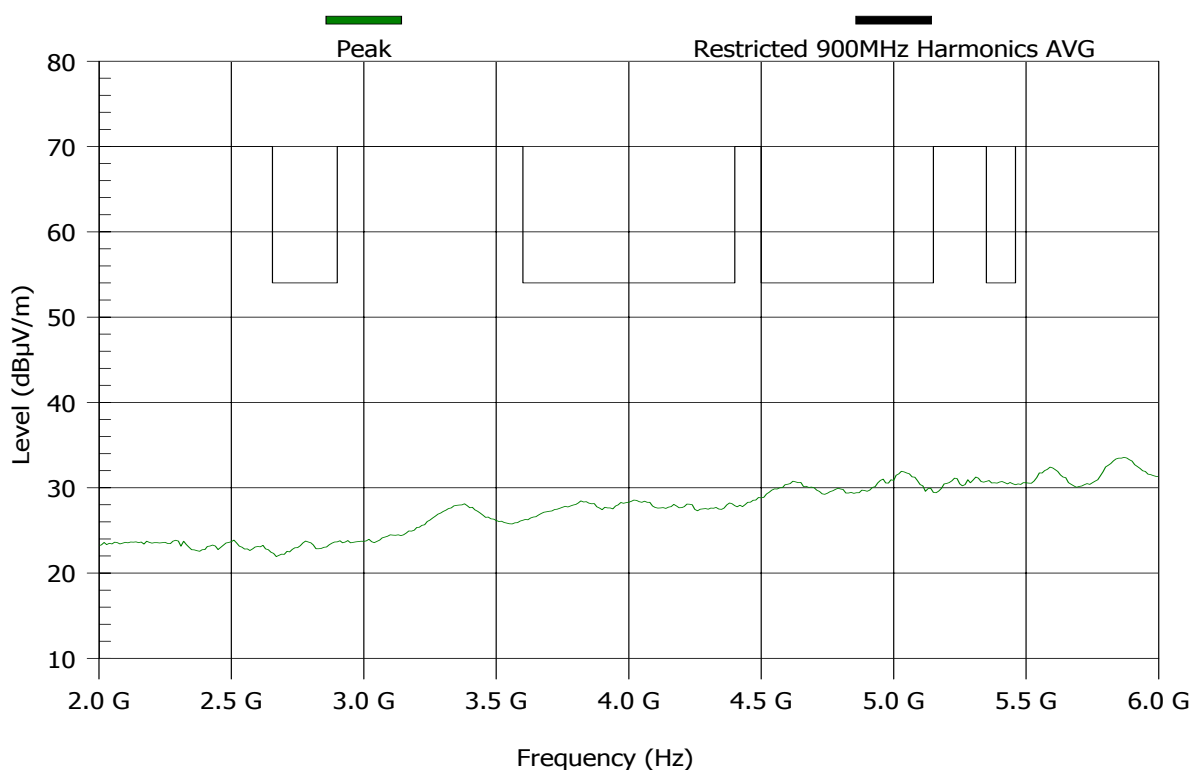
None

Test Results Plot No 24

FCC 15.205 RESTRICTED 2-6GHz 912 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	5 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

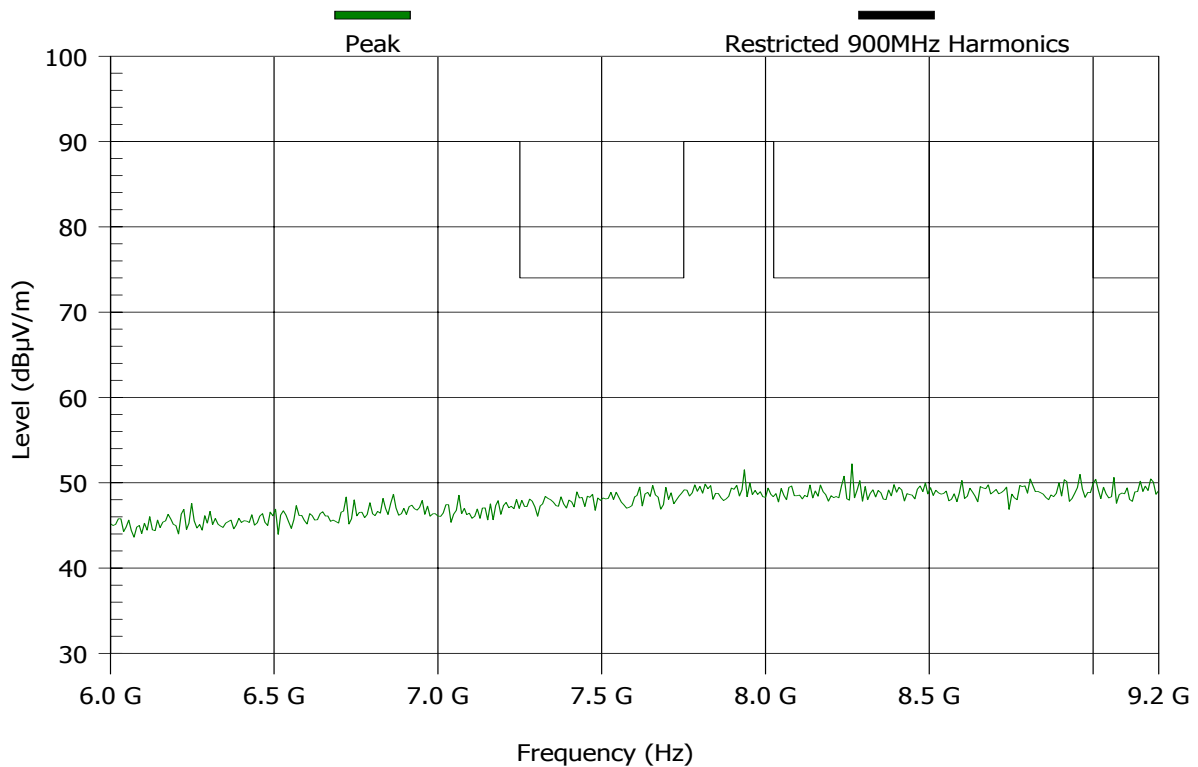
None

Test Results Plot No 25

FCC 15.205 RESTRICTED 6-9.2GHz 912 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 73.83 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

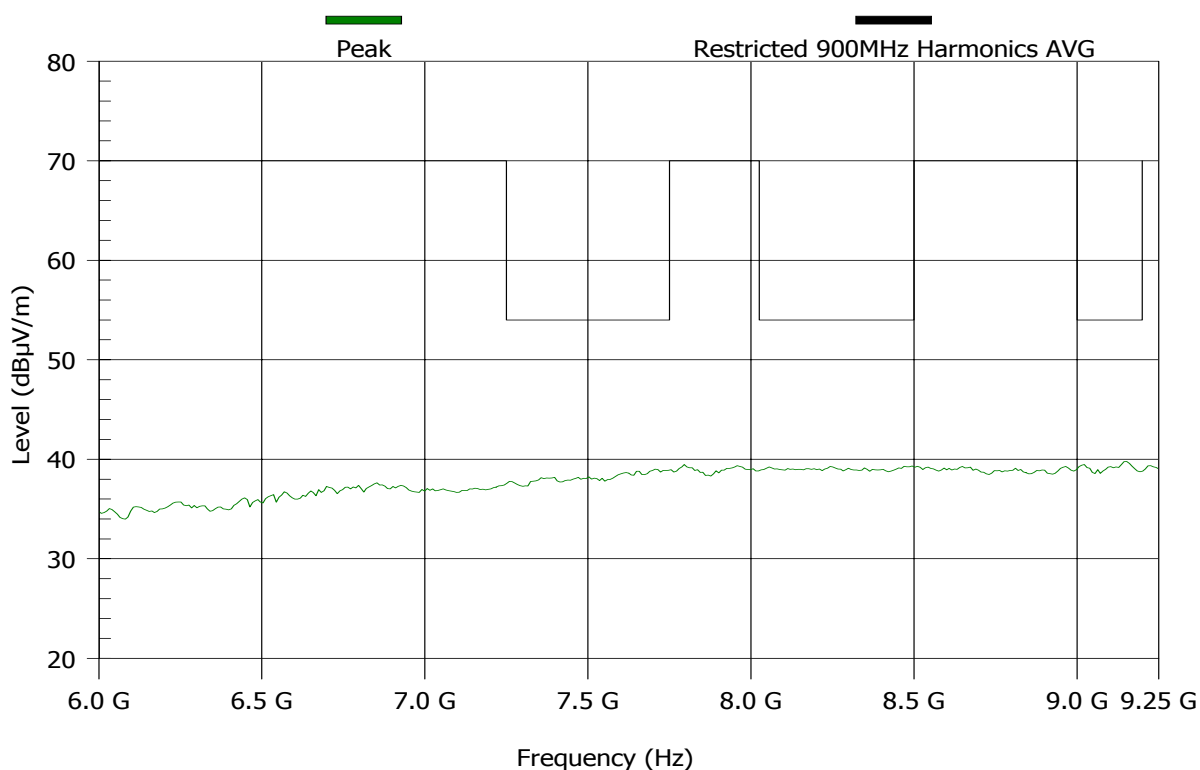
None

Test Results Plot No 26

FCC 15.205 RESTRICTED 6-9.2GHz 912 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 9.75 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

None

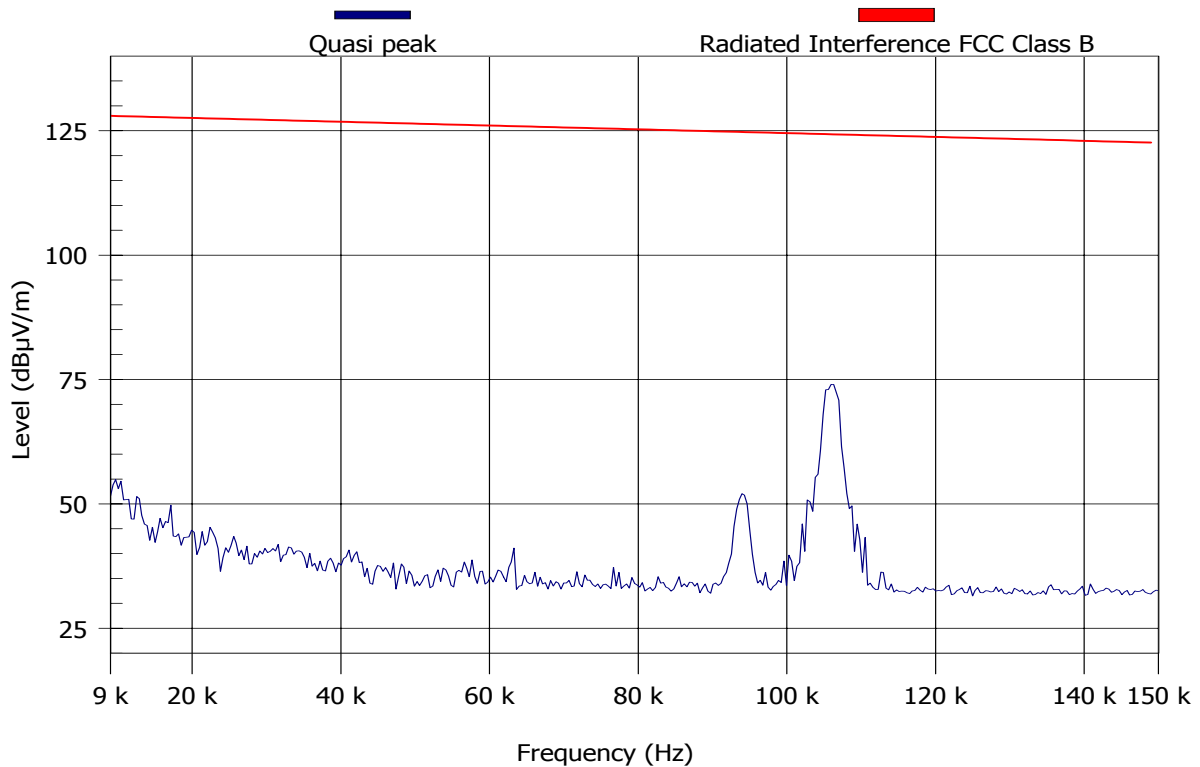
(2) Transmit Frequency 915 MHz Antenna-Integrated 8dbi plots 27 – 39

Test Results Plot No 27

FCC 15.205 RESTRICTED 0.009-0.15MHz 915 8dbi omni VER

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

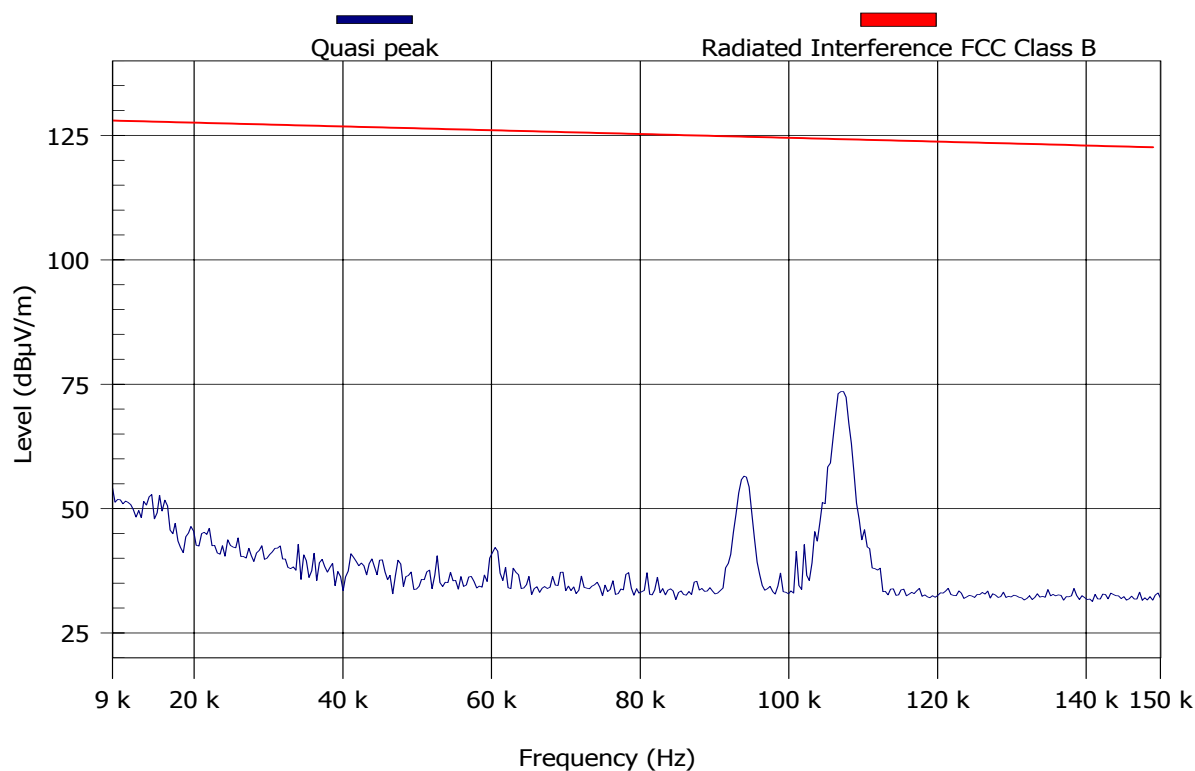
None

Test Results Plot No 28

FCC 15.205 RESTRICTED 0.009-0.15MHz 915 8dbi omni HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

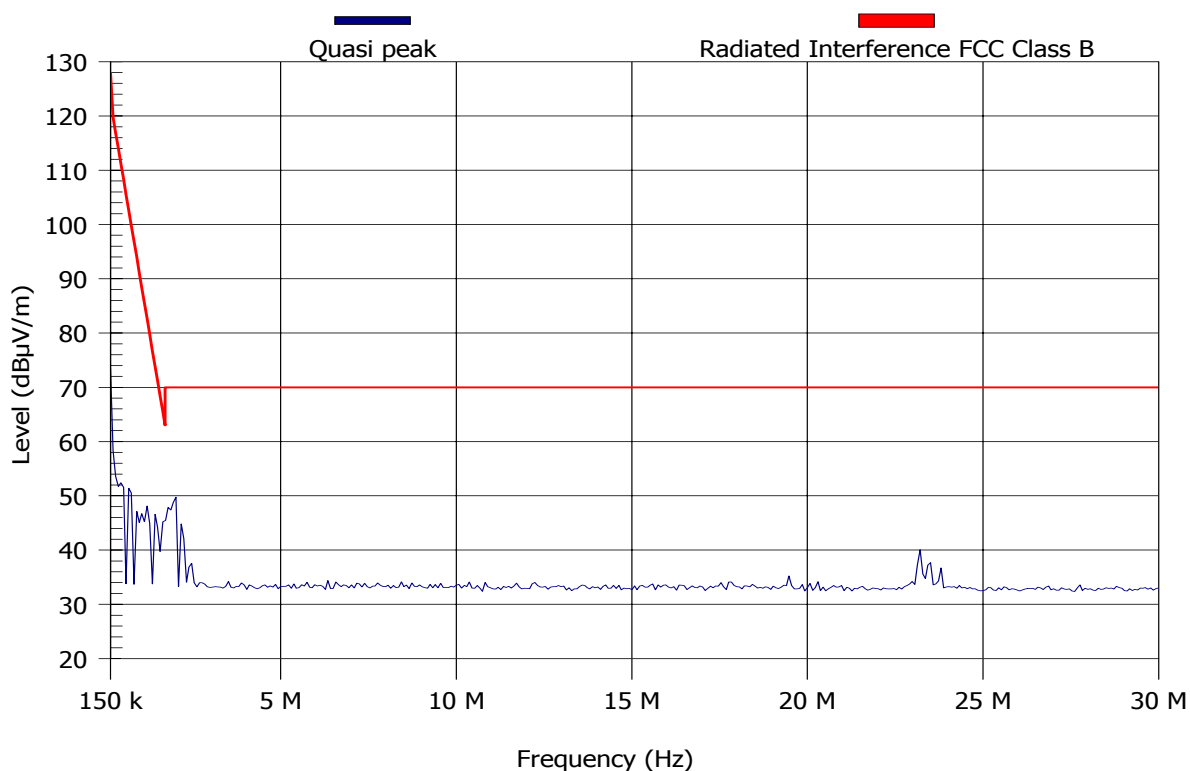
None

Test Results Plot No 29

FCC 15.205 RESTRICTED 0.15-30MHz 915 8dbi omni VER

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

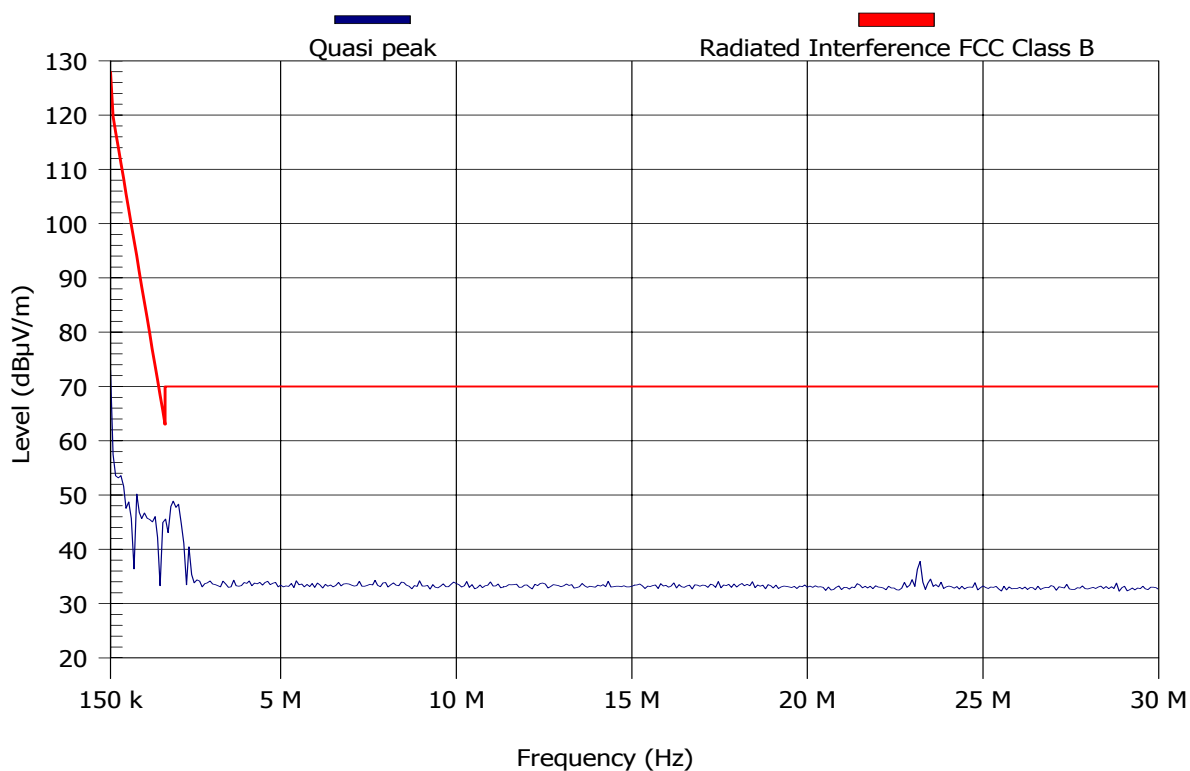
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 30

FCC 15.205 RESTRICTED 0.15-30MHz 915 8dbi omni HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

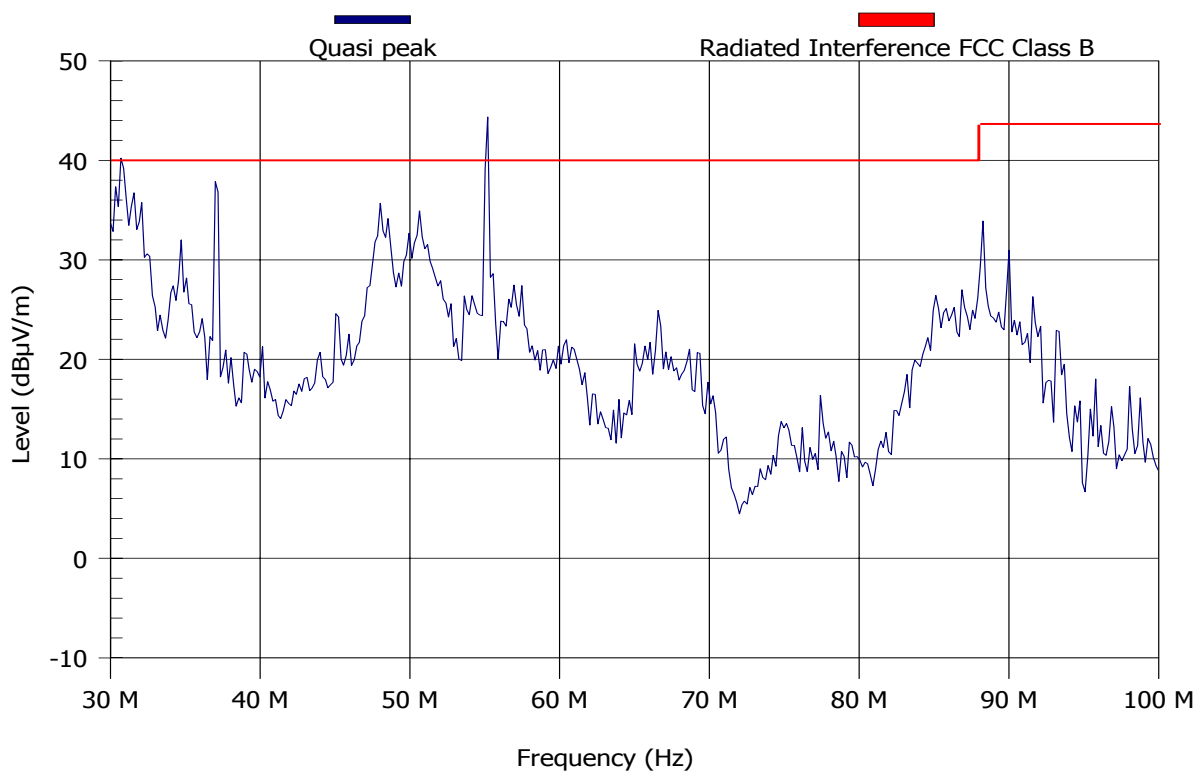
None

Test Results Plot No 31

FCC 15.205 RESTRICTED 30-100MHz 915 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

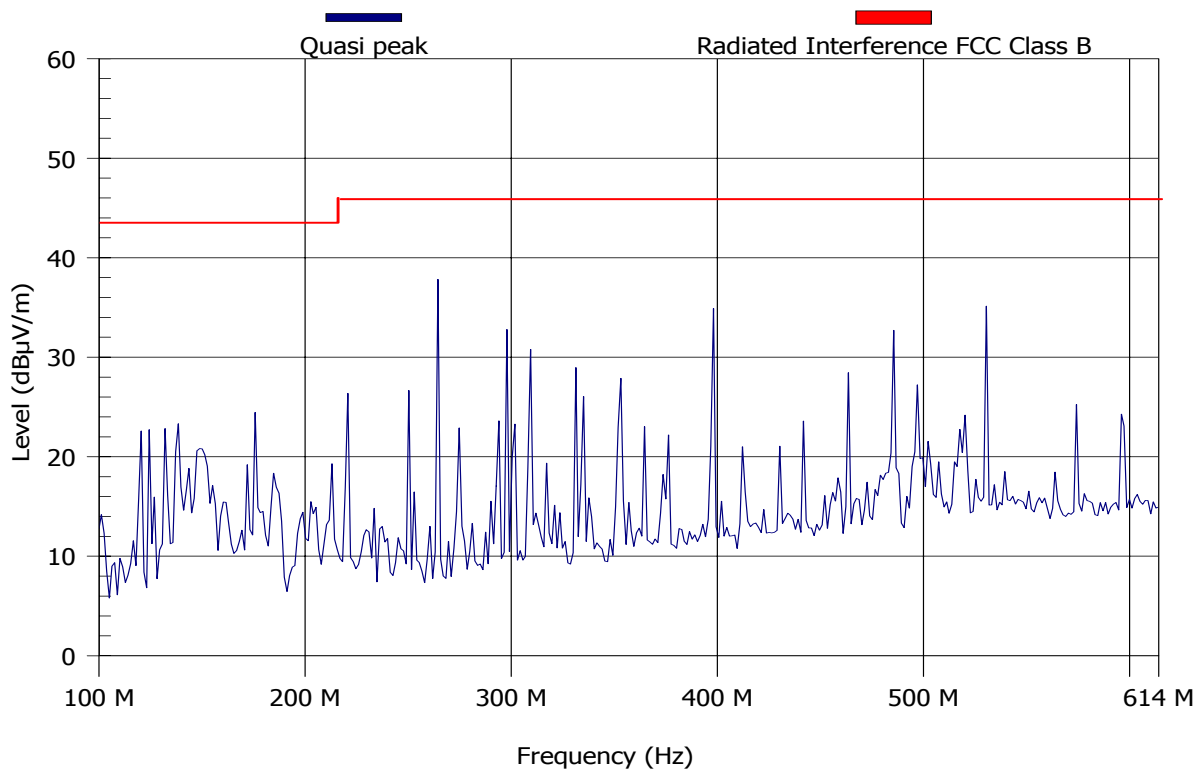
Frequency (MHz)	PK MaxHold (dB μ V/m)	QP (dB μ V/m)	QP Limit (dB μ V/m)	Pass/fail	Angle (degrees)	Height (m)	H/V
30.004*	39.7	39.9	40	Pass	0	1	V
37.1058*	37.6	32.4	40	Pass	300	1.3	V
55.263*	44.5	25.9	40	Pass	300	1.3	V
Not in restricted band							

Test Results Plot No 32

FCC 15.205 RESTRICTED 100-600MHz 915 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dBμV
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 107.08 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

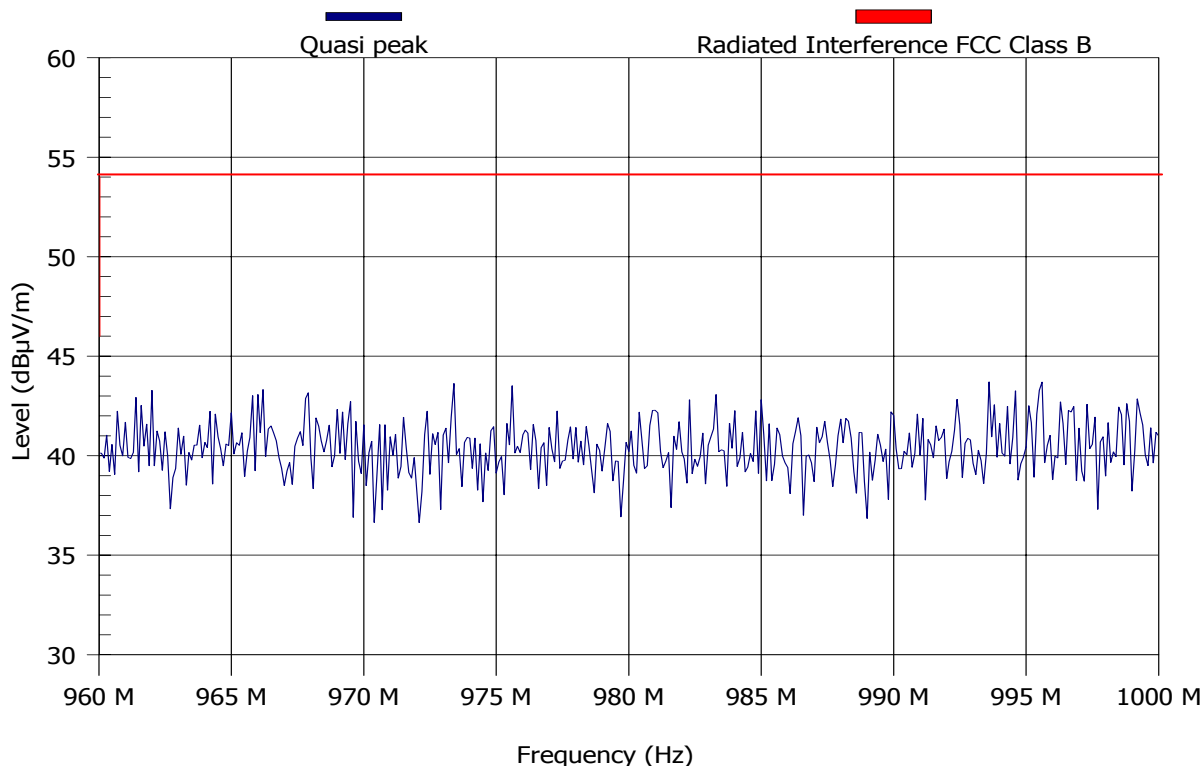
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 33

FCC 15.205 RESTRICTED 900-1GHz 915 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

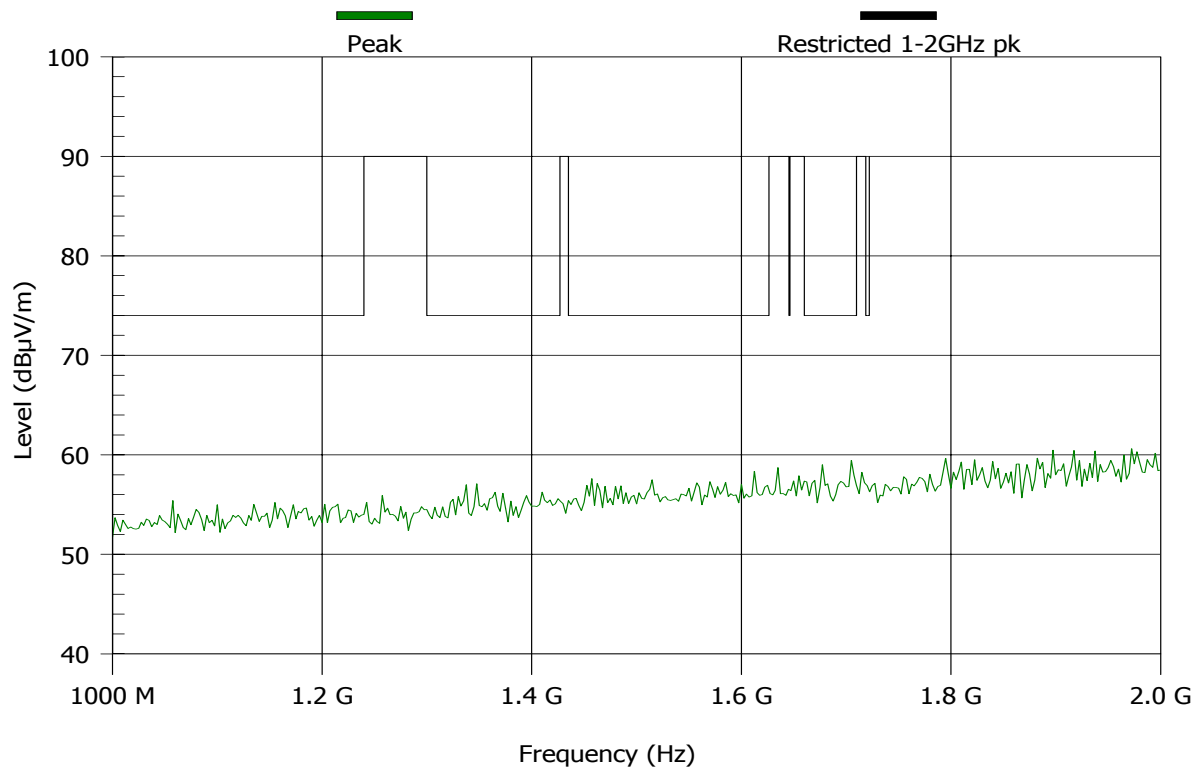
None

Test Results Plot No 34

FCC 15.205 RESTRICTED 1-2GHz 915 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

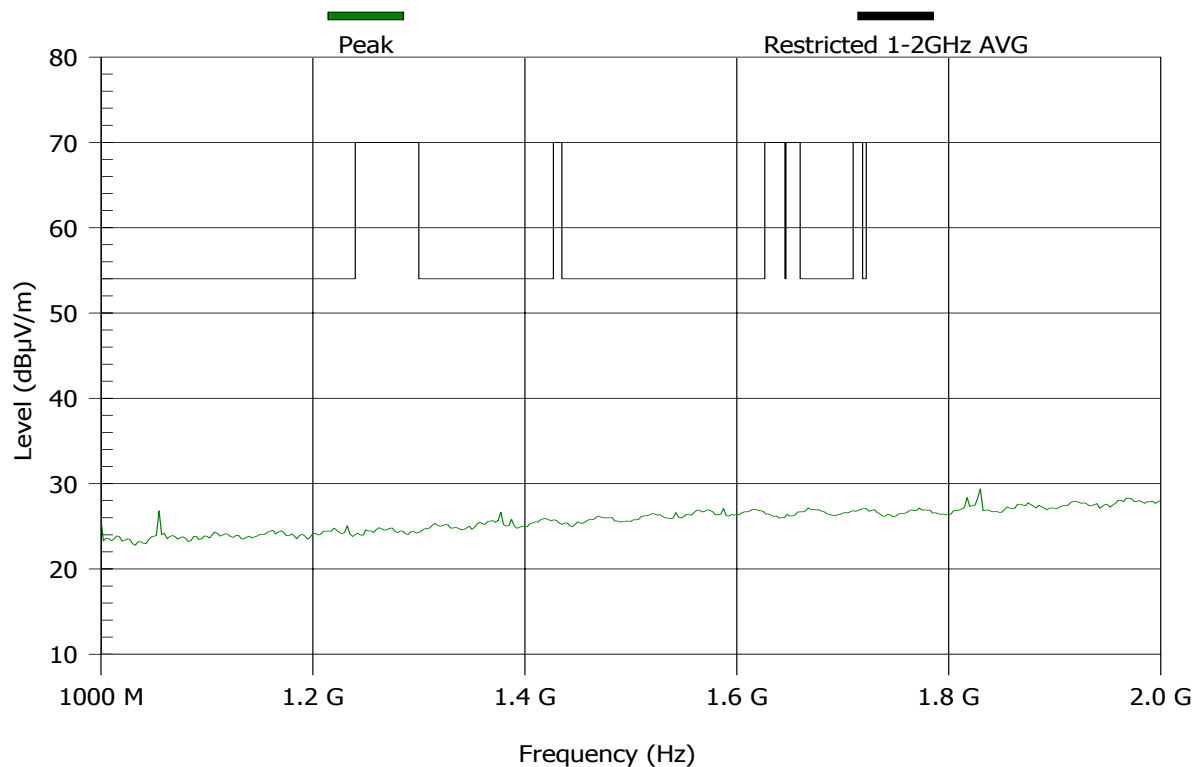
None

Test Results Plot No 35

FCC 15.205 RESTRICTED 1-2GHz 915 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:		RBW:	1000 kHz
Test Engineer:		VBW:	1000 Hz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 3 s
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:



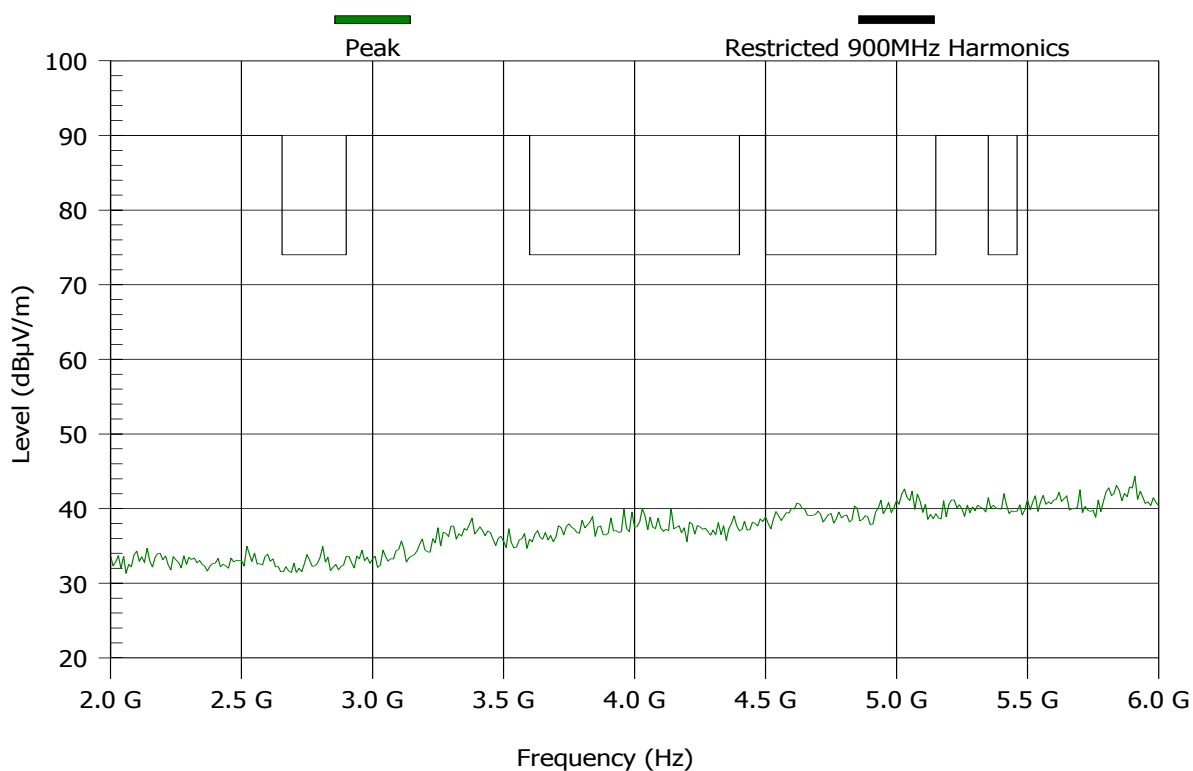
MAXIMUM RESULT DEVIATION:

Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 36
FCC 15.205 RESTRICTED 2-6GHz 915 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 66.43 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

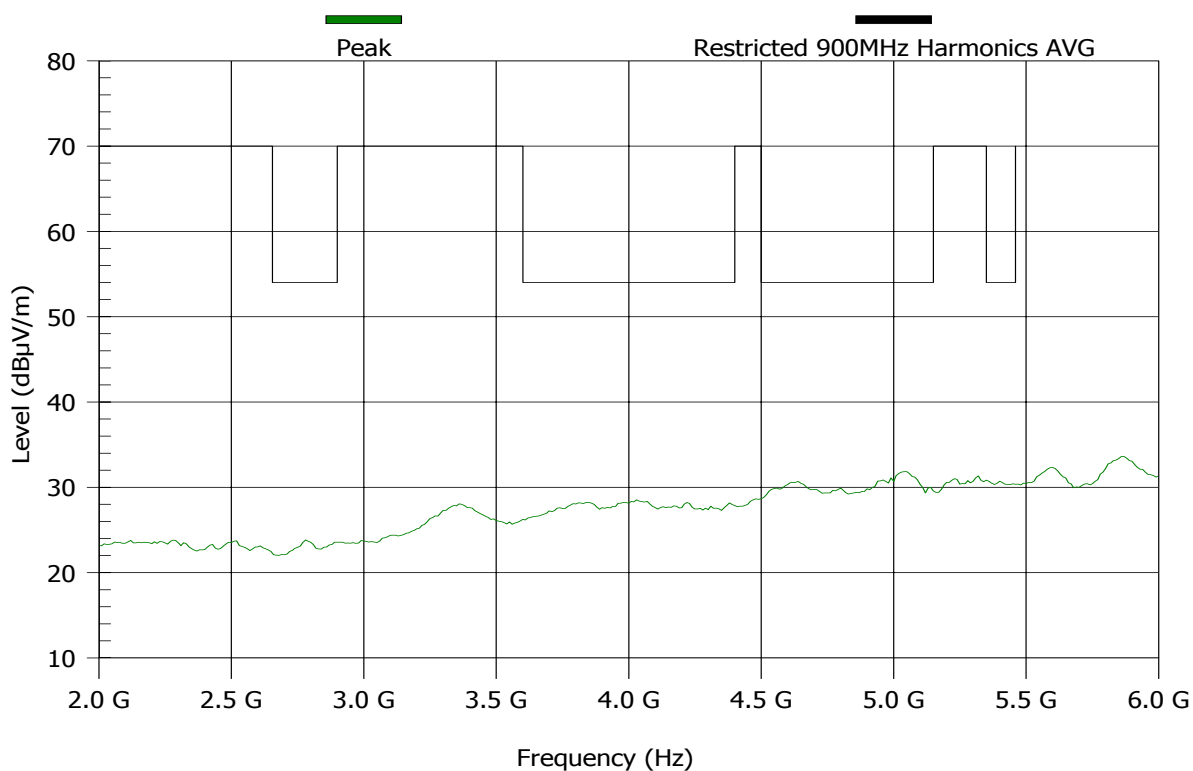
None

Test Results Plot No 37

FCC 15.205 RESTRICTED 2-6GHz 915 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	5 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

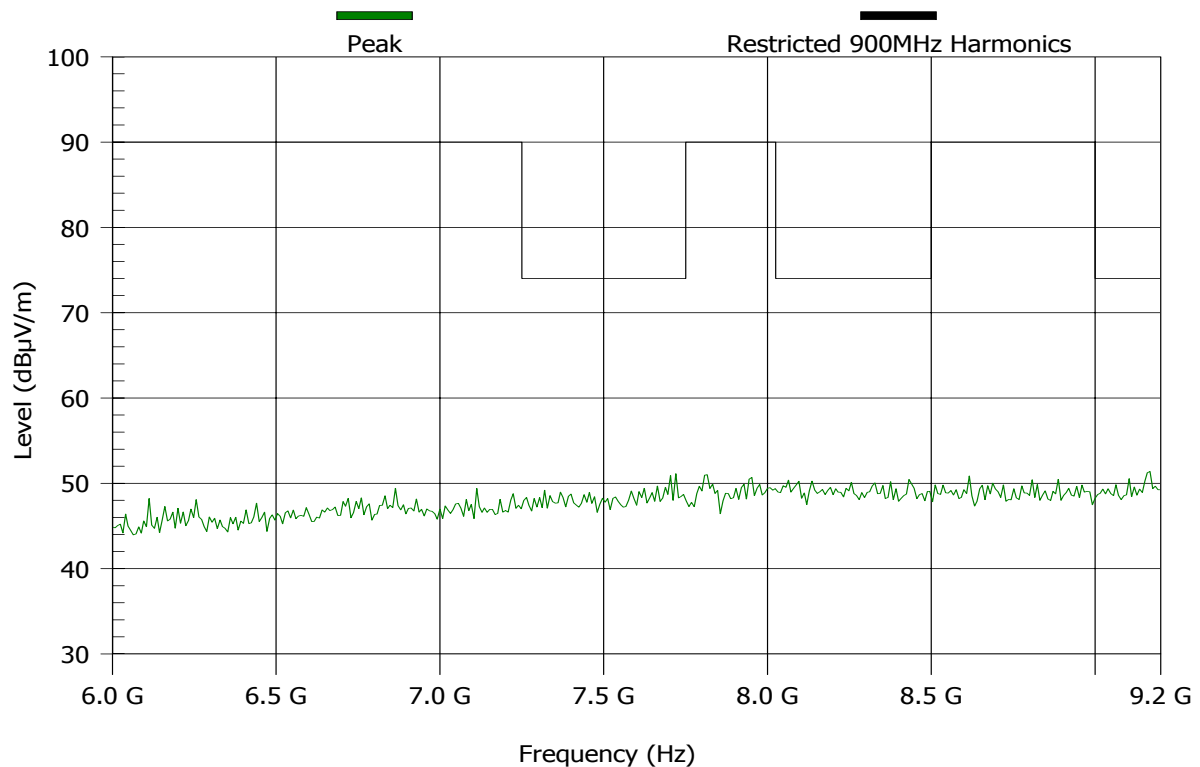
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

Test Results Plot No 38
FCC 15.205 RESTRICTED 6-9.2GHz 915 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 73.83 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

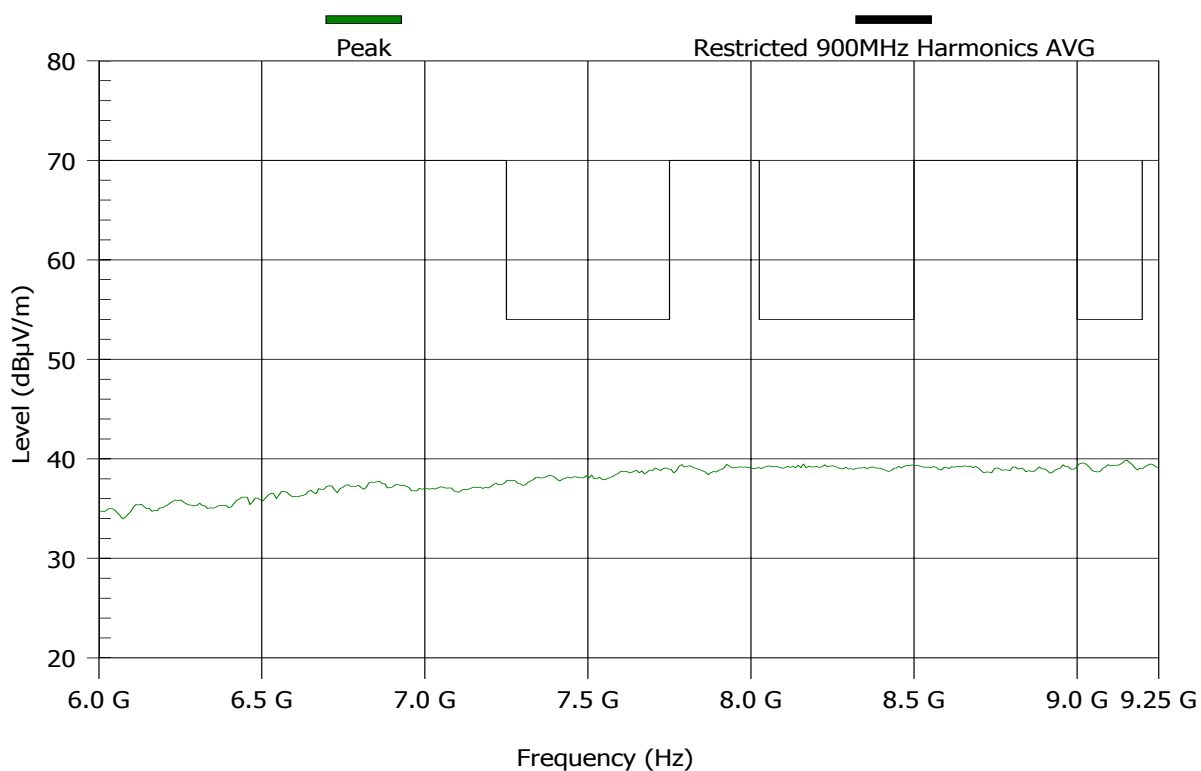
None

Test Results Plot No 39

FCC 15.205 RESTRICTED 6-9.2GHz 915 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 9.75 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

None

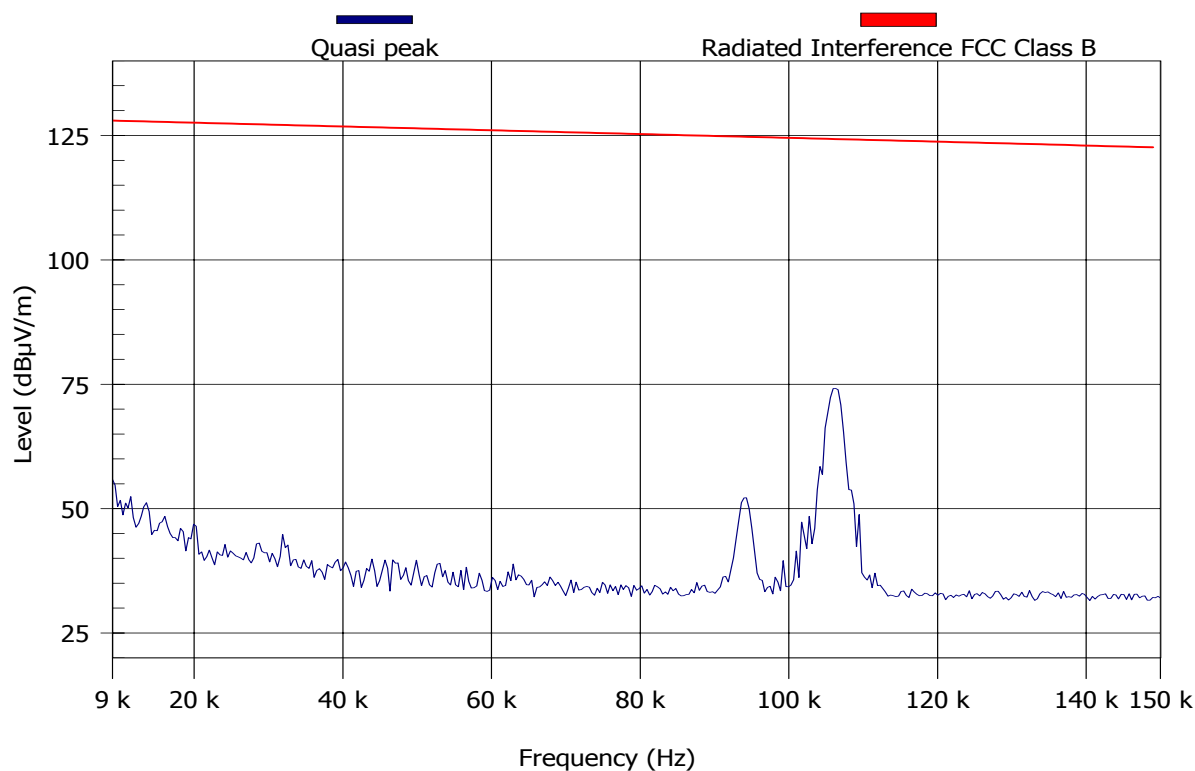
(3) Transmit Frequency 918 MHz Antenna-Integrated 8dbi plots 40 – 52

Test Results Plot No 40

FCC 15.205 RESTRICTED 0.009-0.15MHz 918 8dbi omni VER

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:


MAXIMUM RESULT DEVIATION:

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

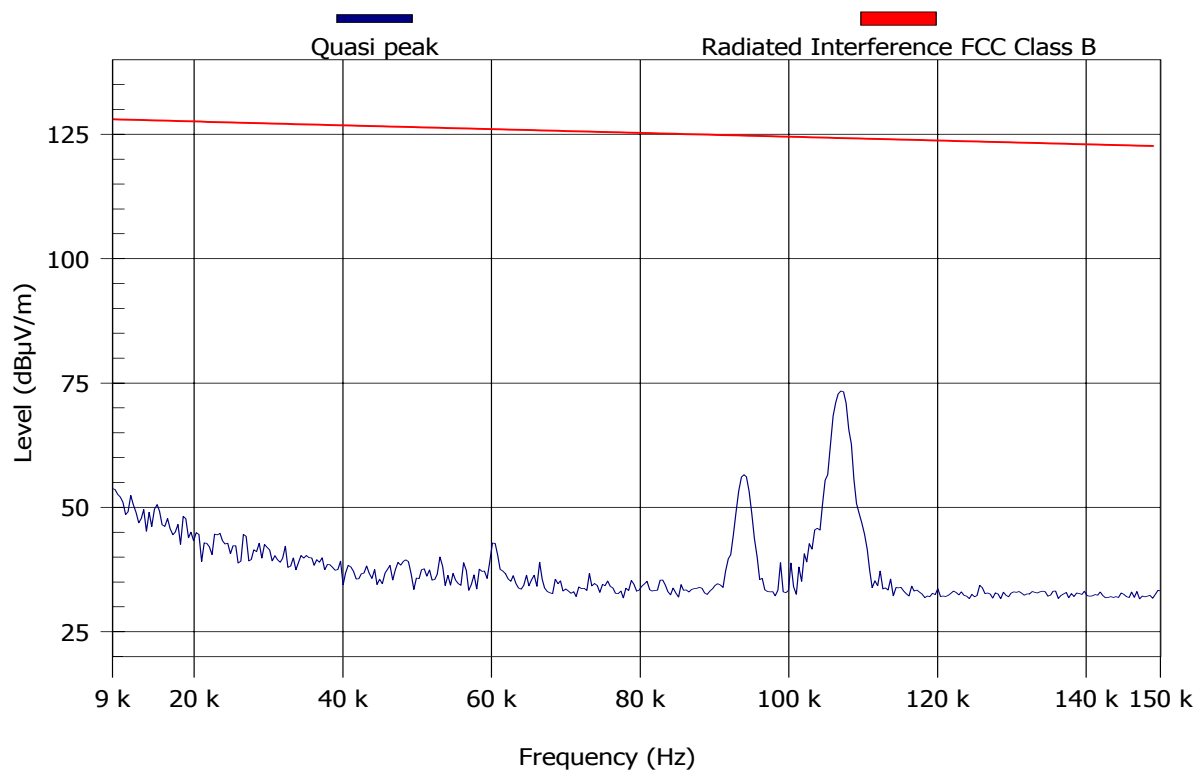
None

Test Results Plot No 41

FCC 15.205 RESTRICTED 0.009-0.15MHz 918 8dbi omni HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

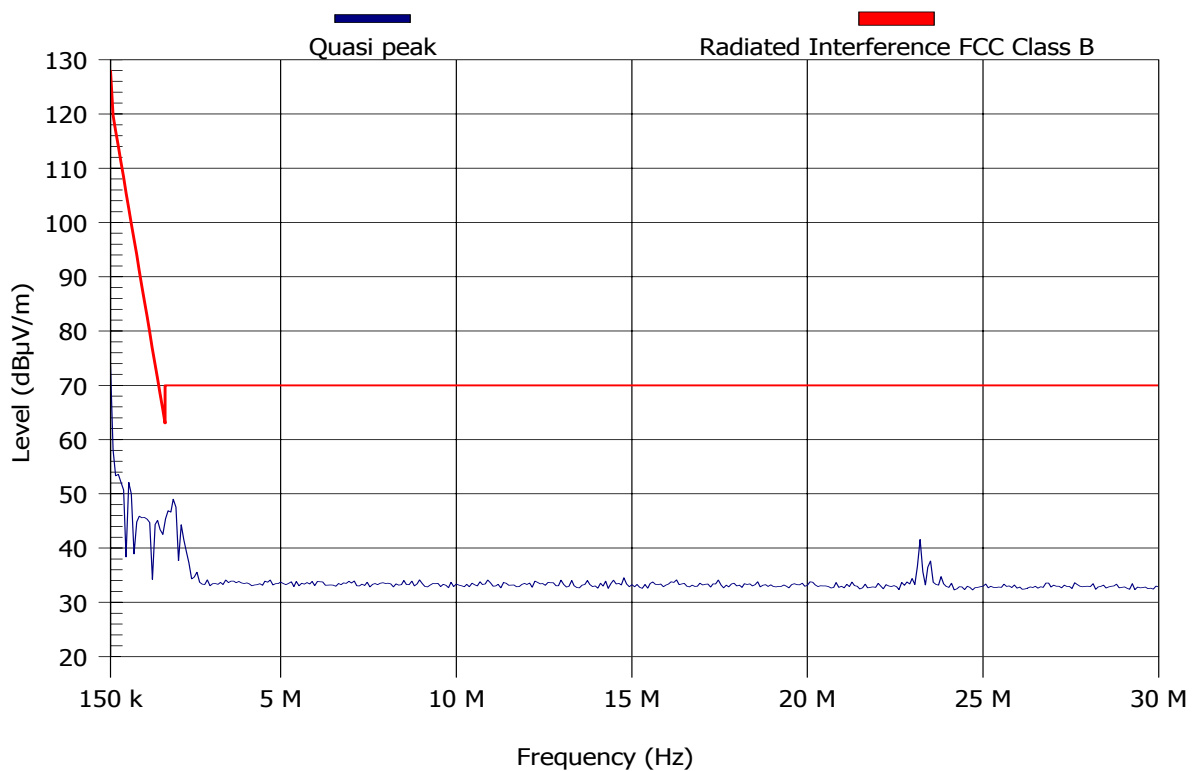
None

Test Results Plot No 42

FCC 15.205 RESTRICTED 0.15-30MHz 918 8dbi omni VER

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

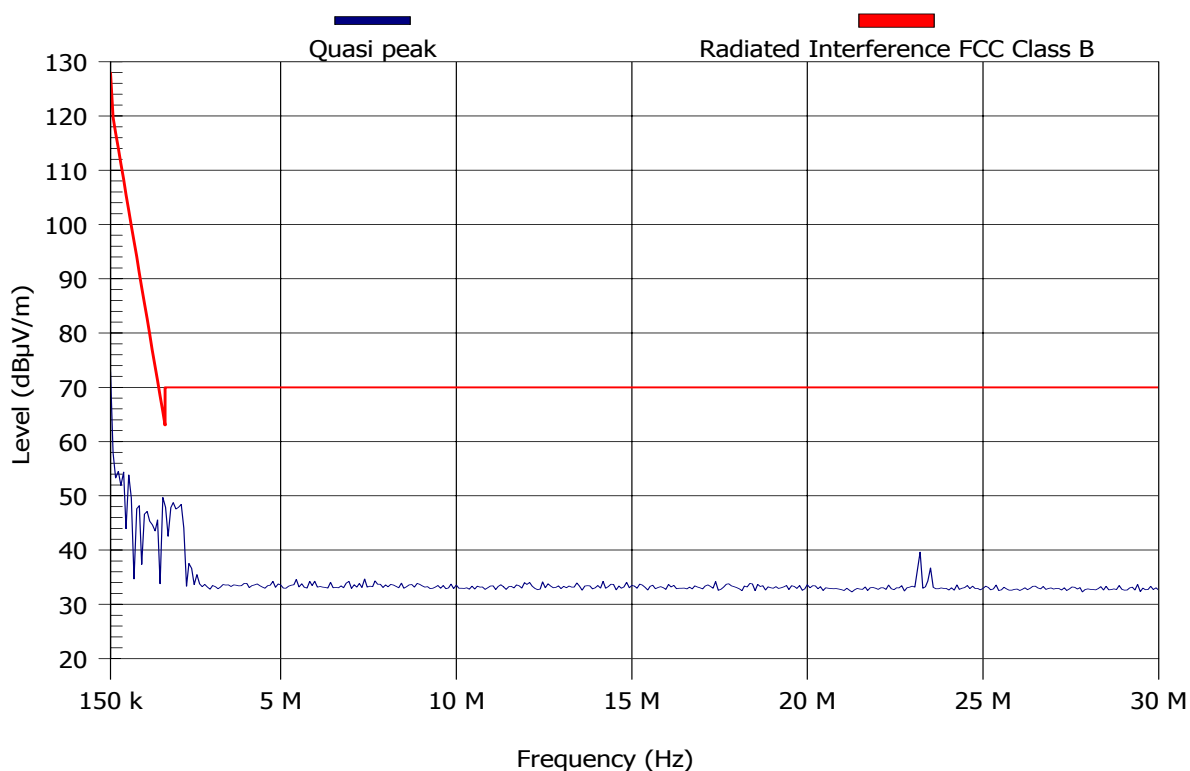
None

Test Results Plot No 43

FCC 15.205 RESTRICTED 0.15-30MHz 918 8dbi omni HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

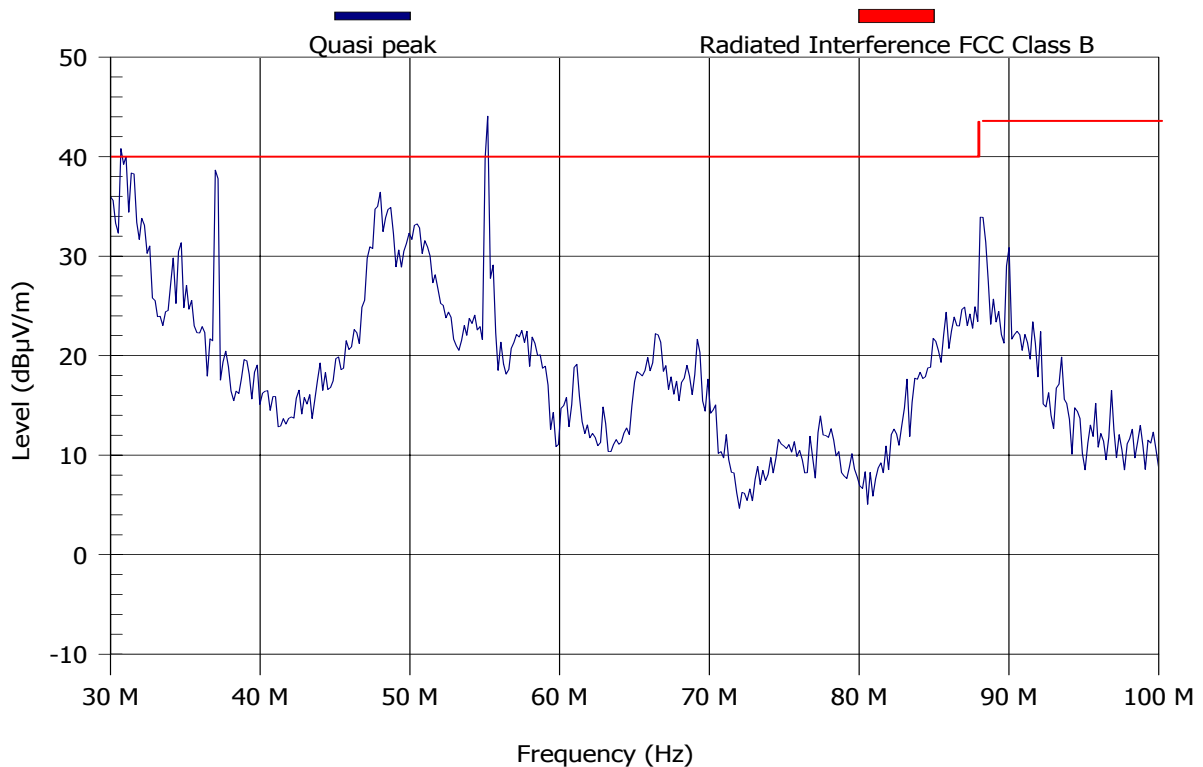
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 44

FCC 15.205 RESTRICTED 30-100MHz 918 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	AGILENT E7405A
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS:


MAXIMUM RESULT DEVIATION:

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

Frequency (MHz)	PK MaxHold (dB μ V/m)	QP (dB μ V/m)	QP Limit (dB μ V/m)	Pass/fail	Angle (degrees)	Height (m)	H/V
30.636*	39.3	36.7	40	Pass	180	1	V
37*	39.2	27	40	Pass	5	1.6	H
47.795*	38.8	32.8	40	Pass	180	1.3	V
55.2*	44.1	29.5	40	Pass	120	1	H

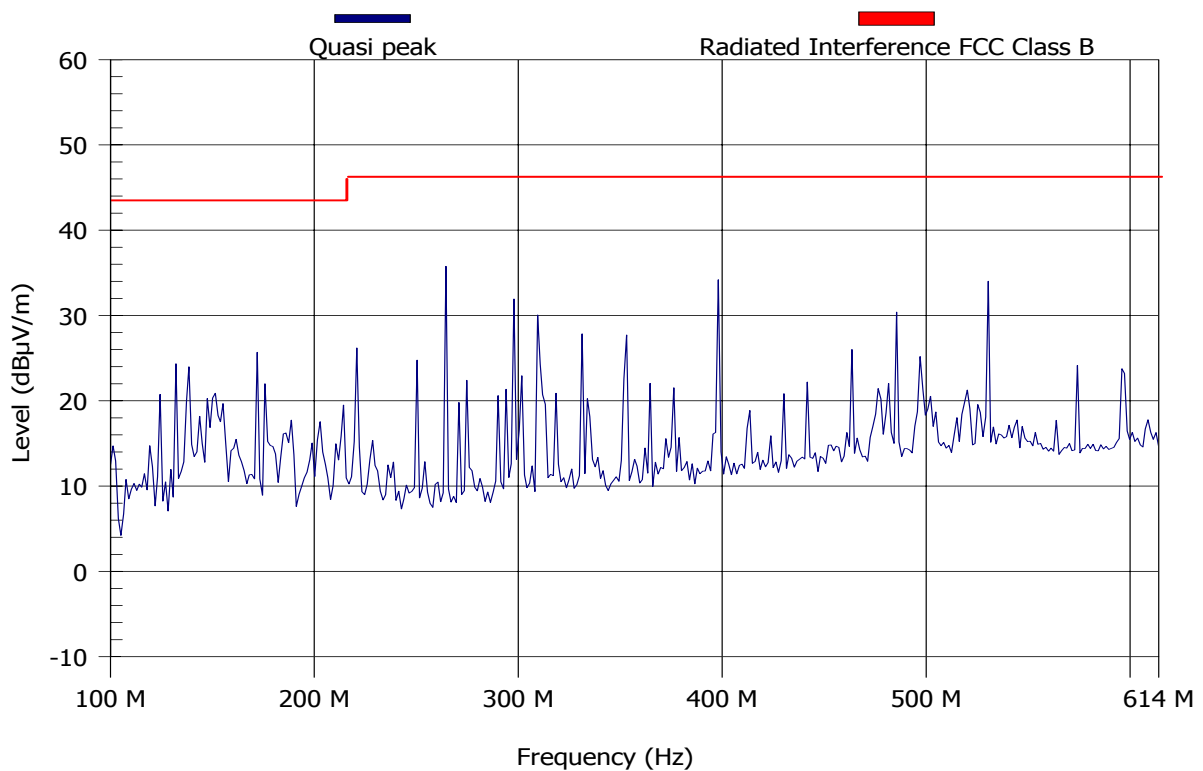
*Not in restricted band

Test Results Plot No 45

FCC 15.205 RESTRICTED 100-600MHz 918 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 107.08 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-1

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

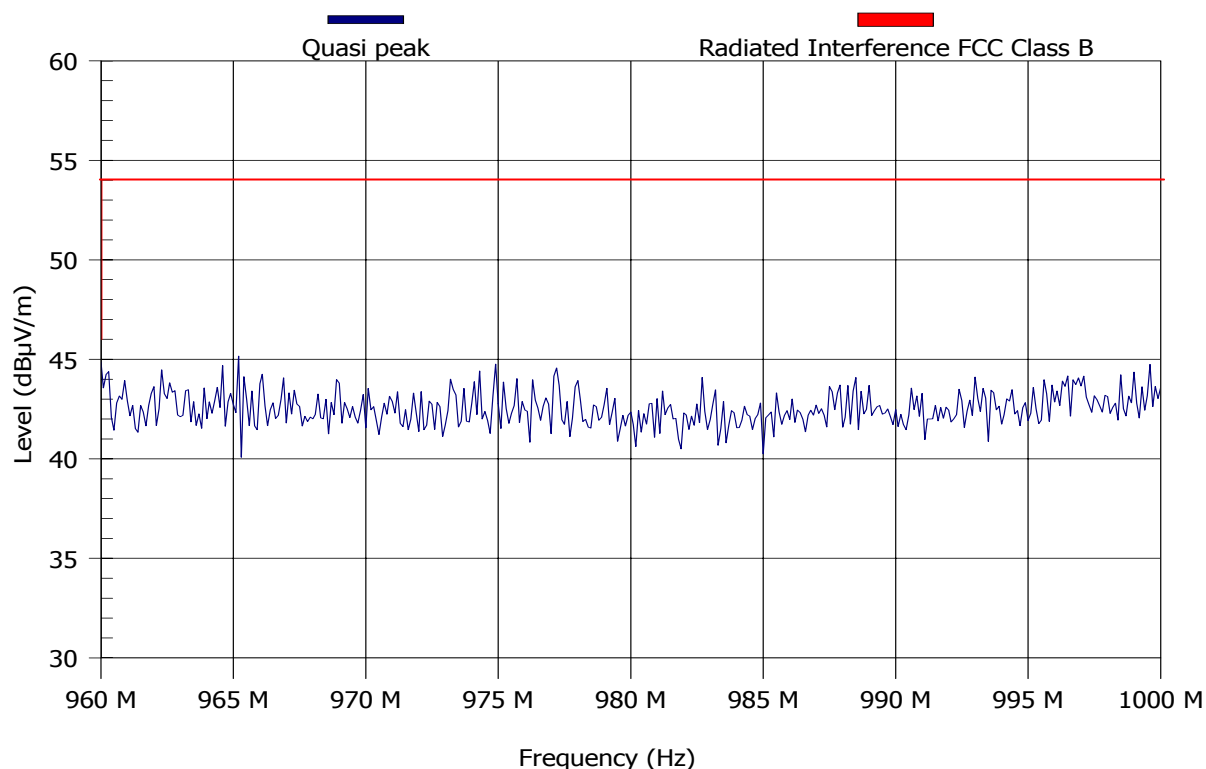
None

Test Results Plot No 46

FCC 15.205 RESTRICTED 900-1GHz 918 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

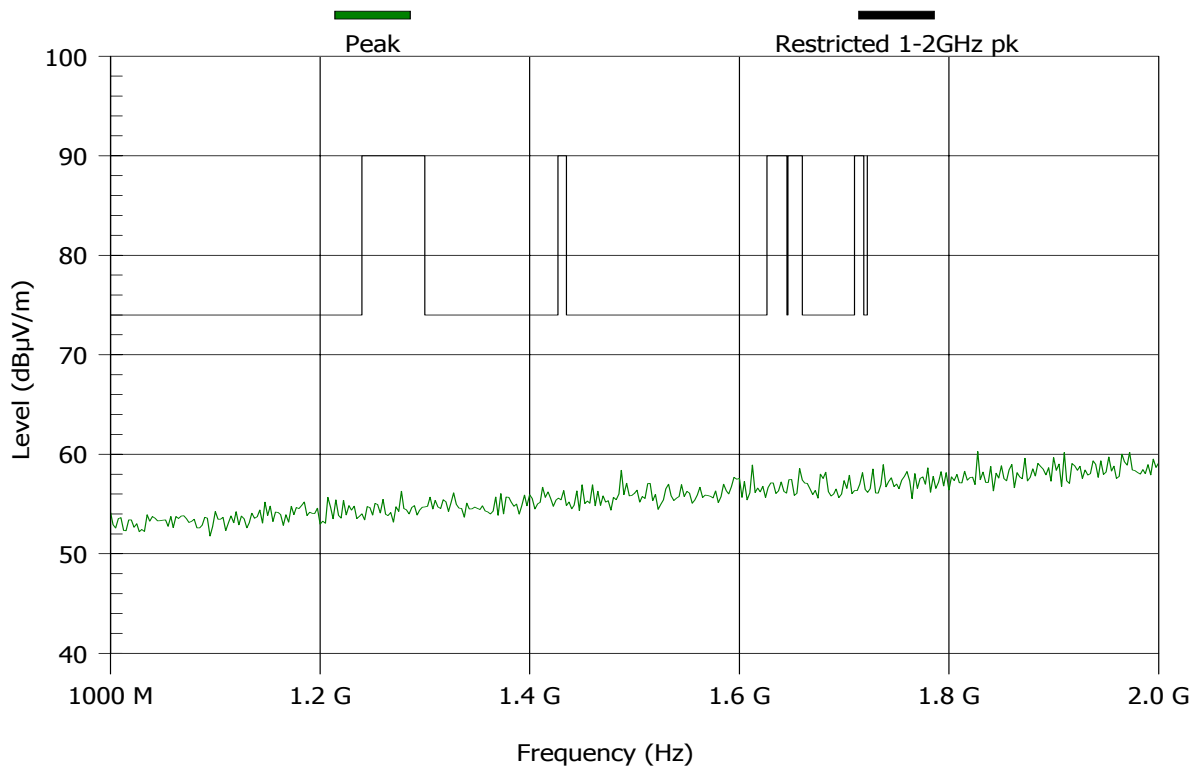
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

Test Results Plot No 47

FCC 15.205 RESTRICTED 1-2GHz 918 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

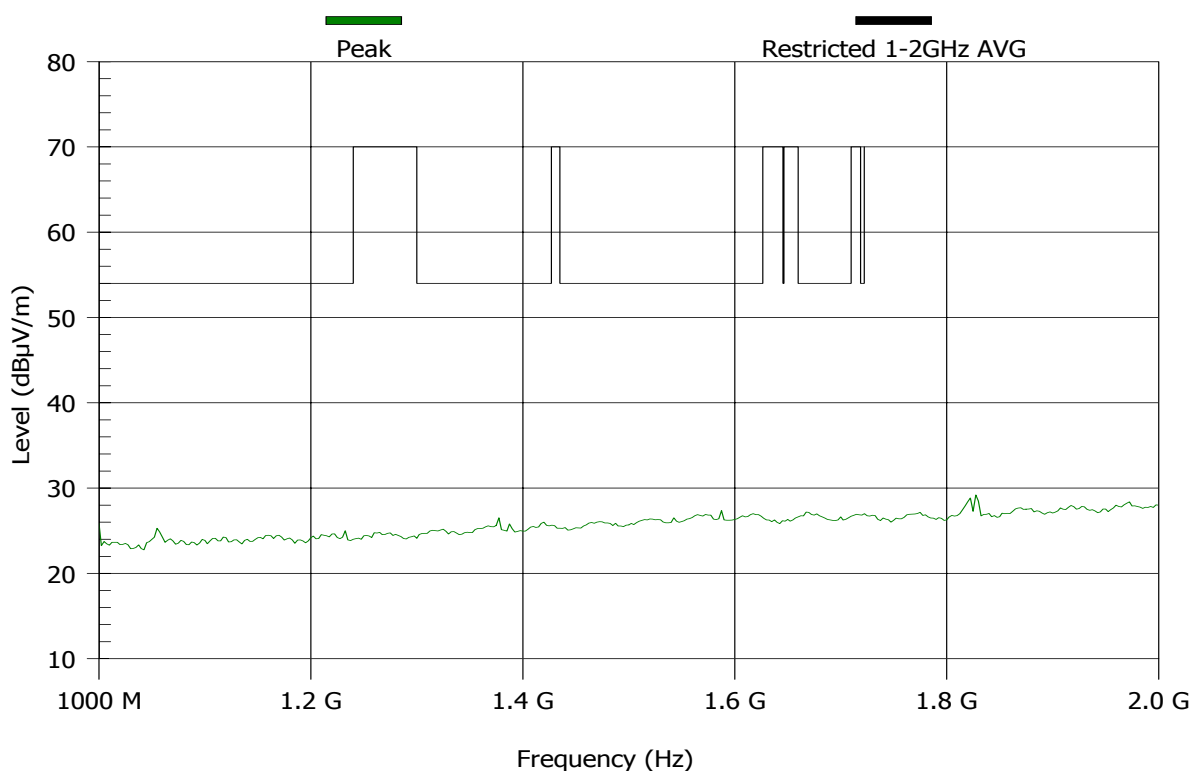
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

Test Results Plot No 48

FCC 15.205 RESTRICTED 1-2GHz 918 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 3 s
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:

MAXIMUM RESULT DEVIATION:

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

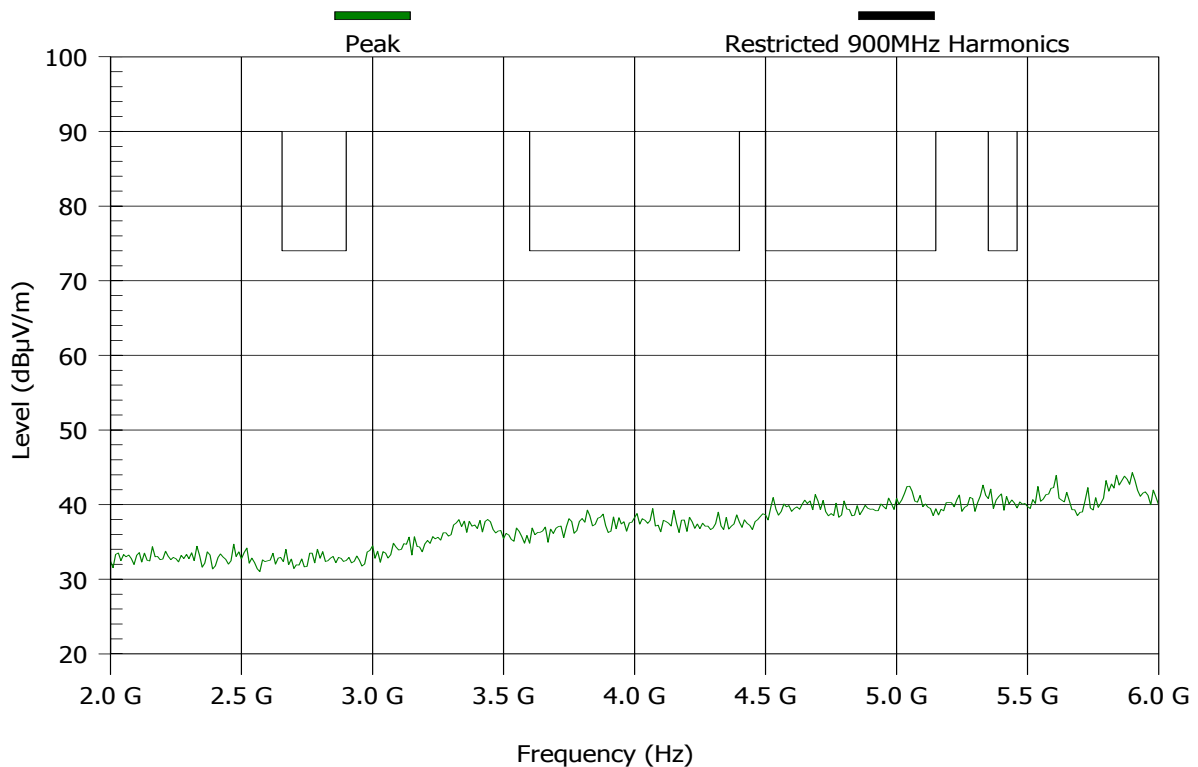
None

Test Results Plot No 49

FCC 15.205 RESTRICTED 2-6GHz 918 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 66.43 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

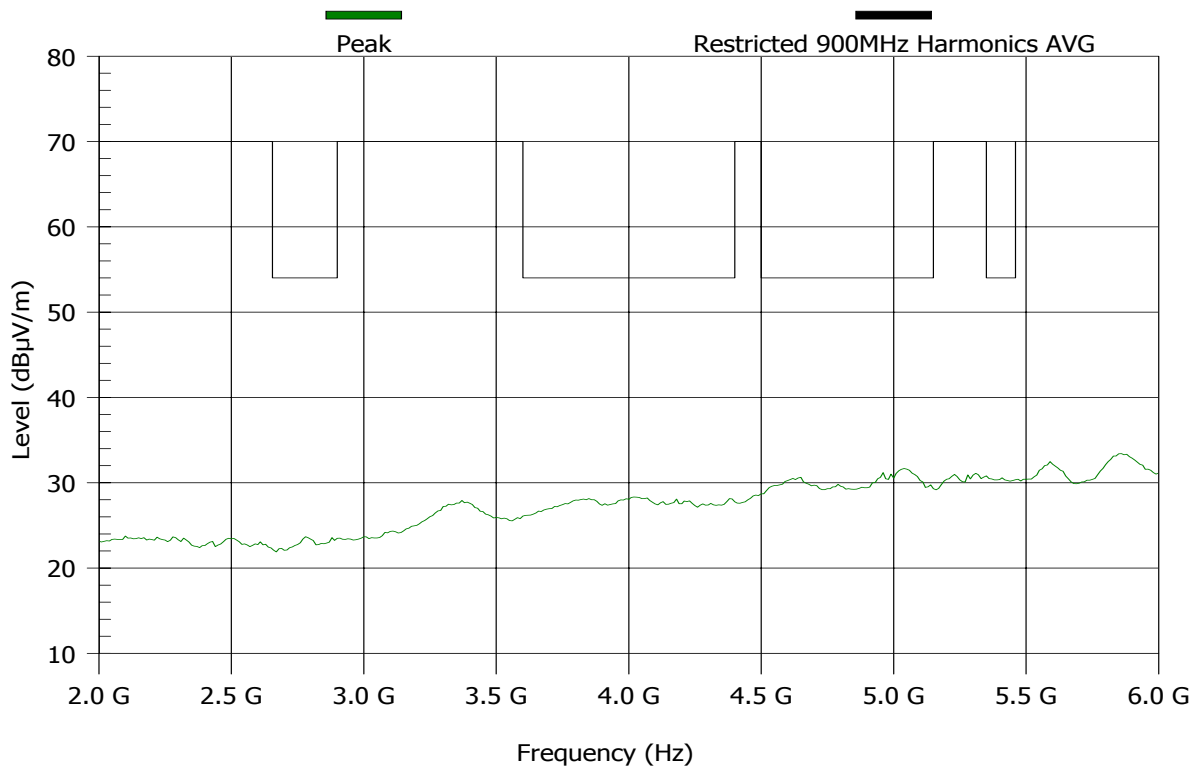
None

Test Results Plot No 50

FCC 15.205 RESTRICTED 2-6GHz 918 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	5 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

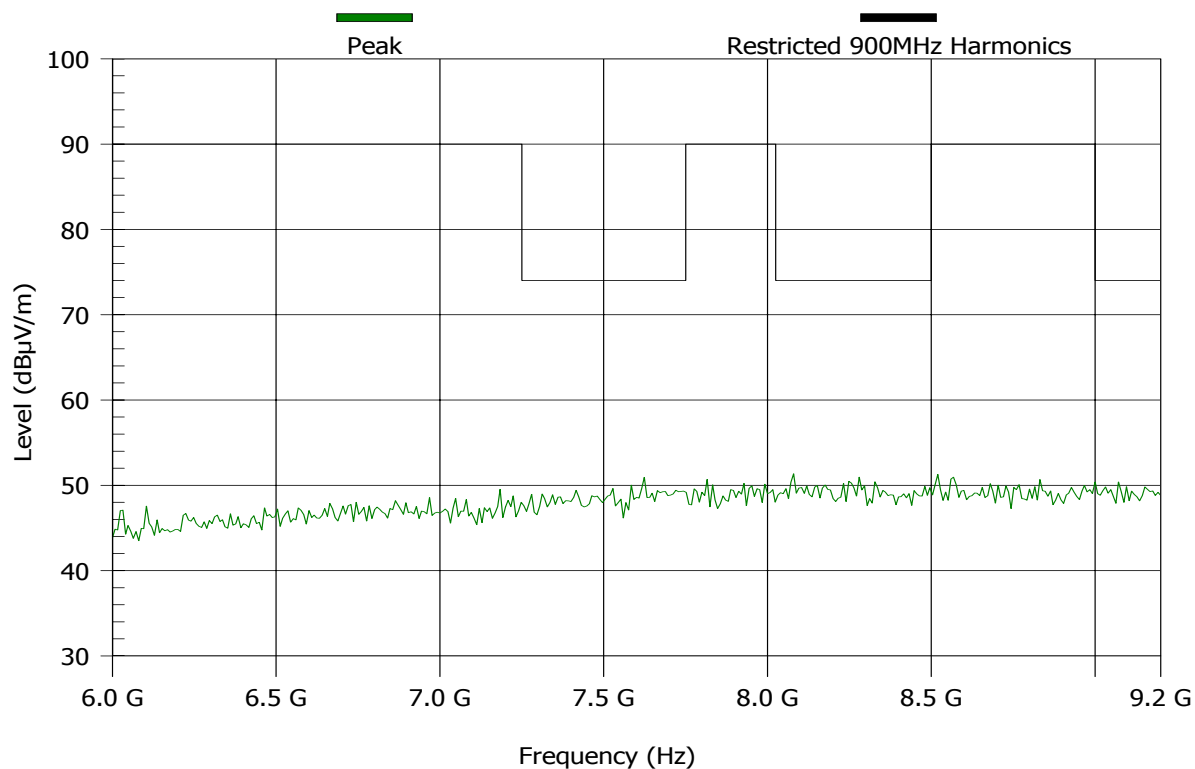
None

Test Results Plot No 51

FCC 15.205 RESTRICTED 6-9.2GHz 918 8dbi omni

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	3 spectrum analyzer description
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:		RBW:	1000 kHz
Test Engineer:		VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 73.83 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

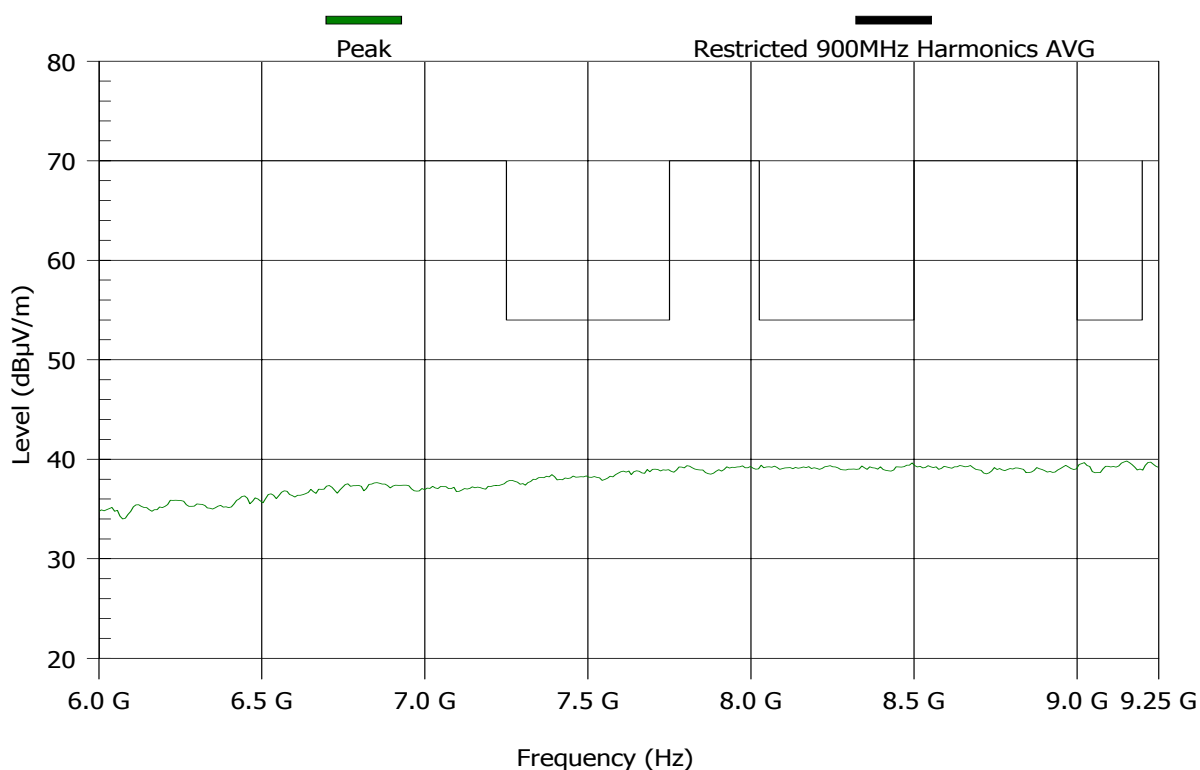
None

Test Results Plot No 52

FCC 15.205 RESTRICTED 6-9.2GHz 918 8dbi omni AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 9.75 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

None

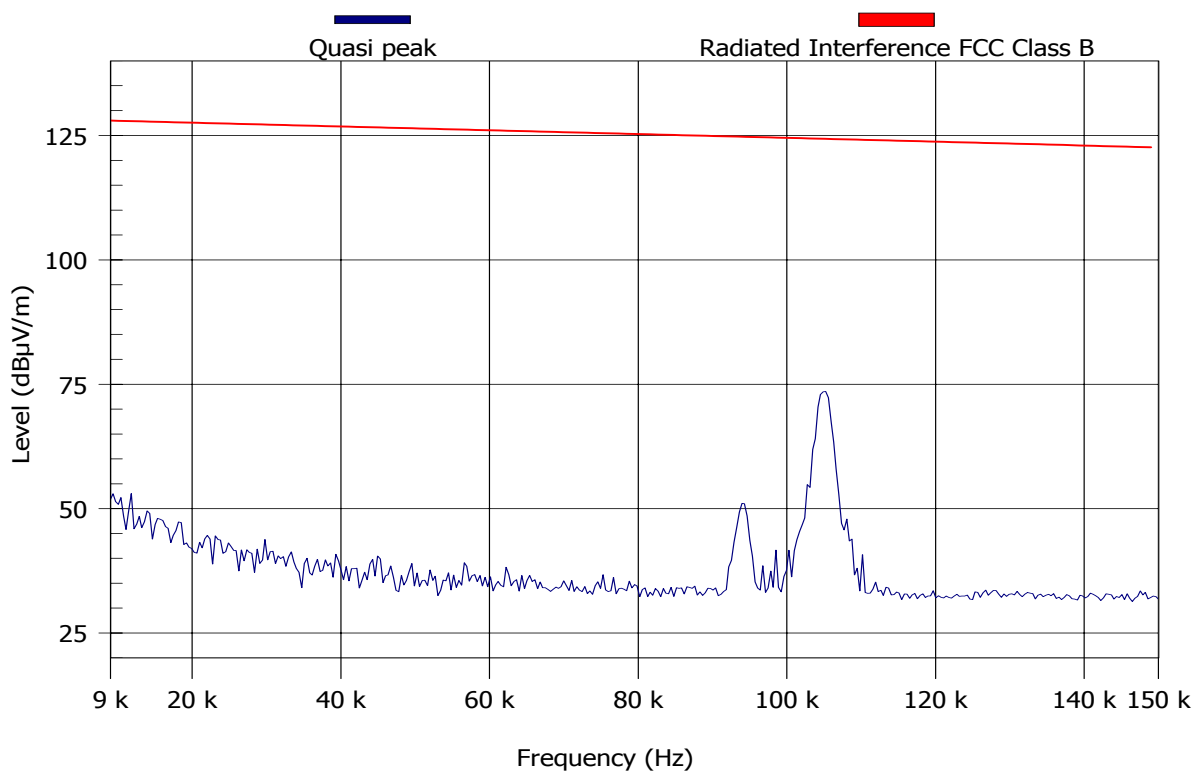
(4) Transmit Frequency 912 MHz Antenna-Integrated 12.5dbi plots 53 – 65

Test Results Plot No 53

**FCC 15.205 RESTRICTED 0.009-0.15MHz 912 12.5 sq extern
VER**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

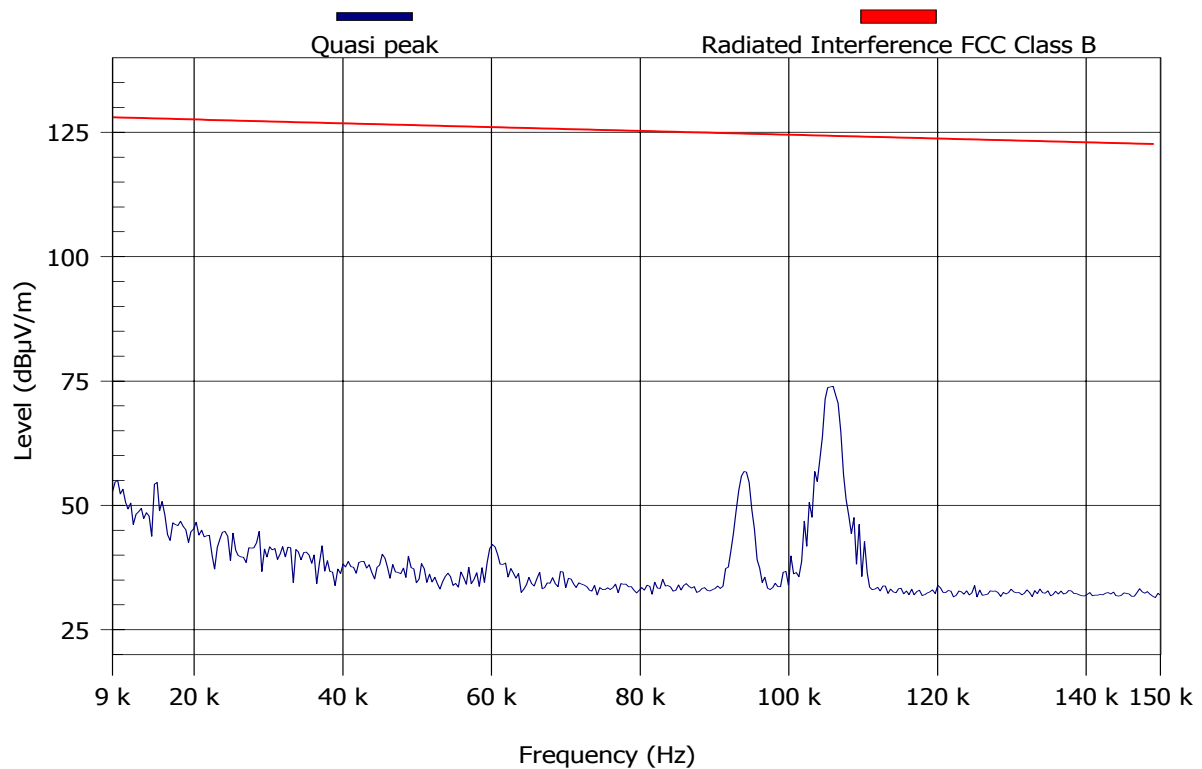
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 54

**FCC 15.205 RESTRICTED 0.009-0.15MHz 912 12.5 sq extern
HOR**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

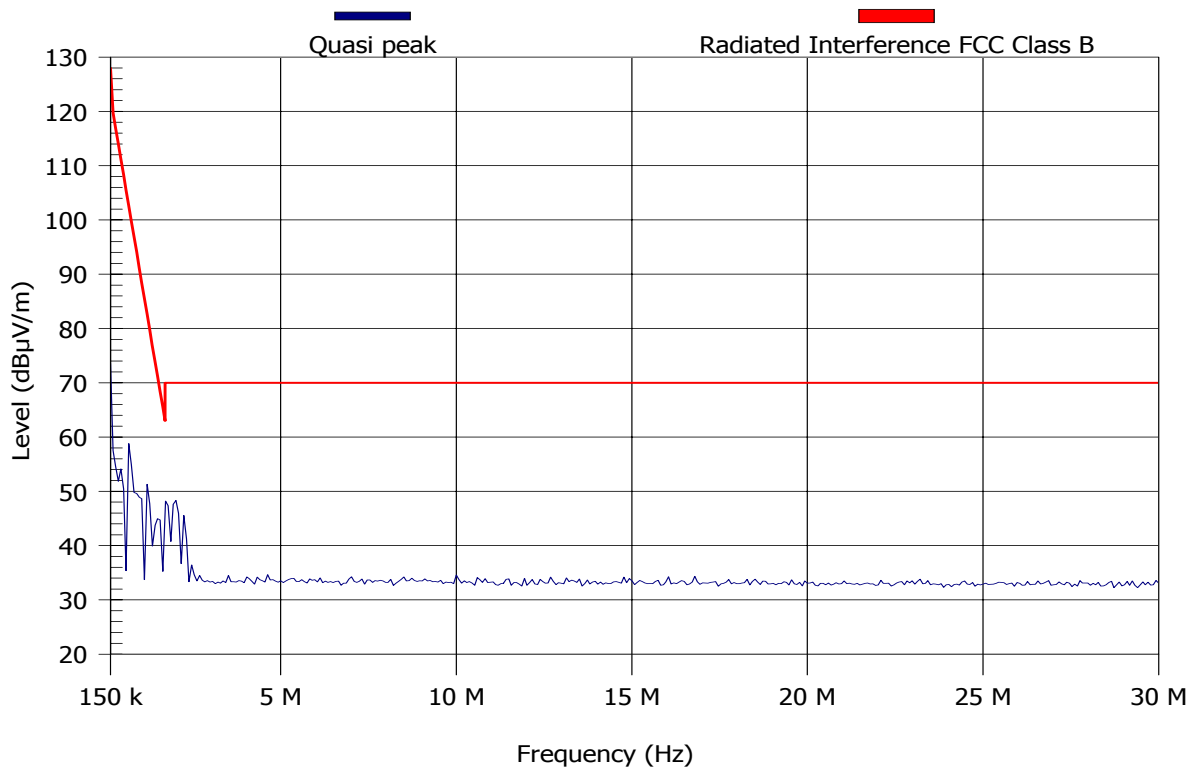
None

Test Results Plot No 55

**FCC 15.205 RESTRICTED 0.15-30MHz 912 12.5 dq external
VER**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

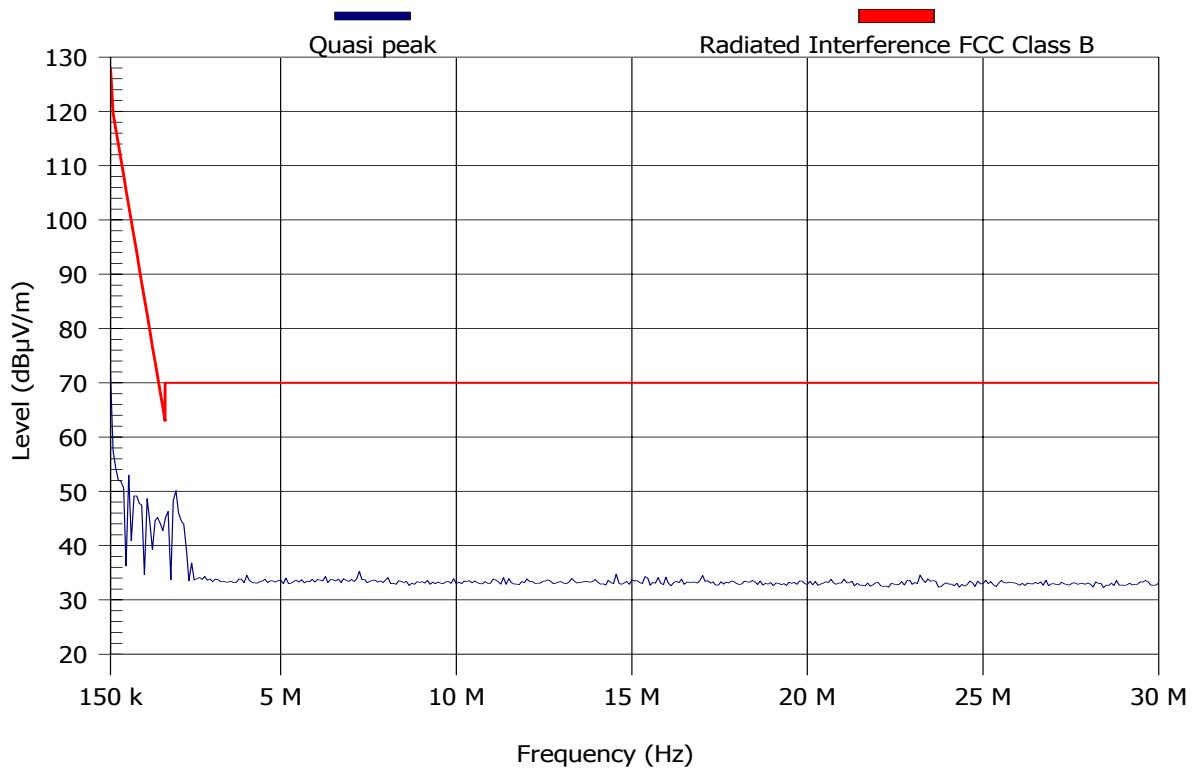
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 56

**FCC 15.205 RESTRICTED 0.15-30MHz 912 12.5 dq external
HOR**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

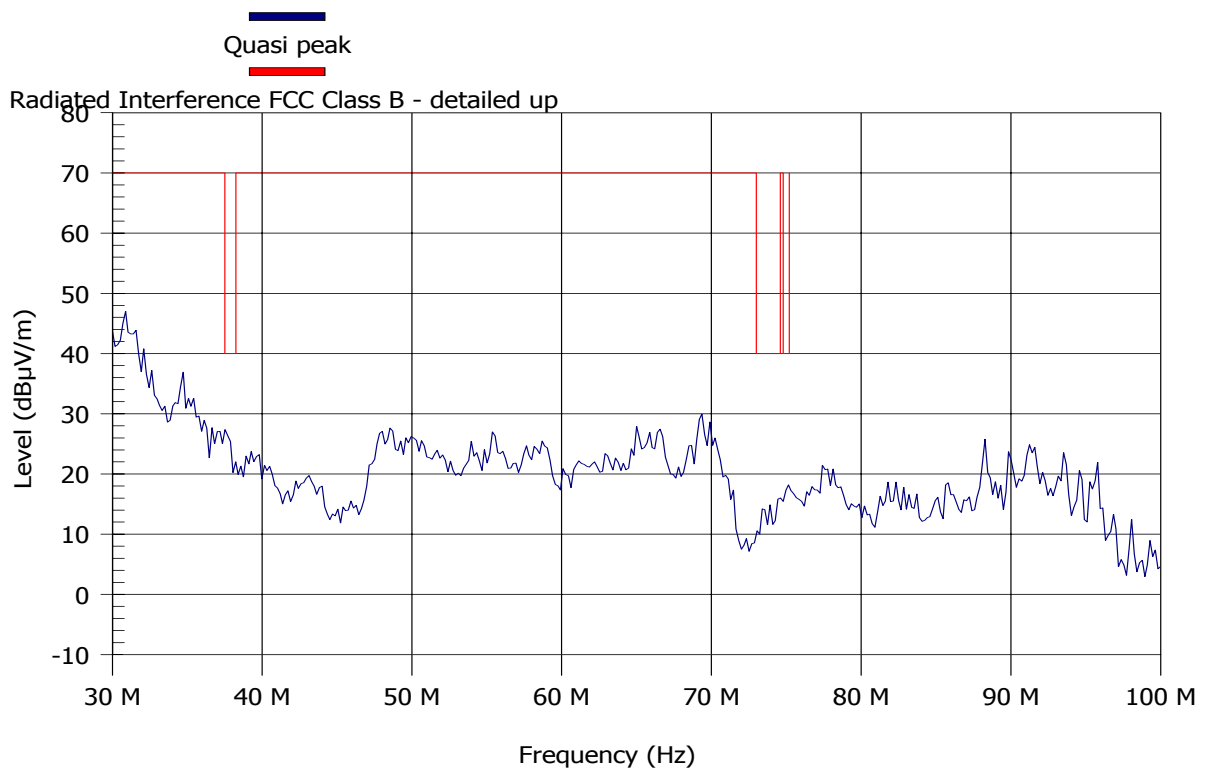
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 57

FCC 15.205 RESTRICTED 30-100MHz 912 12.5 sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

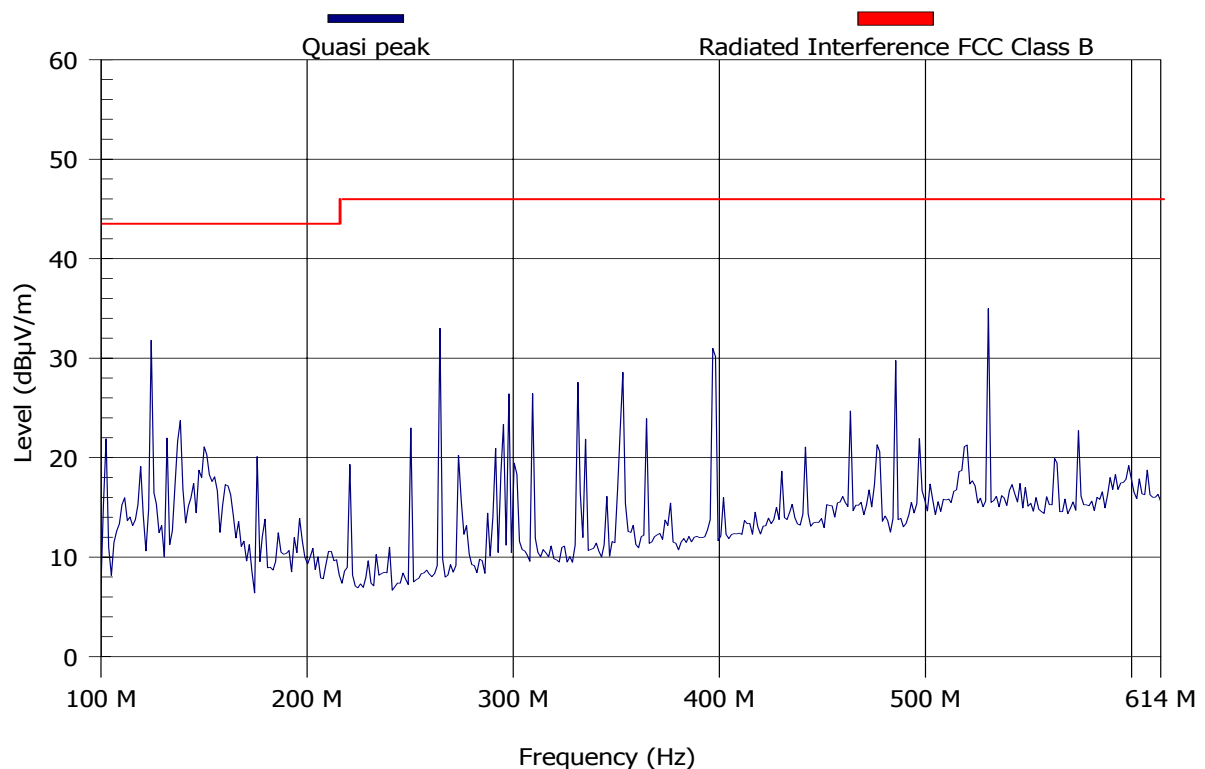
None

Test Results Plot No 58

FCC 15.205 RESTRICTED 100-600MHz 912 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 107.08 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

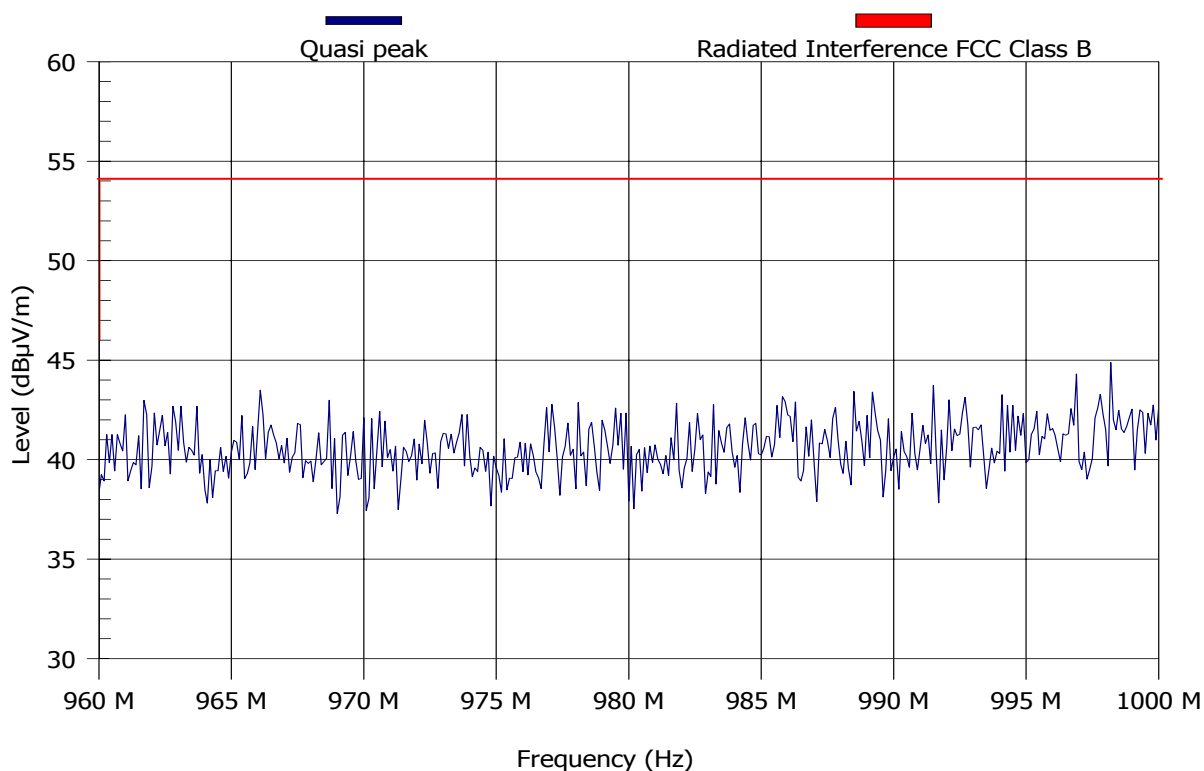
None

Test Results Plot No 59

FCC 15.205 RESTRICTED 900-1GHz 912 12.5dbi sq extern

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

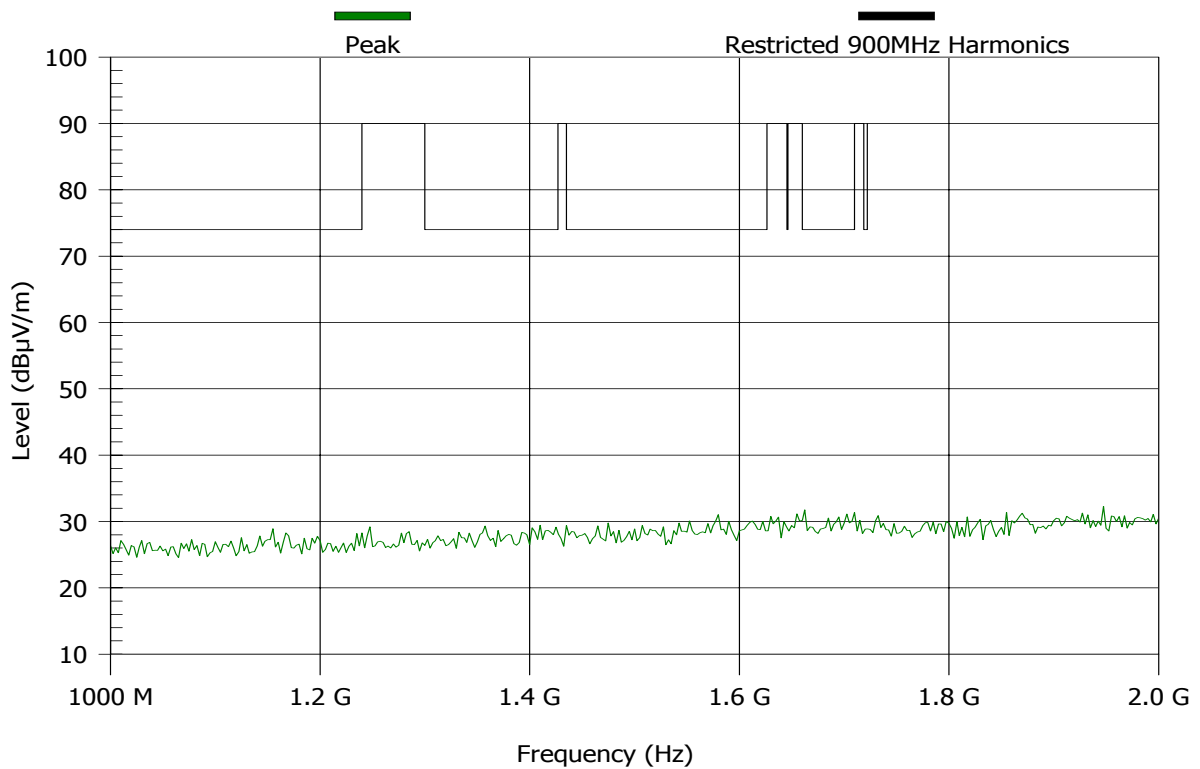
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 60

FCC 15.205 RESTRICTED 1-2GHz 912 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

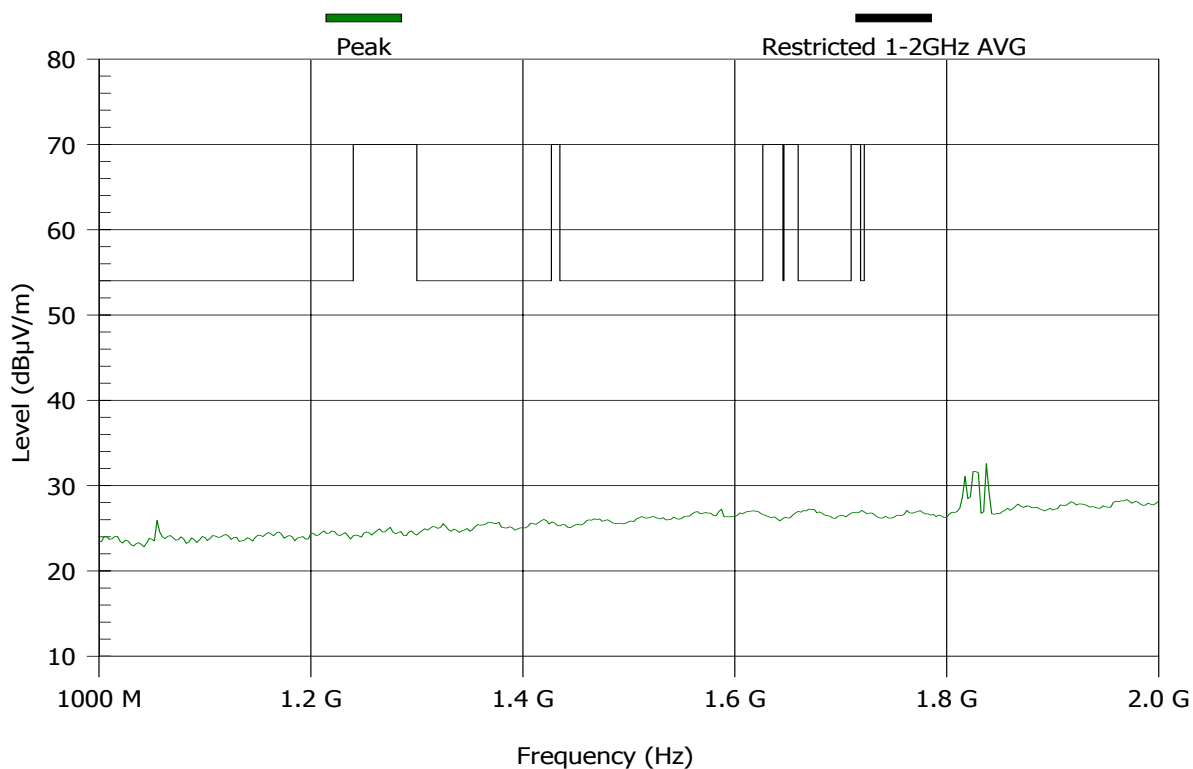
None

Test Results Plot No 61

FCC 15.205 RESTRICTED 1-2GHz 912 12.5dbi sq external AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 3 s
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

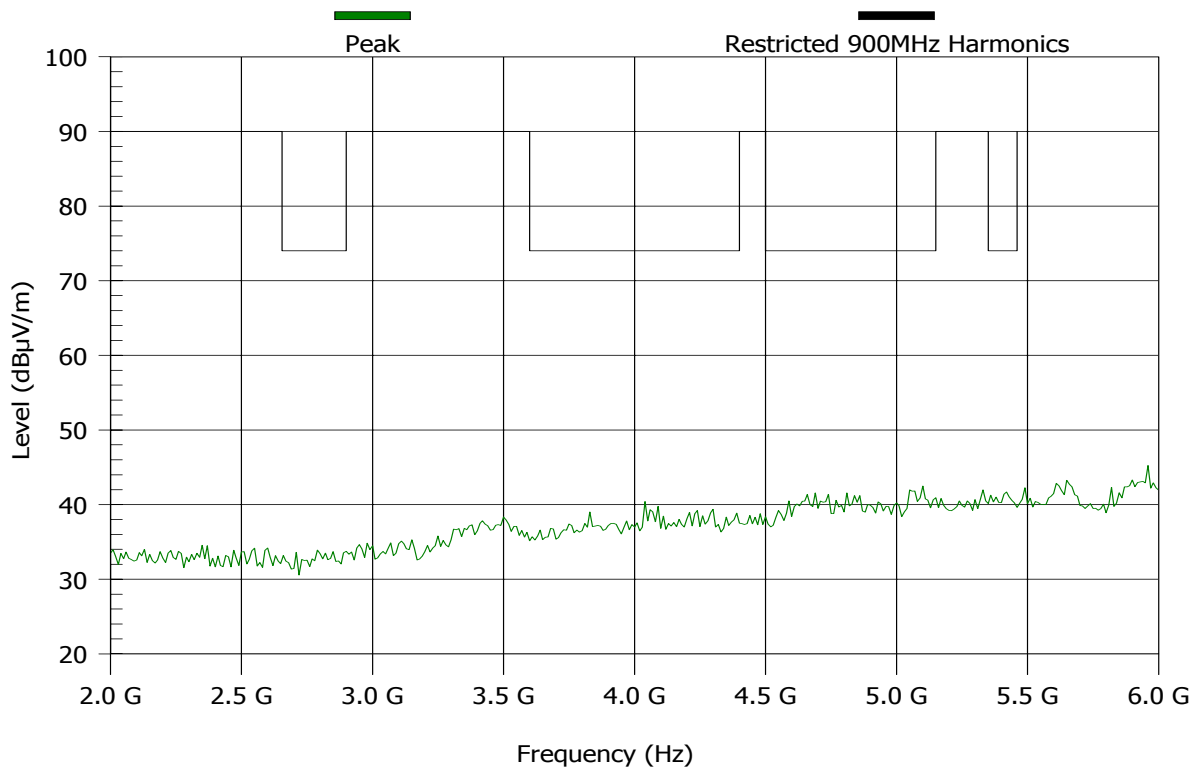
None

Test Results Plot No 62

FCC 15.205 RESTRICTED 2-6GHz 912 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 66.43 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

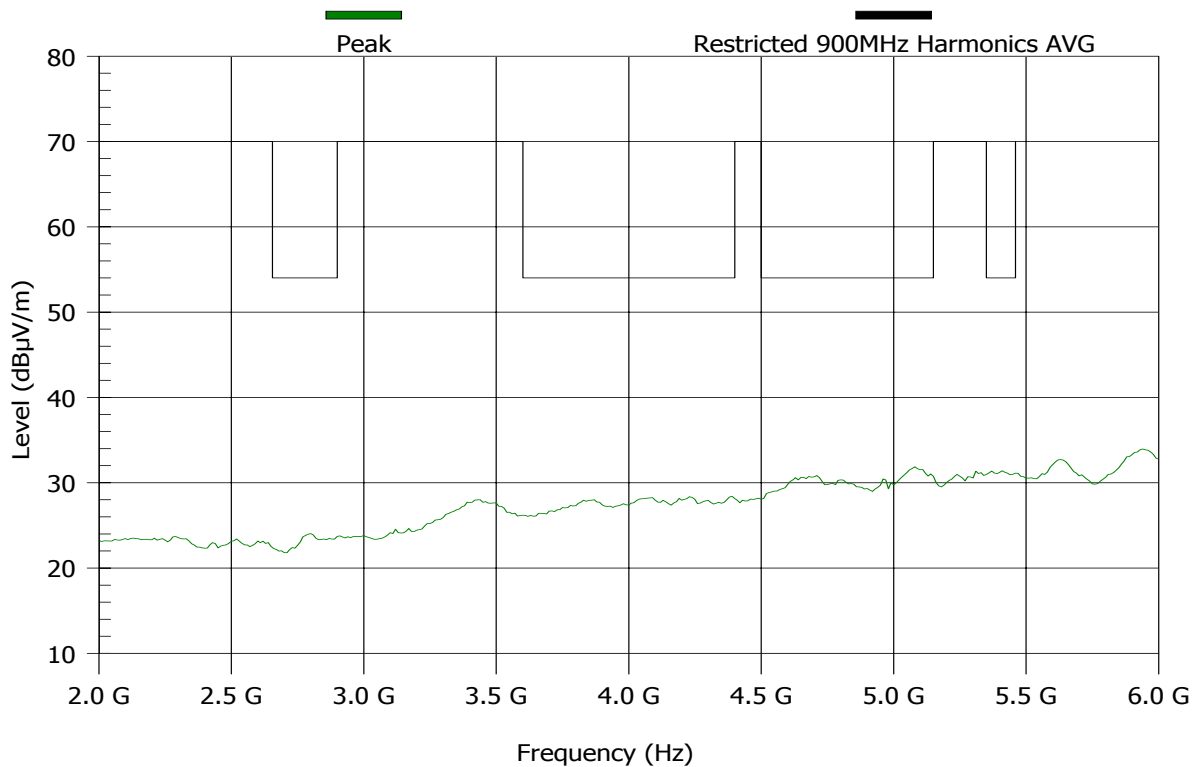
None

Test Results Plot No 63

FCC 15.205 RESTRICTED 2-6GHz 912 12.5dbi sq external AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	5 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

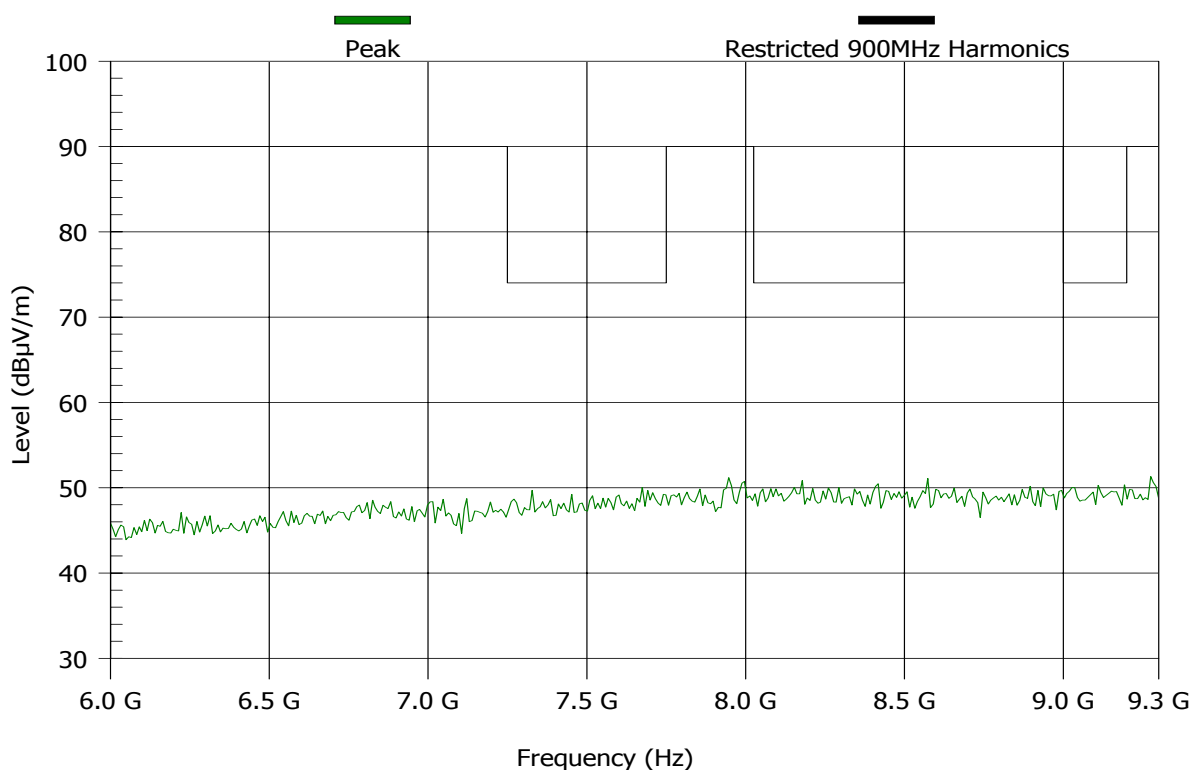
None

Test Results Plot No 64

FCC 15.205 RESTRICTED 6-9.2GHz 912 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 75.83 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

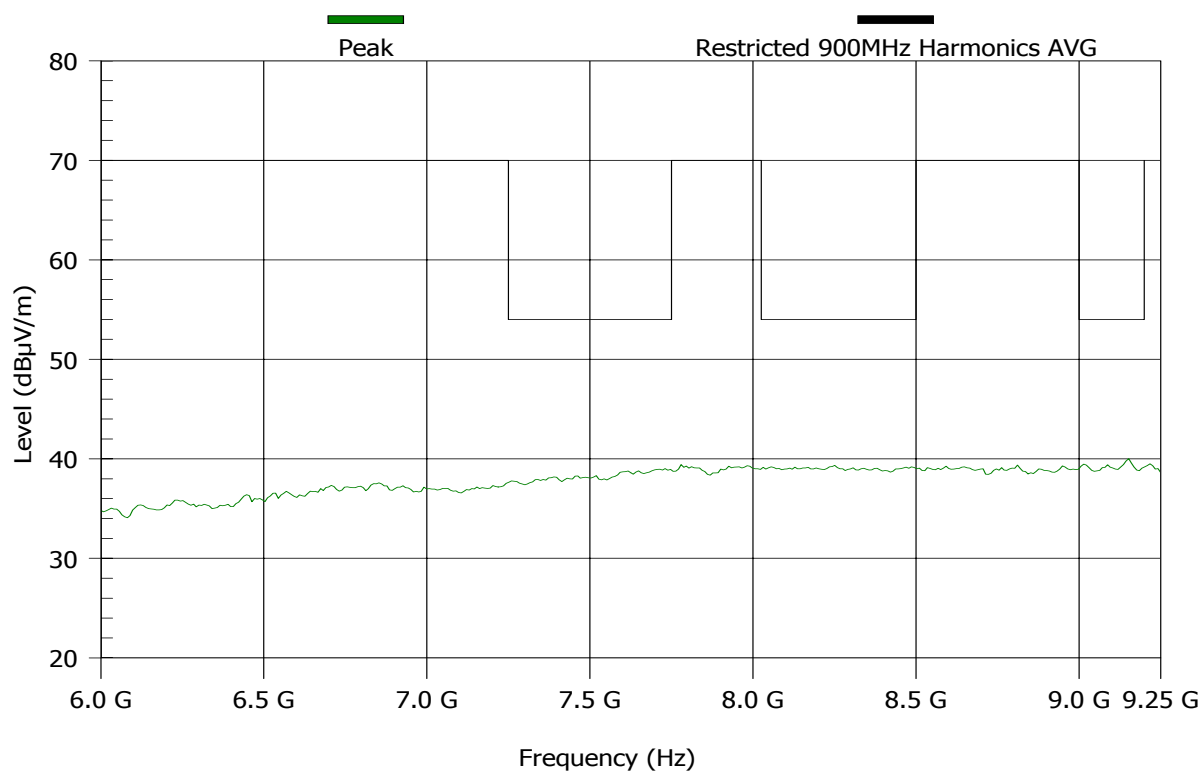
None

Test Results Plot No 65

**FCC 15.205 RESTRICTED 6-9.2GHz 912 12.5dbi sq external
AVG**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 9.75 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

None

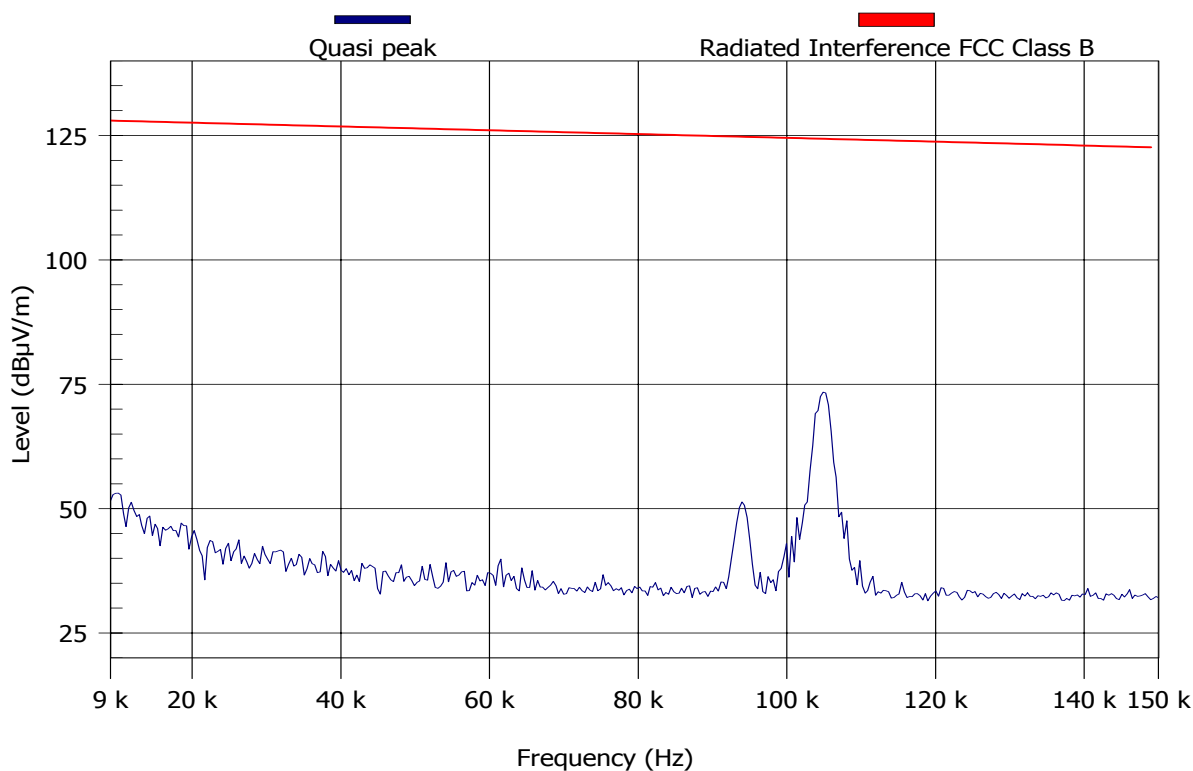
(5) Transmit Frequency 915 MHz Antenna-Integrated 12.5dbi plots 66 – 78

Test Results Plot No 66

**FCC 15.205 RESTRICTED 0.009-0.15MHz 915 12.5 sq extern
VER**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

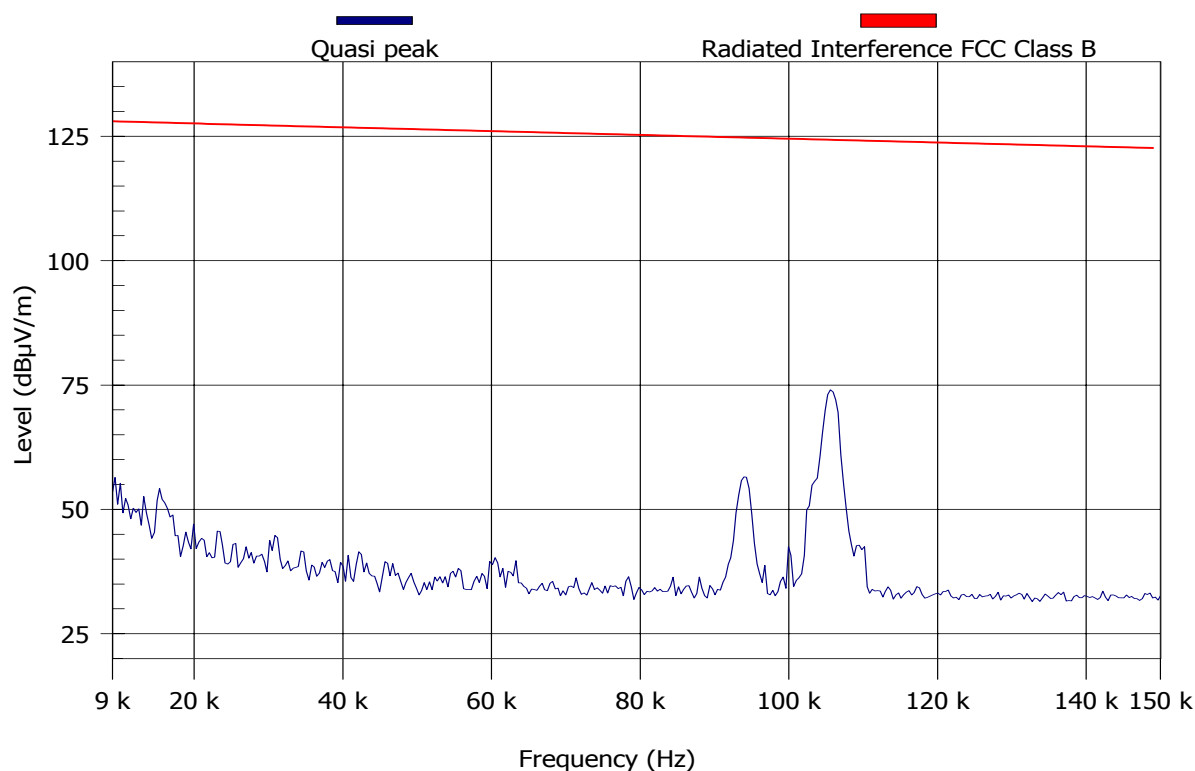
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 67

**FCC 15.205 RESTRICTED 0.009-0.15MHz 915 12.5 sq extern
HOR**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

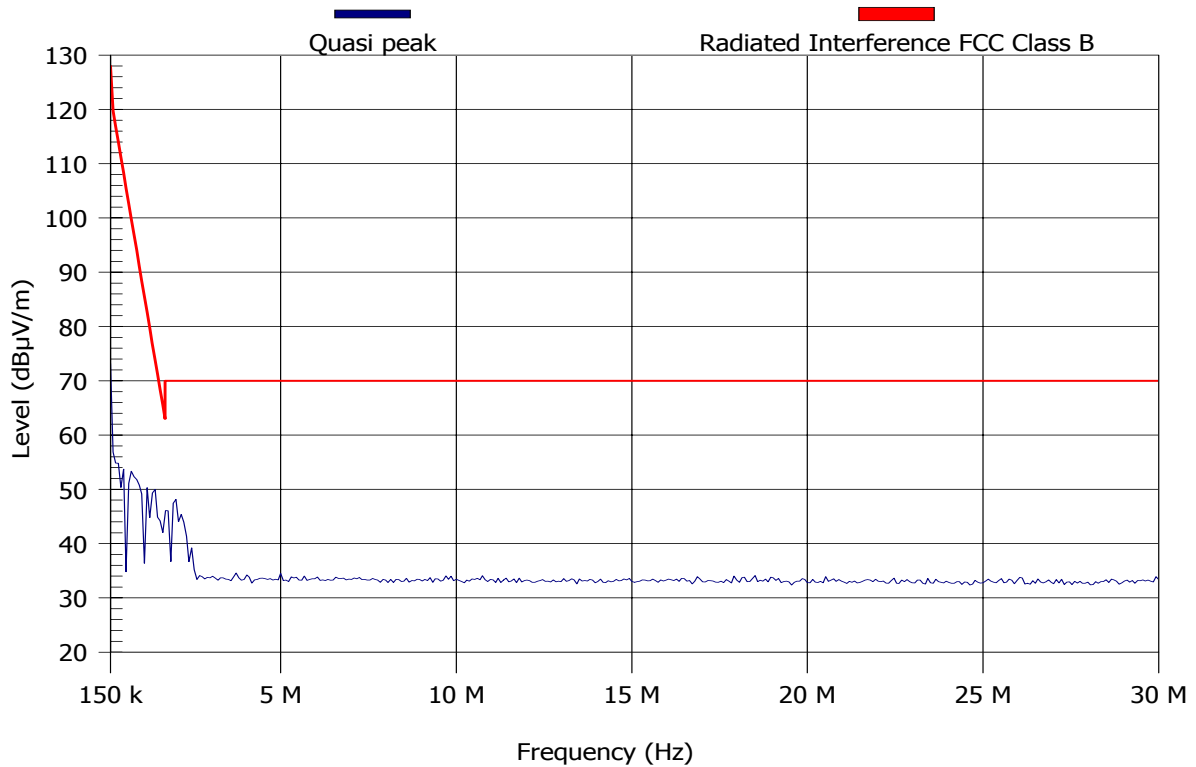
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 68

**FCC 15.205 RESTRICTED 0.15-30MHz 915 12.5 dq external
VER**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

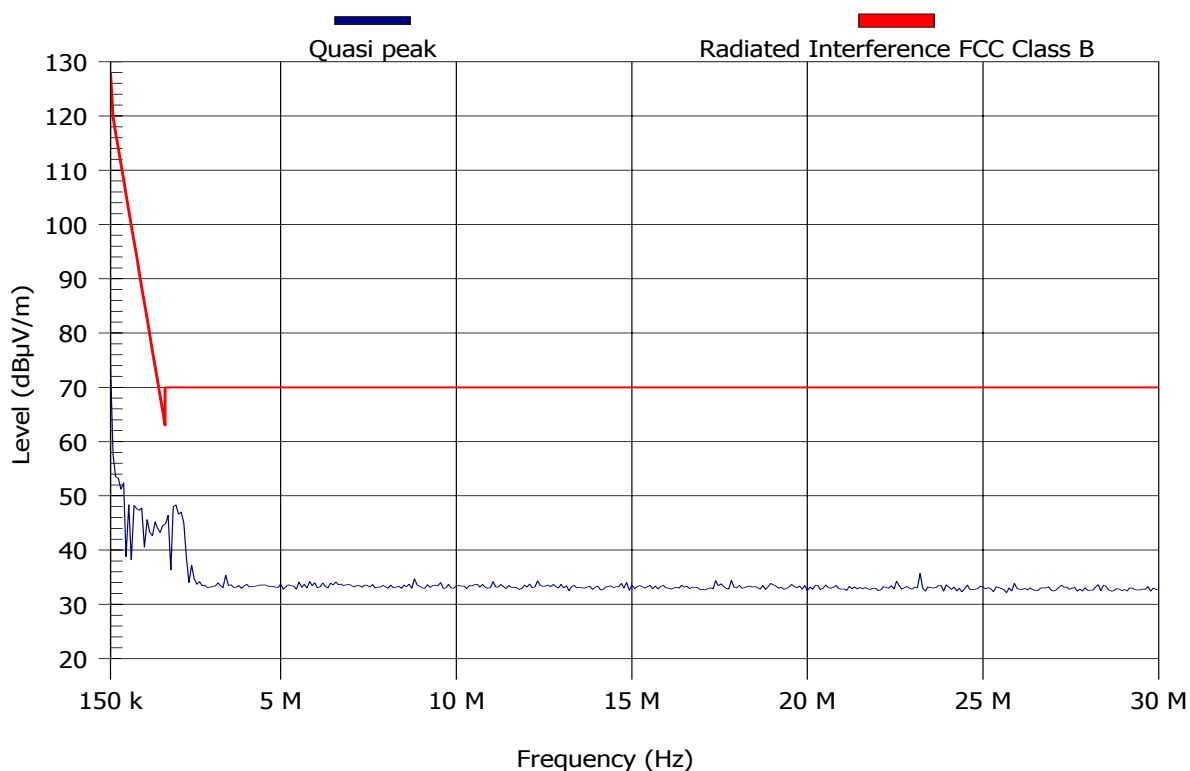
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 69

**FCC 15.205 RESTRICTED 0.15-30MHz 915 12.5 dq external
HOR**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

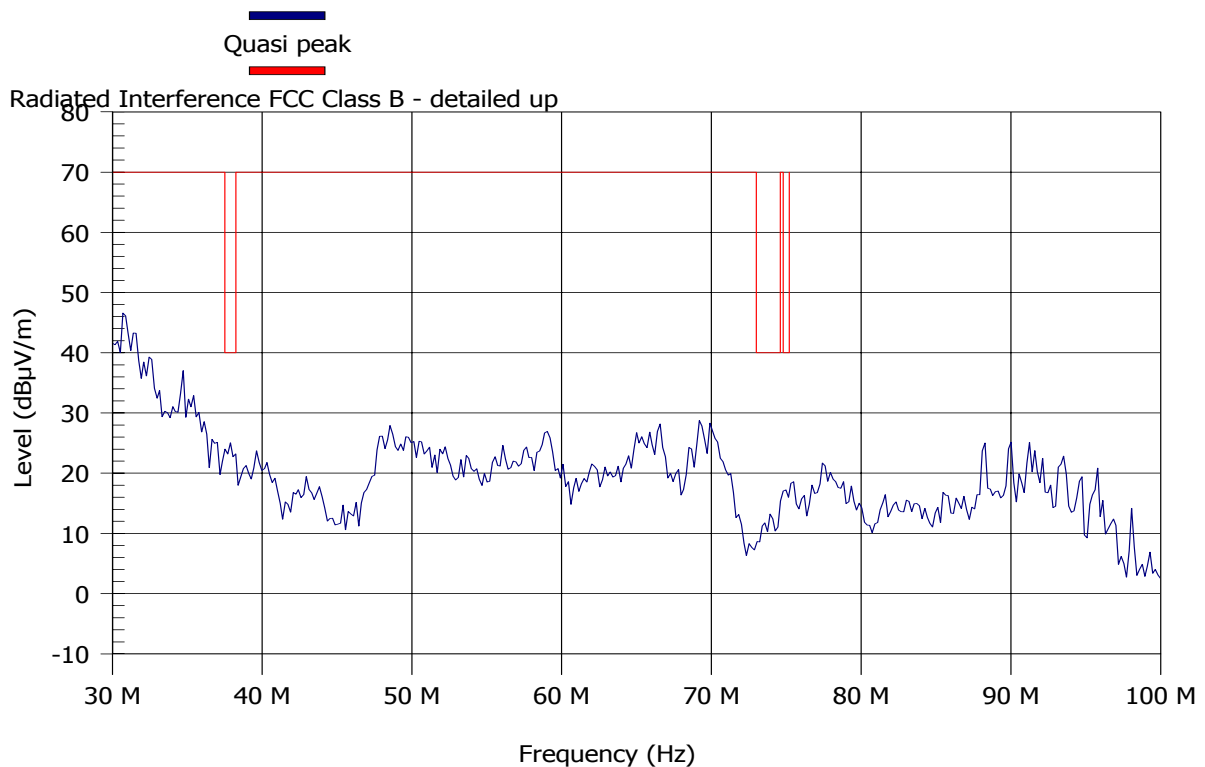
None

Test Results Plot No 70

FCC 15.205 RESTRICTED 30-100MHz 915 12.5 sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

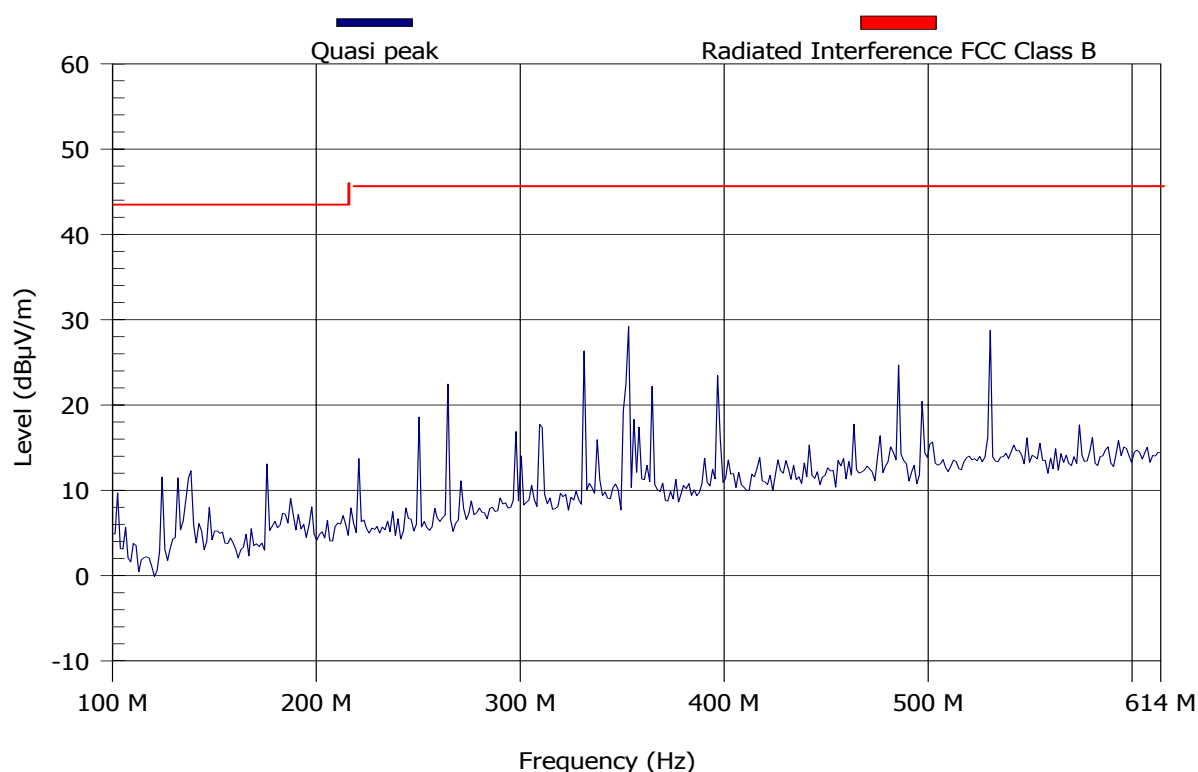
None

Test Results Plot No 71

FCC 15.205 RESTRICTED 100-600MHz 915 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 107.08 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

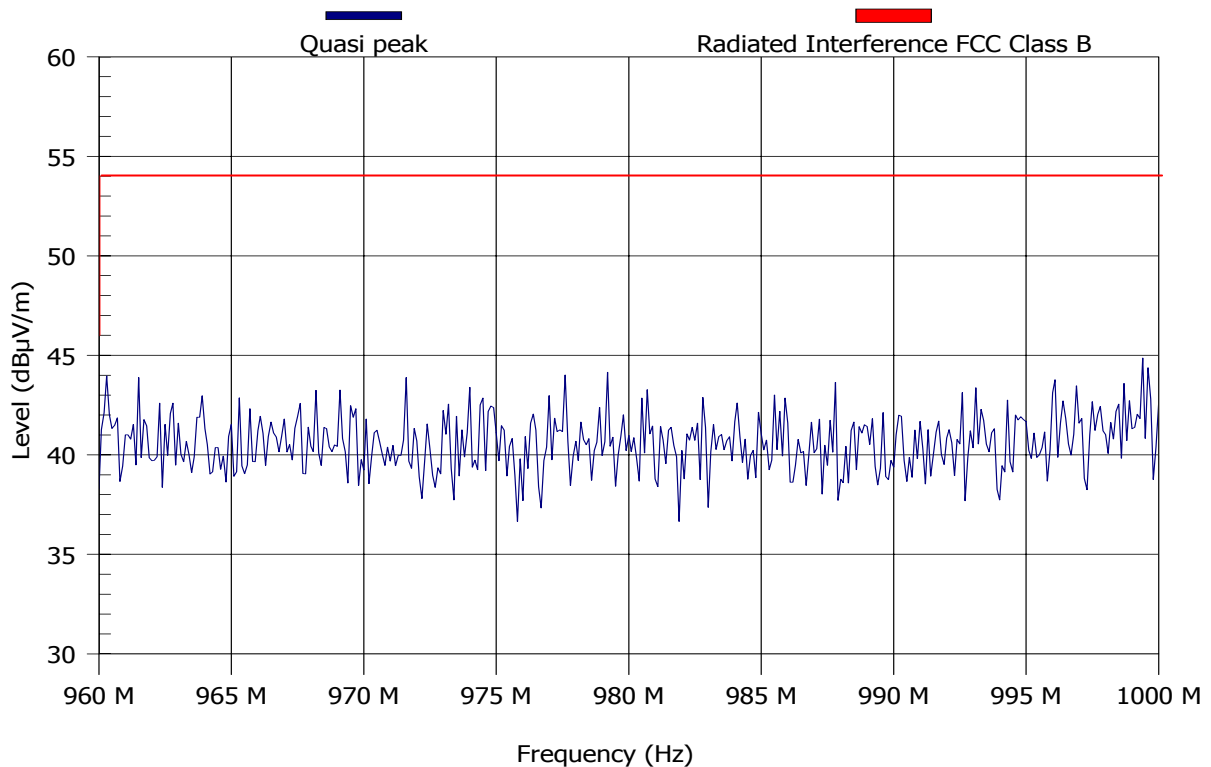
None

Test Results Plot No 72

FCC 15.205 RESTRICTED 900-1GHz 915 12.5dbi sq extern

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

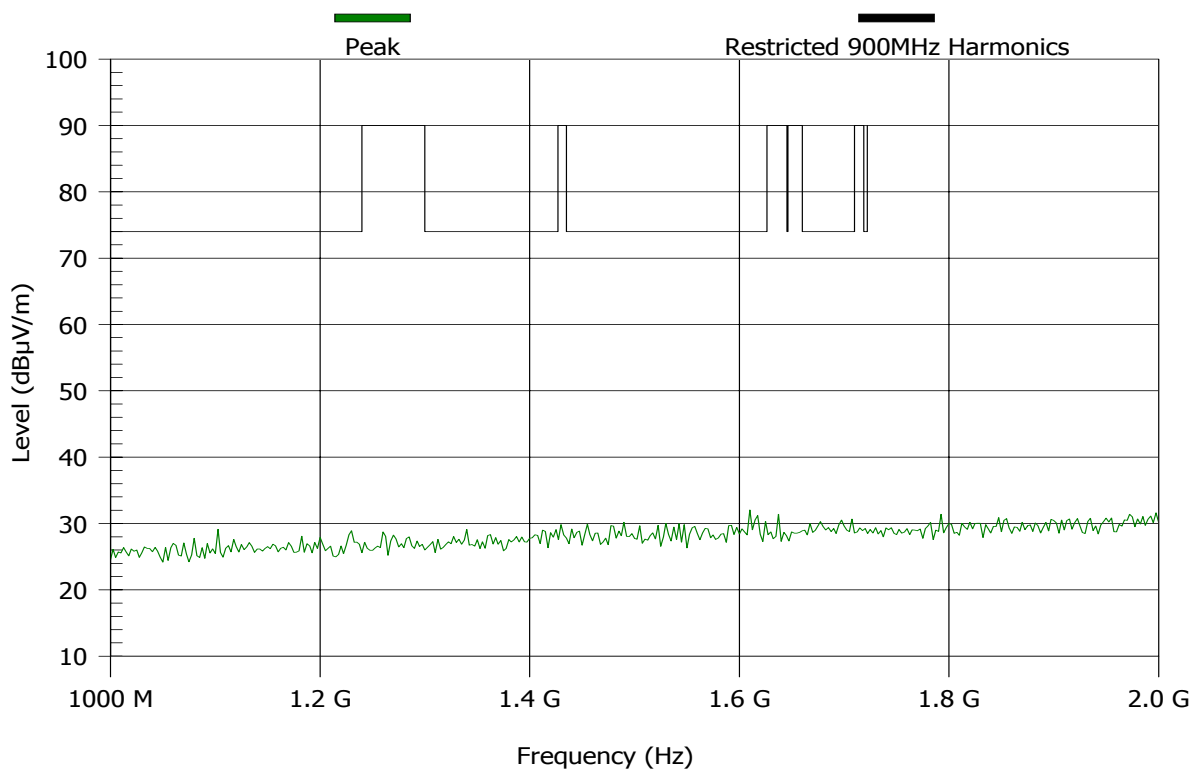
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

Test Results Plot No 73

FCC 15.205 RESTRICTED 1-2GHz 915 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:

MAXIMUM RESULT DEVIATION:

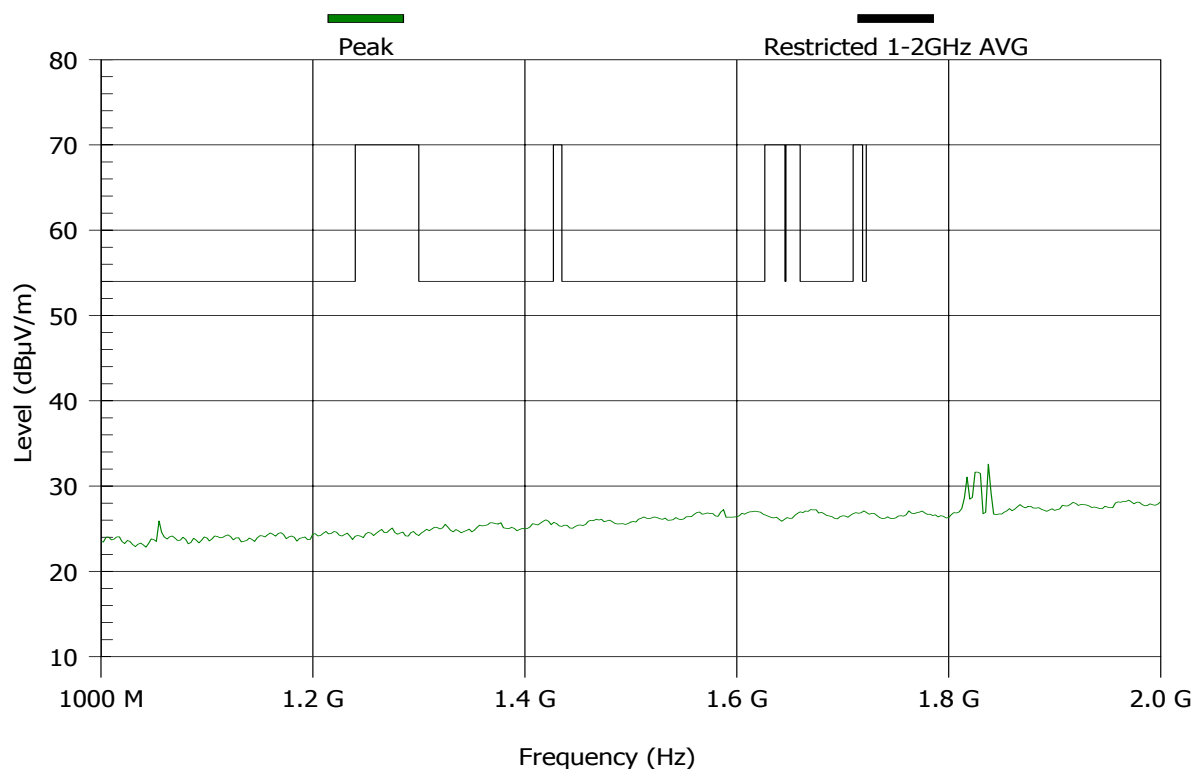
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

Test Results Plot No 74

FCC 15.205 RESTRICTED 1-2GHz 912 12.5dbi sq external AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 3 s
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:

MAXIMUM RESULT DEVIATION:

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

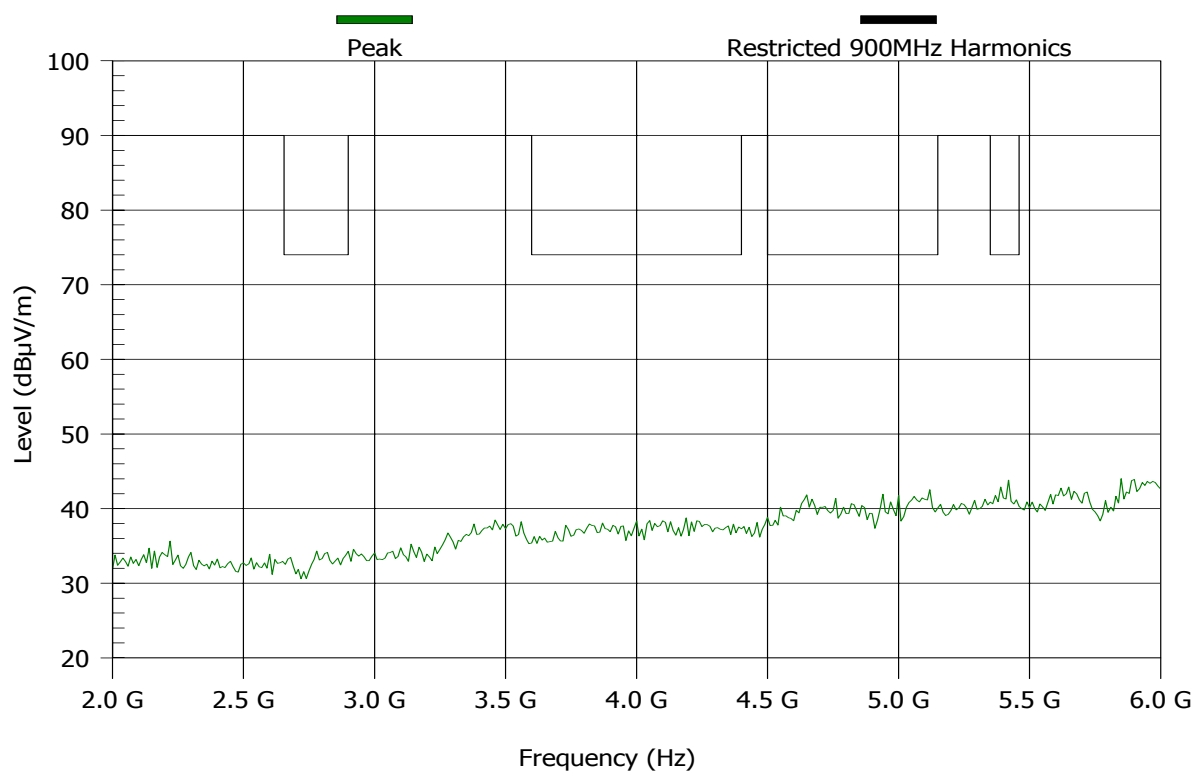
None

Test Results Plot No 75

FCC 15.205 RESTRICTED 2-6GHz 915 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 66.43 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

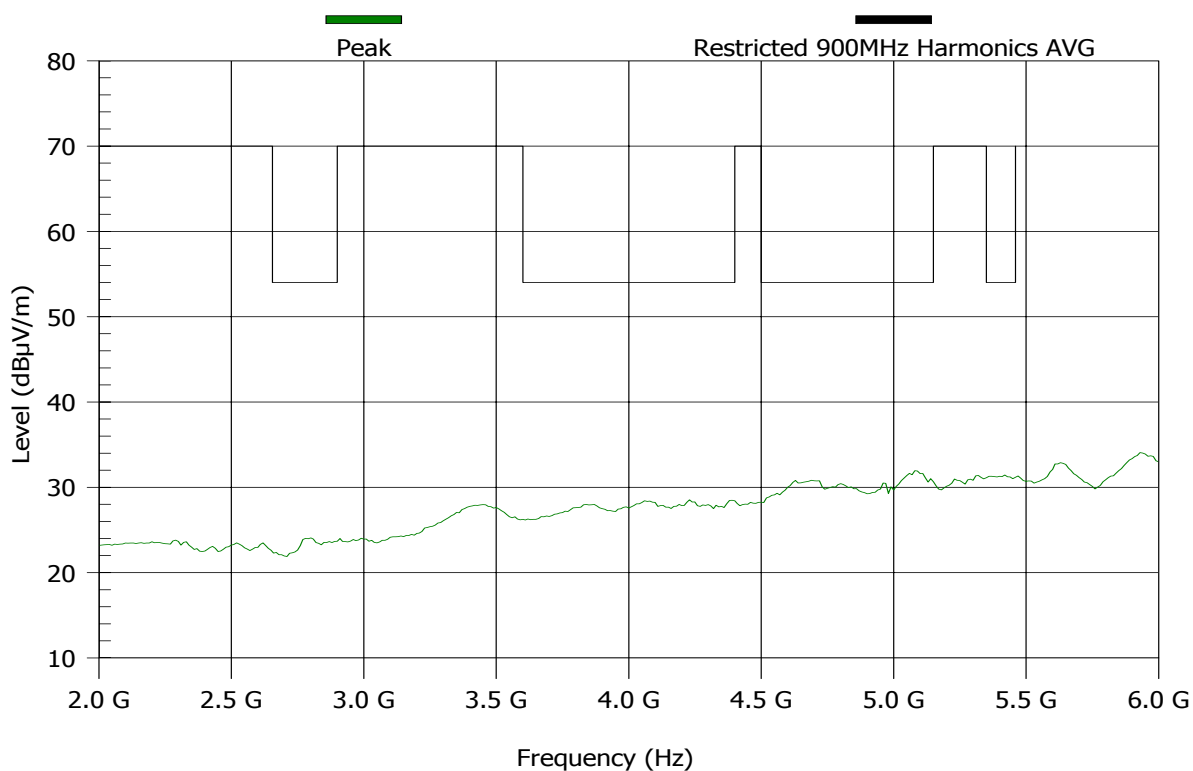
None

Test Results Plot No 76

FCC 15.205 RESTRICTED 2-6GHz 915 12.5dbi sq external AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	5 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

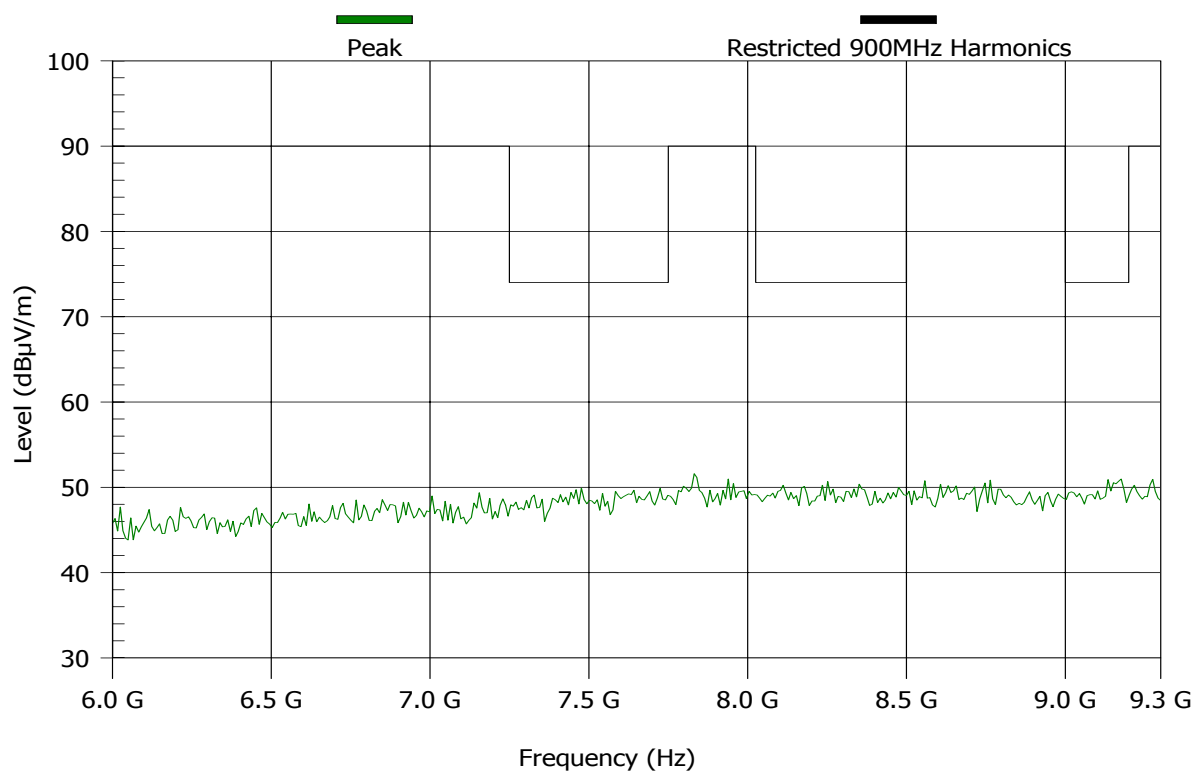
None

Test Results Plot No 77

FCC 15.205 RESTRICTED 6-9.2GHz 915 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 75.83 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

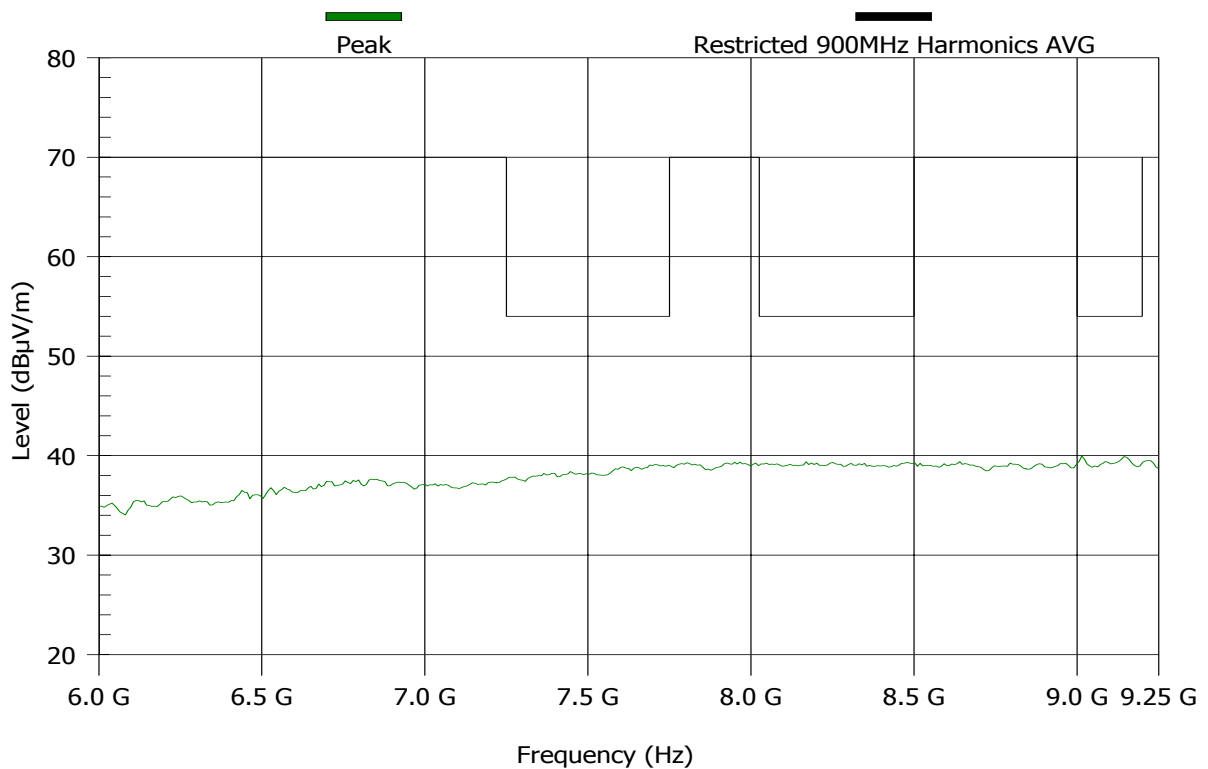
None

Test Results Plot No 78

**FCC 15.205 RESTRICTED 6-9.2GHz 915 12.5dbi sq external
AVG**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dBμV
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 9.75 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

None

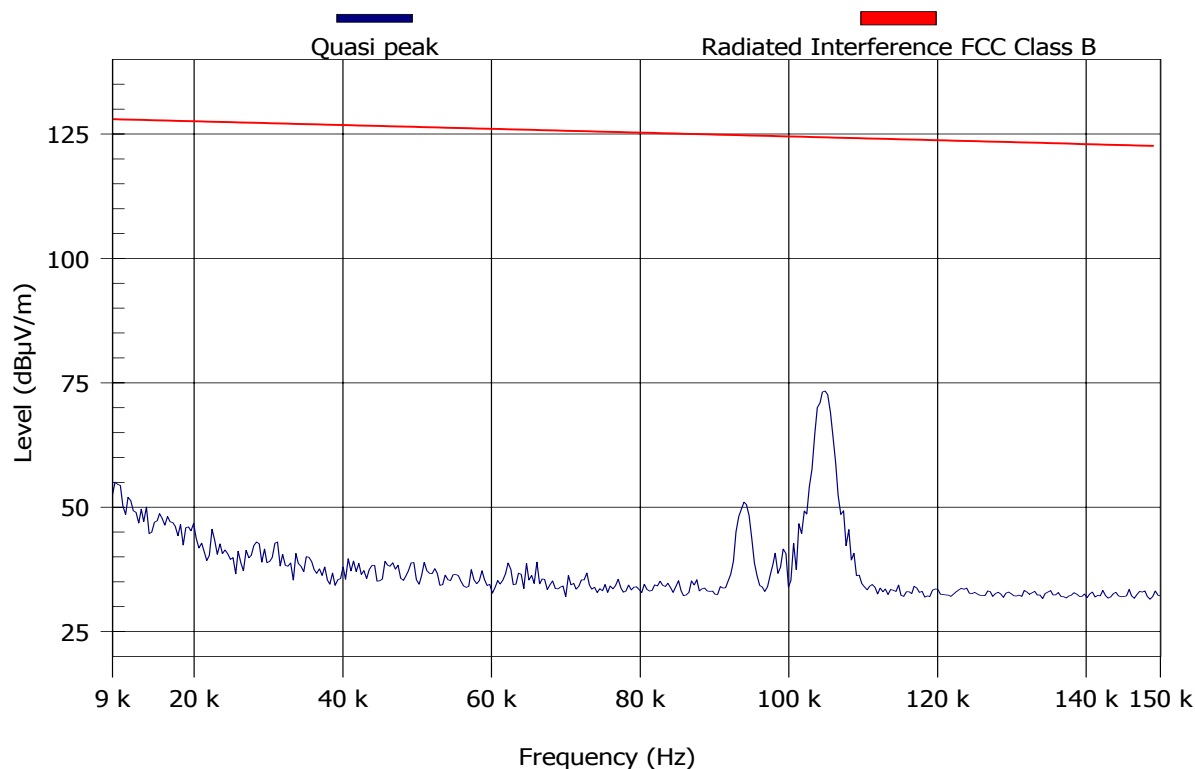
(6) Transmit Frequency 918 MHz Antenna-Integrated 12.5dbi plots 79 – 91

Test Results Plot No 79

**FCC 15.205 RESTRICTED 0.009-0.15MHz 918 12.5 sq external
VER**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

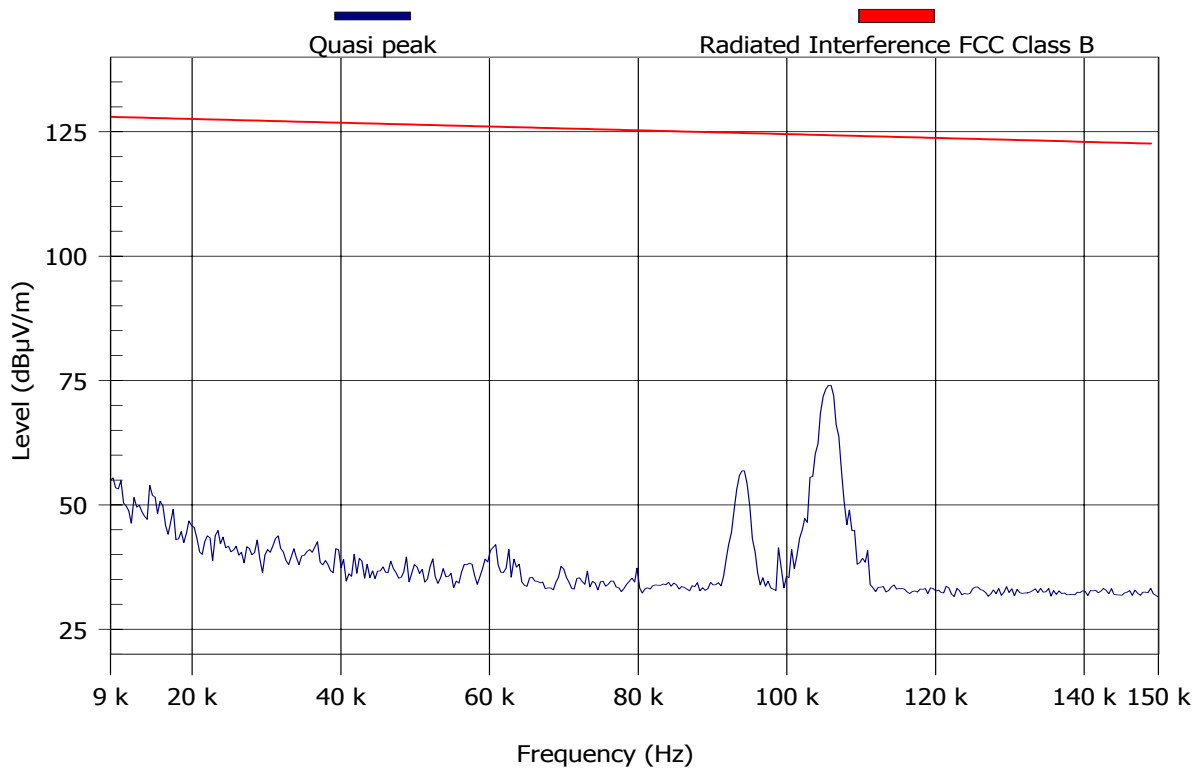
None

Test Results Plot No 80

**FCC 15.205 RESTRICTED 0.009-0.15MHz 918 12.5 sq extern
HOR**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 Hz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 423 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

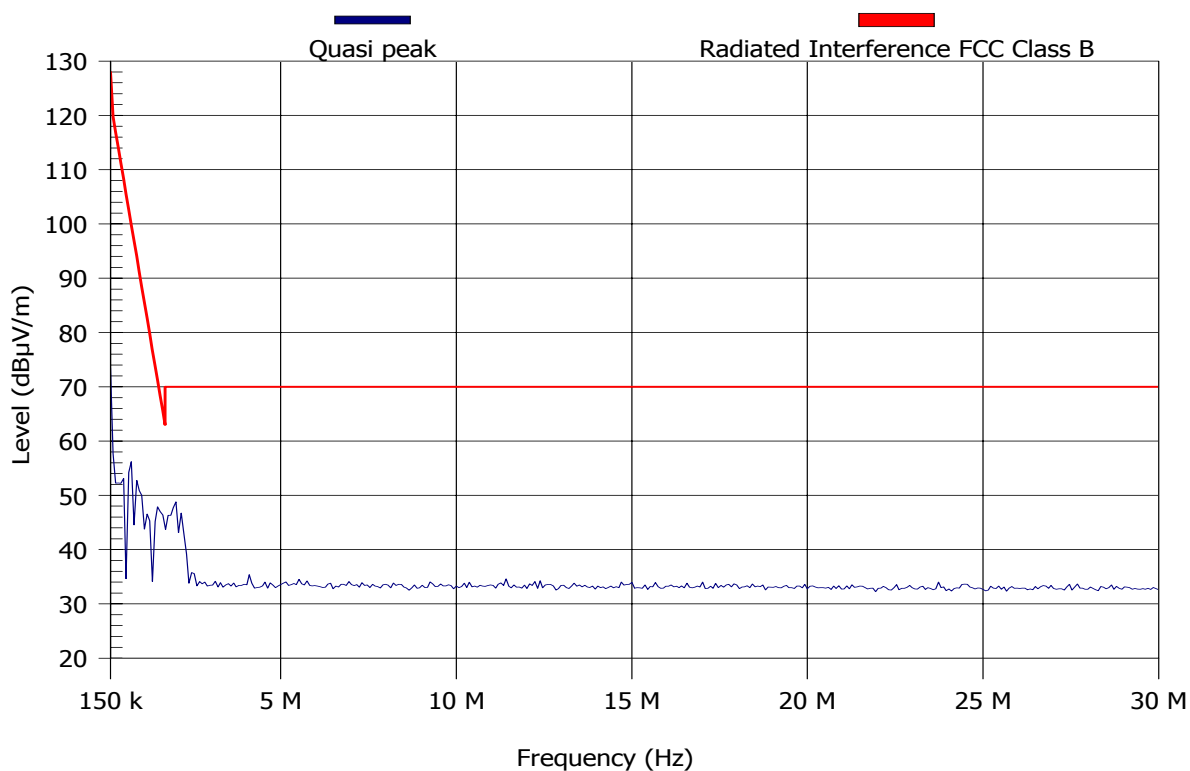
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 81

**FCC 15.205 RESTRICTED 0.15-30MHz 918 12.5 dq external
VER**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

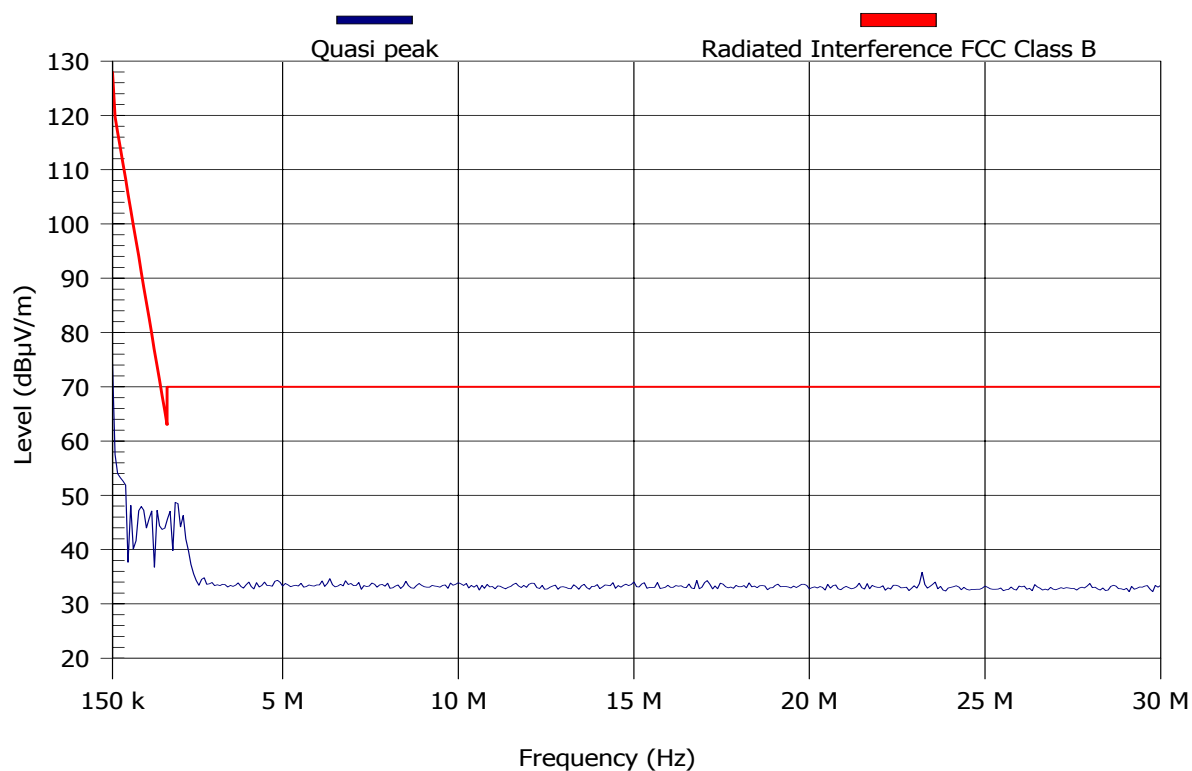
None

Test Results Plot No 82

**FCC 15.205 RESTRICTED 0.15-30MHz 918 12.5 dq external
HOR**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	LOOP ANT.HFH 2 Z2	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

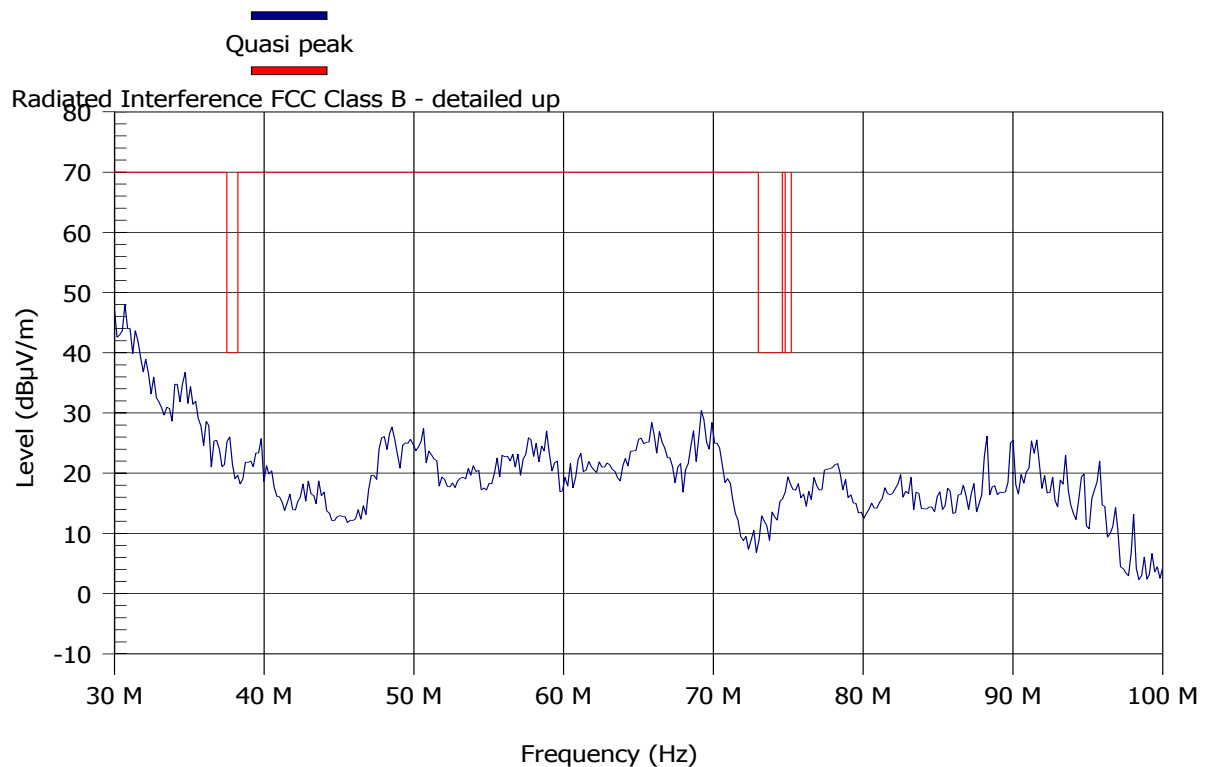
None

Test Results Plot No 83

FCC 15.205 RESTRICTED 30-100MHz 918 12.5 sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

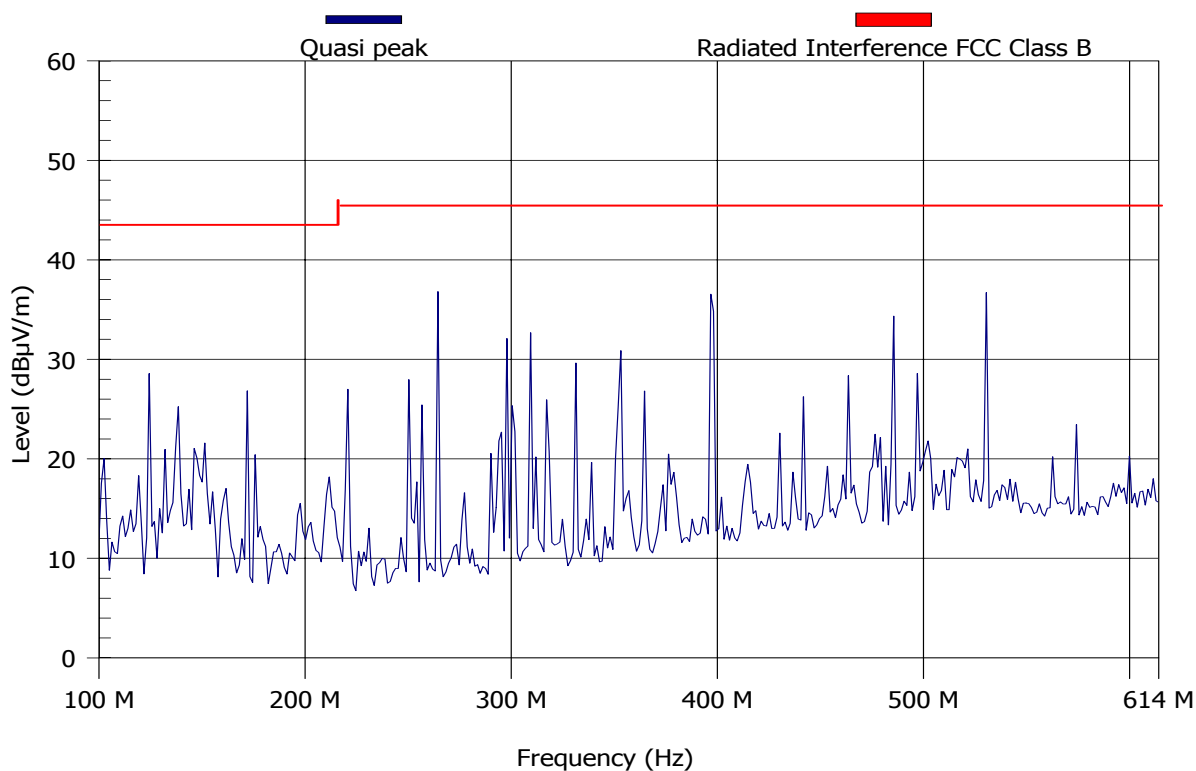
None

Test Results Plot No 84

FCC 15.205 RESTRICTED 100-600MHz 918 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 107.08 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

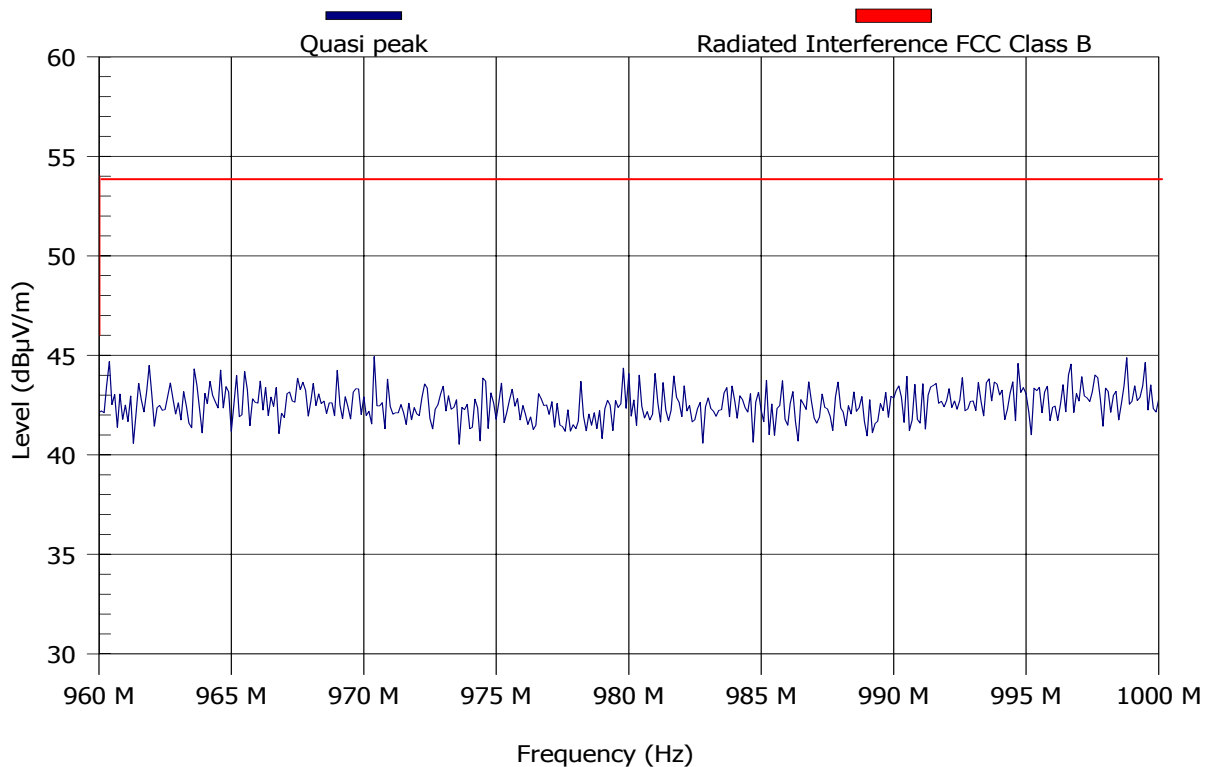
None

Test Results Plot No 85

FCC 15.205 RESTRICTED 900-1GHz 918 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	LNA 0-1GHz + 23db att

TEST REMARKS:



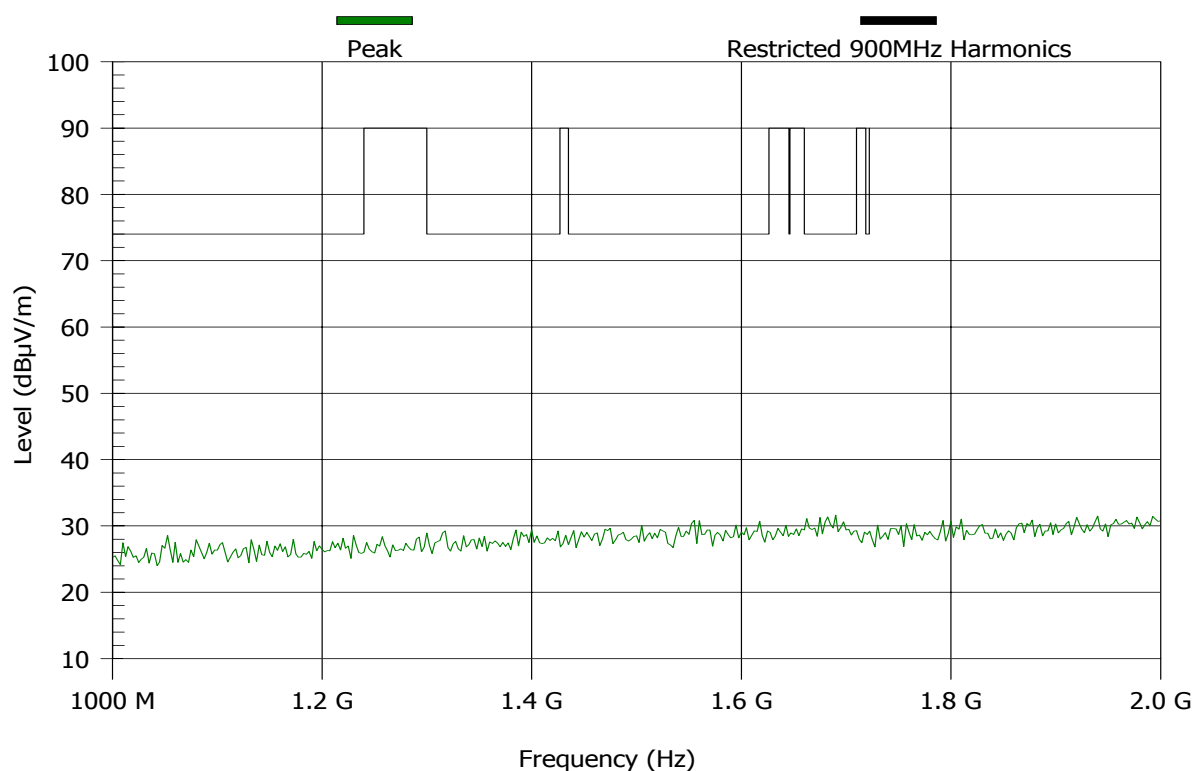
MAXIMUM RESULT DEVIATION:

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

Test Results Plot No 86

FCC 15.205 RESTRICTED 1-2GHz 918 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:

MAXIMUM RESULT DEVIATION:

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

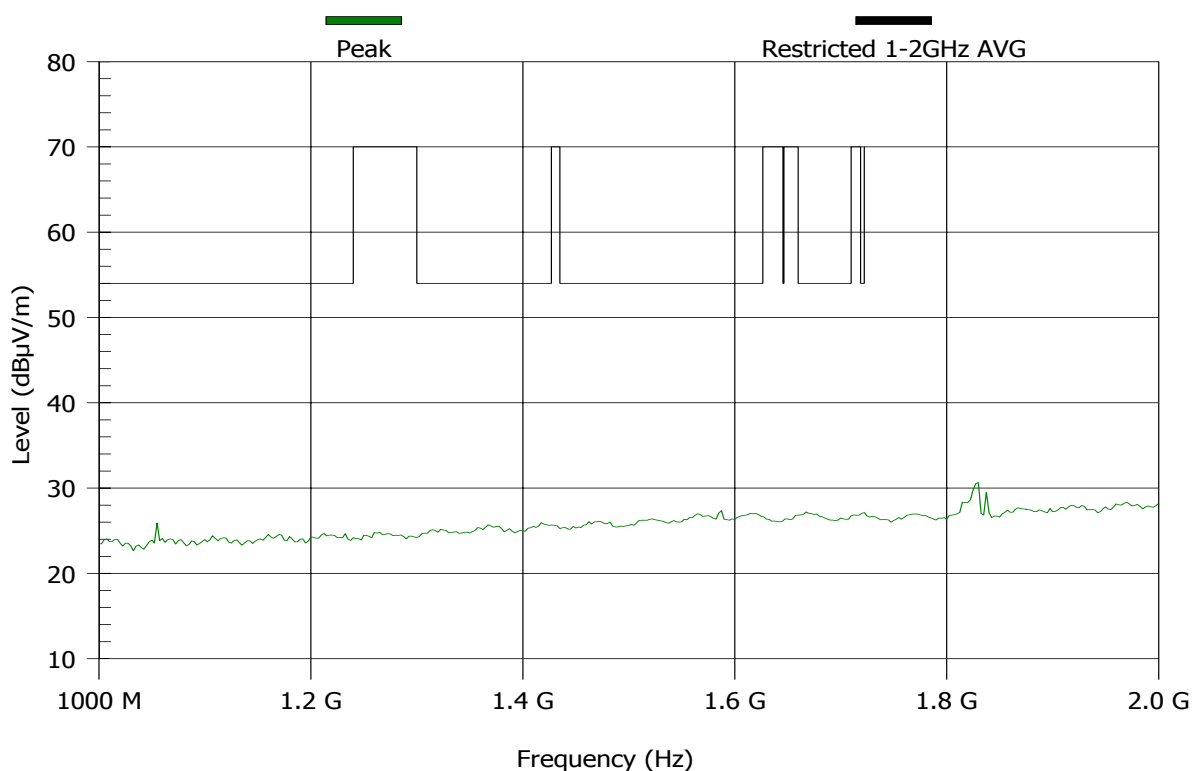
None

Test Results Plot No 87

FCC 15.205 RESTRICTED 1-2GHz 918 12.5dbi sq external AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 3 s
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

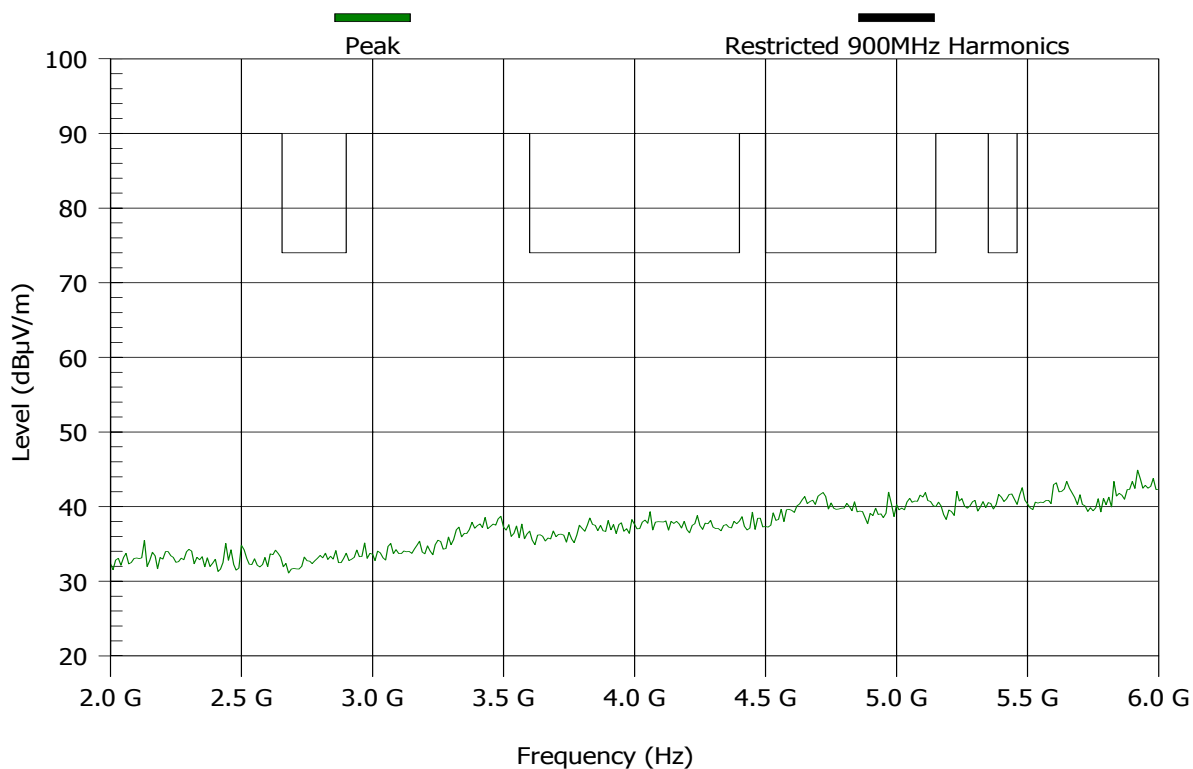
None

Test Results Plot No 88

FCC 15.205 RESTRICTED 2-6GHz 918 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 66.43 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

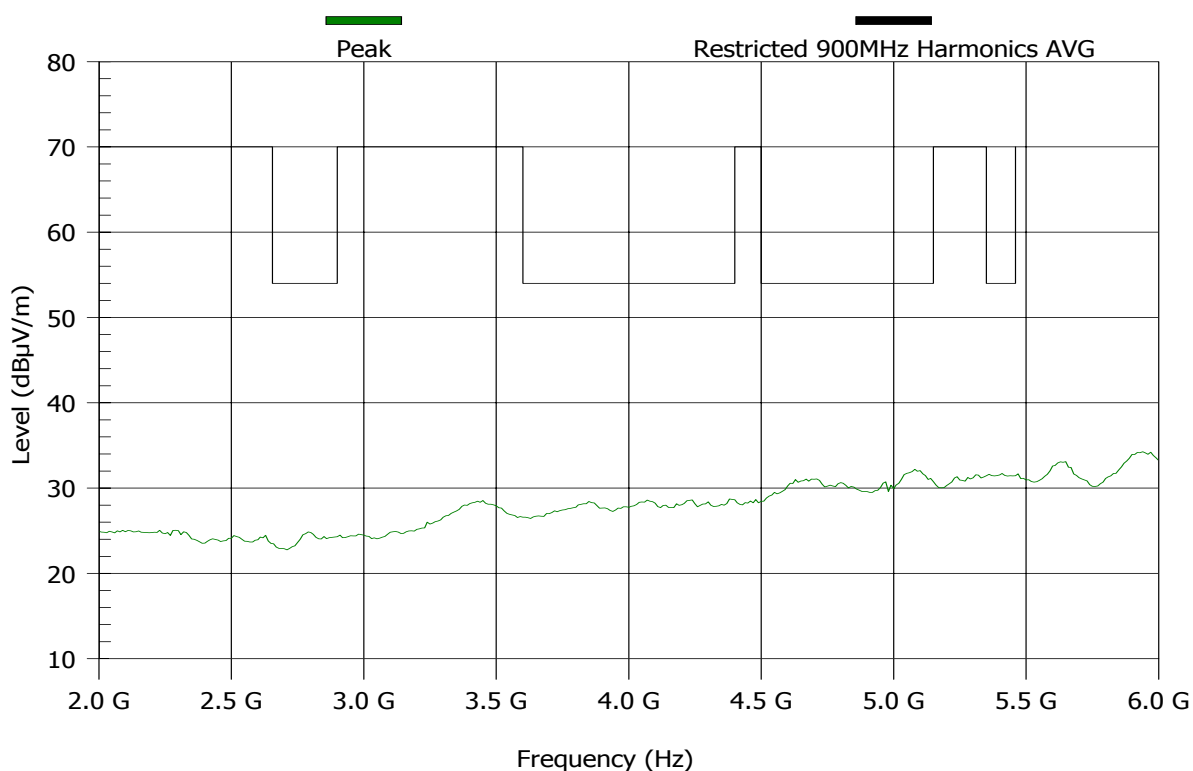
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

Test Results Plot No 89

FCC 15.205 RESTRICTED 2-6GHz 918 12.5dbi sq external AVG

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	ARA DRG-118/A 1-18GHz 1319	Sweep Time:	5 s
Polarization:	Vertical	Pre Amplifier	ELISRA AMP 6-18 GHz

TEST REMARKS:

MAXIMUM RESULT DEVIATION:

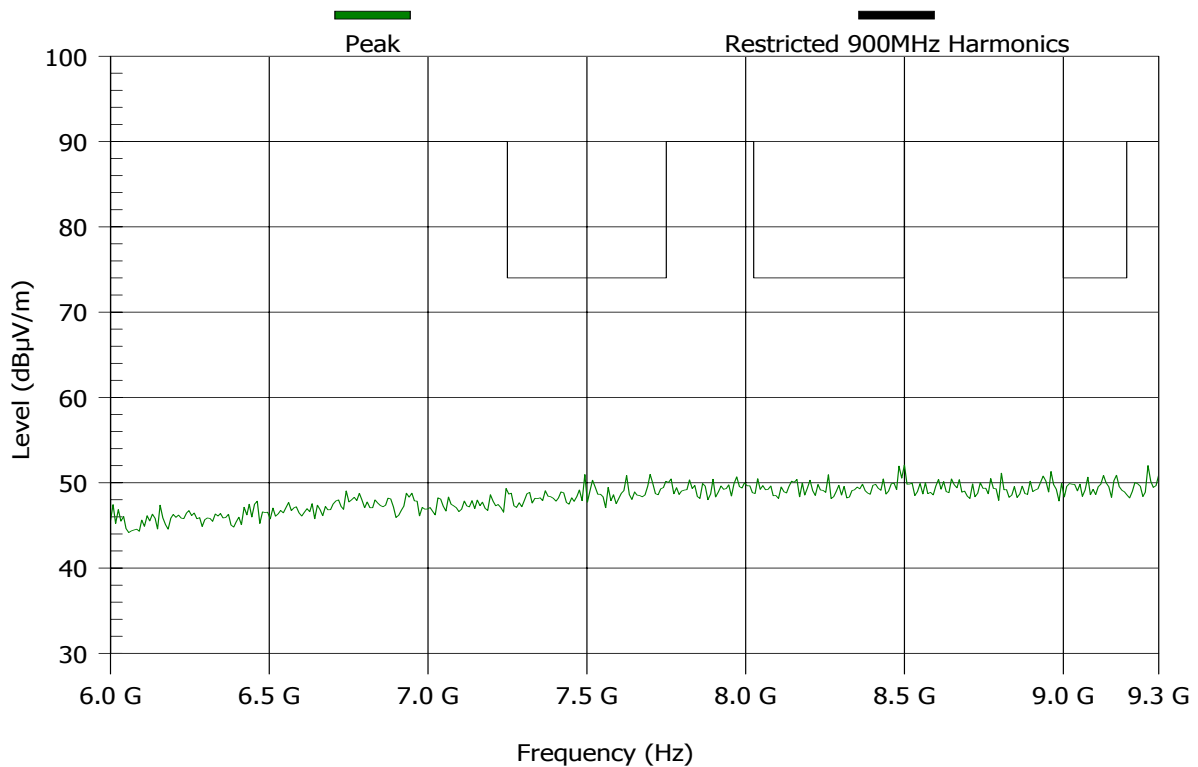
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 90

FCC 15.205 RESTRICTED 6-9.2GHz 918 12.5dbi sq external

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 75.83 ms
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

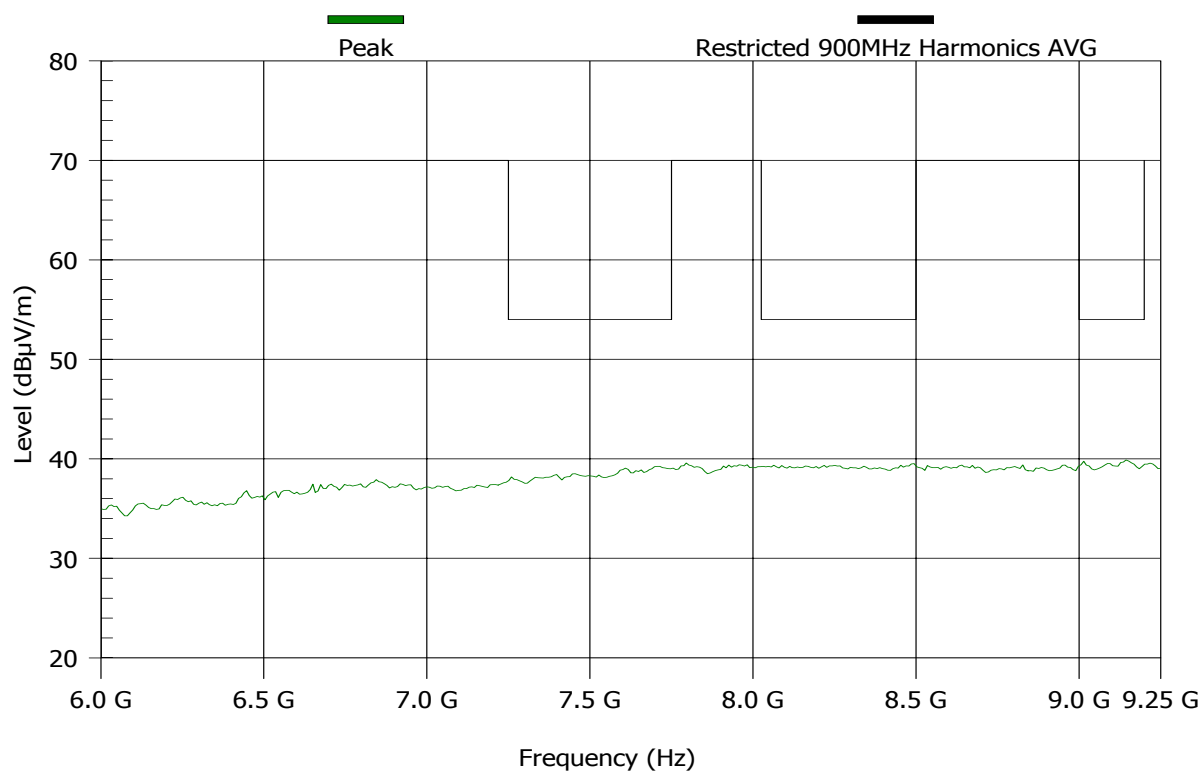
None

Test Results Plot No 91

**FCC 15.205 RESTRICTED 6-9.2GHz 918 12.5dbi sq external
AVG**

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 Hz
Antenna:	EMCO 3105 1-18GHz	Sweep Time:	Auto: 9.75 s
Polarization:	Vertical	Pre Amplifier	

TEST REMARKS:

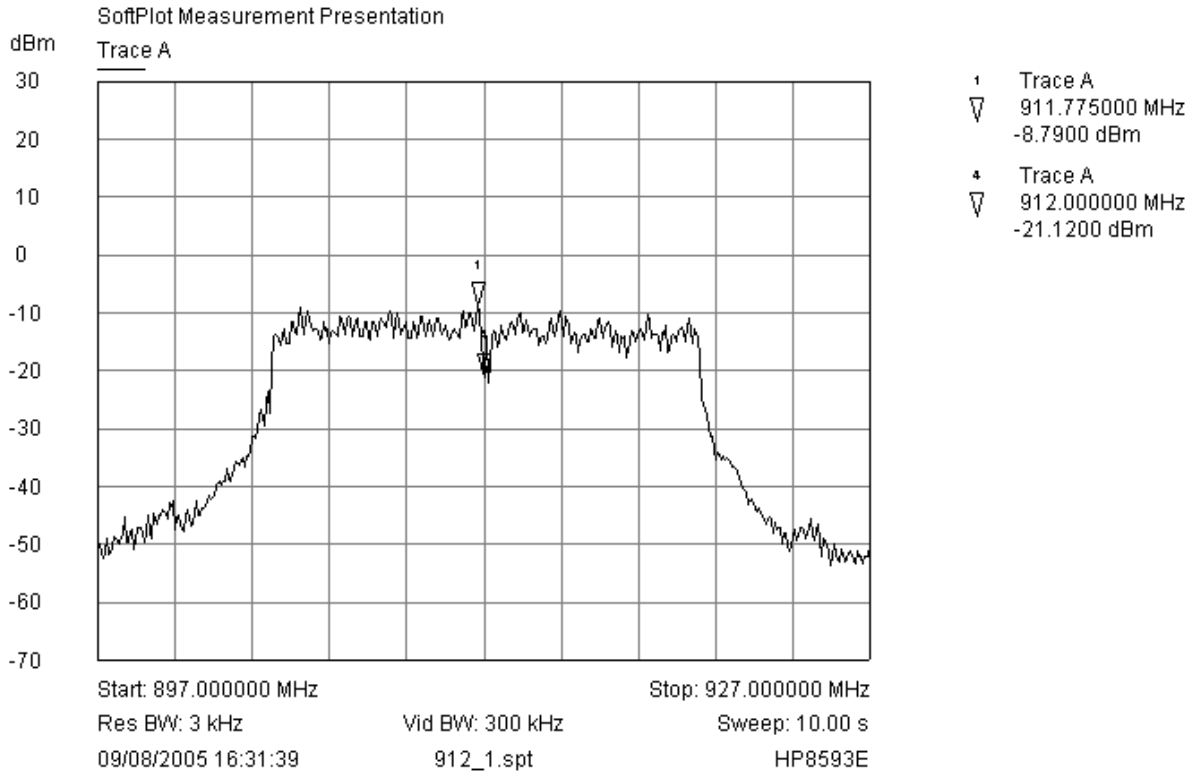


MAXIMUM RESULT DEVIATION:

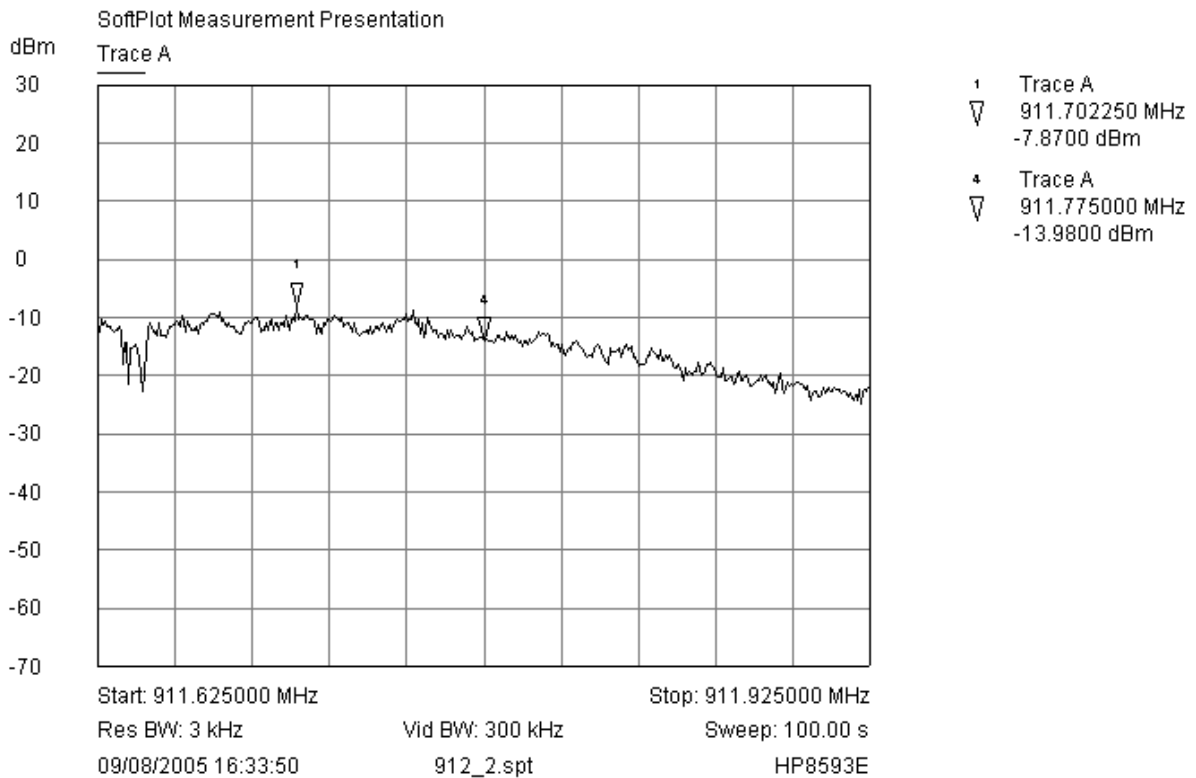
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

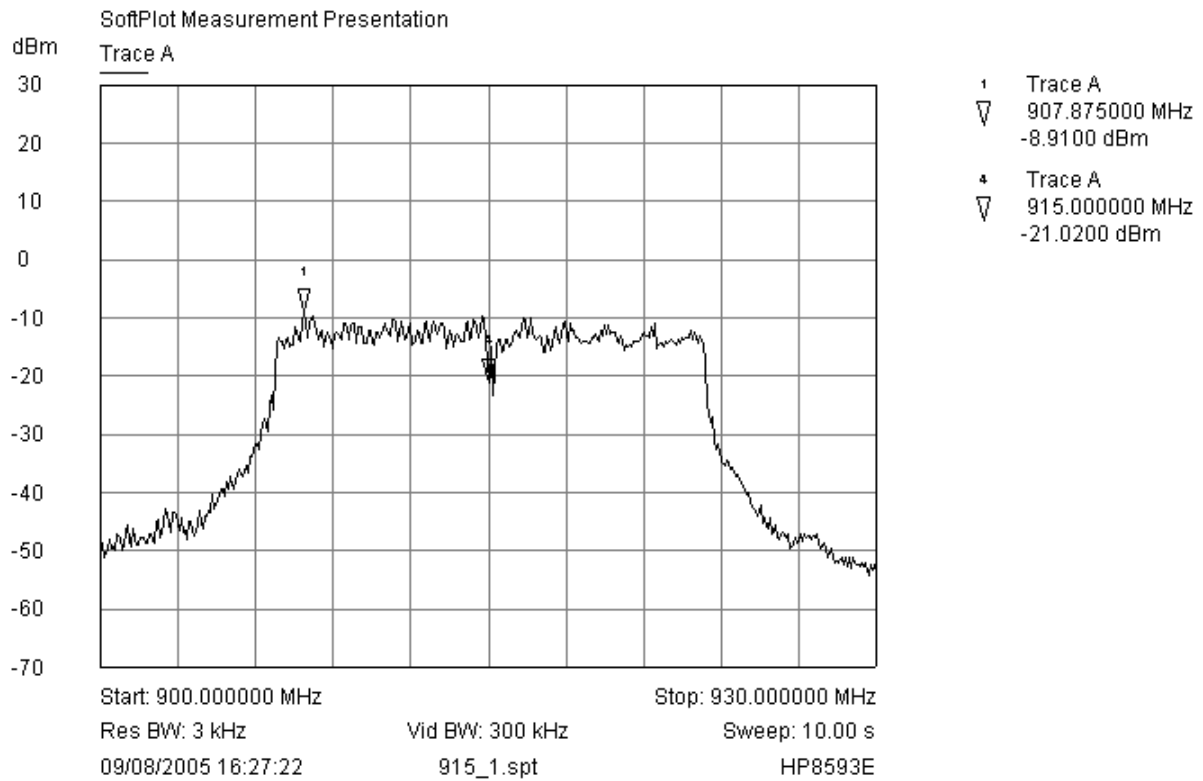
Test Results Plot No 92
FCC 15.247d Power density TX-912MHz



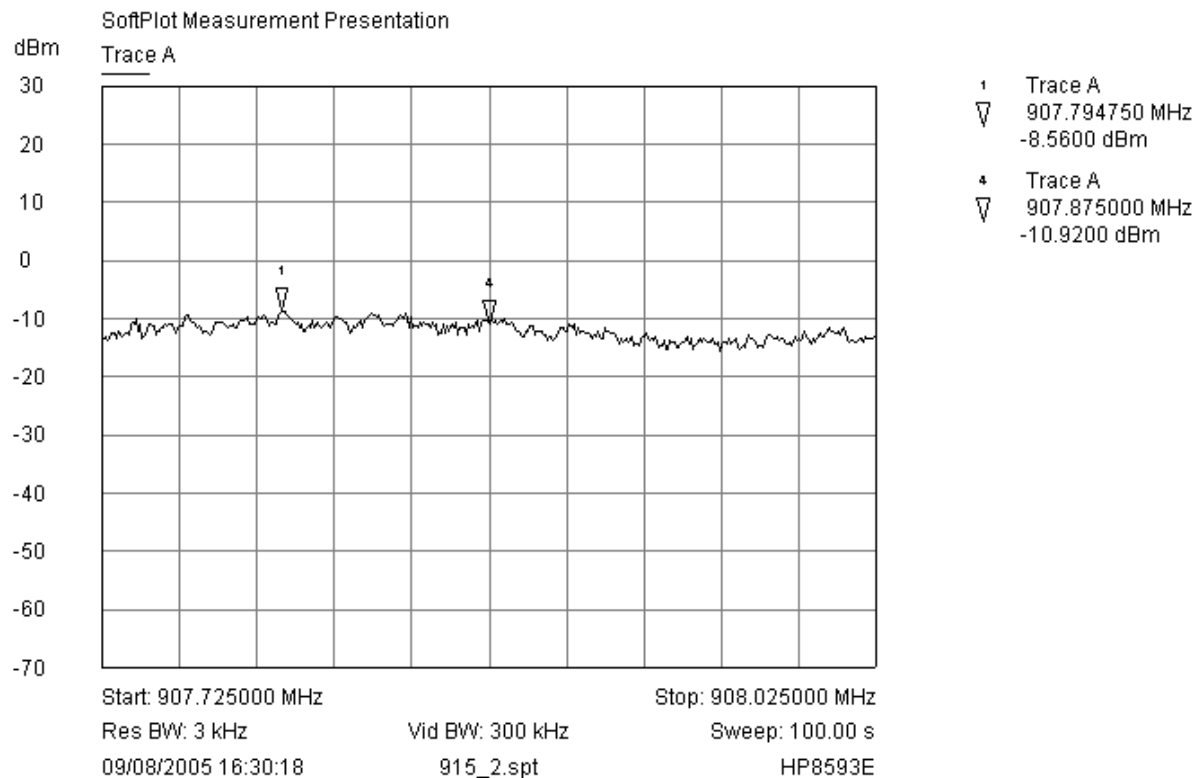
Test Results Plot No 93
FCC 15.247d Power density TX-912MHz



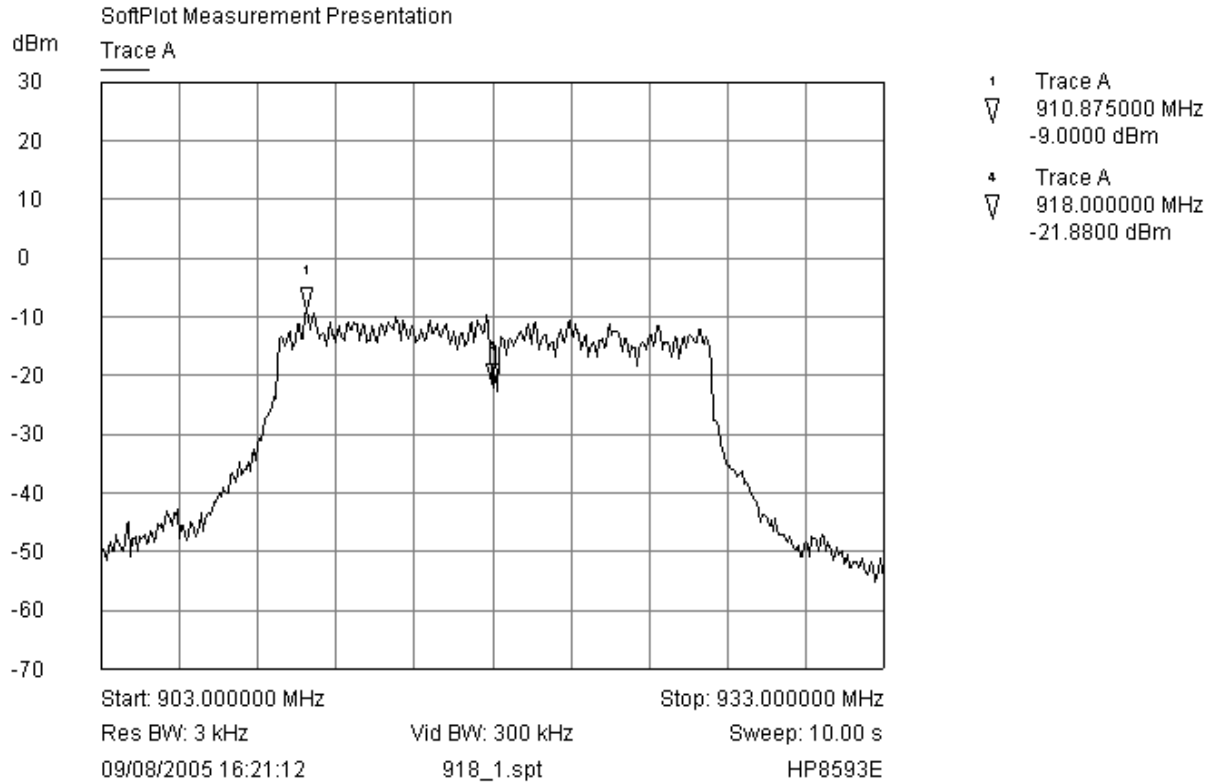
Test Results Plot No 94
FCC 15.247d Power density TX-915MHz



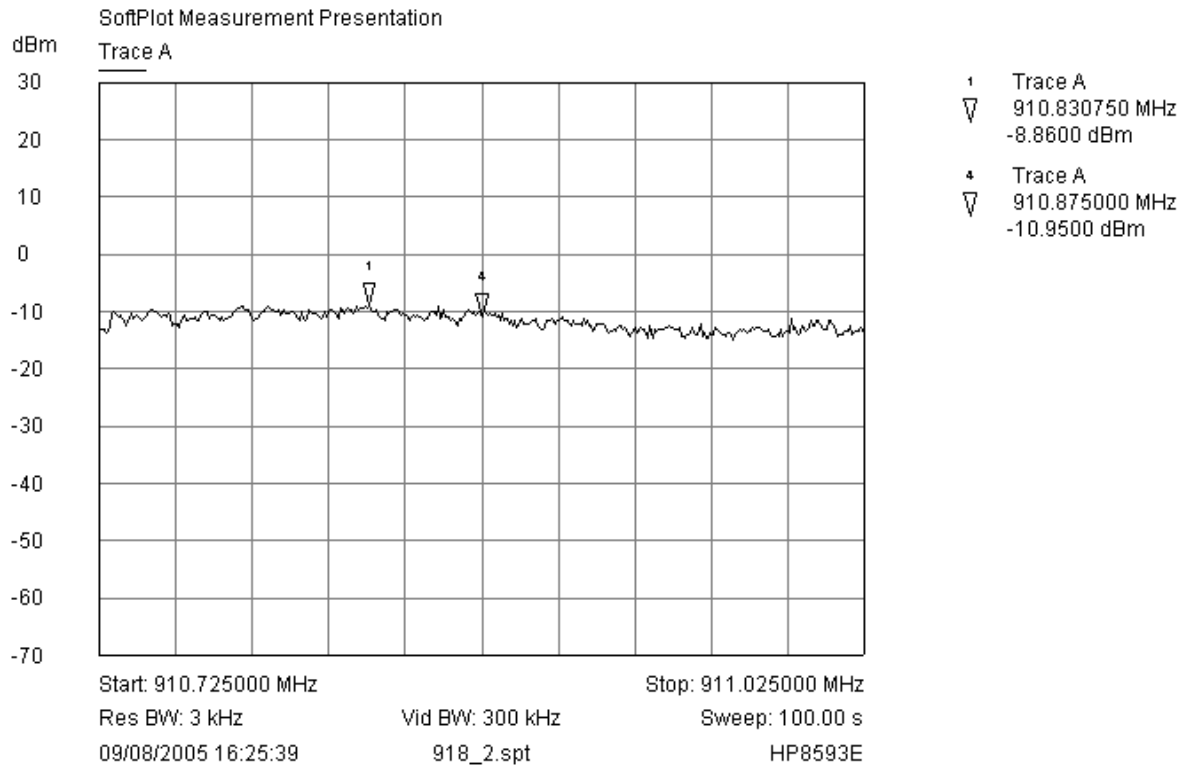
Test Results Plot No 95
FCC 15.247d Power density TX-915MHz



Test Results Plot No 96
FCC 15.247d Power density TX-918MHz



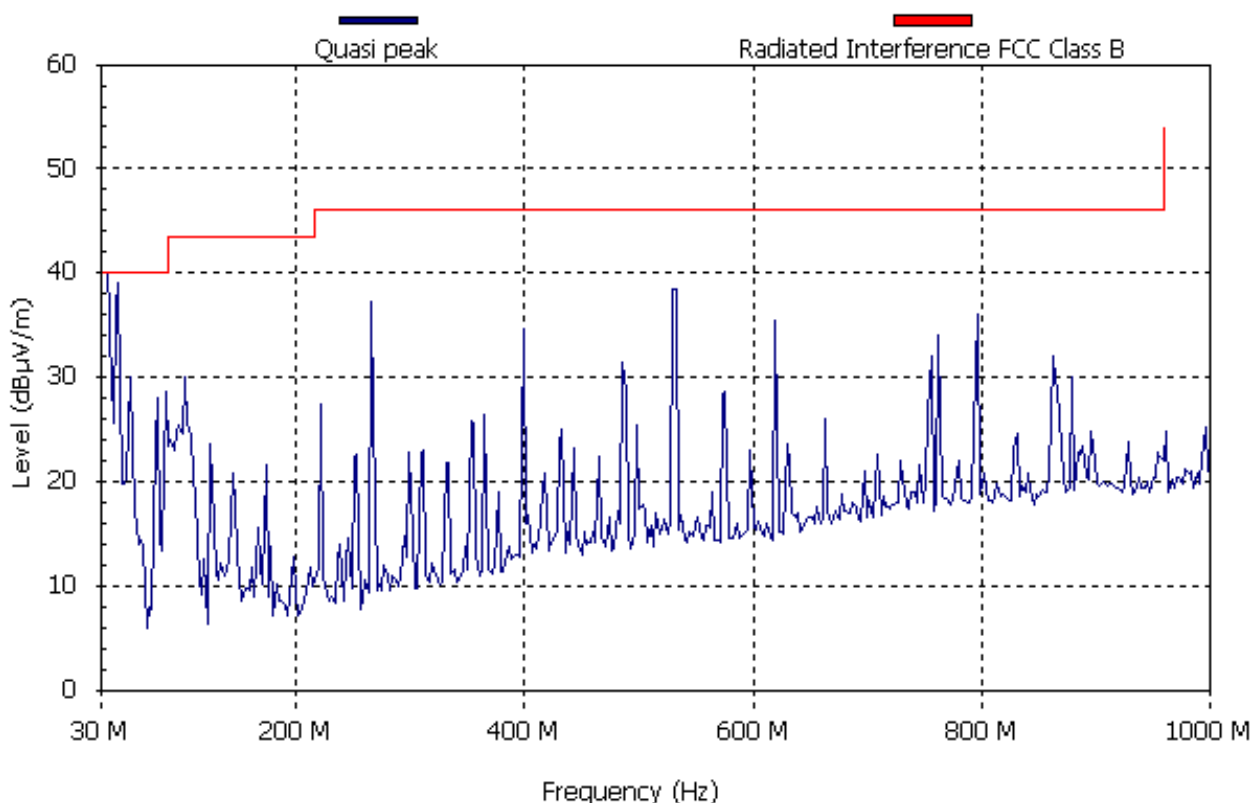
Test Results Plot No 97
FCC 15.247d Power density TX-918MHz



Test Results Plot No 98
FCC 30-1000MHz STBY

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	70 dB μ V
Date of Test:	09.08.05	RBW:	120 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	Frankonia BTA-L_A 3m	Sweep Time:	Auto: 202.08 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

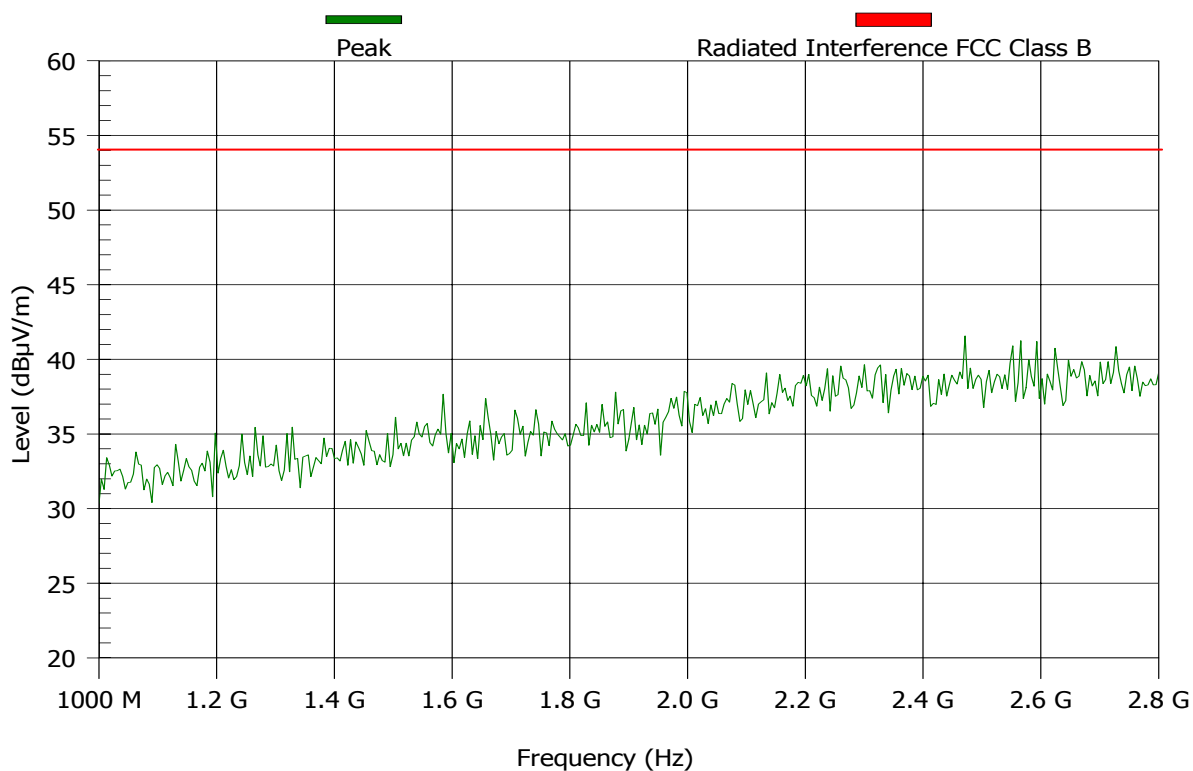
Frequency (MHz)	PK MaxHold (dB μ V/m)	QP (dB μ V/m)	QP Limit (dB μ V/m)	Result	Angle (degrees)	Height (m)	H/V
30.006	38.3	34	40	Pass	125	1.6	H
30.639	38.5	36.9	40	Pass	235	1.4	V
32.627	38.9	34.7	40	Pass	240	1.3	V
34.112	44.9	37.6	40	Pass	240	1.3	V
42.95	37.8	33.3	40	Pass	240	1.3	V

Test Results Plot No 99

FCC 1-2.8GHz stby

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	ARA DRG1840 18-40GHz SER-1058	Sweep Time:	Auto: 36 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

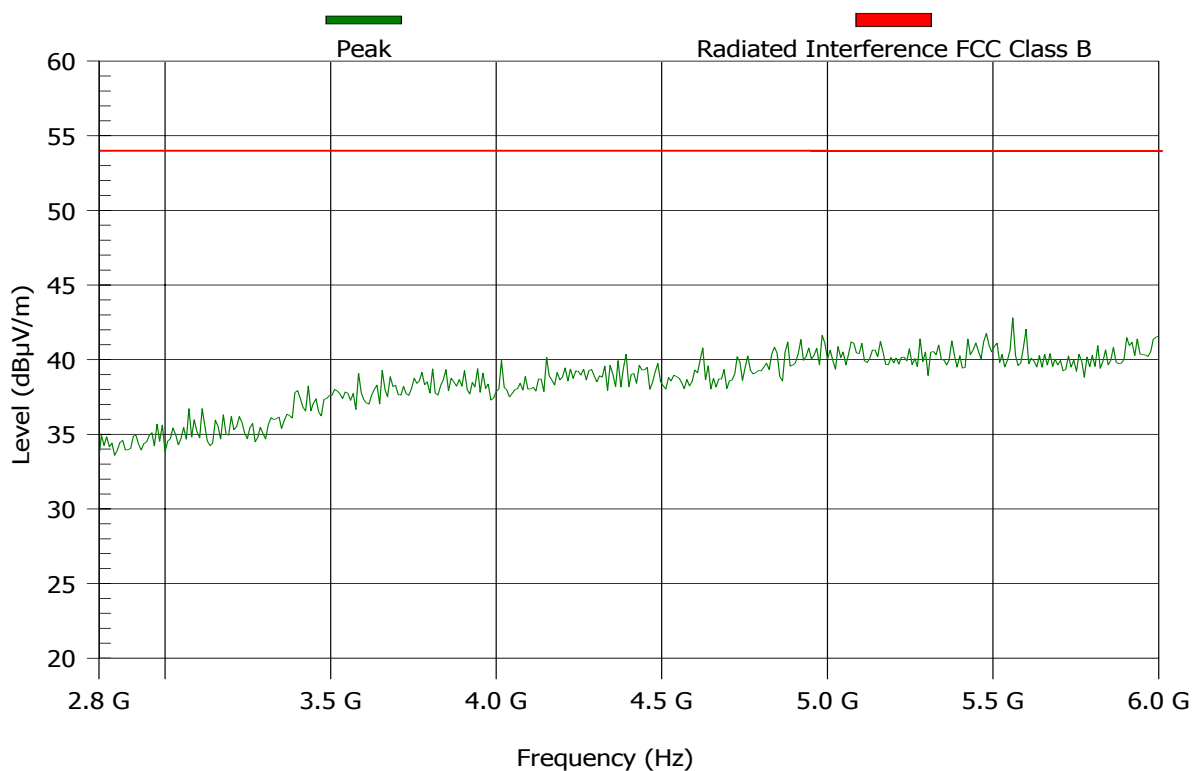
None

Test Results Plot No 100

FCC 2.8-6GHz stby

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	ARA DRG-118A 1-18GHz SER 1317	Sweep Time:	Auto: 64 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	No Description Available

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

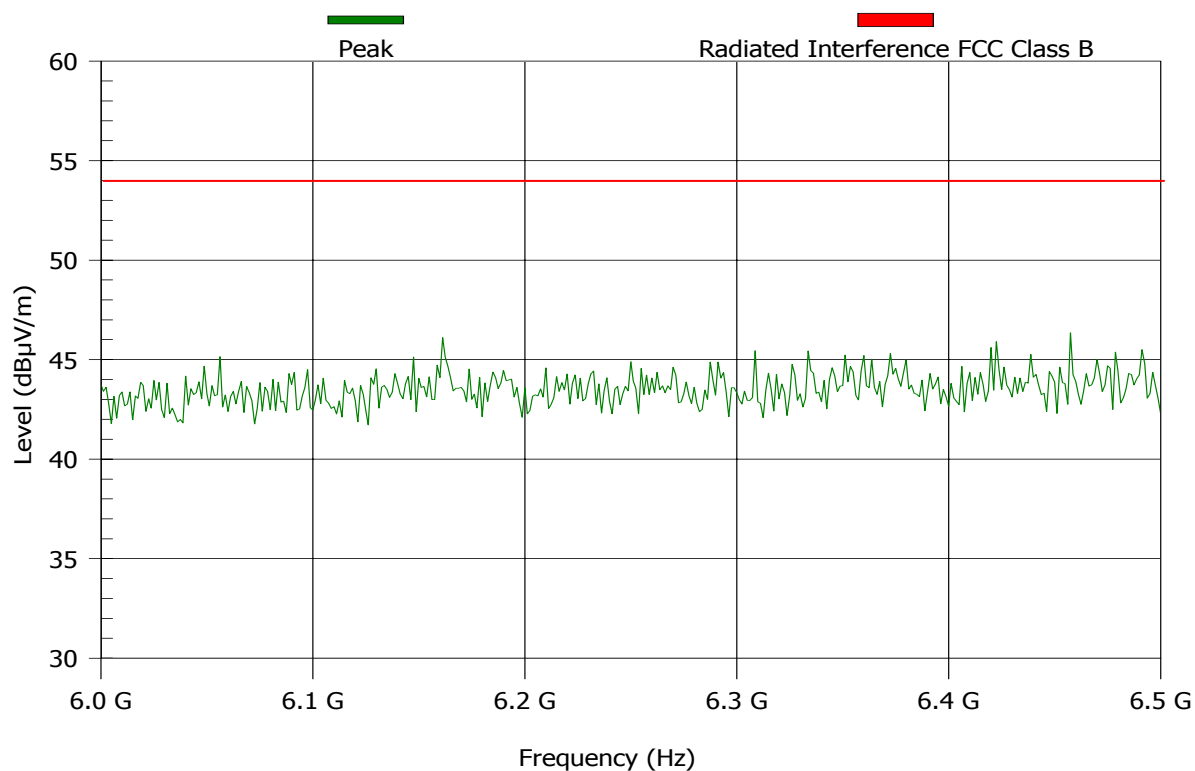
None

Test Results Plot No 101

FCC 6-6.5GHz stby

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	ARA DRG1840 18-40GHz SER-1058	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal and Vertical	Pre Amplifier	No Description Available

TEST REMARKS:


MAXIMUM RESULT DEVIATION:

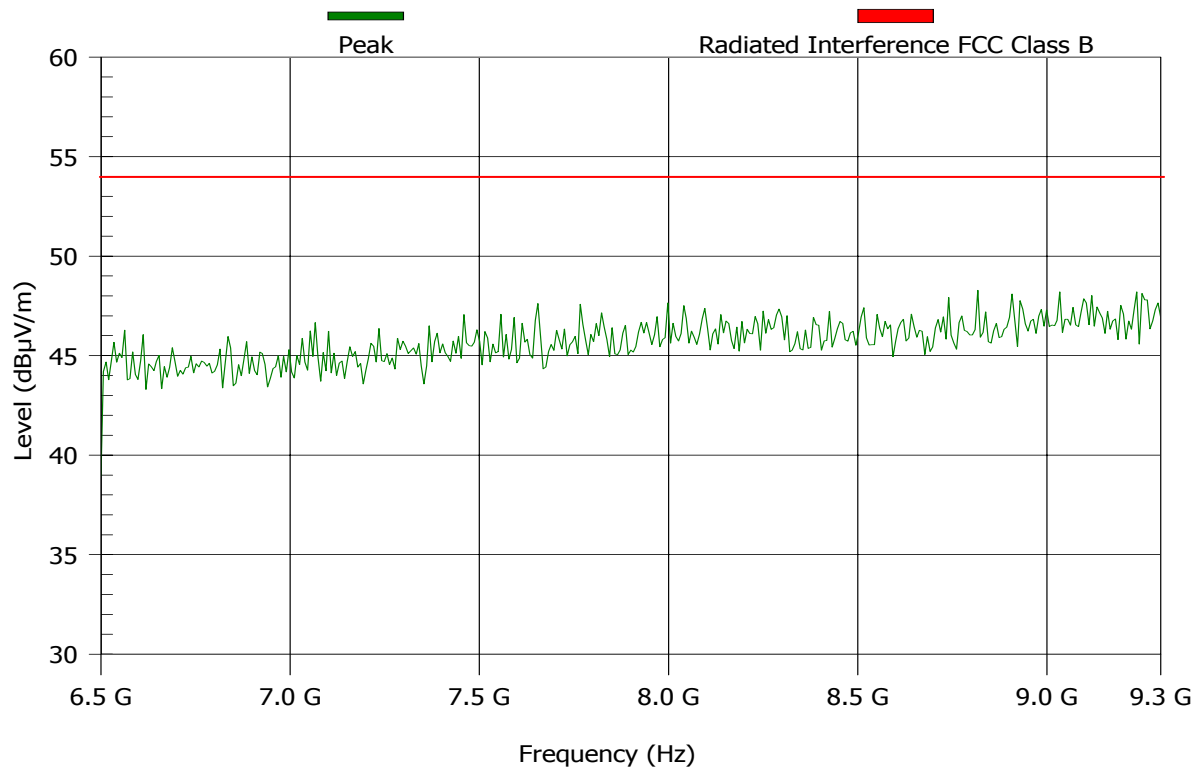
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

None

Test Results Plot No 102
FCC 6.5-9.3GHz stby

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	90 dB μ V
Date of Test:	09.08.05	RBW:	1000 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	ARA DRG1840 18-40GHz SER-1058	Sweep Time:	Auto: 75.83 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

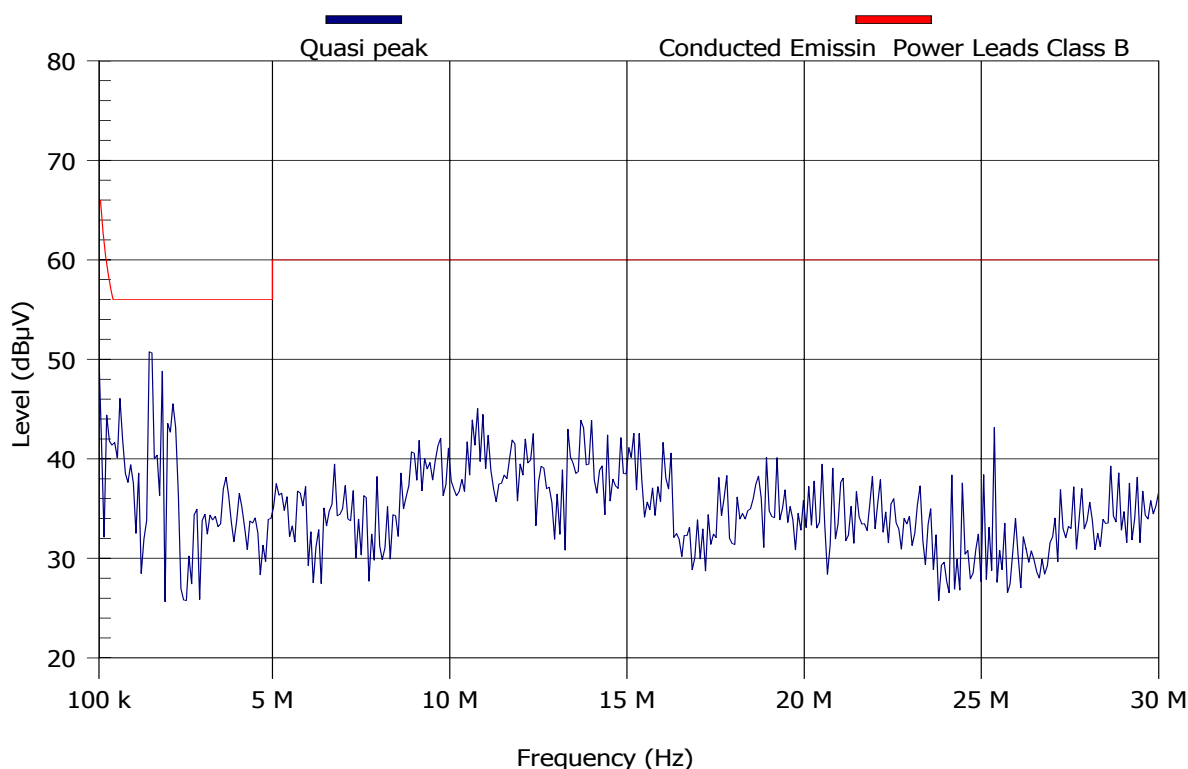
TEST REMARKS:



Test Results Plot No 103
CE FCC 15.207 150K-30MHz NEUTRAL

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	80 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 1.11 s
Polarization:	6 polarization	Pre Amplifier	Attenuator 20db

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

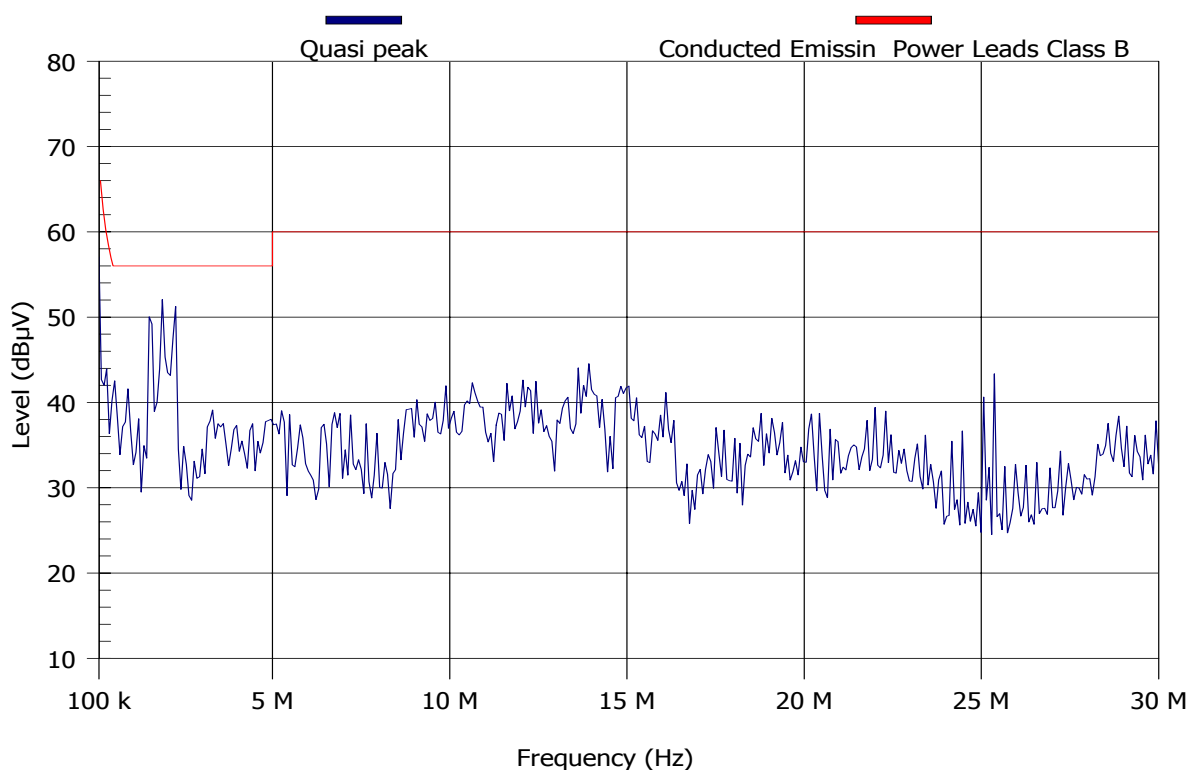
Frequency (MHz)	PK MaxHold (dB μ V)	QP (dB μ V)	QP Limit (dB μ V)	Result	Line
1.525	51.1	51.6	56	Pass	Line 1

Test Results Plot No 104

CE FCC 15.207 150K-30MHz PHASE

Test & EUT General Information		Receiver Setting	
EUT Name:	GA_OFDM_900	Spect Analyzer	S.A HP 8593E
S/N:	0050C21CCE27	Ref. Level:	80 dB μ V
Date of Test:	09.08.05	RBW:	9 kHz
Test Engineer:	S.Kozliner	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 1.11 s
Polarization:	1 polarization	Pre Amplifier	Attenuator 20db

TEST REMARKS:



MAXIMUM RESULT DEVIATION:

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

Frequency (MHz)	PK MaxHold (dB μ V)	QP (dB μ V)	QP Limit (dB μ V)	Result	Line
1.524	51.4	51.8	56	Pass	Line 1
1.826	52.8	51.8	56	Pass	Line 1
1.832	53	51.8	56	Pass	Line 1

12 CORRECTION FACTORS

Correction Factor for **line impedance stabilization network** model DC-AC-20A-01

Frequency (KHz)	Correction Factor (db)
10	4.4
20	1.6
30	0.8
40	0.4
50	0.3
60	0.25
70	0.15
100	0.1
200	0

DOUBLE RIDGE HORN Model 3105 S/N:0050C21CCE27-C3-3D 2052 Antenna Factor

Frequency (MHz)	Ant. Factor (db/m)
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:0050C21CCE27-C3-3D
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		

13 Abbreviations and Acronyms

The following abbreviations and acronyms are applicable in this document

BW	Bandwidth
Db	Decibel
EMI	Electromagnetic interference
E.U.T	Equipment under test
LISN	Line impedance stabilization network
RBW	Resolution band width
S/N	Serial number
VBW	Video bandwidth

a.