REV	Δ	Description	Sheet Effected	Date	Drawn	Checked
A				July 13, 2007	S.Cohen	S.Cohen

EMC Laboratory

UTX-830

FCCID: QUX-UTX-830
Manufactured by
HomeFree Ltd.

EMC Test Report

According to FCC Part 15 Requirements

July 07

	Function/Title	Name	Signature	Date
Prepared by	Test Engineer	S.Cohen		July 13, 2007
Checked by	Test Engineer	S.Cohen		July 13, 2007
Approved by	EMC Lab. Manager	S.Cohen		July 13, 2007

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1 Introduction

a. Scope

This document describes the measurement procedures and tests for FCC part 15 of the QUX-UTX-830 Manufactured by HomeFree Ltd.

Equipment Under Test:	UTX-830
FCCID	QUX-UTX-830
Manufacturer:	HomeFree Ltd.
Serial Numbers:	31834
Mode of Operation:	TX MODE
Receiver operating frequency:	318MHZ
Year of Manufacture:	2007

b. Applicant Information:

Applicant:	HomeFree Ltd.
Applicant Address	2, Habarzel Street Tel-Aviv
Telephone:	+972-3-6478871
FAX:	+972-3-6478872
The testing was observed by:	Oren Davidov
Following applicant's personnel:	

c. Test Performance:

Date of reception for testing:	17.06.07
Dates of testing;	17.06.07
Test Laboratory Name:	Tadiran EMC Laboratory
Address:	Hashoftim 26 Holon
Zip Code:	267,5812
City:	Holon
Country:	Israel
Telephone:	03-5574476
Fax:	03-5575320
Email:	Shmuel_cohen@tadcomm.com

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 & 15.231.
Applicable EMC Specification:	**F**ederal **C**ommunication **C**ommission (FCC), FCC Part 15: Radio Frequency Devices, Sections 15.109, 15.209 & 15.231.

2 Test Summary and Signatures.

TADIRAN 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	15.231 & 15.205	PASS
4	Radiation emission	15.109	PASS

a. **Test performed by:**

Mr. S. Kozliner Test Engineer

b. **Test Report prepared by:**

Mr. S. Cohen EMC Lab. Manager 

c. **Test Report Approved by:**

Mr. Samuel Cohen EMC Lab. Manager 

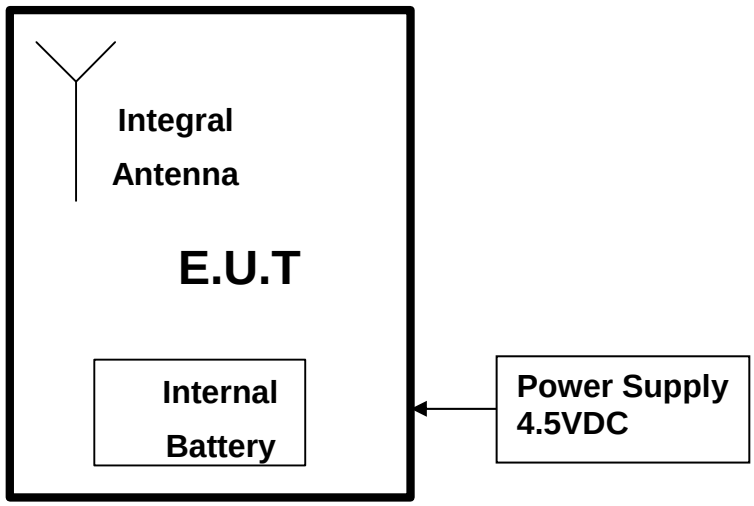
3 E.U.T information

a. E.U.T description

The EUT (UTX-830) is a compact RF transmitter unit operates at 318MHz that is generally carried out and can be used in several modes of operation.
The EUT is a Frame Head device, powered by Li/MnO_2 battery (operation voltage 3V) and external 4.5VDC power supply (optional).

b. E.U.T Test Configuration

E.UT. Test configuration is shown in figure below



c. E.U.T Mode of Operation description

(1) 318MHz TX Mode

4 BANDWIDTH OF THE EMISSION part 15.231.c—TEST RESULTS

E.U.T:	UTX 830 S/N 31834
Test Method:	ANSI C63.4
Date:	16/05/2007
Relative Humidity:	37%
Ambient Temperature:	22c
Air Pressure:	1042hpa
Test Setup:	Figure 1

Testing Engineer: S.Kozliner **Date** 16.06.2007

a. **Test Results Summary & Conclusions**

The E.U.T was found in compliance with Bandwidth of Radiated Emission fundamental frequency requirement according to section 15.231.c

b. **Limits of bandwidth**

The test unit shall meet the limits of Table 1

Table- 1 Limits For Bandwidth

Frequency (MHz)	Bandwidth Max Limits (%)	Bandwidth Max Limits (KHz)
318	0.25	795

c. **Test Instrumentation and Equipment**

Table- 2 Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/05/08
Broadband Antenna	BTA-L	FRANKONIA	15.04.08

d. **Results**

Table- 3 Bandwidth Test Result

Frequency (MHz)	Bandwidth (KHz)	Bandwidth Max Limit (KHz)	Plot No	PASS/FAIL
318	327.5	795	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 VBW 10 KHz.

5 Field strength of fundamental part 15.231-TEST RESULTS

E.U.T:	UTX 830 S/N 31834
Test Method:	ANSI C63.4
Date:	16/05/2007
Relative Humidity:	37%
Ambient Temperature:	22c
Air Pressure:	1042hpa
Test Setup:	Figure 1

Testing Engineer: S.Kozliner **Date** 16.05.2007

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 4.

Table- 4 Limits For Fundamental

Frequency (MHz)	Average Max Limits (dBμV/m)	Peak Max Limits (dBμV/m)
318	75.8	95.8

c. **Test Instrumentation and Equipment**

Table- 5 Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/05/08
Broadband Antenna	BTA-L	FRANKONIA	15.04.08

d. **Test Results**

Measured Tx period is : 6.2mSec

Table- 6 Average Factor

TX Period (min)	Duty Cycle (min)	Average Factor (db)	Plot Ref
6.2ms	6.2/100=0.062	20log0.062=-24.15	2

Table- 7 Peak Result of Fundamental

Frequency (MHz)	Peak Result (dBμV/m)	Peak Limits (dBμV/m)	Margin (dB)	Plot No	Pass/ Fail
317.95	92.7	95.8	3.1	3 & 4	PASS

Table- 8 Average Result of Fundamental

Peak Result (dBμV/m)	Average Factor	Calculation Results	Average Limits (dBμV/m)	Margin (dB)	Pass/ Fail
92.7	-24.15	68.55	75.8	7.25	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:	UTX 830 S/N 31834
Test Method:	ANSI C63.4
Date:	16/05/2007
Relative Humidity:	37%
Ambient Temperature:	22c
Air Pressure:	1042hpa
Test Setup:	Figure 1

Testing Engineer: S.Kozliner **Date** 16.05.2007

a. **Test Results Summary & Conclusions**

The E.U.T was found in compliance with 15.231

b. **Limits of Radiated Interference Field Strength according 15.231**

The test unit shall meet the limits of Table 9.

Table- 9 Limits For 15.231(b)

Frequency range (MHz)	Average Limits (dBμV/m)	Peak Limits (dBμV/m)
0.009 – 4000	75.8	95.8

c. **Test Instrumentation and Equipment**

Table- 10 Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/05/08
Rode Antenna (10KHz-30MHz)	95010-1	ETN	15.04.08
Double Ridge Guide Antenna (1-18GHz)	3105	EMCO	15.04.08
Broadband Antenna	BTA-L	FRANKONIA	15.04.08
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	24.03.08
Low Noise Amplifier (1-2GHz)	SMC-09	MITEQ	24.03.08
Low Noise Amplifier (2-6GHz)	SMC-09	MITEQ	24.03.08

d. **Preliminary Results**

Table- 11 **Preliminary Test Results for intentional Emissions**

Antenna Polarization	Freq. Range MHz	Res. BW (kHz)	Plot No.	Pass/Fail
Horizontal	0.009 – 0.15	0.2	12	Pass
Vertical			11	Pass
Vertical	0.15 - 30	9	10	Pass
Horizontal			9	Pass
Both Hor.& Ver	30-1000	120	5 & 6	Pass
	1,000-4,000	1000	7 & 8	Pass

in TX Mode 15.231

e. **Final Results**

Table- 12 Six Highest Peak Emission Test Results

Freq. (MHz)	Peak Reading (*) (dBμV/m)	Limit dBμV/m	Margin (dB)	Pass/Fail
The Emission are at least 20db below the limit				

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

g. **Final Test Setup**

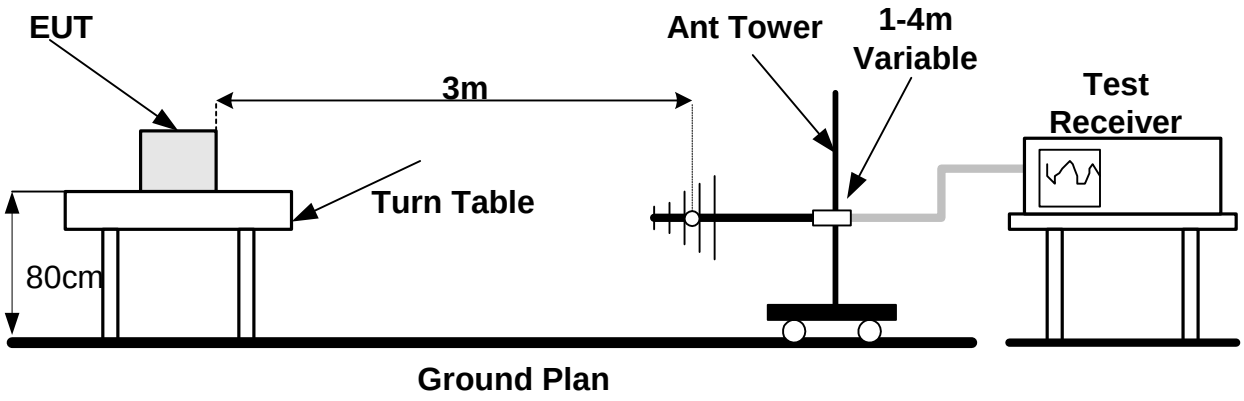


Figure 1 Radiated Emission Set up

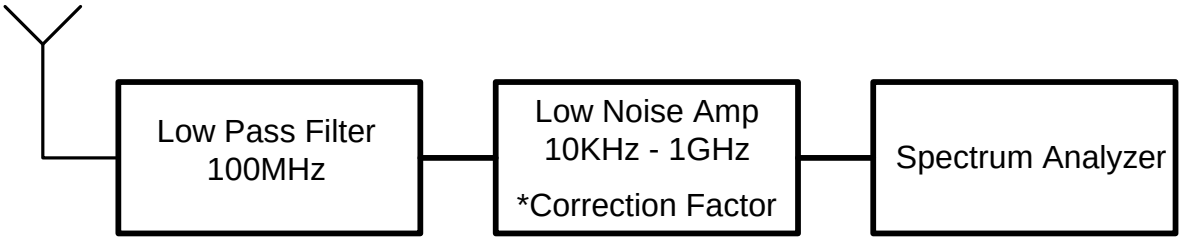


Figure 2 Radiated Emission test 10 KHz – 30MHz

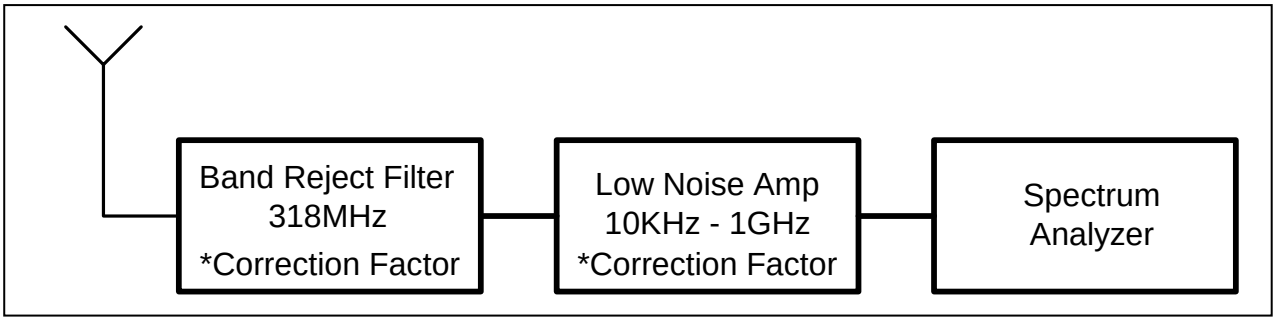


Figure 3 Radiated Emission test 30MHz – 1GHz

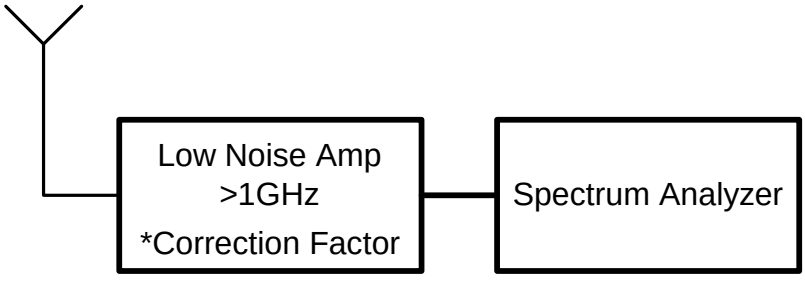


Figure 4 Radiated Emission test above 1GHz

7 Radiated emission part 15.109-test results (for STBY mode).

a. Preliminary Radiated emission Test Result According Part 15.109

E.U.T:	UTX 830	S/N 31834
Test Method:	ANSI C63.4	
Date:	16/05/2007	
Relative Humidity:	37%	
Ambient Temperature:	22c	
Air Pressure:	1042hpa	
Test Setup:	Figure 1	

Testing Engineer: S.Kozliner **Date** 16.05.2007

b. Test Results Summary & Conclusions

The E.U.T was found in compliance with 15.109

c. Limits of Radiated Interference Field Strength according 15.109

The test unit shall meet the limits of Table 14 for Class B equipment.

Table- 13 Limits For 15.109 Class B equipment

Frequency Range (MHz)	Quasi-peak Limits (dBμV/m)
30 - 88	40
88 - 216	43
216 - 960	46
960 - 2000	54

d. **Test Instrumentation and Equipment**

Table- 14 Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/08
Double Ridge Guide Antenna (1-18GHz)	3105	EMCO	24.04.08
Broadband Antenna (30-1000MHz)	BTA-L	FRANKONIA	10.04.08
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	14.01.08
Low Noise Amplifier (1-2GHz)	SMC-09	MITEQ	14.01.08
Low Noise Amplifier (2-6GHz)	SMC-09	MITEQ	14.01.08

e. **Results**

(1) **Preliminary Test Results**

Table- 15 **Preliminary Test Results for Unintentional Emissions in RX Mode 15.109**

Antenna Polarization	Freq. Range MHz	Res. BW (kHz)	Plot No.	PASS/FAIL
Both	30-1000	120	Plot-10	Pass
	1000-2.800	120	Plot-11	Pass
	2,800-4,400	1000	Plot-12	Pass

(2) **Final Test Results**

Table- 16 Six Highest RX Mode 15.109

Freq. (MHz)	Peak Reading (*) (dBμV/m)	Limit dBμV/m	Margin (dB)	Pass/Fail
The Emission are at least 20db below the limit				

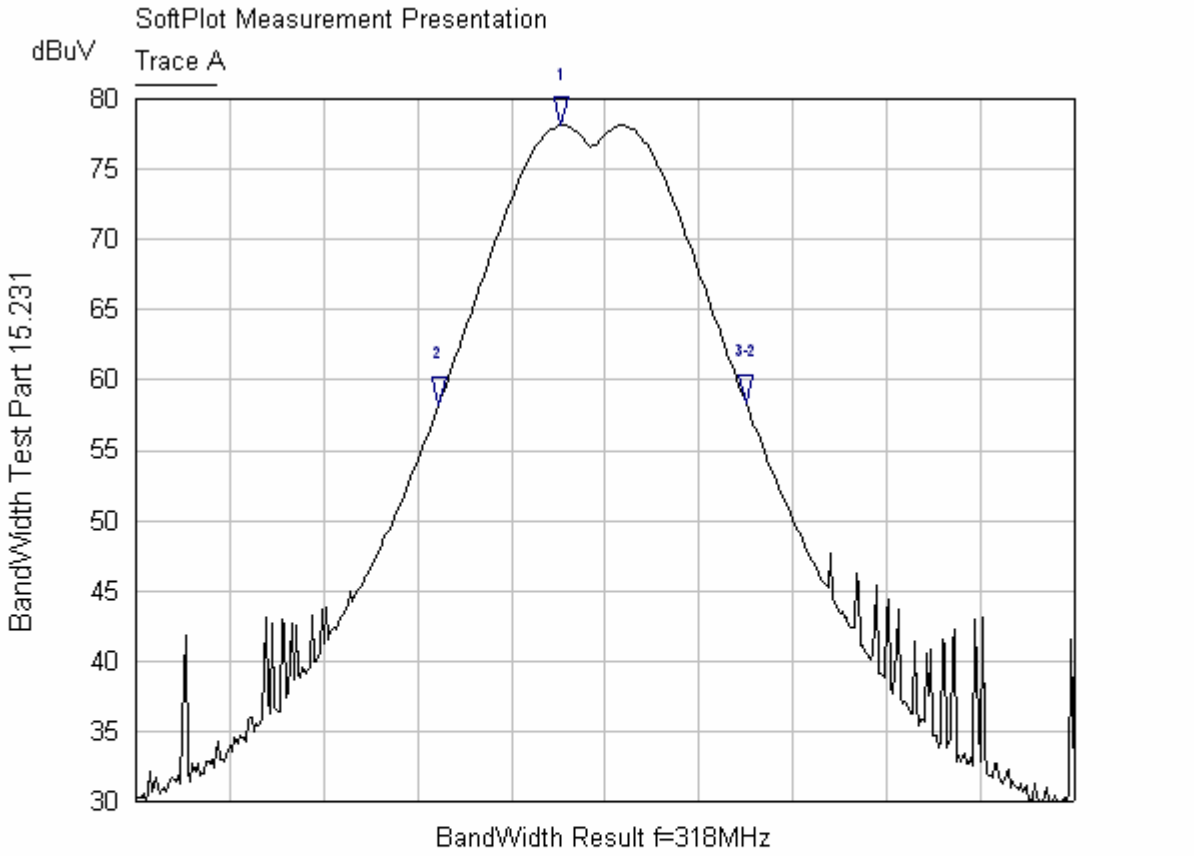
f. **Test Procedure**

See paragraph 6.f

8 Plots

Test Results Plot No 1

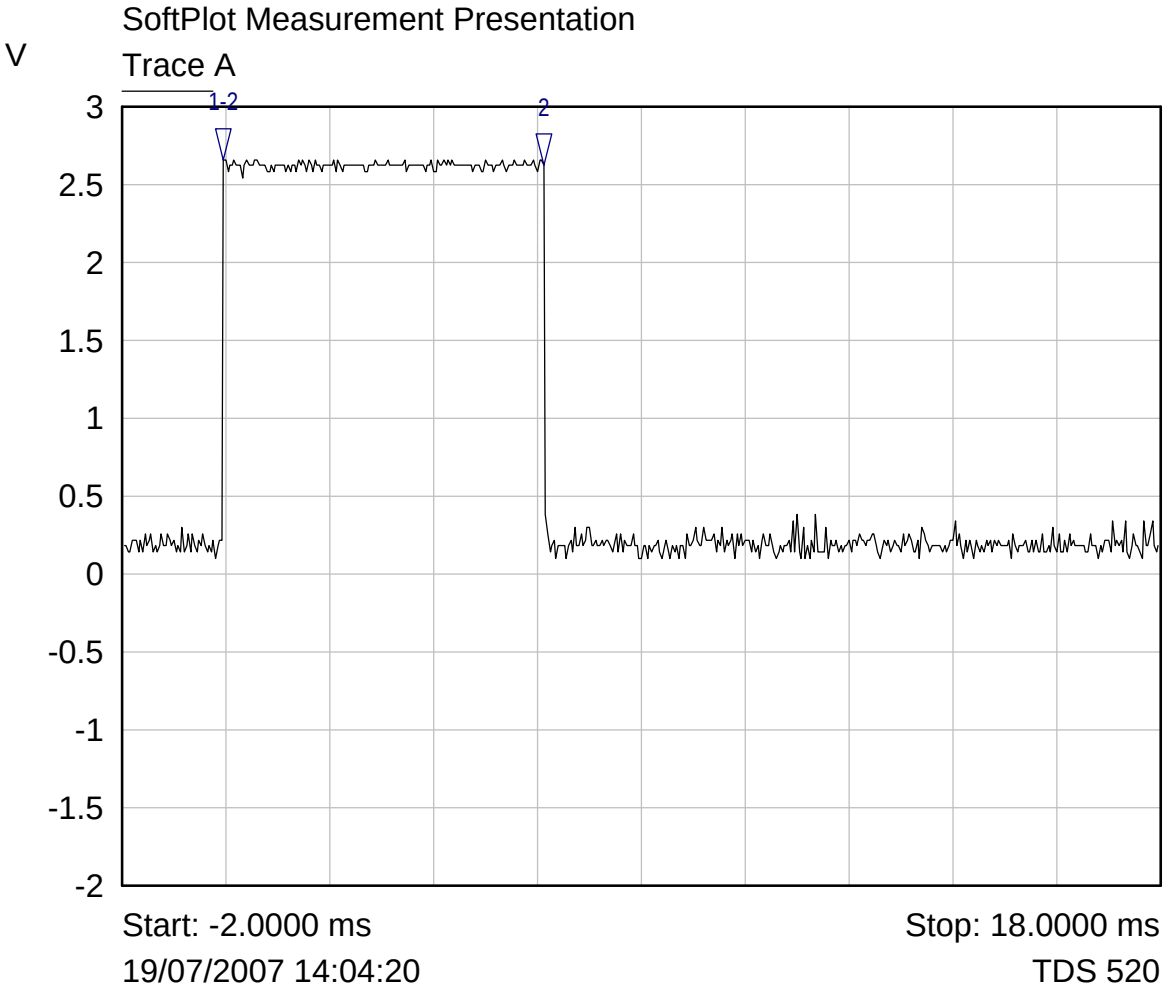
Modulation Bandwidth



Mkr	Trace	X-Axis	Value	Notes
1	Trace A	317.9525 MHz	78.09 dBuV	
2	Trace A	317.8225 MHz	58.26 dBuV	
3-2	Trace A	327.5000 kHz	0.11 dB	

Test Results Plot No 2

DUTY CYCLE result



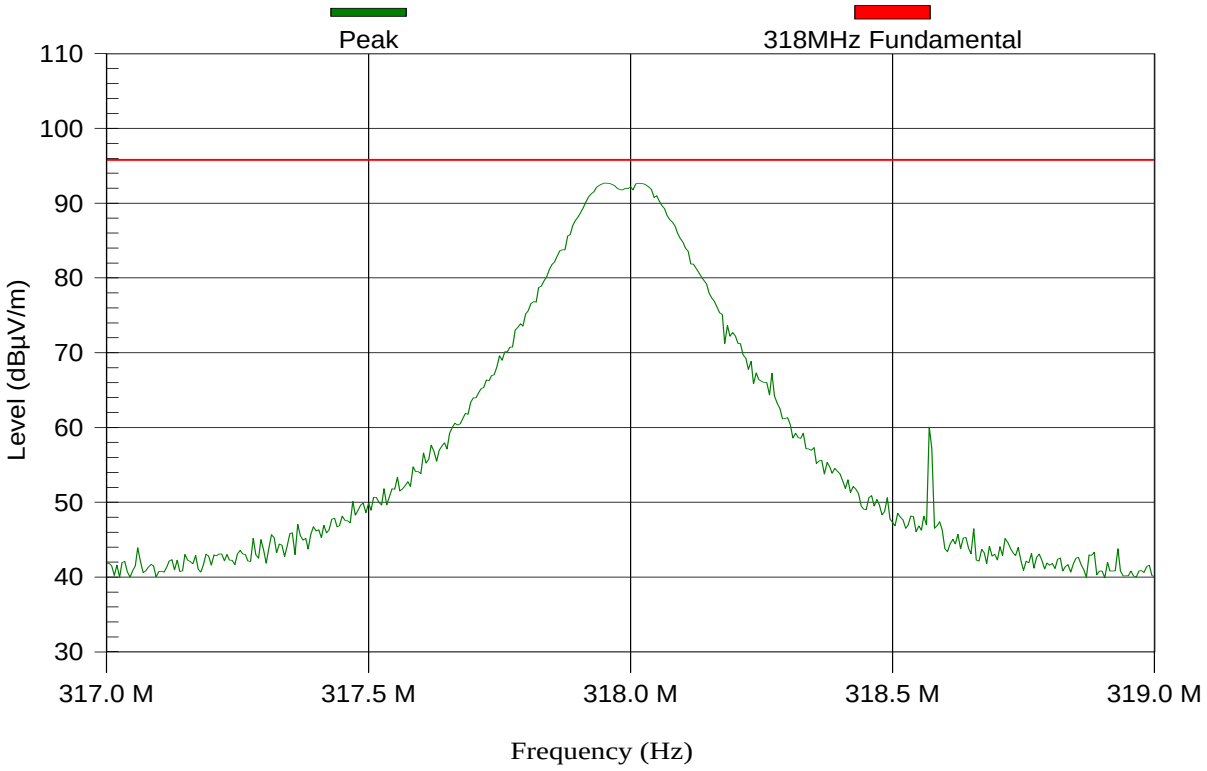
Mkr	Trace	X-Axis	Value	Notes
1-2	Trace A	-6.1600 ms	40.01 mV	
2	Trace A	6.1200 ms	2.62 V	

Test Results Plot No 3

FUNDAMENTAL FCC 318MHz VER

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	100 dBµV
Date of Test:		RBW:	120 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	Frankonia gray BTA-L_B 3m	Sweep Time:	Auto: 20 ms
Polarization:	Vertical	Pre Amplifier	No Description Available

TEST REMARKS:Monday, June 25, 2007
5:45:45 PM



MAXIMUM RESULT DEVIATION:

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

Nr	Frequency (MHz)	PK MaxHold (dBµV/m)	PK Limit (dBµV/m)	Result	Angle (degrees)	Height (m)	H/V
1	317.95	92.7	95.8	Pass	120	1	V

Test Results Plot No 4

FUNDAMENTAL FCC 318MHz HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	100 dBµV
Date of Test:		RBW:	120 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	Frankonia gray BTA-L_B 3m	Sweep Time:	Auto: 20 ms
Polarization:	Horizontal	Pre Amplifier	No Description Available

TEST REMARKS:Monday, June 25, 2007
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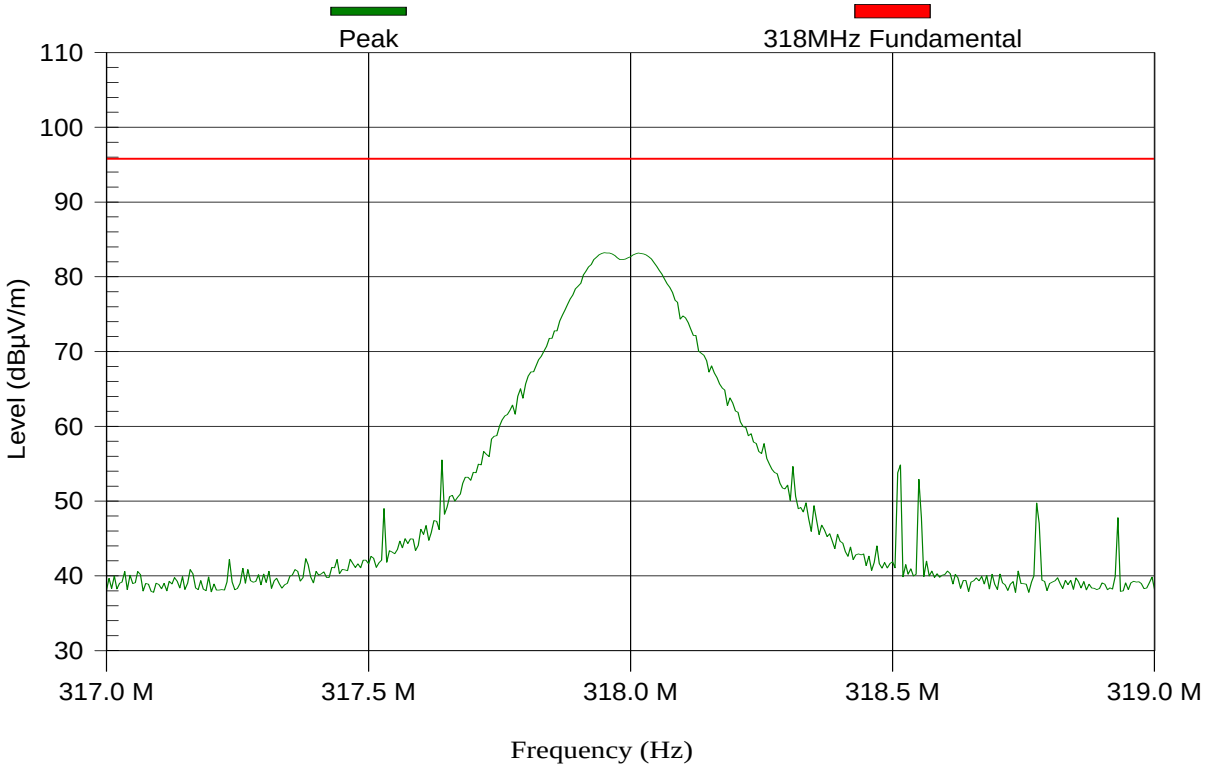


MAXIMUM RESULT DEVIATION:

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

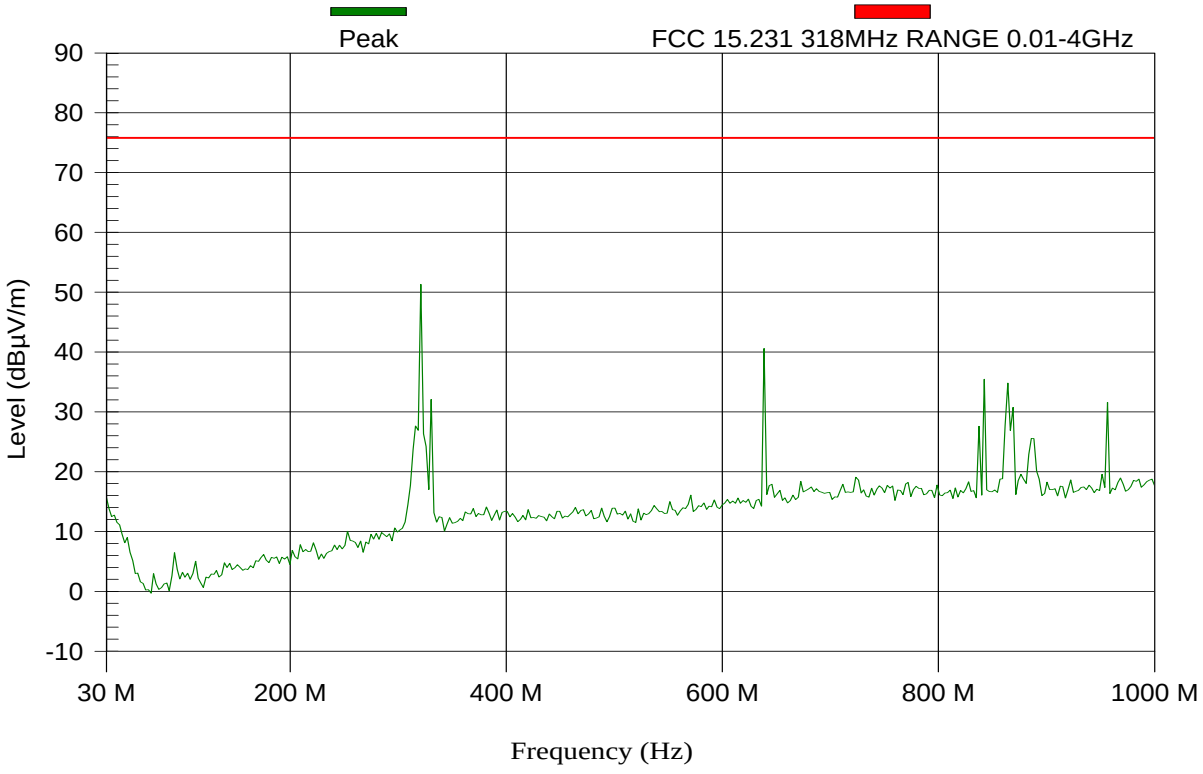
Nr	Frequency (MHz)	PK MaxHold (dBµV/m)	PK Limit (dBµV/m)	Result	Angle (degrees)	Height (m)	H/V
1	317.95	83.2	95.8	Pass	180	1	H

Test Results Plot No 5

FCC 15-231 30-1000MHz VERTICAL

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	120 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	Frankonia gray BTA-L_B 3m	Sweep Time:	Auto: 202.08 ms
Polarization:	Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

TEST REMARKS:Monday, June 25, 2007
2:56:58 PM



MAXIMUM RESULT DEVIATION:

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

Nr	Frequency (MHz)	PK MaxHold (dBµV/m)	PK Limit (dBµV/m)	Result	Angle (degrees)	Height (m)	H/V
1	321	51.3	75.8	Pass	90	1	V

Test Results Plot No 6

FCC 15-231 30-1000MHz HORIZONTAL

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	120 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	Frankonia gray BTA-L_B 3m	Sweep Time:	Auto: 202.08 ms
Polarization:	Horizontal	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

TEST REMARKS:Monday, June 25, 2007
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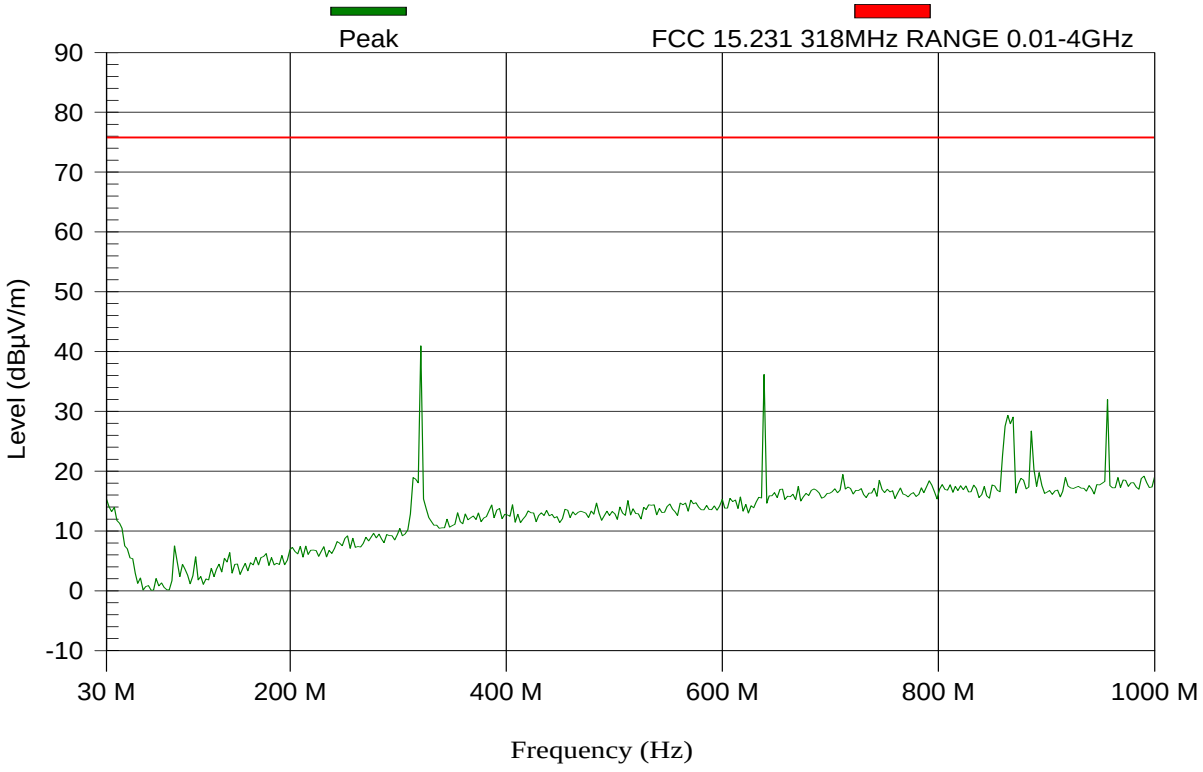


MAXIMUM RESULT DEVIATION:

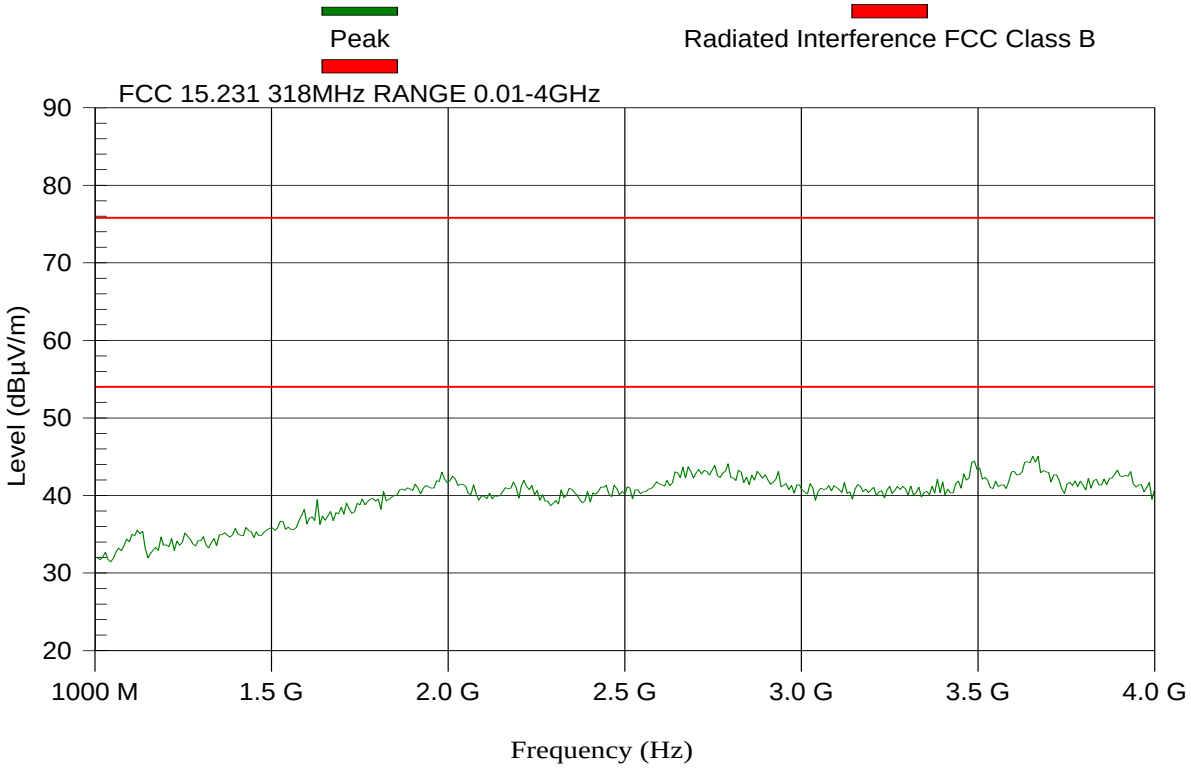
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 7

FCC 15-231 1-4GHz TX=318MHz VER

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	1000 kHz
Test Engineer:	Shmuel Cohen	VBW:	1000 kHz
Antenna:	ARA DRG-118/A 1-18GHz 1319	Sweep Time:	Auto: 26.43 ms
Polarization:	Vertical	Pre Amplifier	pre amp 1GHz-4GHz

TEST REMARKS:Monday, June 25, 2007
3:13:37 PM



MAXIMUM RESULT DEVIATION:

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

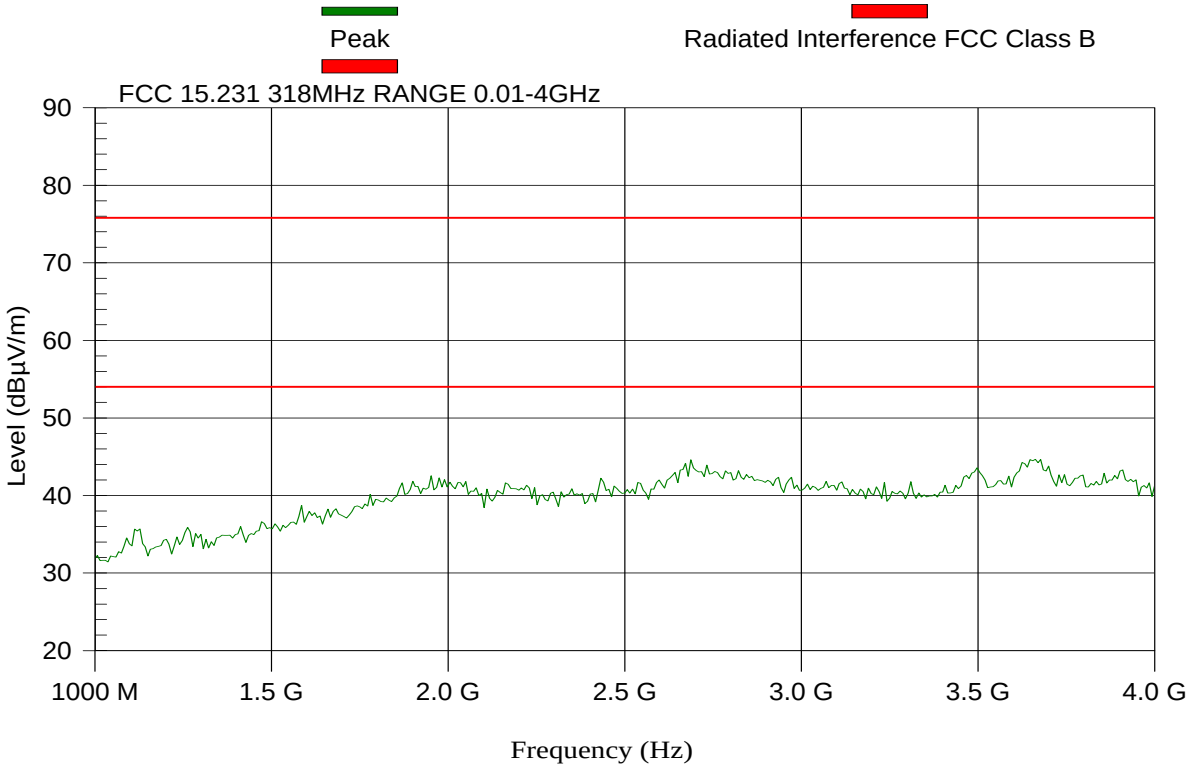
Nr	Frequency (MHz)	PK MaxHold (dBµV/m)	PK Limit (dBµV/m)	Result	Angle (degrees)	Height (m)	H/V
1	2755	44.6	75.8		180	1	V
2	3490	44.4	75.8		0	1	V
3	3632.5	44.3	75.8		0	1	V
4	3640	44.4	75.8		90	1	V
5	3655	45.1	75.8		270	1	V
6	3670	45	75.8		180	1	V

Test Results Plot No 8

FCC 15-231 1-4GHz TX=318MHz HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	1000 kHz
Test Engineer:	Shmuel Cohen	VBW:	1000 kHz
Antenna:	ARA DRG-118/A 1-18GHz 1319	Sweep Time:	Auto: 26.43 ms
Polarization:	Horizontal	Pre Amplifier	pre amp 1GHz-4GHz

TEST REMARKS:Monday, June 25, 2007
3:17:05 PM



MAXIMUM RESULT DEVIATION:

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

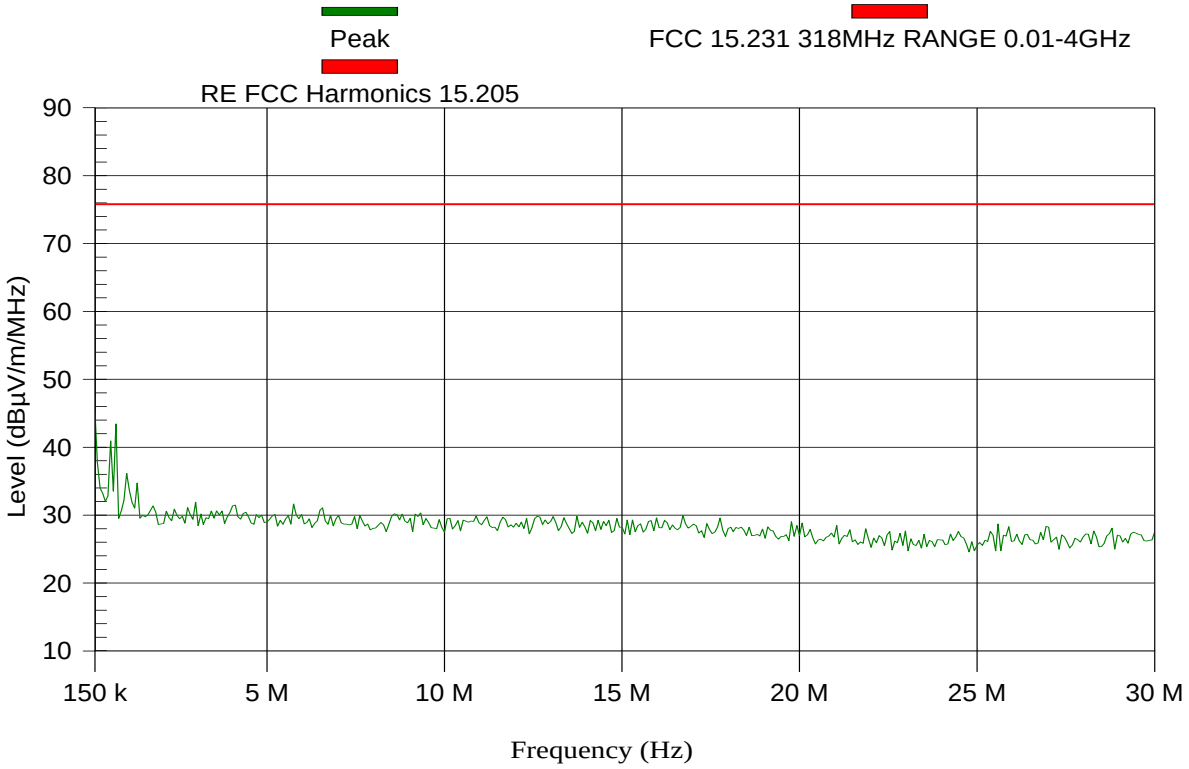
Nr	Frequency (MHz)	PK MaxHold (dBµV/m)	PK Limit (dBµV/m)	Result	Angle (degrees)	Height (m)	H/V
1	2672.5	44.2	75.8		90	1	H
2	2687.5	44.6	75.8		0	1	H
3	3625	44.3	75.8		270	1	H
4	3647.5	44.6	75.8		0	1	H
5	3662.5	44.7	75.8		90	1	H
6	3677.5	44.7	75.8		90	1	H

Test Results Plot No 9

FCC 15-231 & 205 0.15-30MHz TX f=318MHz HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	9 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	30 kHz
Antenna:	E-FIELD R&S 9K-30M ANTENNA	Sweep Time:	Auto: 1.11 s
Polarization:	Horizontal	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

TEST REMARKS:Monday, June 25, 2007
4:35:52 PM



MAXIMUM RESULT DEVIATION:

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

Test Results Plot No 10

FCC 15-231 & 205 0.15-30MHz TX f=318MHz VER

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	9 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	30 kHz
Antenna:	E-FIELD R&S 9K-30M ANTENNA	Sweep Time:	Auto: 1.11 s
Polarization:	Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

TEST REMARKS:Monday, June 25, 2007
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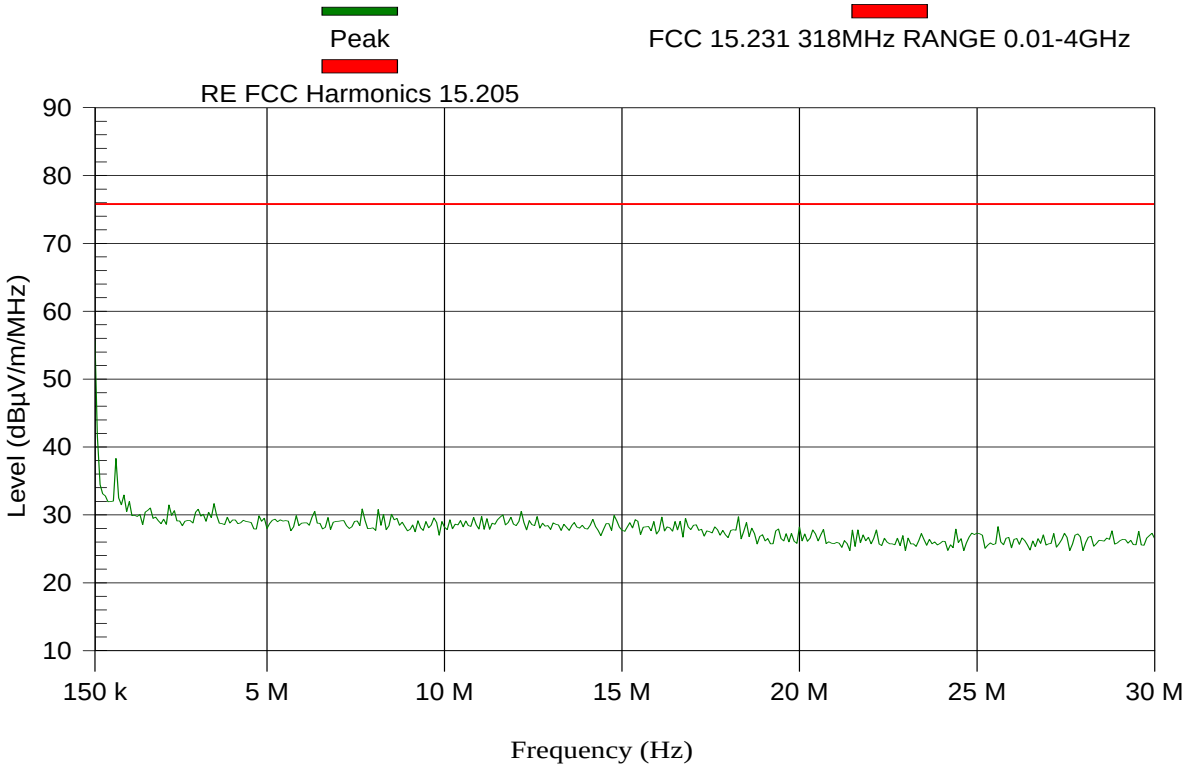


MAXIMUM RESULT DEVIATION:

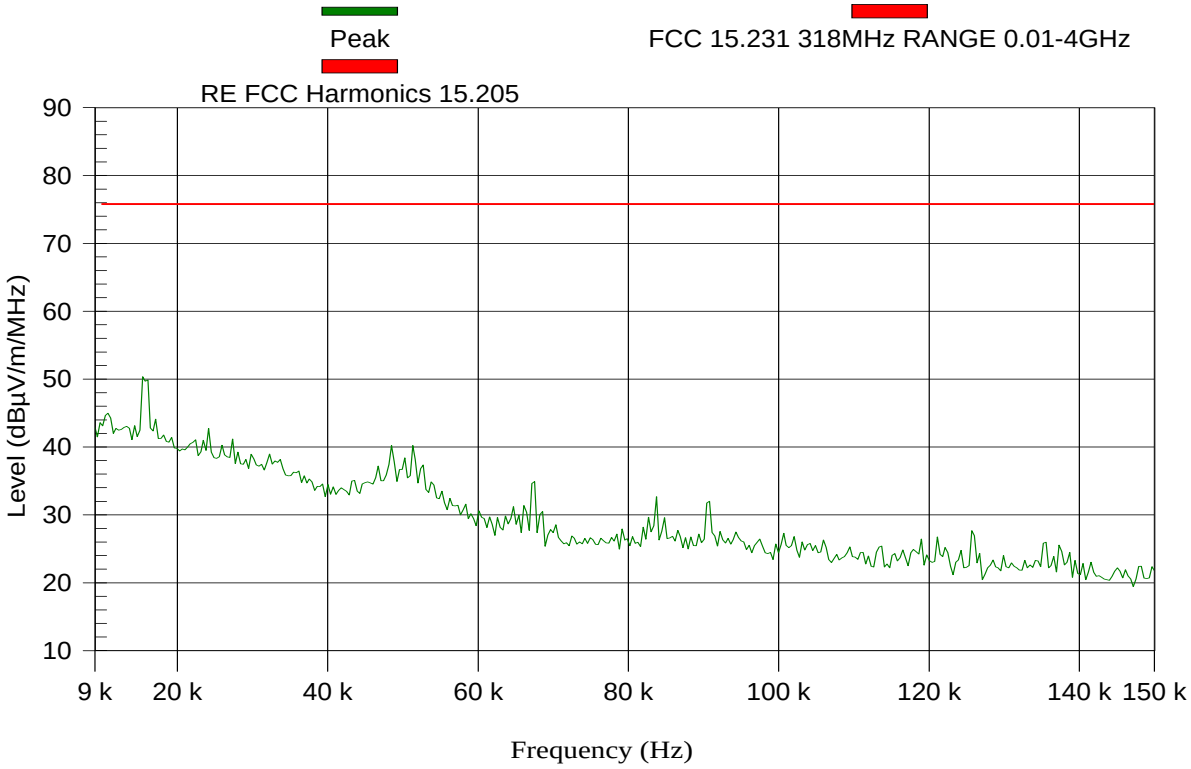
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 11

FCC 15-231 & 205 0.009-0.15MHz TX f=318MHz VER

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	200 Hz
Test Engineer:	SHIMON KOZLINER	VBW:	10 kHz
Antenna:	E-FIELD R&S 9K-30M ANTENNA	Sweep Time:	Auto: 86.33 s
Polarization:	Vertical	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

TEST REMARKS:Monday, June 25, 2007
5:22:18 PM



MAXIMUM RESULT DEVIATION:

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

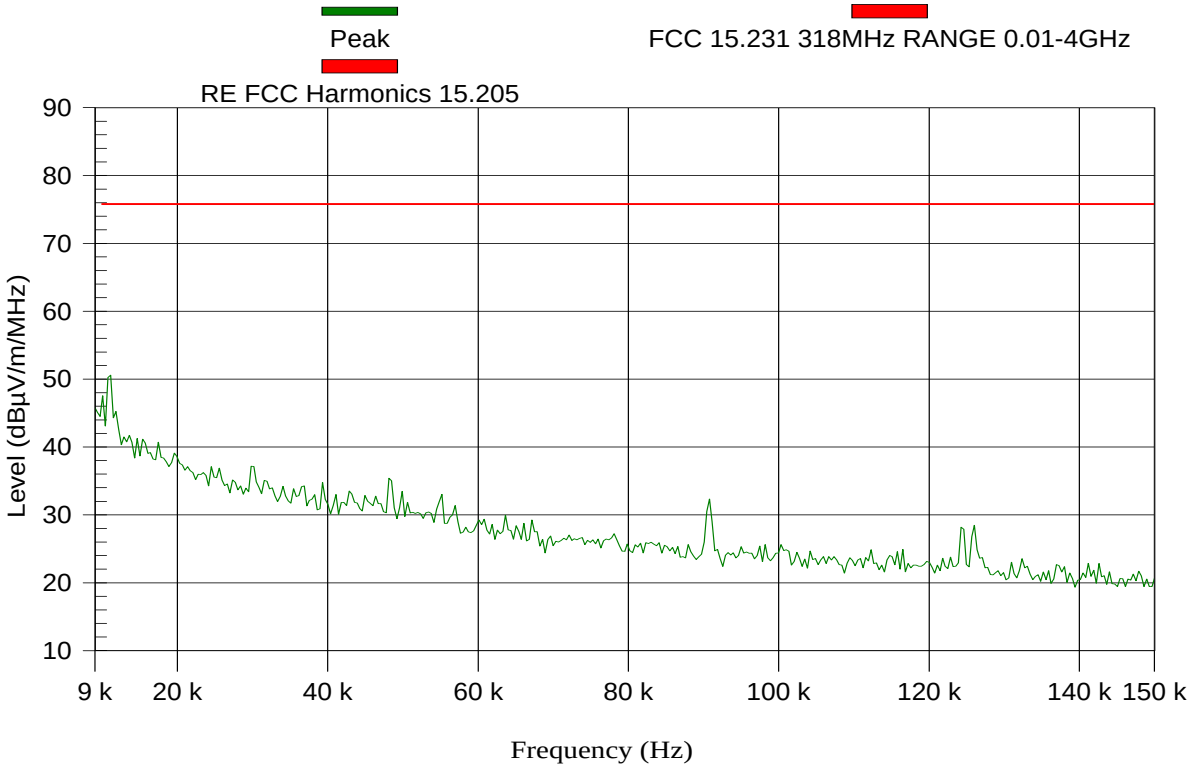
Nr	Frequency (MHz)	PK MaxHold (dBµV/m/MHz)	Angle (degrees)	Height (m)	H/V
1	0.009	42.9	180	1	V
2	0.01	43.6	90	1	V

Test Results Plot No 12

FCC 15-231 & 205 0.009-0.15MHz TX f=318MHz HOR

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	S.A HP 8593E
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	200 Hz
Test Engineer:	SHIMON KOZLINER	VBW:	10 kHz
Antenna:	E-FIELD R&S 9K-30M ANTENNA	Sweep Time:	Auto: 86.33 s
Polarization:	Horizontal	Pre Amplifier	LNA MITEQ 0.01-1GHz No-3

TEST REMARKS:Monday, June 25, 2007
5:32:00 PM



MAXIMUM RESULT DEVIATION:

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

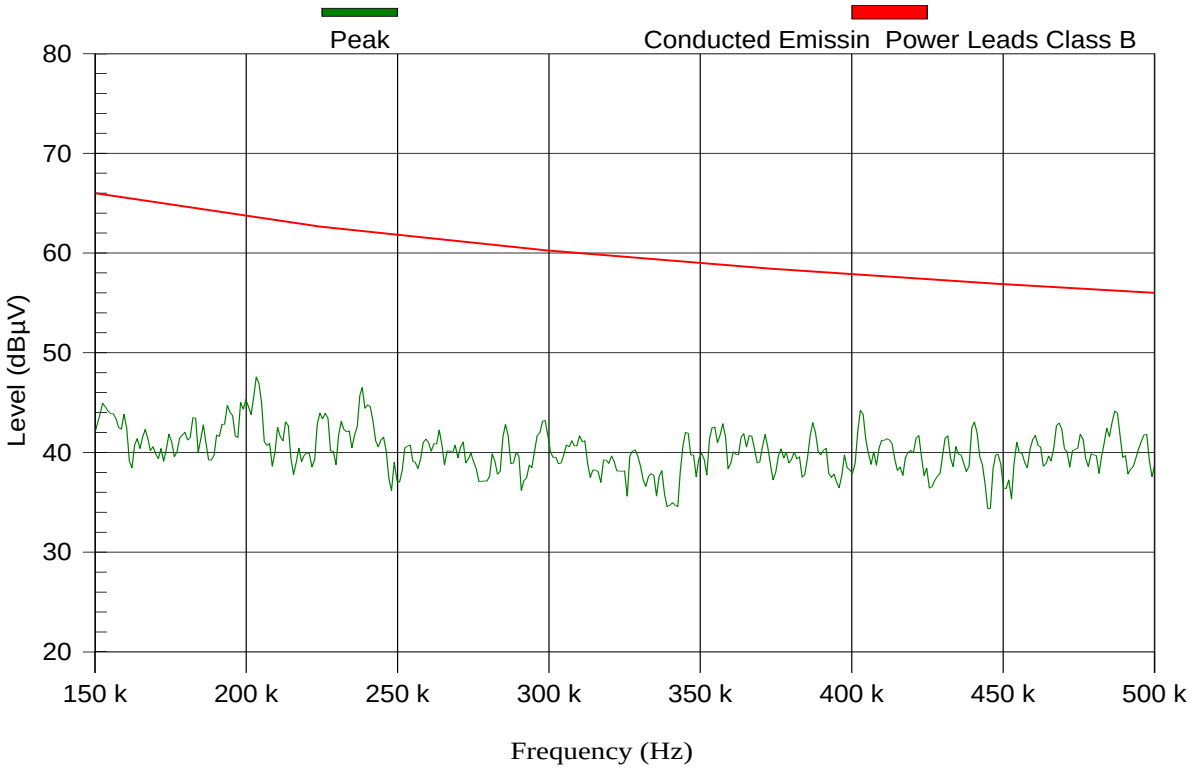
Nr	Frequency (MHz)	PK MaxHold (dBµV/m/MHz)	Angle (degrees)	Height (m)	H/V
1	0.009	45.8	180	1	H

Test Results Plot No 13

FCC Part 15 0.15-0.50MHz PHASE

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	Hewlett Packard 7405A
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	9 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 11.52 ms
Polarization:		Pre Amplifier	Attenuator 20db

TEST REMARKS:Cond. Emiss. Tuesday, July 03, 2007
11:25:26 AM
Mode TX f=318MHz.



MAXIMUM RESULT DEVIATION:

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

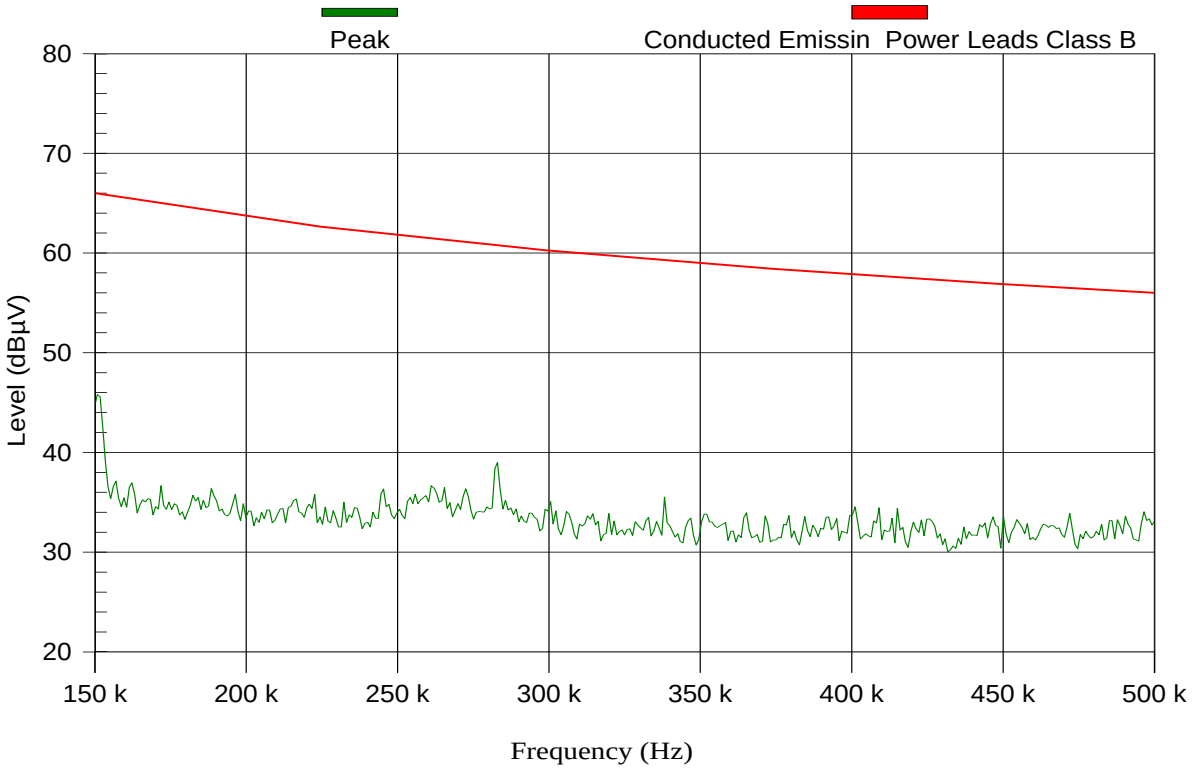
Nr	Frequency (MHz)	PK MaxHold (dBµV)	Result	Line
1	0.403	44.2		Line 1
2	0.441	43		Line 1
3	0.487	44.2		Line 1

Test Results Plot No 14

FCC Part 15 0.15-0.50MHz NEUTRAL

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	Hewlett Packard 7405A
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	9 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 11.52 ms
Polarization:		Pre Amplifier	Attenuator 20db

TEST REMARKS:Cond. Emiss.Tuesday, July 03, 2007
11:30:50 AM
Mode TX f=318MHz.



MAXIMUM RESULT DEVIATION:

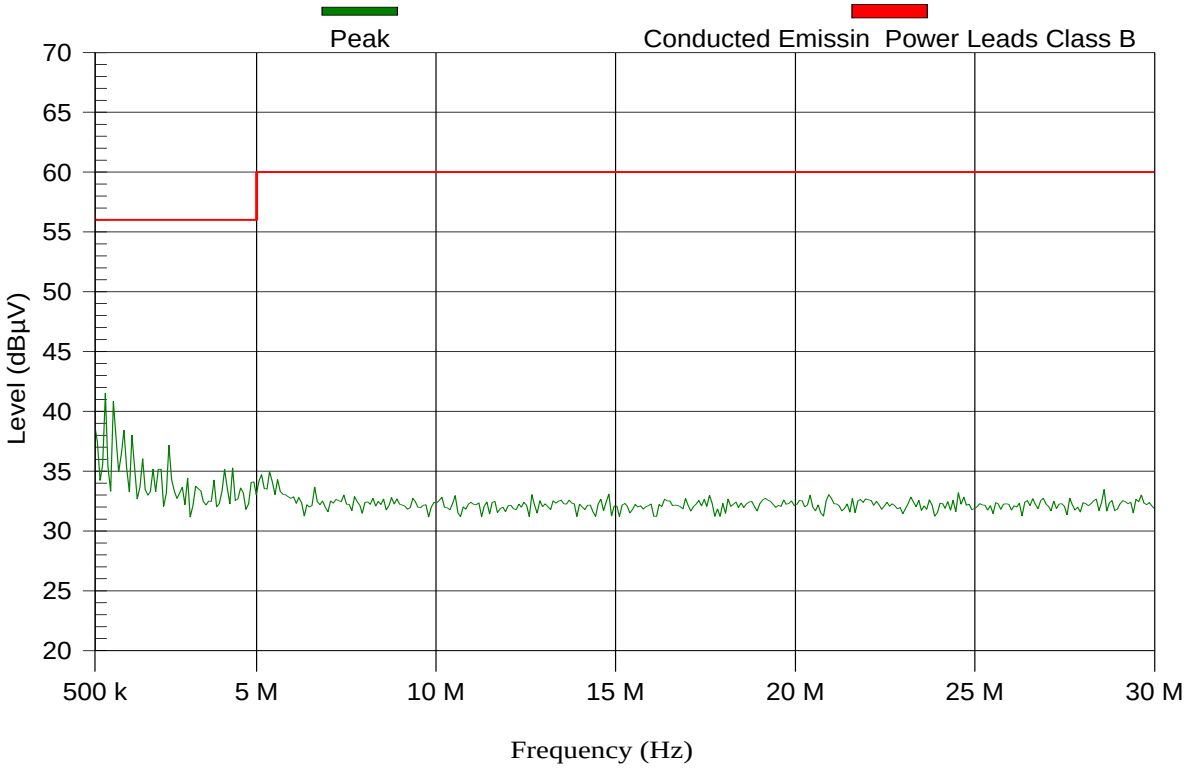
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.

Nr	Frequency (MHz)	PK MaxHold (dBµV)	Result	Line
1	0.15	44.8		Neutral

Test Results Plot No 15
FCC Part 15 0.5-30MHz NEUTRAL

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	Hewlett Packard 7405A
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	9 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 819.45 ms
Polarization:	||3| polarization||	Pre Amplifier	Attenuator 20db

TEST REMARKS:Cond. Emiss.Tuesday, July 03, 2007
11:32:08 AM
Mode TX f=318MHz.

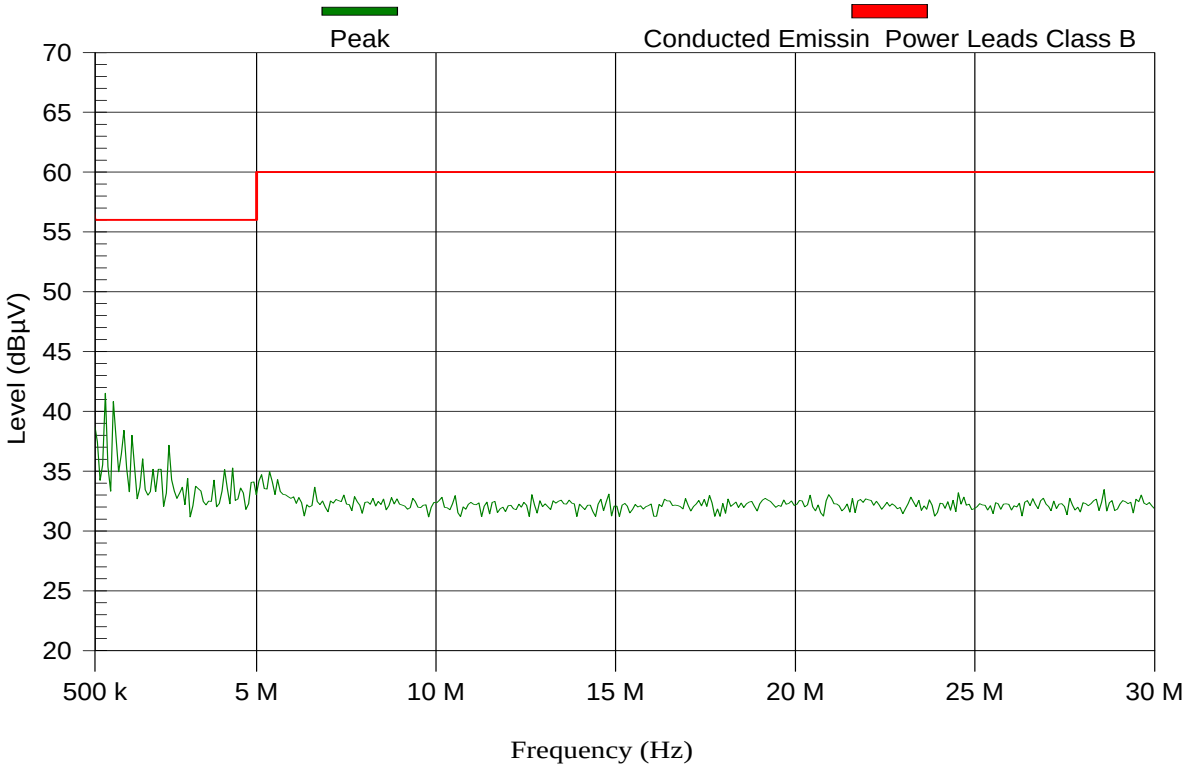


MAXIMUM RESULT DEVIATION:
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 16
FCC Part 15 0.5-30MHz NEUTRAL

Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	Hewlett Packard 7405A
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	9 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 819.45 ms
Polarization:	||4| polarization||	Pre Amplifier	Attenuator 20db

TEST REMARKS:Cond. Emiss.Tuesday, July 03, 2007
11:32:08 AM
Mode TX f=318MHz.

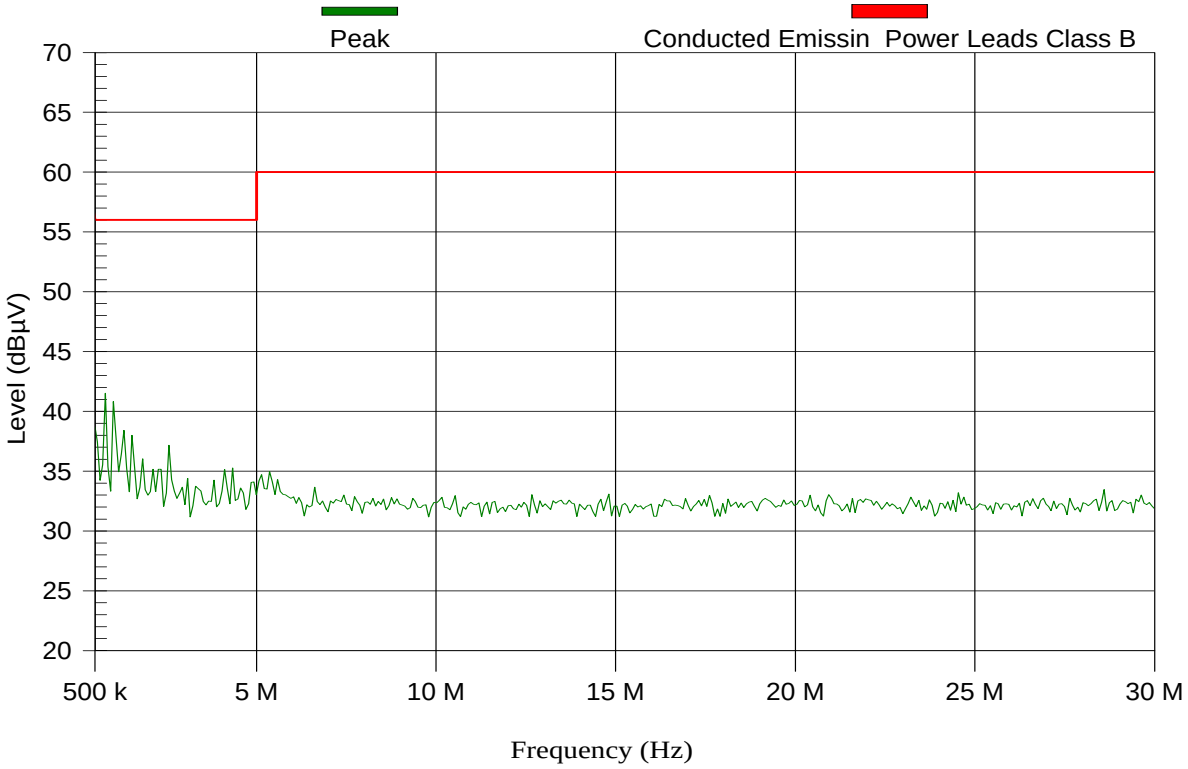


MAXIMUM RESULT DEVIATION:
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None

Test Results Plot No 17
FCC Part 15 0.5-30MHz NEUTRAL

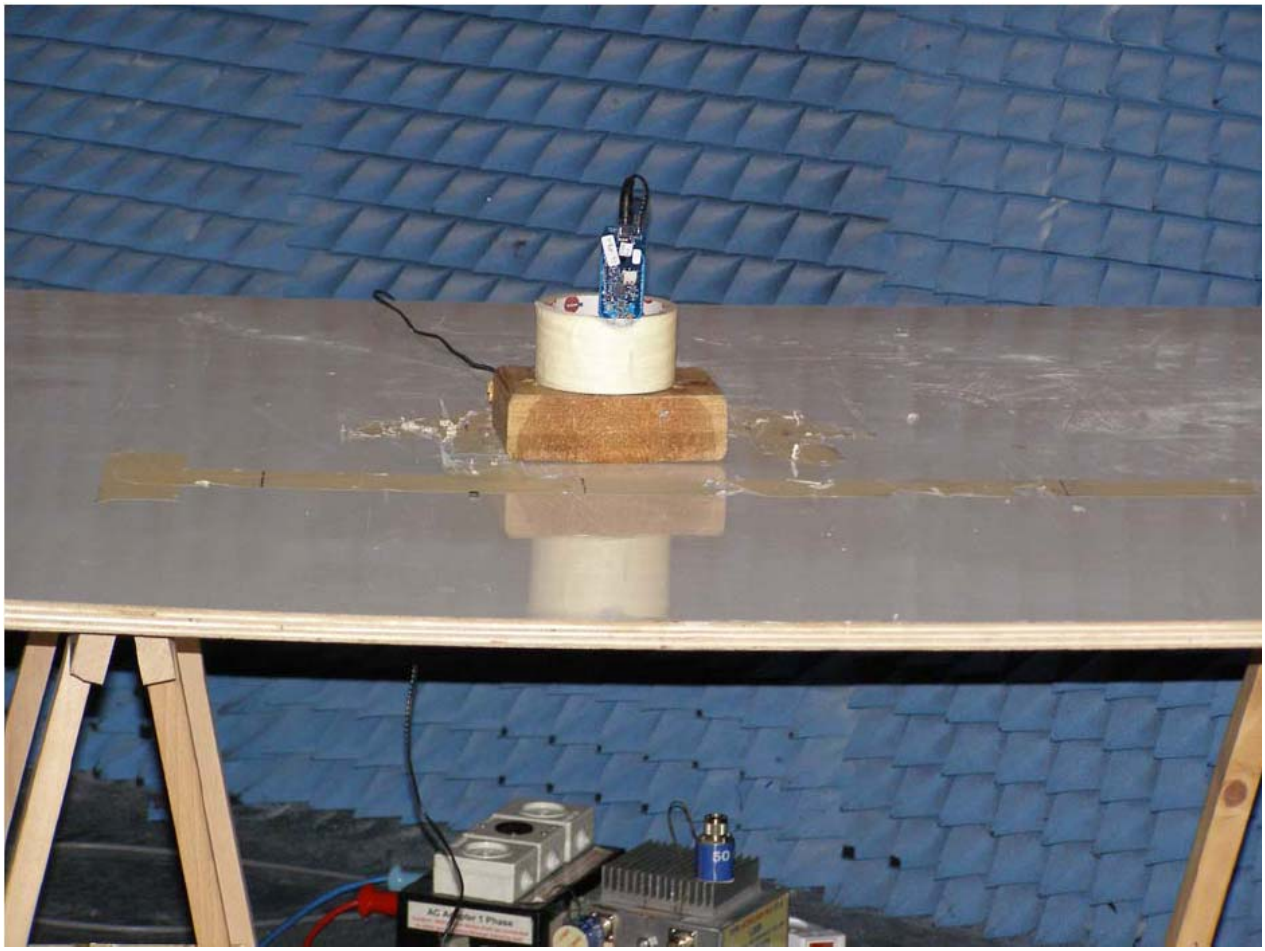
Test & EUT General Information		Receiver Setting	
EUT Name:	UTX830	Spect Analyzer	Hewlett Packard 7405A
S/N:	31834	Ref. Level:	80 dBµV
Date of Test:		RBW:	9 kHz
Test Engineer:	SHIMON KOZLINER	VBW:	1000 kHz
Antenna:	No Description Available	Sweep Time:	Auto: 819.45 ms
Polarization:	||5| polarization||	Pre Amplifier	Attenuator 20db

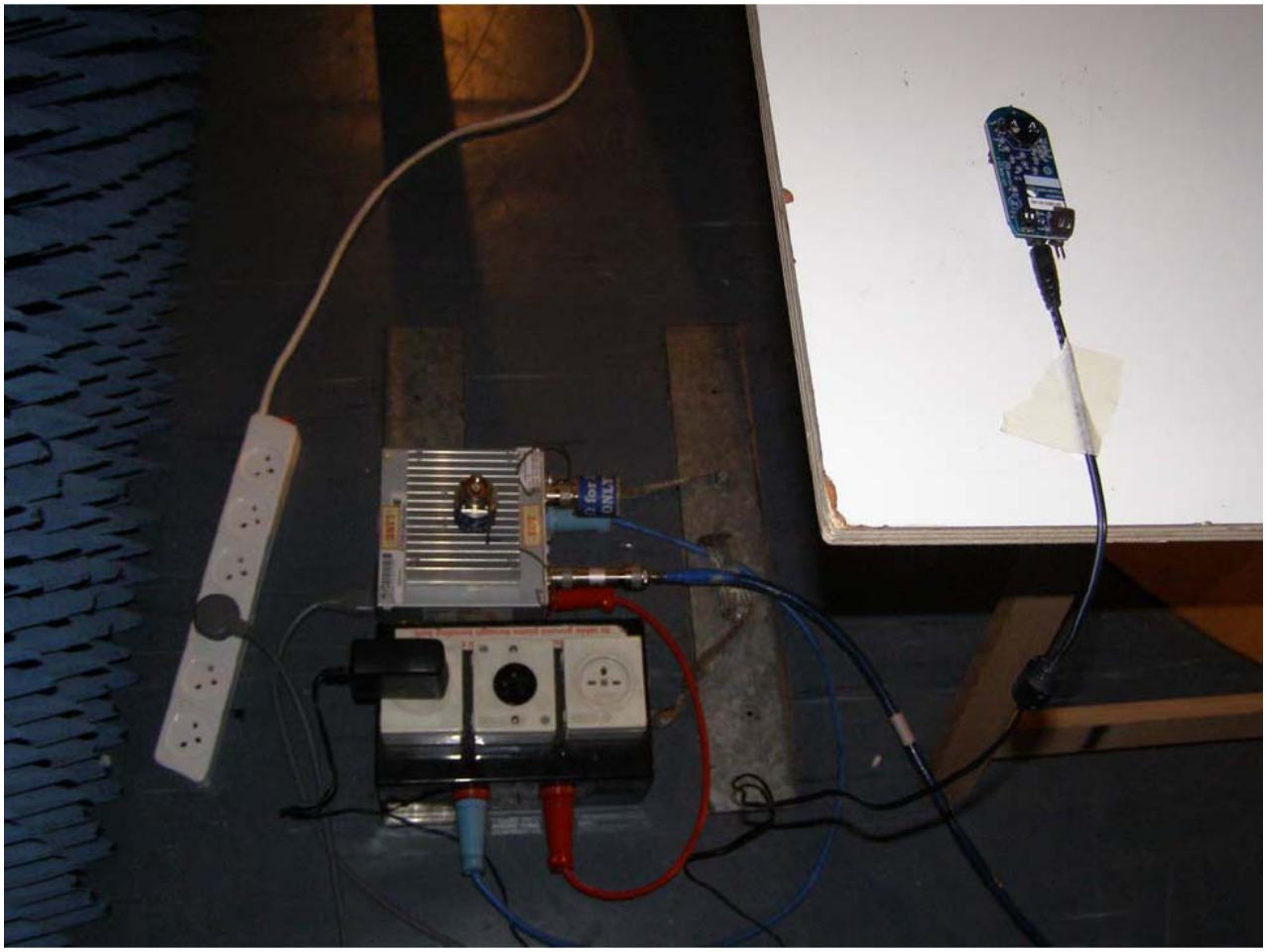
TEST REMARKS:Cond. Emiss.Tuesday, July 03, 2007
11:32:08 AM
Mode TX f=318MHz.

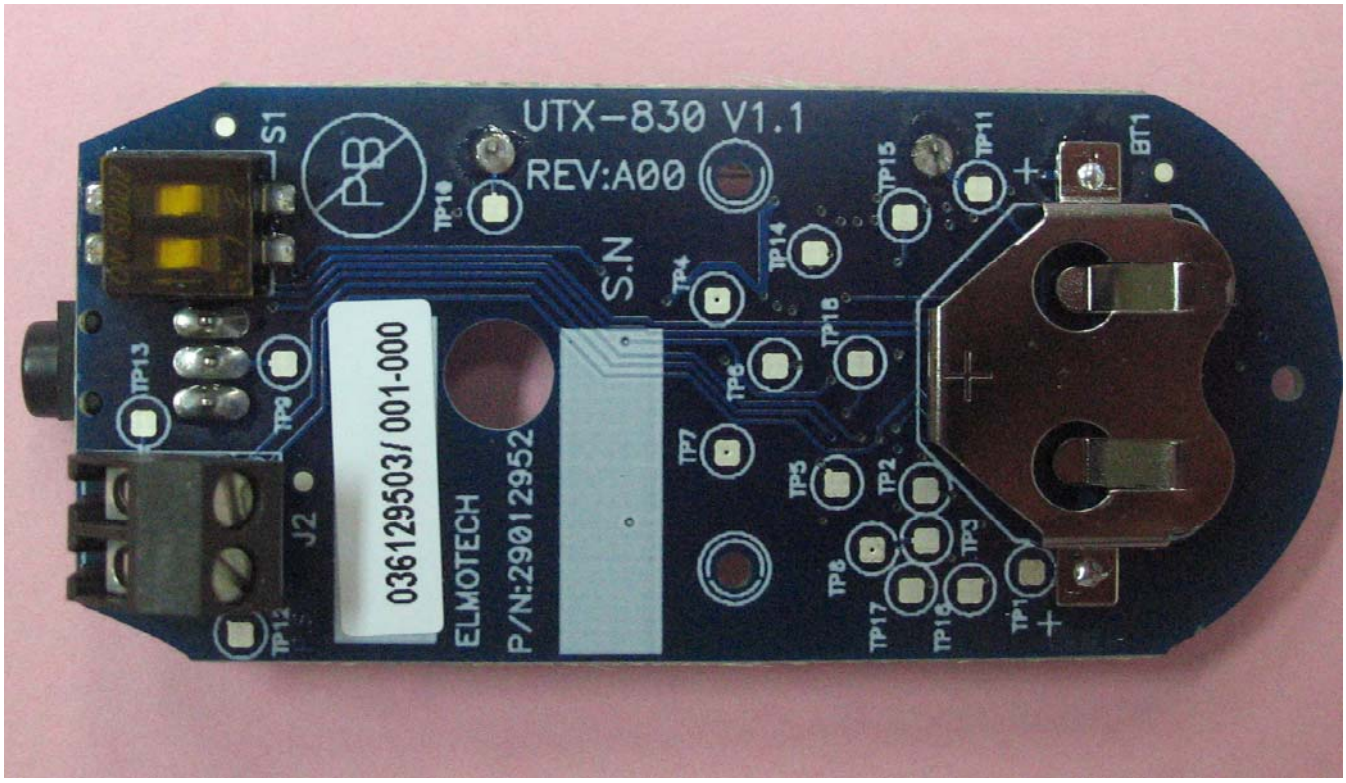


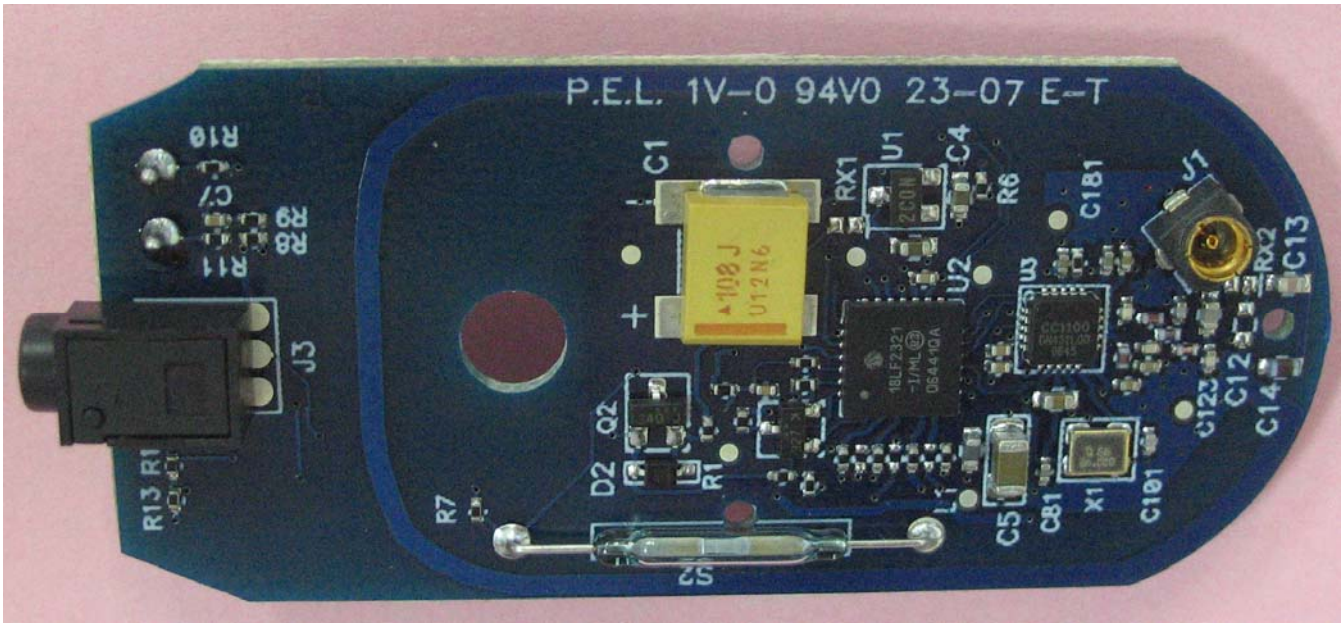
MAXIMUM RESULT DEVIATION:
Detect all peaks above 6 dB below the limit line with a maximum of 6 peaks.
None


5,7
6,8
9,11
10,12
13,15
14,16






UTX-830 V1.1
REV:A00
S.N
036129503/ 001-000
ELMOTECH
P/N:29012952


P.E.L. 1V-0 94V0 23-07 E-T


S2
R7
D2
R1
C5
R13 R12
J3
R11
R8
R9
C7
R10
C1
U1
RX1
C4
R6
C181
U2
U3
C13
C12
C14

9 CORRECTION FACTORS

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

10 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

N.P.C.R Non Periodic Calibration Requisite

S/N Serial number

QP Quasi peak

PK Peak