Nemko

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EMC, Radio and Telecommunications

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Test report no. : 118553 -4

Item tested : Epoke Radio Module - RX001

Type of equipment : 2.4 GHz Transceiver

FCC ID : WXURX001

Client : Epoke AS

FCC Part 15.247
Digital Transmission System

RSS-210, Issue 7
Low Power Licence-Exempt
Radiocommunication Devices

30 March 2009

Authorized by : .....

Frode Sveinsen
Technical Verificator

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CONTENTS

1 GENERAL INFORMATION

1.1 Testhouse Info

Name :	Nemko AS
Address :	Nemko Comlab Gåsevikveien 8, Box 96 N-2027 Kjeller, NORWAY
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Fax :	+47 64 84 57 05
E-mail:	post@comlab.no
FCC test firm registration # :	994405
IC OATS registration # :	2040D-1
Total Number of Pages:	46

1.2 Client Information

Name :	Epoke A/S
Address :	P.O.Box 230, DK-6600 Vejen, Denmark
Telephone :	+45 76962205
Fax :	-

Contact:

Name :	Jan Hedegaard
Telephone :	+4576962205
E-mail :	jhe@epoke.dk

1.3 Manufacturer (if other than client)

-“-

2 Test Information

2.1 Test Item

Name :	Epoke Radio Module
FCC ID :	WXURX001
Industry Canada ID :	8072A-RX001
Model/version :	RX001
Serial number :	-
Hardware identity and/or version:	439018 rev. 0.06
Software identity and/or version :	TX:EMITEST006, RX: RECTEST002/PA
Frequency Range :	2405 – 2480 MHz
Tunable Bands :	None
Channel Spacing :	5 MHz
Transmitter data rate:	250 kbit/s
Number of Channels :	16
Operating Modes :	TX & RX
Type of Modulation :	DSSS
User Frequency Adjustment :	None
Rated Output Power :	15.7 mW
Type of Power Supply :	3.0 - 3.5 V DC
Antenna Connector *:	Module with integral antenna(F-type, 0dBi) and module with antenna connector type MCx for antenna RPSMA(1 dBi) & UFL (3dBi)
Antenna Diversity Supported :	N/A
Desktop Charger :	N/A

* The device delivered for testing with integral antenna and antenna connector type MCx. The MCx can be connected to a RPSMA connector and then to Rubber antenna- 3dBi (Part no.2,4 RO-3-100) or to Omni antenna – 1dBi (Part no. 2,4-SO-0)

Description of Test Item

The tested equipment is a transceiver module compliant with IEEE® 802.15.4. This module operates in the 2.4 GHz ISM frequency band.

2.2 Test Environment

2.2.1 Normal test condition

Temperature:	20 - 24 °C
Relative humidity:	20 - 50 %
Normal test voltage:	3.3 V DC

The values are the limit registered during the test period.

2.3 Test Period

Item received date:	2009-01-06
Test period :	from 2009-01-07 to 2009-01-28

3 TEST REPORT SUMMARY

3.1 General

Manufacturer: Epoke AS

Model No.: RX001

Serial No.: -

All measurements are tracable to national standards.

The tests were conducted for the purpose of demonstrating compliance with FCC CFR 47 Part 15, paragraph 15.247 and Industry Canada RSS-210 Issue 7.

Radiated tests were conducted in accordance with ANSI C63.4-2003. The radiated tests were made in a semi-anechoic chamber at measuring distances of 3m and 10m.

☒ New Submission ☒ Production Unit

☐ Class II Permissive Change ☐ Pre-production Unit

DTS Equipment Code ☐ Family Listing

THIS TEST REPORT APPLIES ONLY TO THE ITEM(S) AND CONFIGURATIONS TESTED.

Deviations from, additions to, or exclusions from the test specifications are described in "Summary of Test Data".

TEST REPORT #: 118553-4

TESTED BY: _____ DATE: 30.03.2009

G.Suhanthakumar, Test engineer

3.2 Test Summary

Name of test	FCC Part 15 reference	RSS210 Issue 7 & RSS Gen Issue 2	Result
Supply voltage variations	15.31 (e)	8 (RSS-GEN)	Complies[2]
Number of operating frequencies	15.31 (m)	A8.1	Complies
Power-line Conducted Emissions (Receiver)	15.107(a)	7.2.2 (RSS-GEN)	ref. 15.207(a)
Radiated Emissions limits (receiver)	15.109(a)	6 (RSS-GEN)	ref. 15.209(a)
Antenna requirement	15.203	7.1.4 (RSS-GEN)	Complies[1]
Radiated emissions limits for restricted bands	15.205(a)		Complies
Power Line Conducted Emissions	15.207(a)	7.2.2 (RSS-GEN)	Complies
Radiated emission limits	15.209(a)	A8.5	Complies
Bandwidth	15.247(a)(2)	A8.2	Complies
Peak Power Output	15.247(b)(3)	A8.4	Complies
Power Spectral Density	15.247(d)	A8.2	Complies
Out-of-band emissions (Antenna Conducted)	15.247(c)	A8.5	Complies[1]
Out-of-band emissions (Radiated)	15.247(c)	A8.5	Complies
Lower band edge radiated emission	15.247(c)	A8.5	N/A[3]
Upper band edge radiated emission	15.247(c)	A8.5	Complies

[1] Integral antenna module and module with MCX connector.

[2] The manufacturer specified voltage range is 2.805 – 3.795 V DC

[3] The Ch0 is well away from 2.39GHz.

3.3 Description of modification for Modification Filing

Not applicable.

3.4 Comments

The channels are selected with a laptop PC connected to the EUT via RS232 port. The laptop is only used for selection of channels. During the measurements the lap top is removed.The measurements are performed at channels near top Ch 15, near middle Ch 07 and near bottom Ch 00. And the out put level is set to maximum (P16), P11 & P08 in the software. The EUT complies at these channels.

The radiated measurements are tested on three axis

There are no ports to be populated during spurious emission measurements.

A temporary antenna connector is used only for making conducted RF measurements for evaluation purposes.

Nominal voltage is 3.3 VDC .Power supply variation within 2.805 to 3.795Vdc has no influence on Peak Output Power and spurious emissions.

3.5 Family List Rational

Not Applicable.

4 TEST RESULTS

4.1 Power Line Conducted Emissions

Para. No.: 15.207 (a)

Test Performed By: -	**Date of Test: -**

Measurement procedure: **ANSI C63.4-2003 using 50 μH/50 ohms LISN.**

Test Results: **N/A***

***: This radio module is installed in mobile winter road maintenance equipment. Primary power is supplied by vehicle battery power.**

Measurement Data: **-**

4.2 Minimum 6 dB Bandwidth

Para. No.: 15.247 (a)(2)

Test Performed By: G.Suhanthakumar	Date of Test: 07.01.2009

Test Results: Complies

Measurement Data:

Measured 6 dB Bandwidth (MHz)		
Ch 0/2405MHz	**Ch 07/2440MHz**	**Ch 15/2480Mhz**
1.71	1.60	1.63

Requirements:

For Digital Transmission Systems in the 2400-2483.5 MHz band the minimum 6 dB bandwidth shall be at least 500 KHz.

No requirements for Frequency Hopping Systems.

4.3 Peak Power Output

Para. No.: 15.247 (b)

Test Performed By: G.Suhanthakumar	**Date of Test: 07.01.2009**

Test Results: Complies

Measurement Data:

Maximum Conducted Peak Output Power, mWatts

RF channel	Ch0/2405MHz	Ch7/2440MHz	Ch15/2480MHz
Measured value,P16	15.70	14.85	13.74
Measured value,P11	5.00	5.04	5.04
Measured value,P08	3.49	3.57	3.57

Maximum field strength with rubber antenna

RF channel	**Ch0/2405MHz**	**Ch 07/2440MHz**	**Ch 15/2480MHz**
Measured value (dBμV/m)	107.32	107.80	108.26

Maximum EIRP, mWatts

RF channel	Ch0/2405MHz	Ch7/2440MHz	Ch15/2480MHz
Measured EIRP with integral antenna, P16	10.21	9.68	8.05
Measured EIRP with antenna 1dBi, P11	11.67	13.03	15.10
Measured EIRP with antenna 3dBi, P08	11.67	15.88	14.39
Integral Antenna gain dBi	-1.87	-1.86	-2.32
Omni Antenna gain dBi	3.68	4.13	4.76
Rubber Antenna gain dBi	5.24	6.48	6.05

Antenna gain = 10*log(EIRP/Conducted power) dBi

The EIRP is measured using substitution method.

Nominal voltage is 3.3 VDC .Power supply variation within 2.805 to 3.795Vdc has no influence on Peak Output Power and spurious emissions.

See attached graphs.

Detachable antenna?	☒ Yes	☐ No
If detachable, is the antenna connector non-standard?	☐ Yes	☐ No

Type of antenna connector: MCX to RPSMA

Requirements:

The maximum peak output power shall not exceed the following limits:

For frequency hopping systems employing at least 75 hopping channels: 1 Watt

For all other frequency hopping systems in the 2400 - 2483.5 MHz band: 0.125 Watts

For Digital Transmission Systems in the 2400 - 2483.5 MHz band: 1 Watt

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced below the stated value above by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.4 Spurious Emissions (Radiated)

Para. No.: 15.247 (c)

Test Performed By: G.Suhanthakumar	**Date of Test: 07.01.09**

Test Results: Complies

Measurement Data:

Band-edge conducted power.

Frequency	Power below nearest channel, dB	Limit	Margin
GHz	RF ch 0/15 DSSS	dB	dB
2.39	-	-20	-
2.4835	40.08	-20	20.08

See attached graph

Nominal voltage is 3.3 VDC .Power supply variation within 2.805 to 3.795Vdc has no influence on Peak Output Power and spurious emissions.

Upper Band-edge field strength 2.4835 GHz.

Max field strength upper channel, 1 MHz BW: 108.19 dBμV/m

Delta marker 100 kHz BW: 40.08 dB

Field strength at 2,4835 GHz Peak: 68.11 dBμV/m

Margin:74 dBμV/m – 68.11 dBμV/m = 5.89 dB.

Field strength at 2,4835 GHz Average 68.11 dBμV/m - 20 dB =48.11 dBμV/m.

See attatched plots.

RF conducted power to 25 GHz see attached graph.

Maximum RF level outside operating band:

RF ch 00: 32.94 dB/C, margin 12.94 dB

RF ch 07: 33.80 dB/C, margin 13.80 dB

RF ch 15: 34.80 dB/C, margin 14.80 dB

Duty Cycle Calculation:

RF duty cycle: Calculation according to RF burst Para 15.35 (c)

-20*log (4.1/50) = 21.7 dB*

* Please see the manufacturer explaination for duty cycle below.

Maximum duty cycle according to Para 15.35 (b): 20 dB

This value is used when calculating average field strength above 1 GHz from measurement performed with Peak Detector.

Epoke Radio module RX001

Dwell –time and duty cycle

Rev 0.3

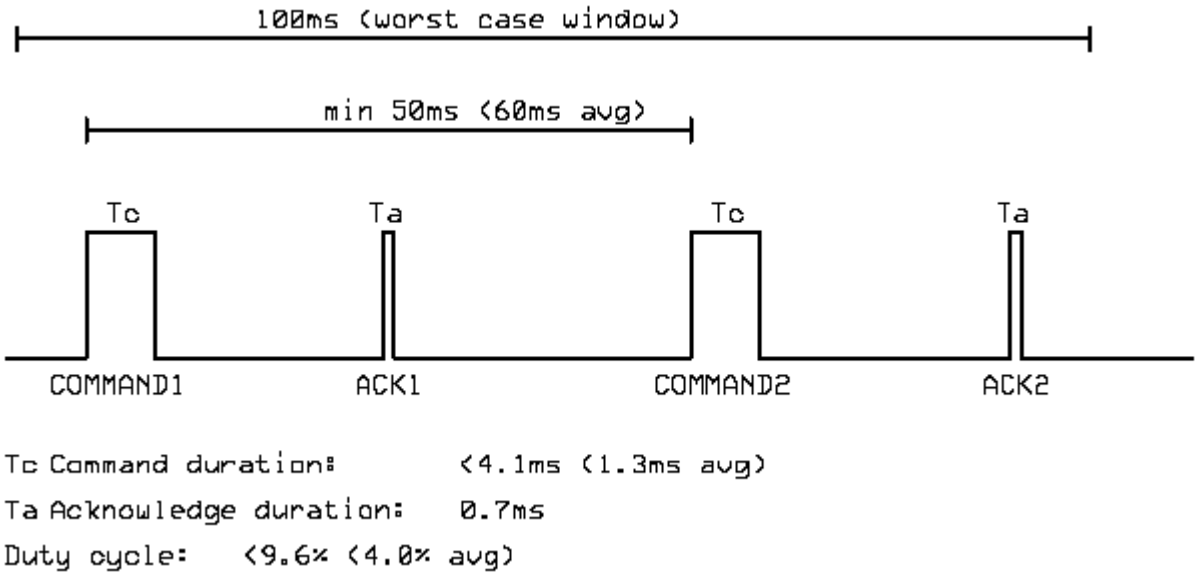


Fig 1. RX001 dwell-time chronogram (worst case)

The worst case accumulated dwell-time in a 100ms window is 2*(4.1+0.7)=9.6ms

The worst case duty cycle is 2*(4.1+0.7)/100=9.6%

Rev 0.1/JB090114	First issue
Rev 0.2/JB090325	Further text added. Chronogram for target rate added.
Rev 0.2/JB090325	Revised to consider worst case dwell time for single module.

Revised to reflect actual message rate (avg. 17 messages/second)

Radiated Emissions, 1-25 GHz, peak

1-18 GHz measured at a distance of 3m, 18-25 GHz measured at 1m.

The spurious emissions are scaned with all three antannas (integral, 1 dBi antenna & 3dBi antenna). The maximum spurious emission is obtained with 3 dBi rubber antenna with power setting 8.

The test results shown in the table below is for this antanna.

Radiated Emission 1 – 25 GHz, Peak

Measured with Peak Detector

Frequency	RF channel	Dist. corr. factor	Polarization	Power setting	Antenna	Field strength, Peak, 3m	Duty cycle corr. factor	Limit	Margin
GHz	0 - 15	dB			dBi	dBµV/m	dB	dBµV/m	dB
4.809	0	0	HP	8	3	69.66	-	74	4.34
4.959	7	0	HP	8	3	68.00	-	74	6.00
4.958	15	0	VP	8	3	69.90	-	74	4.10
7.213	0	0	HP	8	3	65.79	-	74	8.21
7.321	7	0	HP	8	3	67.24	-	74	6.76
7.438	15	0	HP	8	3	67.28	-	74	6.72
9.622	0	0	VP	8	3	65.02	-	74	8.98
9.757	7	0	HP	8	3	67.82	-	74	6.18
9.918	15	0	HP	8	3	69.74	-	74	4.26
12.022	0	0	HP	8	3	67.33	-	74	6.67
12.197	7	0	HP	8	3	69.23	-	74	4.77
12.397	15	0	HP	8	3	69.11	-	74	4.89
14.433	0	0	HP	8	3	57.07	-	74	16.93
14.643	7	0	HP	8	3	57.38	-	74	16.62
14.877	15	0	HP	8	3	60.11	-	74	13.89
15 - 25	0,7,15	-	VP/HP	8	3	None detected	-	-	-

Antenna factor, amplifier gain and cable loss are included in spectrum analyzer “Transducer factor”.

Nominal voltage is 3.3 VDC .Power supply variation within 2.805 to 3.795Vdc has no influence on Peak Output Power and spurious emissions.

See attached graphs.

Radiated emission 1- 25 GHz, Average

The spurious emissions are scaned with all three antannas (integral, 1 dBi antenna & 3dBi antenna). The maximum spurious emission is obtained with 3 dBi rubber antenna with power setting 8. The test results shown in the table below is for this antanna.

Calculated value from Peak Detector

Frequency	RF channel	Dist. corr. factor	Polarization	Power setting	Antenna	Field strength, Peak, 3m	Duty cycle corr. factor	Limit	Margin
GHz	0 - 15	dB			dBi	dBµV/m	dB	dBµV/m	dB
4.809	0	0	HP	8	3	69.66	20	54	4.34
4.959	7	0	HP	8	3	68.00	20	54	6.00
4.958	15	0	VP	8	3	69.90	20	54	4.10
7.213	0	0	HP	8	3	65.79	20	54	8.21
7.321	7	0	HP	8	3	67.24	20	54	6.76
7.438	15	0	HP	8	3	67.28	20	54	6.72
9.622	0	0	VP	8	3	65.02	20	54	8.98
9.757	7	0	HP	8	3	67.82	20	54	6.18
9.918	15	0	HP	8	3	69.74	20	54	4.26
12.022	0	0	HP	8	3	67.33	20	54	6.67
12.197	7	0	HP	8	3	69.23	20	54	4.77
12.397	15	0	HP	8	3	69.11	20	54	4.89
14.433	0	0	HP	8	3	57.07	20	54	16.93
14.643	7	0	HP	8	3	57.38	20	54	16.62
14.877	15	0	HP	8	3	60.11	20	54	13.89
15 - 25	0,7,15	-	VP/	8	3	None detected	-	-	-

Antenna factor, amplifier gain and cable loss are included in spectrum analyzer "Transducer factor".

See attached graphs.

Radiated emission 30 – 1000 MHz.

Detector: Quasi- Peak*

Measuring distance 3 m

Tested TX mode.

Frequency	Operational condition	Power setting	Antenna	Field strength	Measuring distance	Limit FCC15.209	Margin
MHz			dBi	dBµV/m	metres	dBµV/m	dB
106.65	TX on	8	3	<35.9*	3	43	>4.1
967.2	TX on	8	3	<34.1	3	54	>19.9
994.65	TX on	8	3	<34.5	3	54	>19.5

See attached graphs.

Radiated emission 10 kHz-30 MHz.

Measuring distance 10 m, measured with Peak detector.

Limit is converted to 10 m using 40 dB/decade according to 15.31 (f) (2).

No component detected, see attached graph

4.5 Power Spectral Density (PSD)

Para. No.: 15.247 (d)

Test Performed By: G.Suhanthakumar	**Date of Test: 09.01.09**

Test Results: Comlies

Measured and Calculated Data:

Measured Conducted Values:

Ch0 - Lower Channel: Power setting P16 (maximum)

PSD = 35 – 37.73 dBm/Hz= -2.73 dBm

Ch7 - Middle Channel: Power setting P16 (maximum)

PSD = 35 – 37.97dBm/Hz = - 2.97 dBm

Ch 15 - Upper Channel: Power setting P16 (maximum)

PSD = 35 – 37.87 dBm/Hz = -2.87 dBm

The spectrum line spacing is less than 3kHz, therefore used noise power density and corrected 35 dB for 3kHz

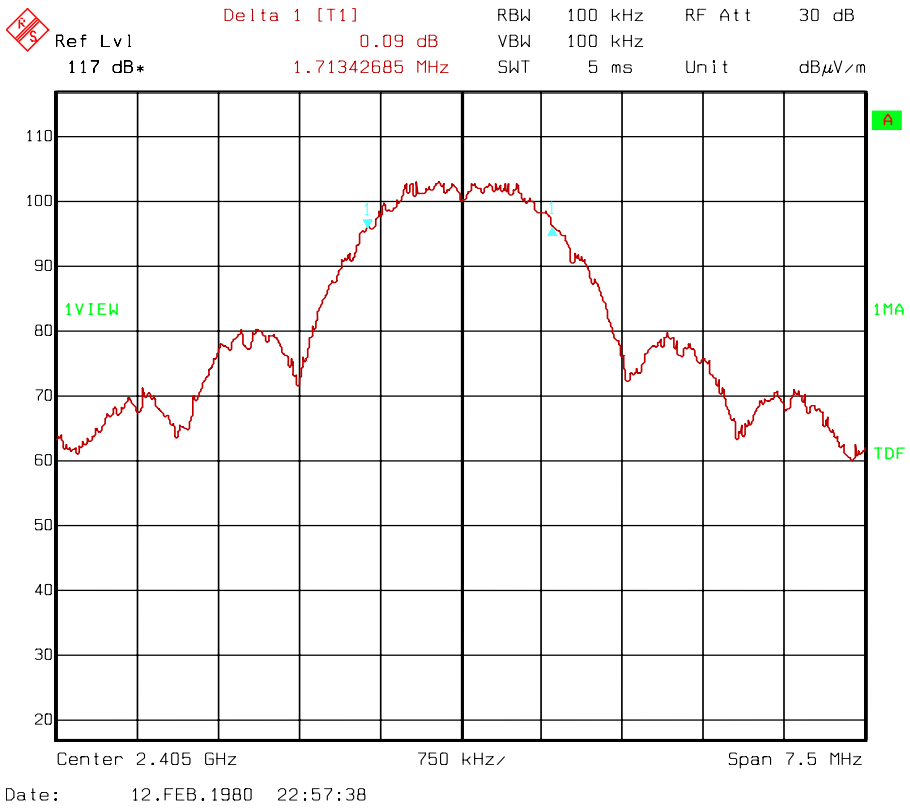
Nominal voltage is 3.3 VDC .Power supply variation within 2.805 to 3.795Vdc has no influence on Peak Output Power and spurious emissions.

Requirements:

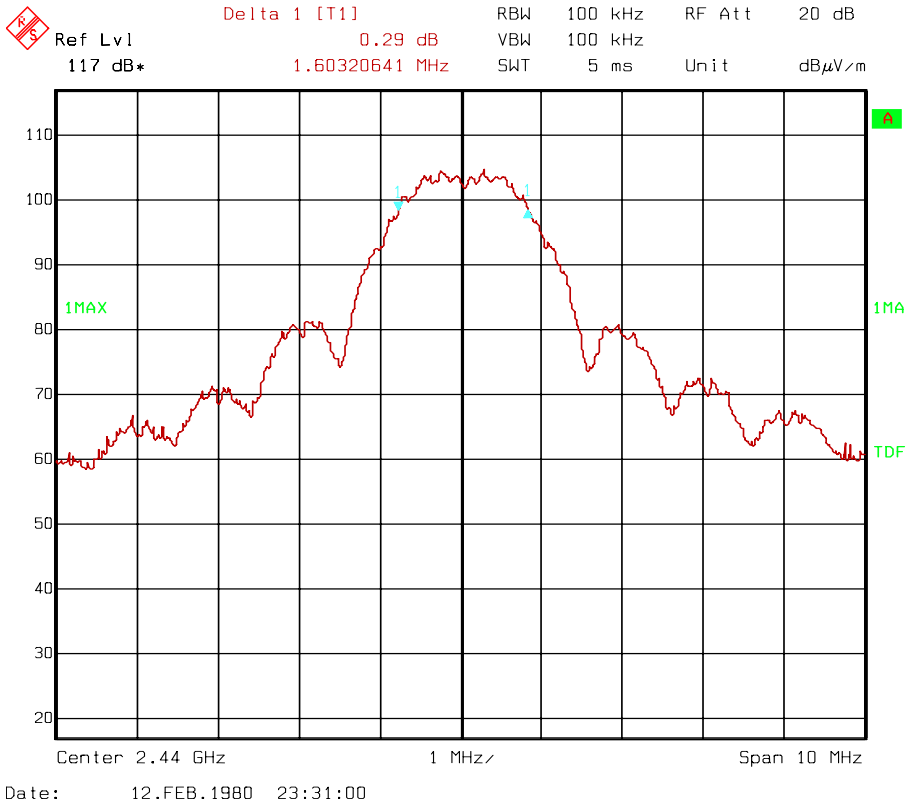
The Power Spectral Density of a Digital Transmission System shall be no greater than +8 dBm in any 3kHz band

No requirements for Frequency Hopping Systems.

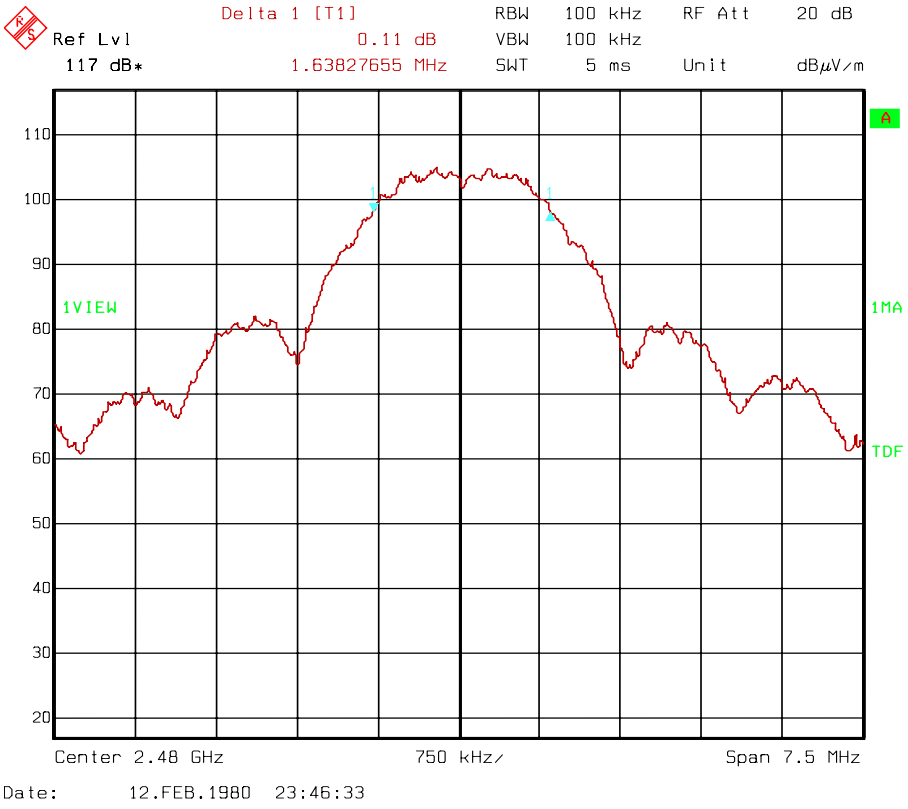
5 GRAPHS



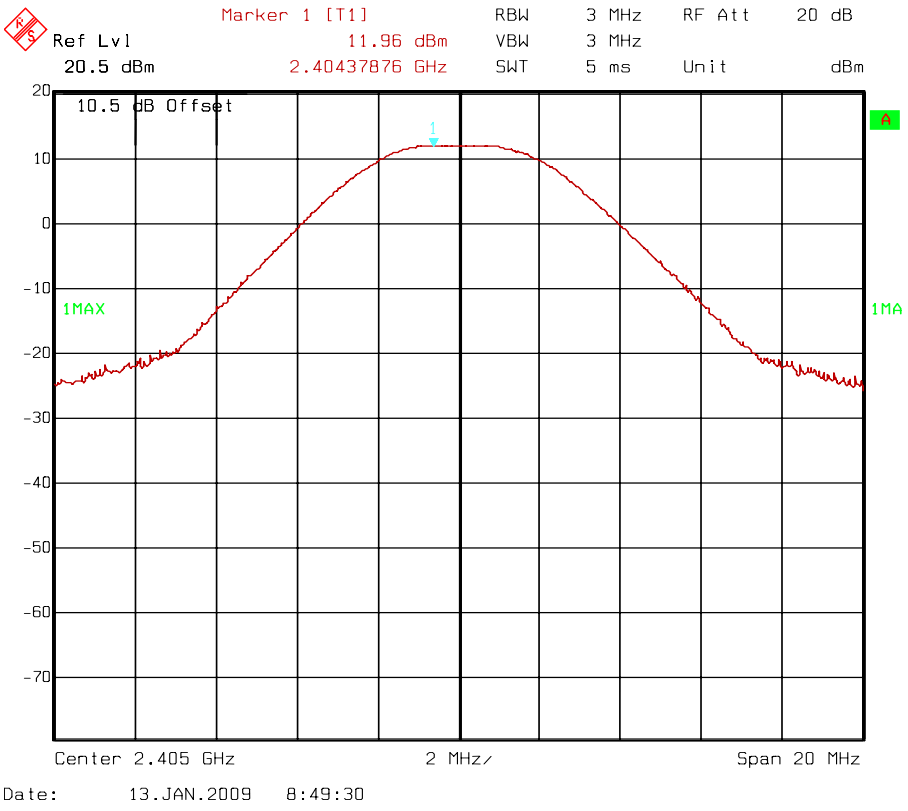
Ch0/2405MHz – 6dB Band width



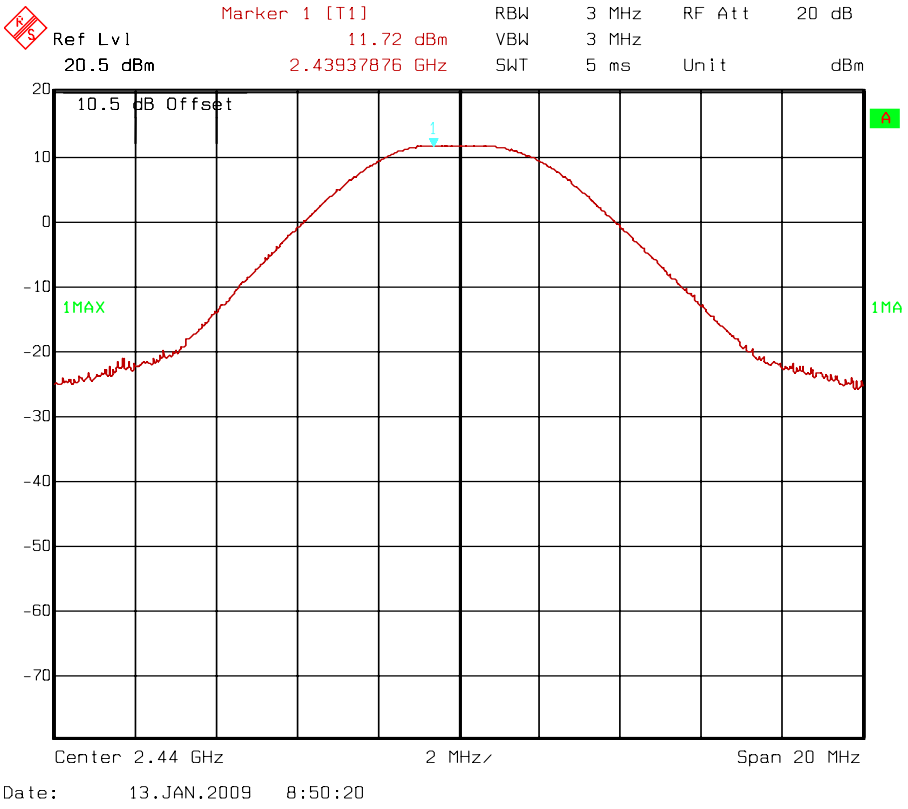
Ch7/2440MHz – 6dB Band width



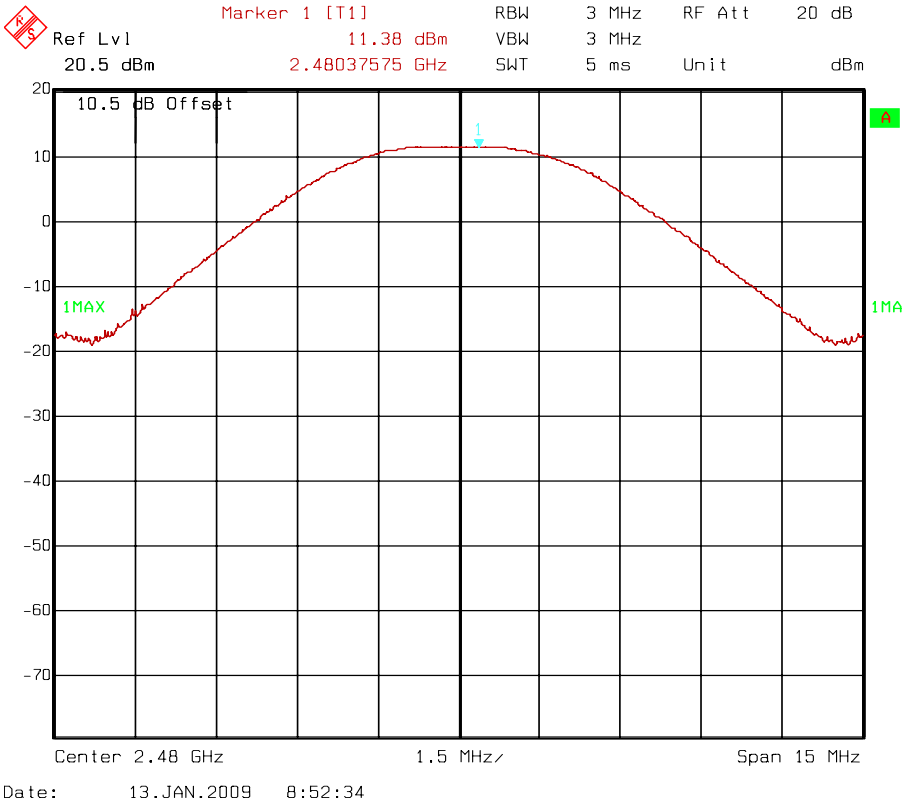
Ch15/2480MHz – 6dB Band width



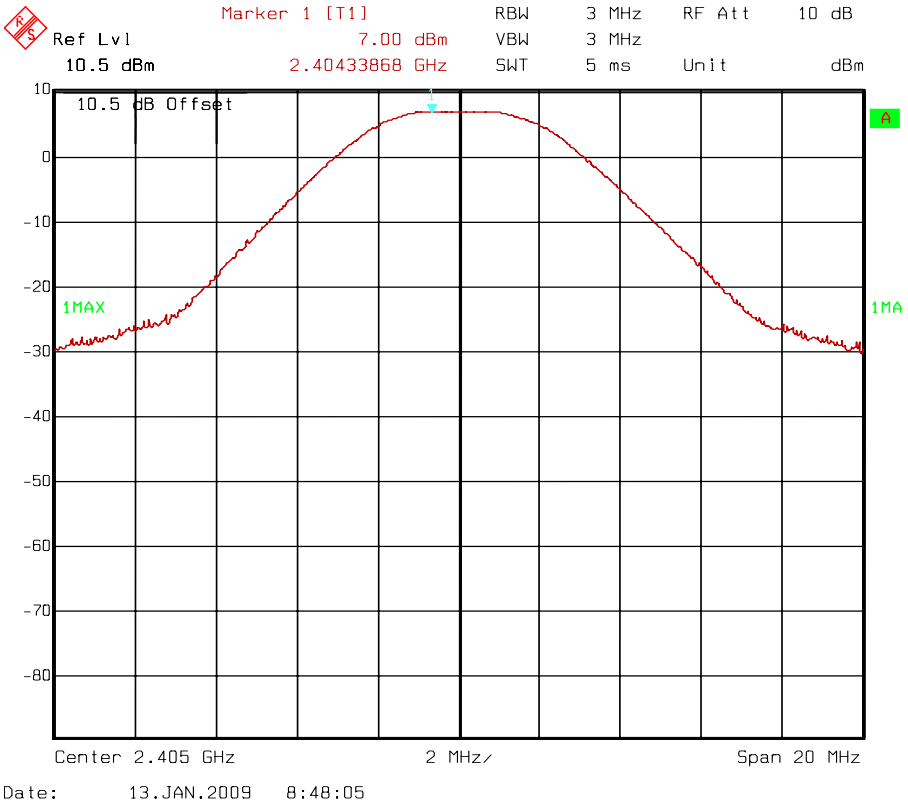
Power setting 16 , Ch0/2405MHz – peak power at 50 ohm connector



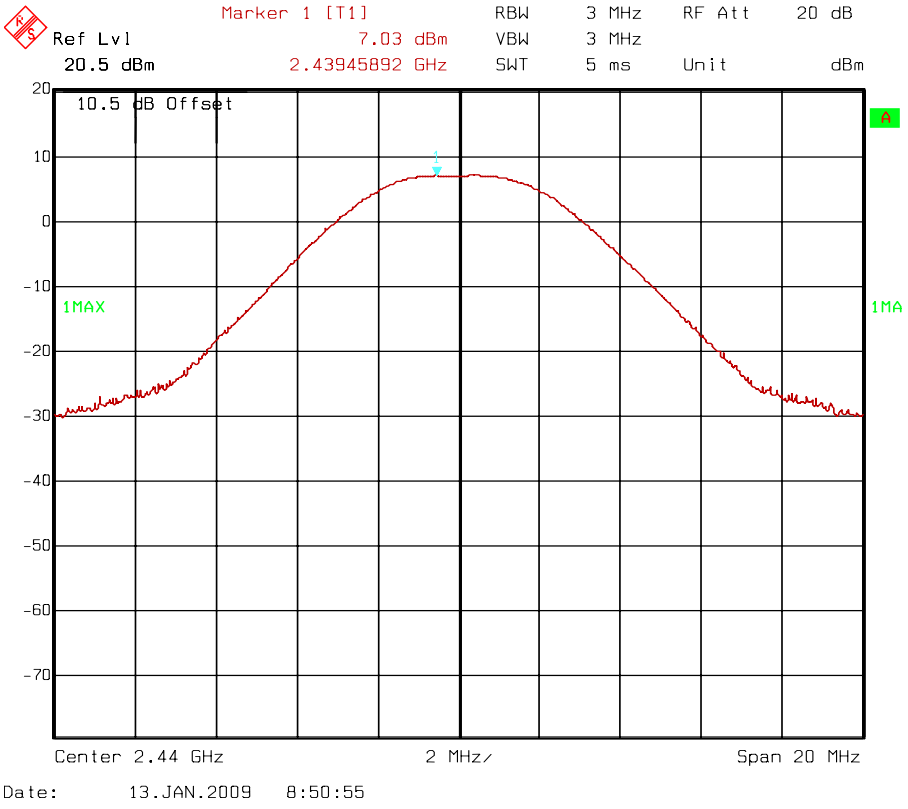
Power setting 16 , Ch7/2440MHz – peak power at 50 ohm connector



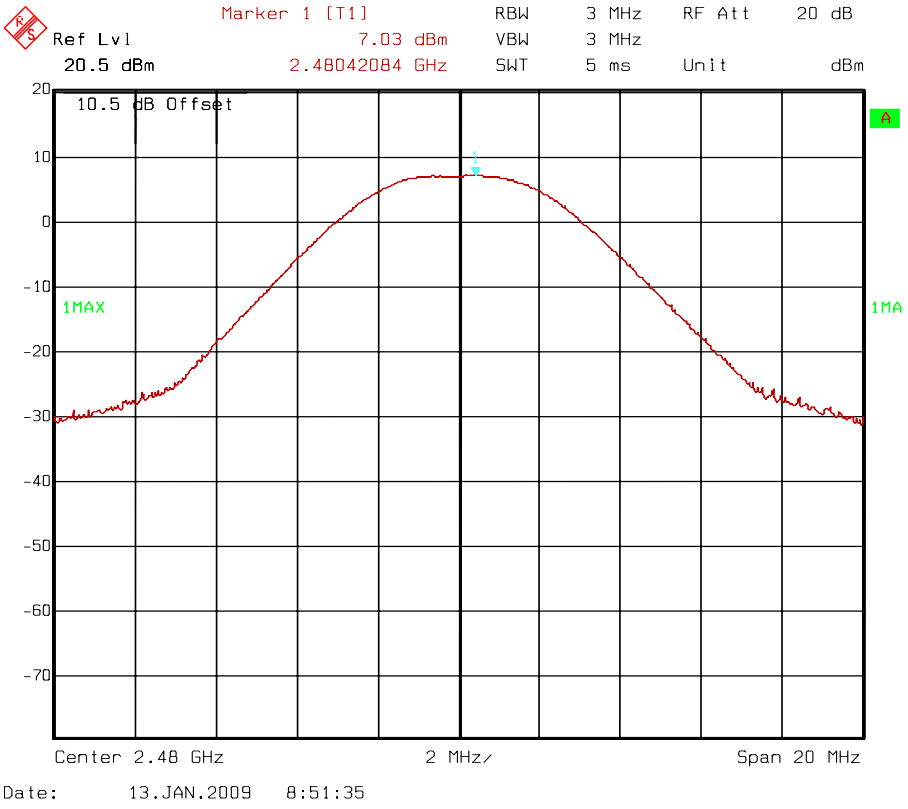
Power setting 16 , Ch15/2480MHz – peak power at 50 ohm connector



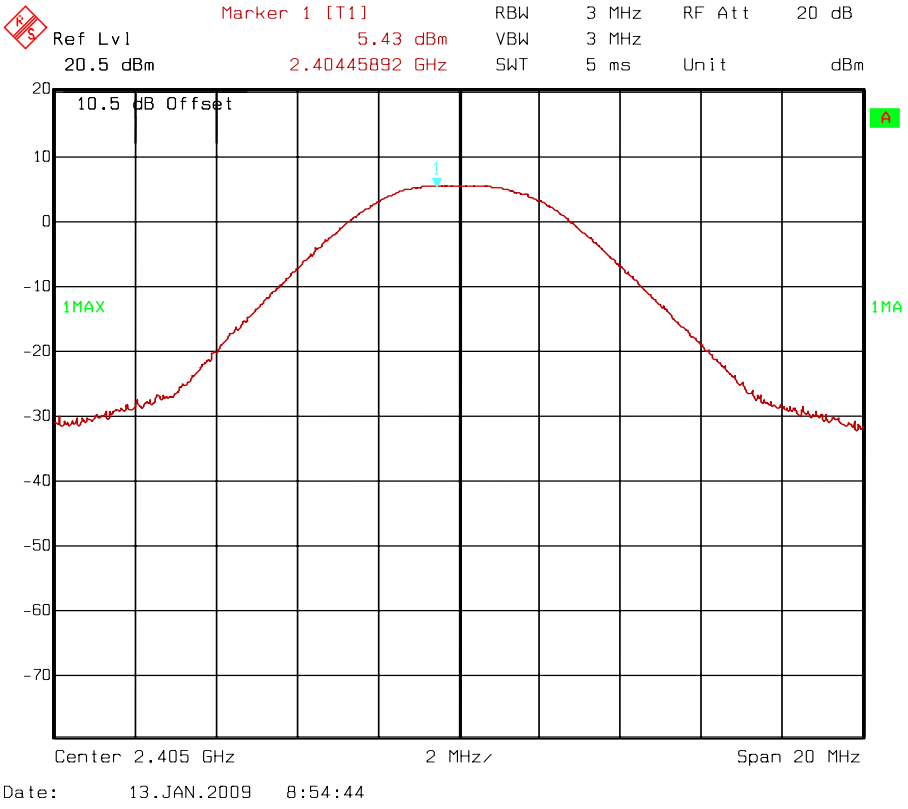
Power setting 11 , Ch0/2405MHz – peak power at 50 ohm connector



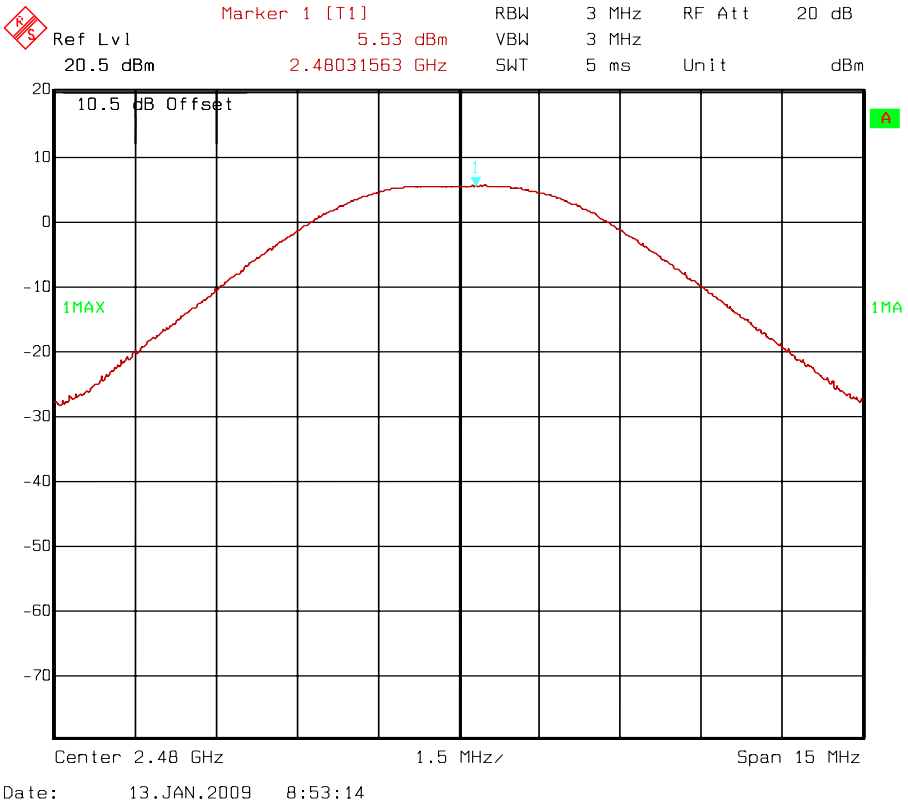
Power setting 11 , Ch07/2440MHz – peak power at 50 ohm connector



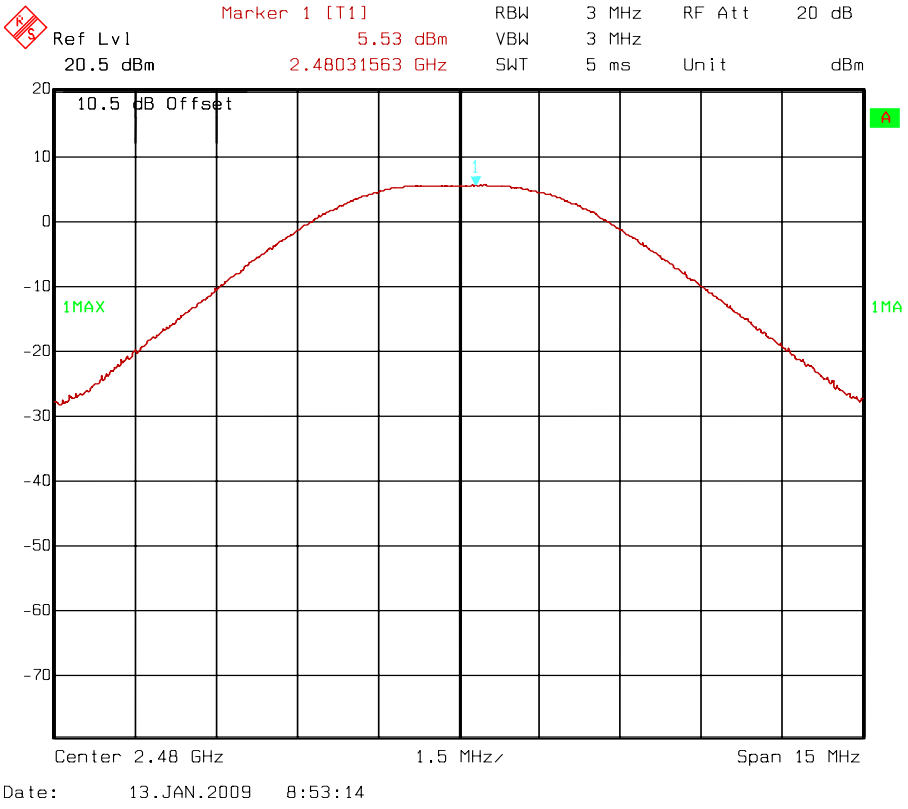
Power setting 11 , Ch15/2480MHz – peak power at 50 ohm connector



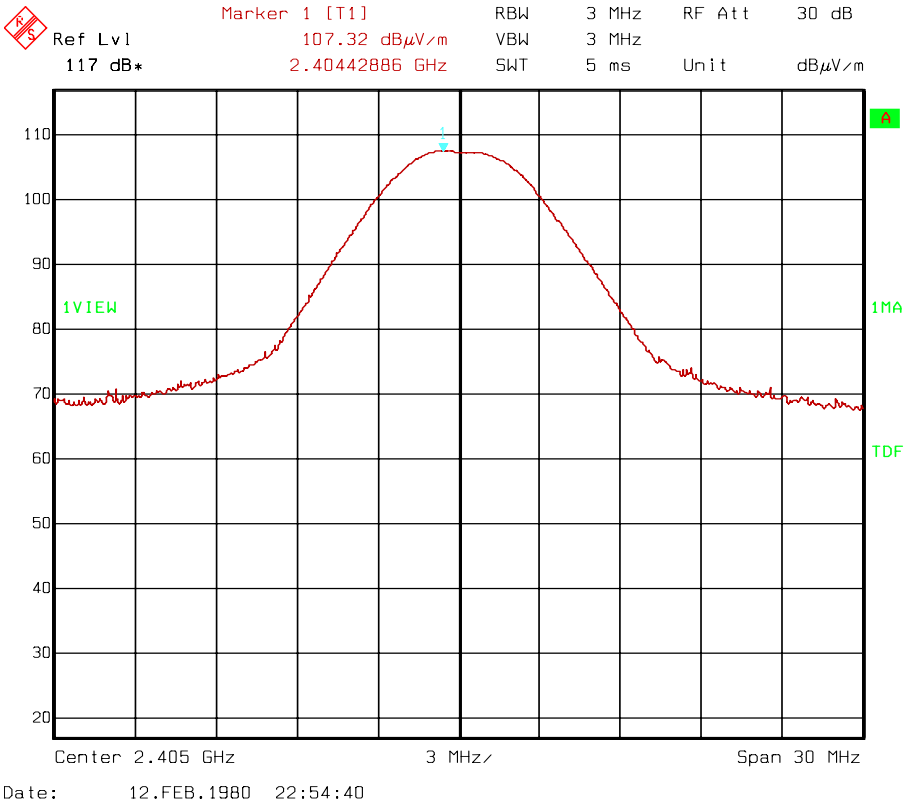
Power setting 08 , Ch0/2405MHz – peak power at 50 ohm connector



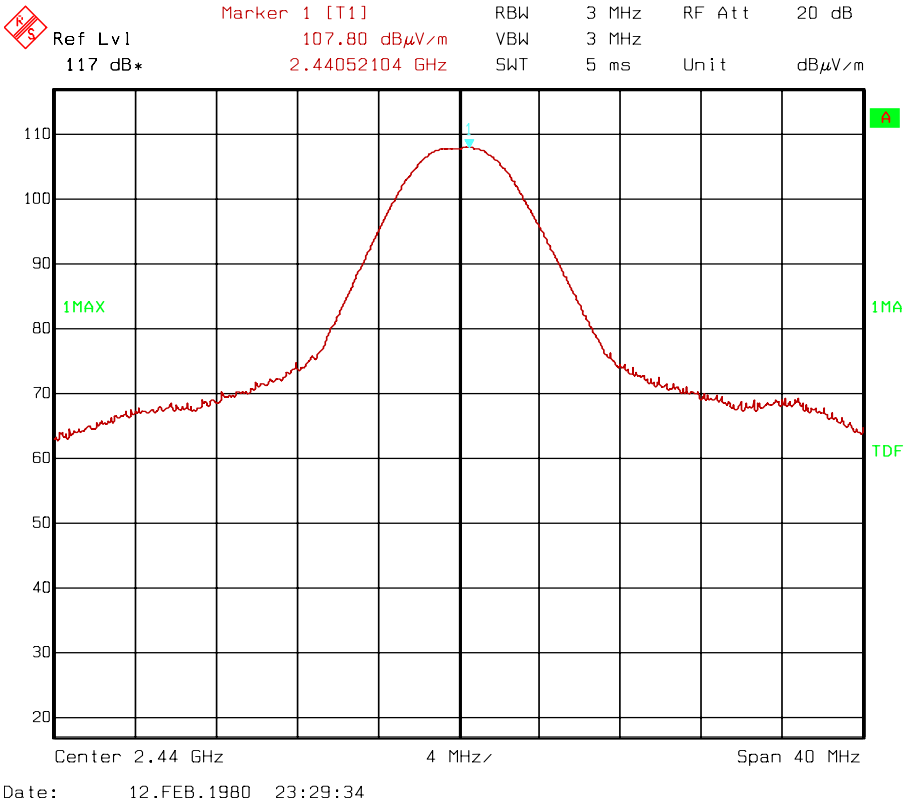
Power setting 08 , Ch7/2440MHz – peak power at 50 ohm connector



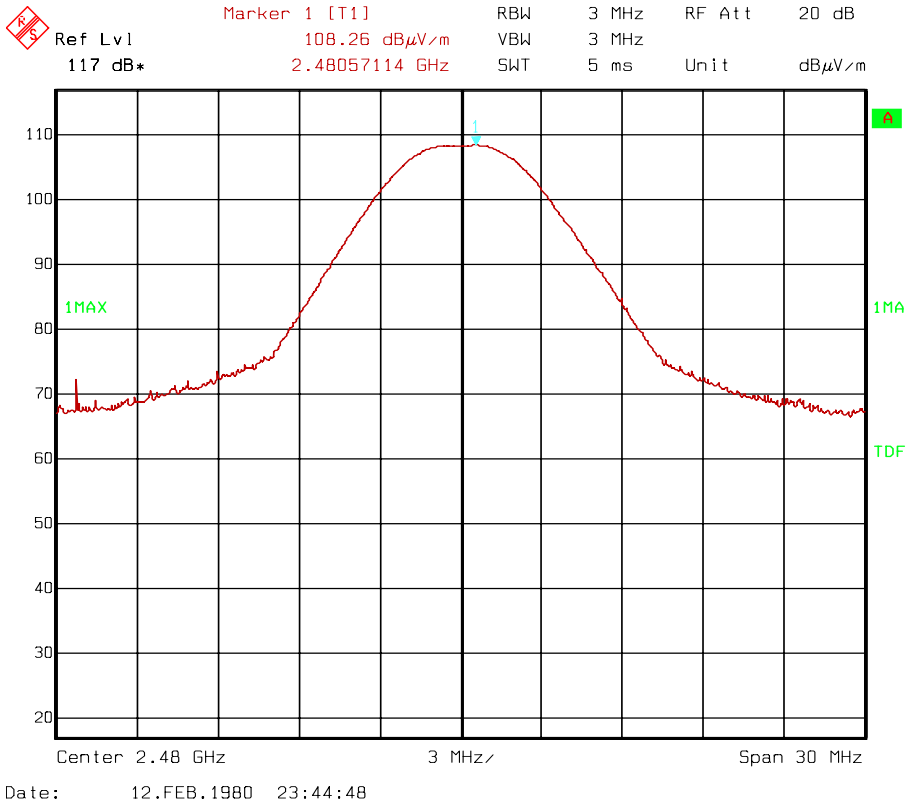
Power setting 08 , Ch15/2480MHz – peak power at 50 ohm connector



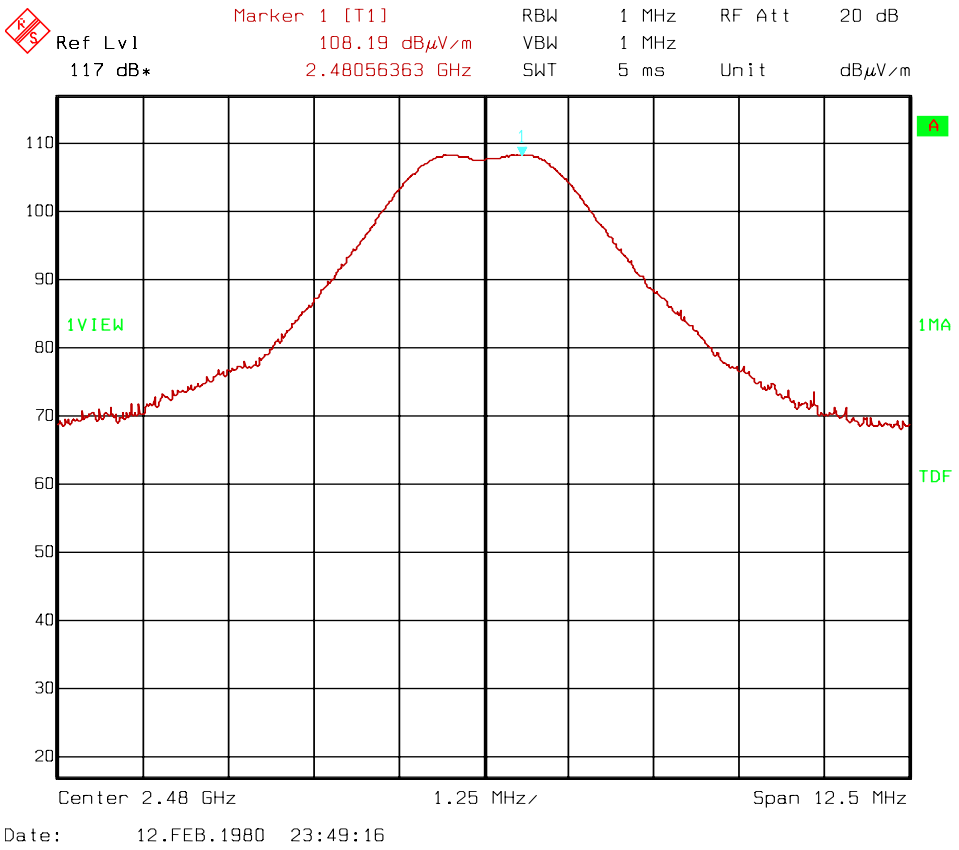
Ch0/2405MHz, Field strength – VP



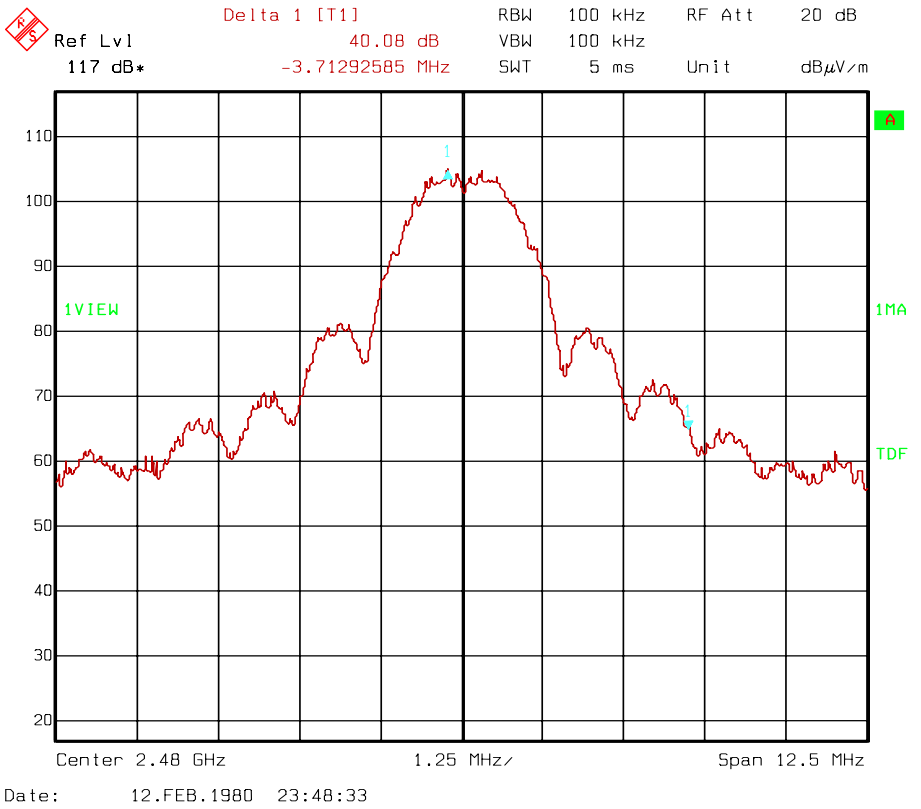
Ch07/2440MHz, Field strength – VP



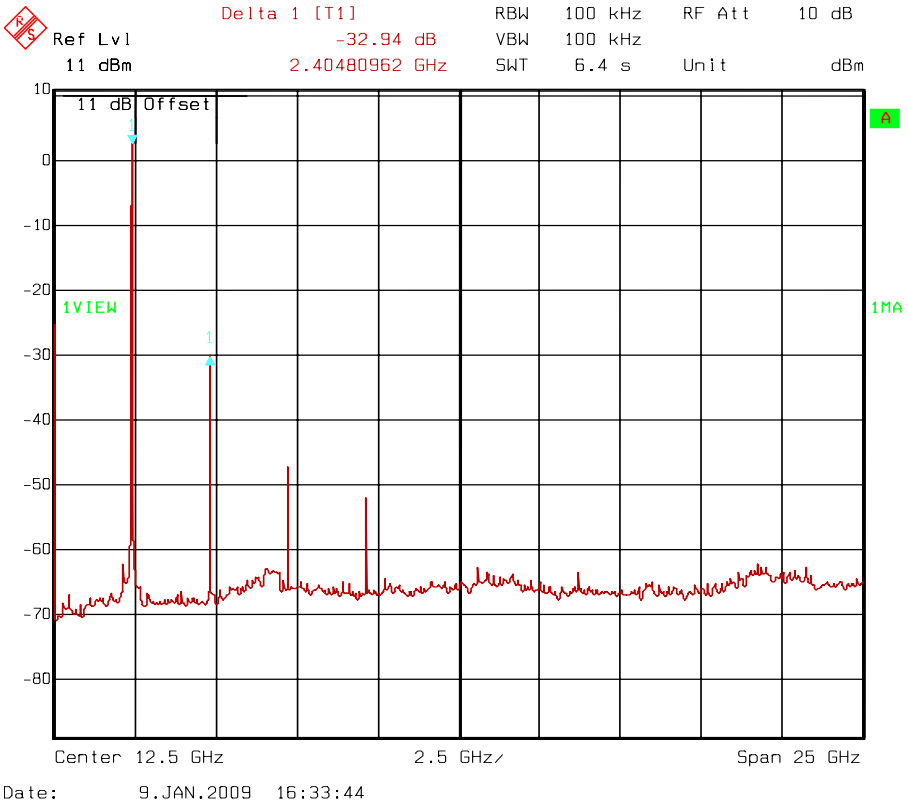
Ch15/2480MHz, Field strength – VP



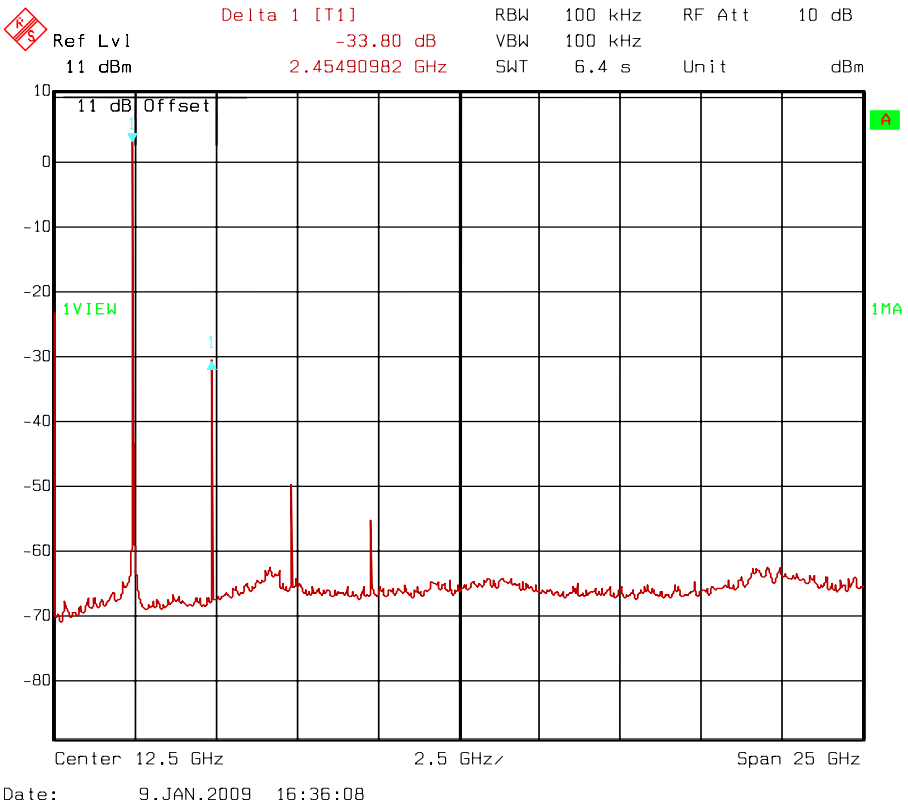
Field strength for upper band edge



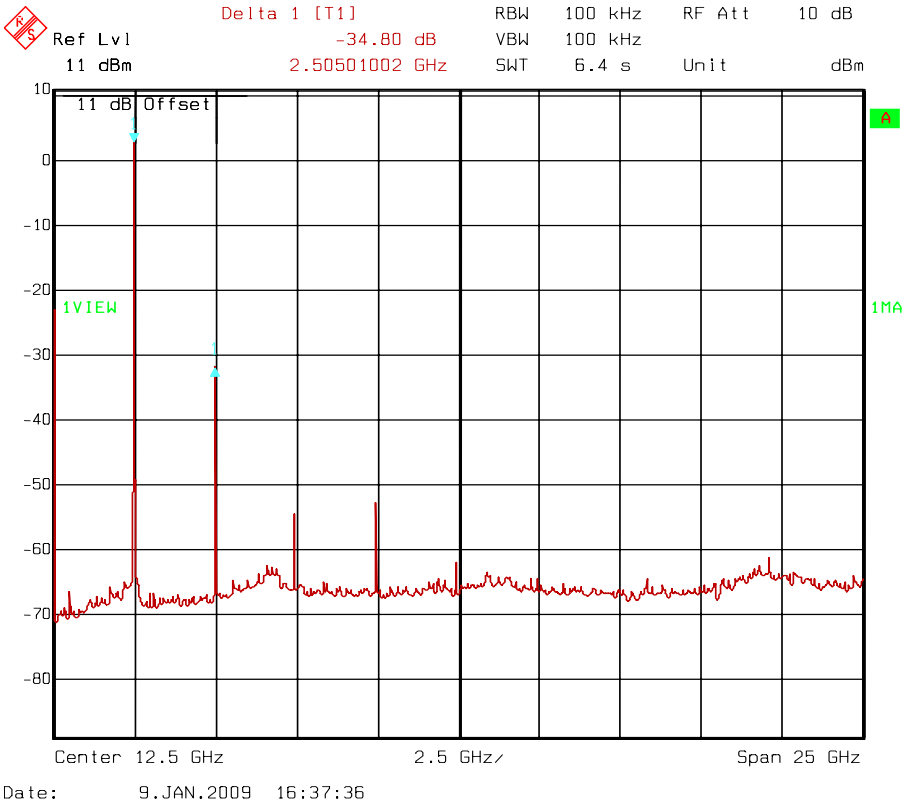
Upper band edge – Delta marker



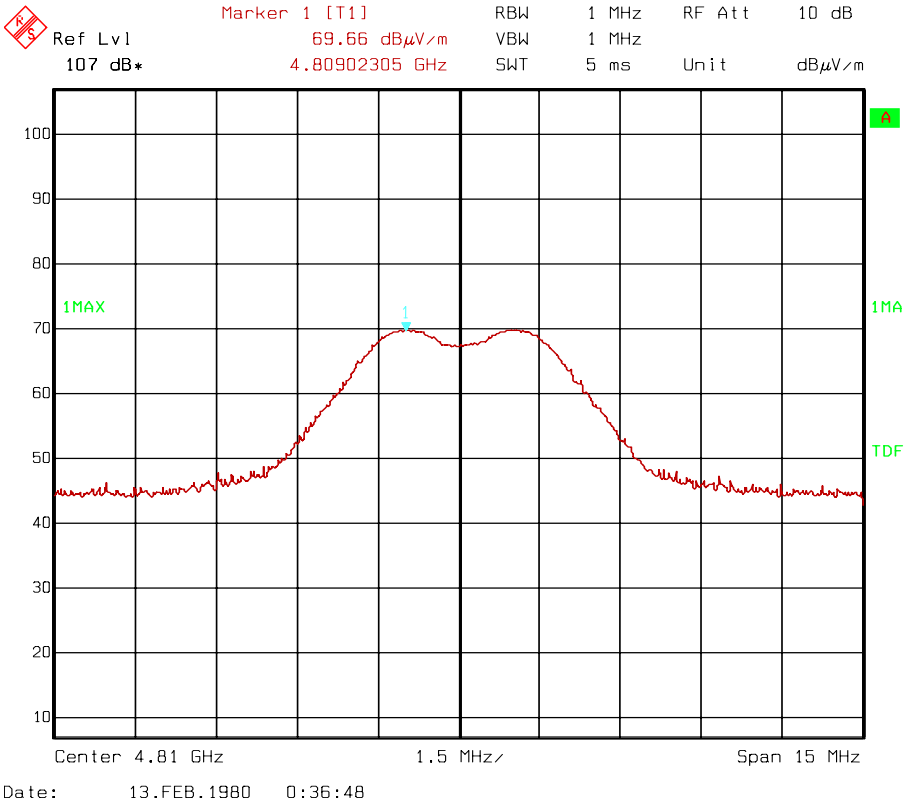
Ch0 , Spurious emission at 50 ohm connector



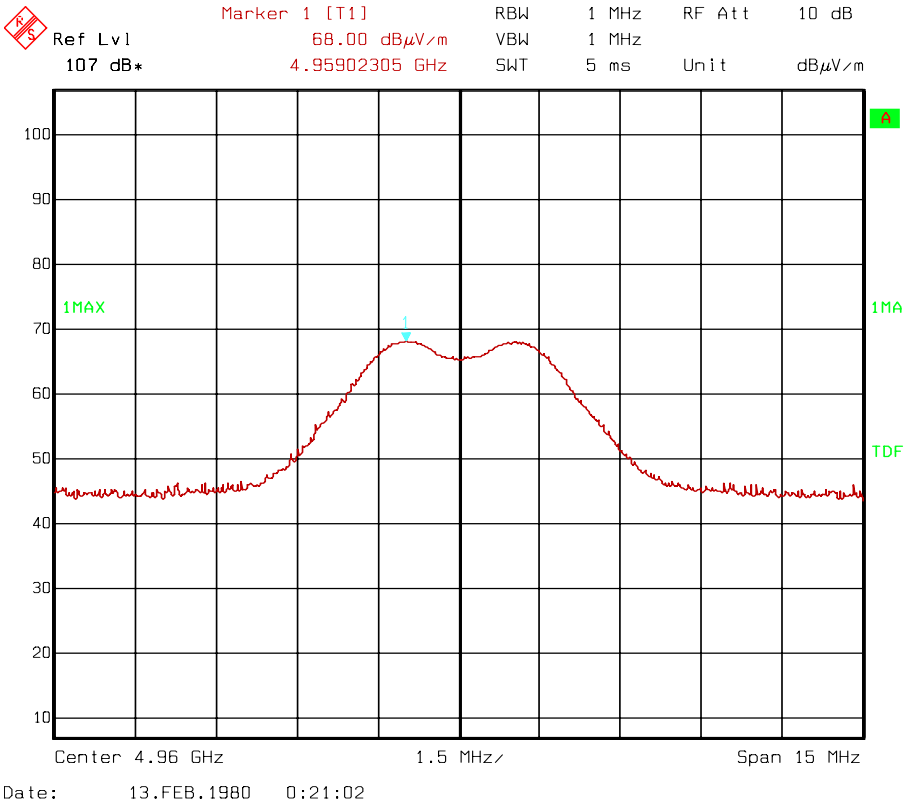
Ch7 , Spurious emission at 50 ohm connector



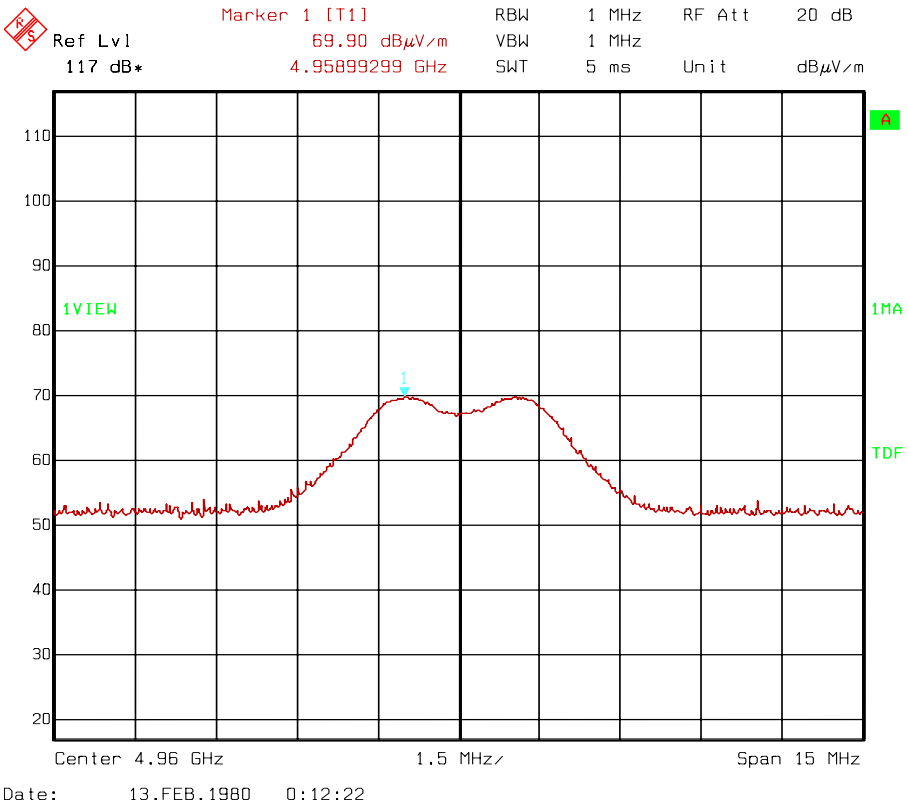
Ch15 , Spurious emission at 50 ohm connector



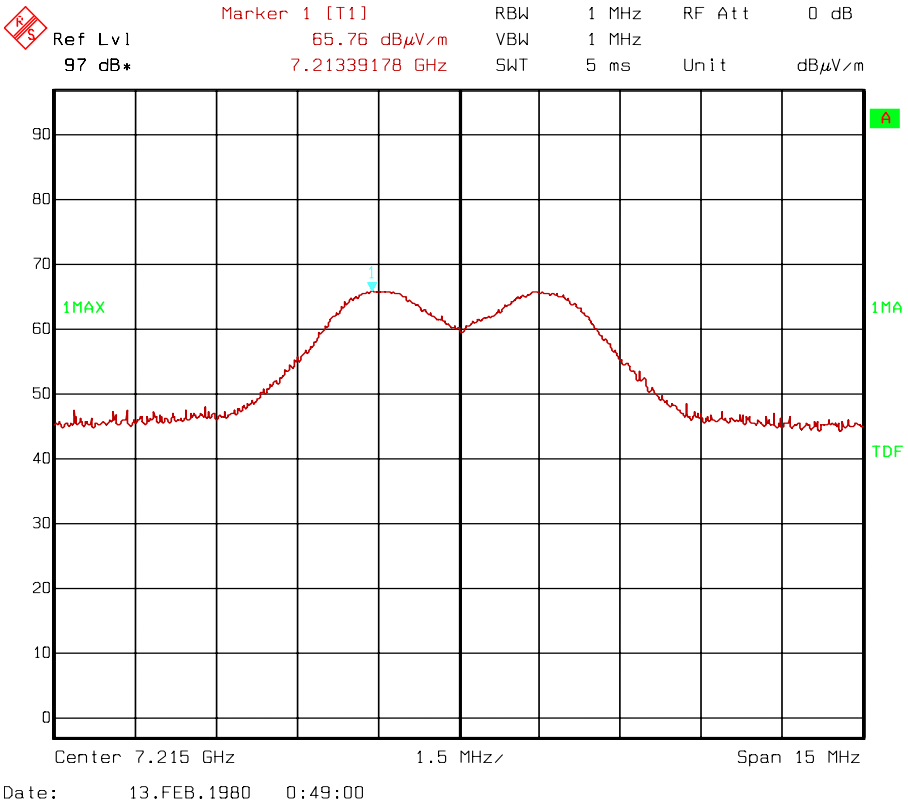
HP, Ch0 – 2nd harmonic



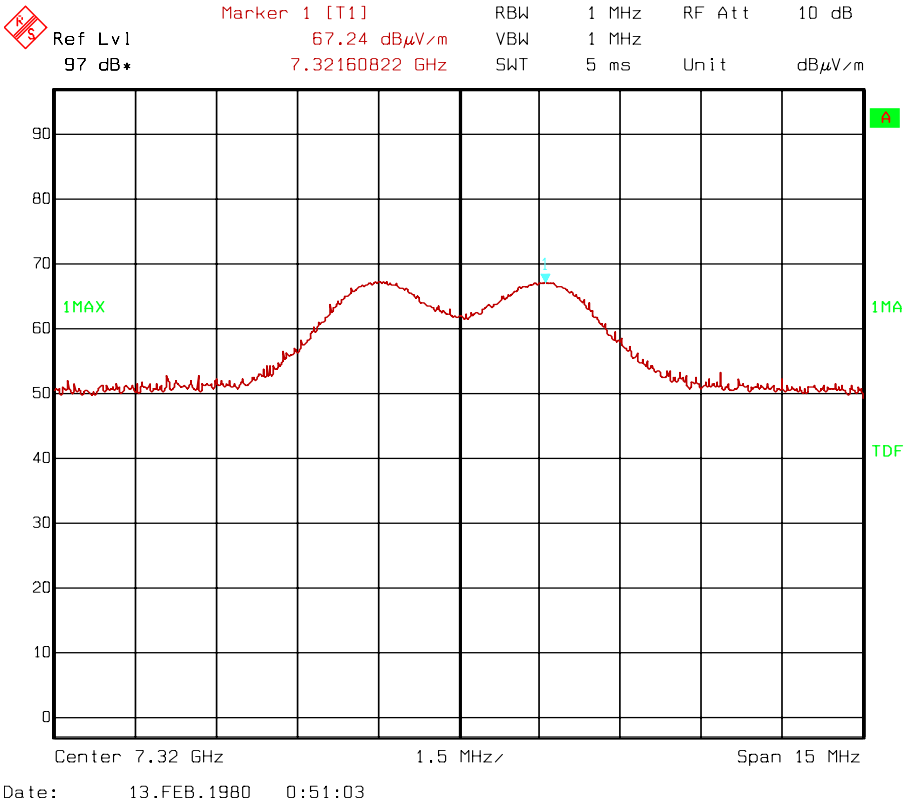
HP, Ch7 – 2nd harmonic



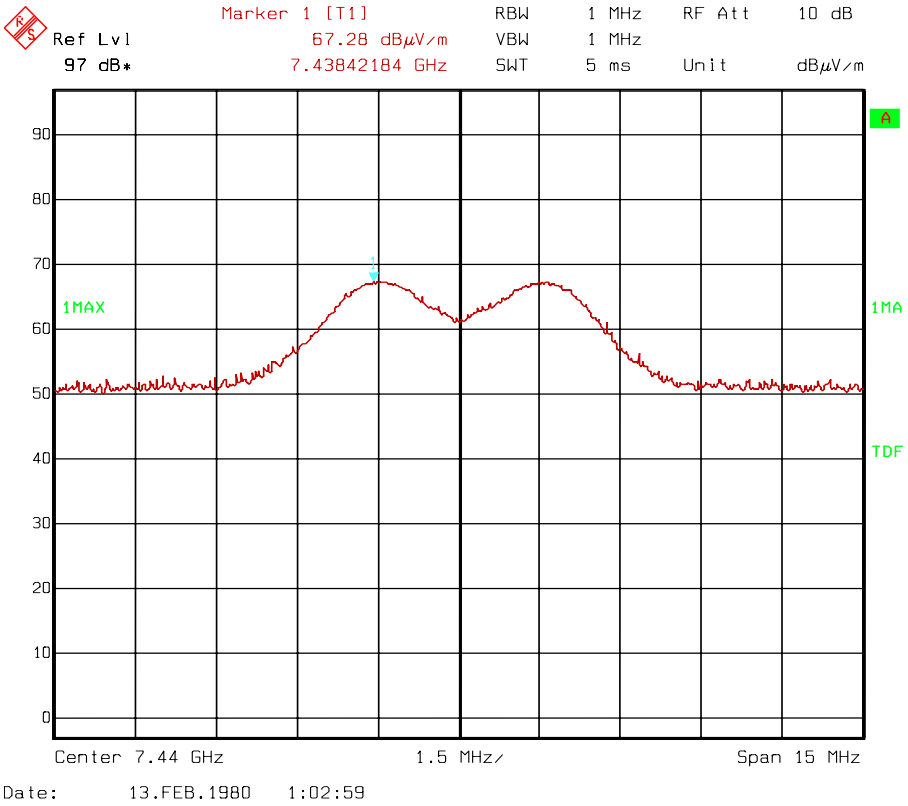
VP, Ch15 – 2nd harmonic



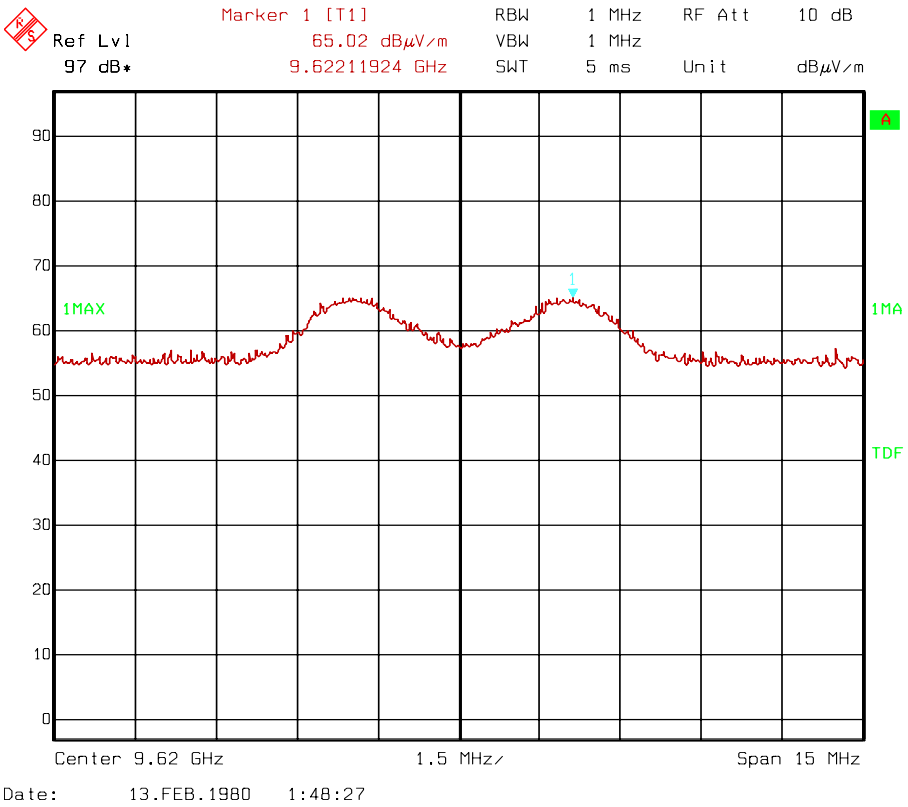
HP, Ch0 – 3rd harmonic



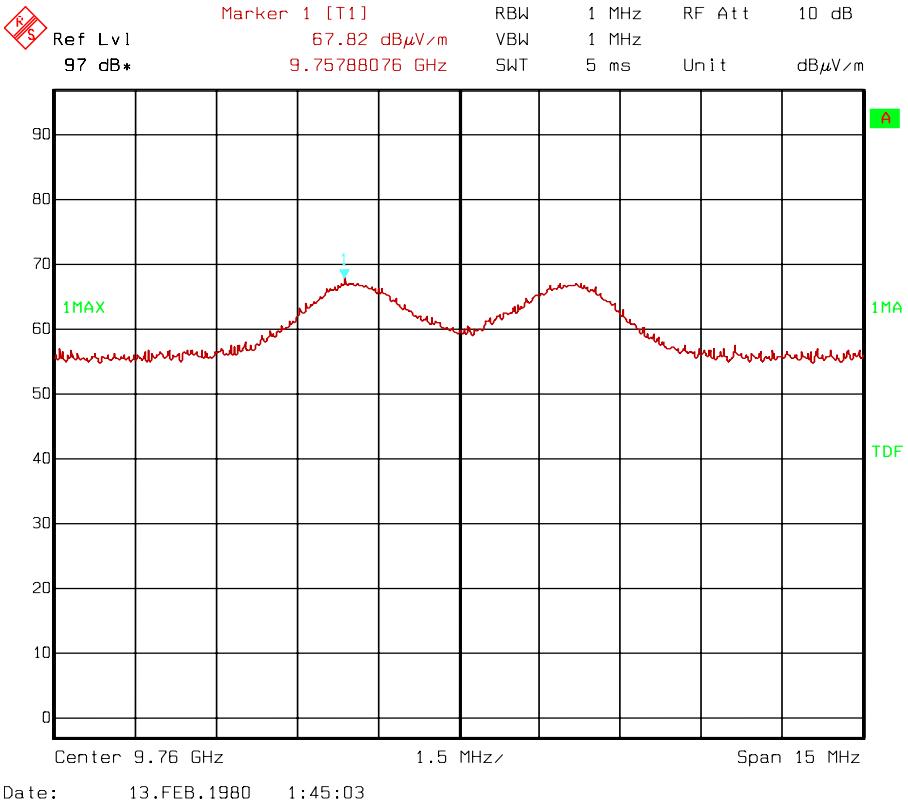
HP, Ch7 – 3rd harmonic



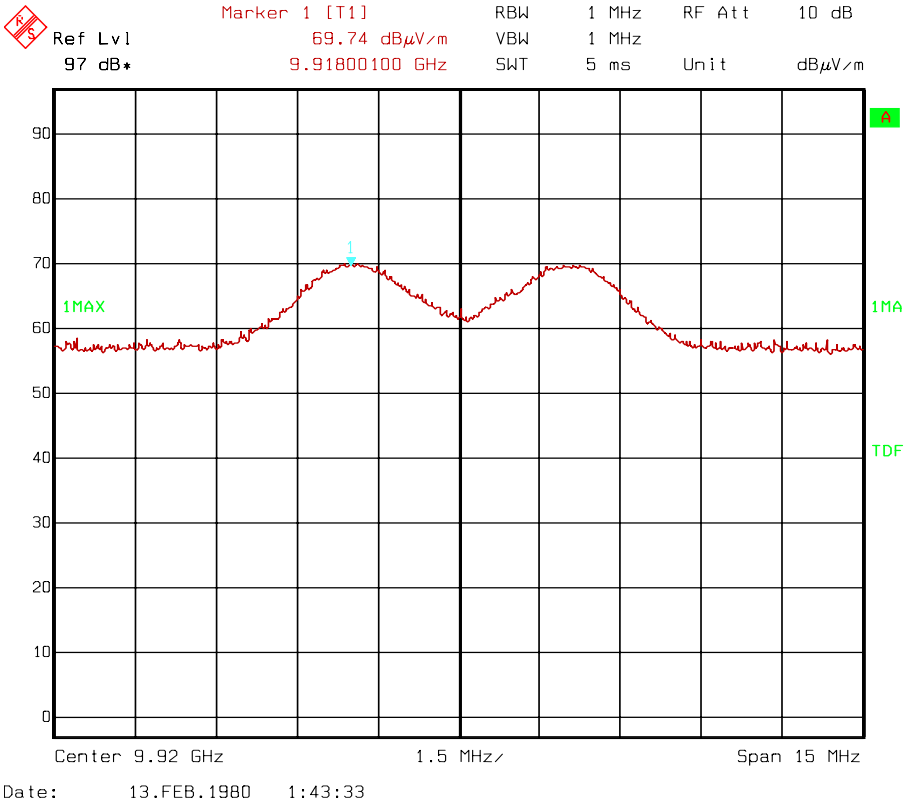
HP, Ch15 – 3rd harmonic



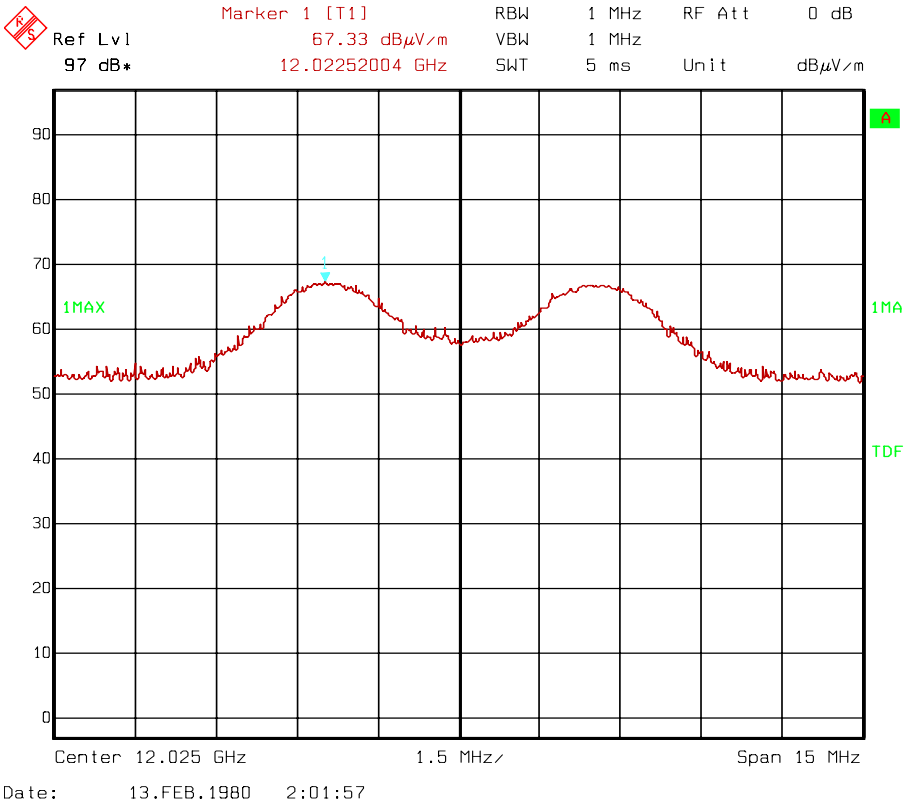
VP, Ch0 – 4th harmonic



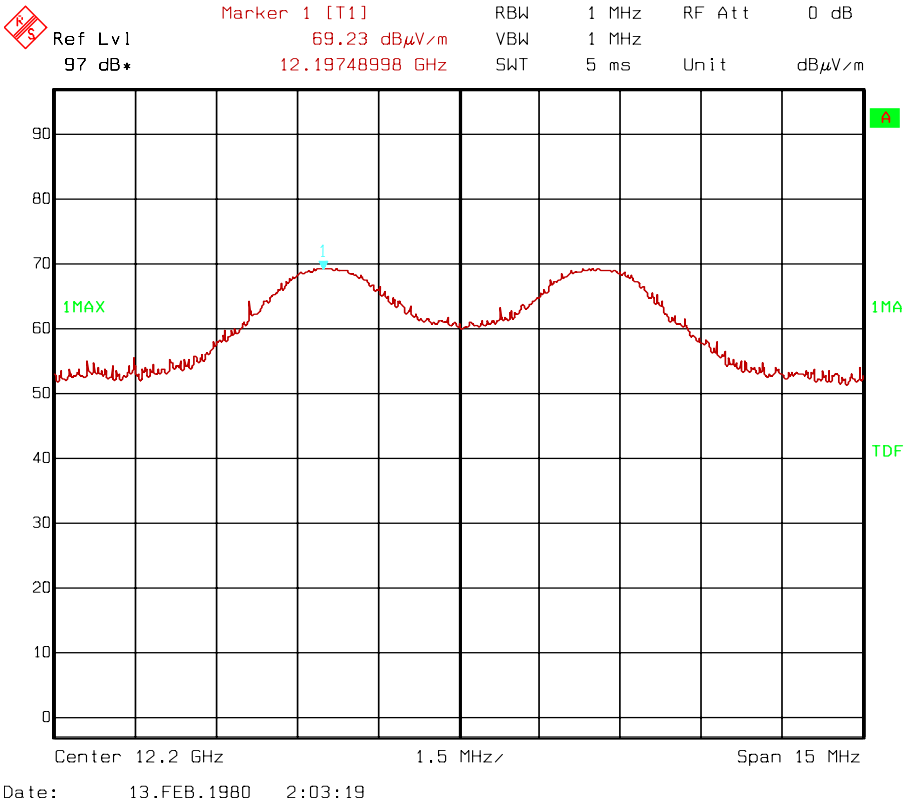
HP, Ch7 – 4th harmonic



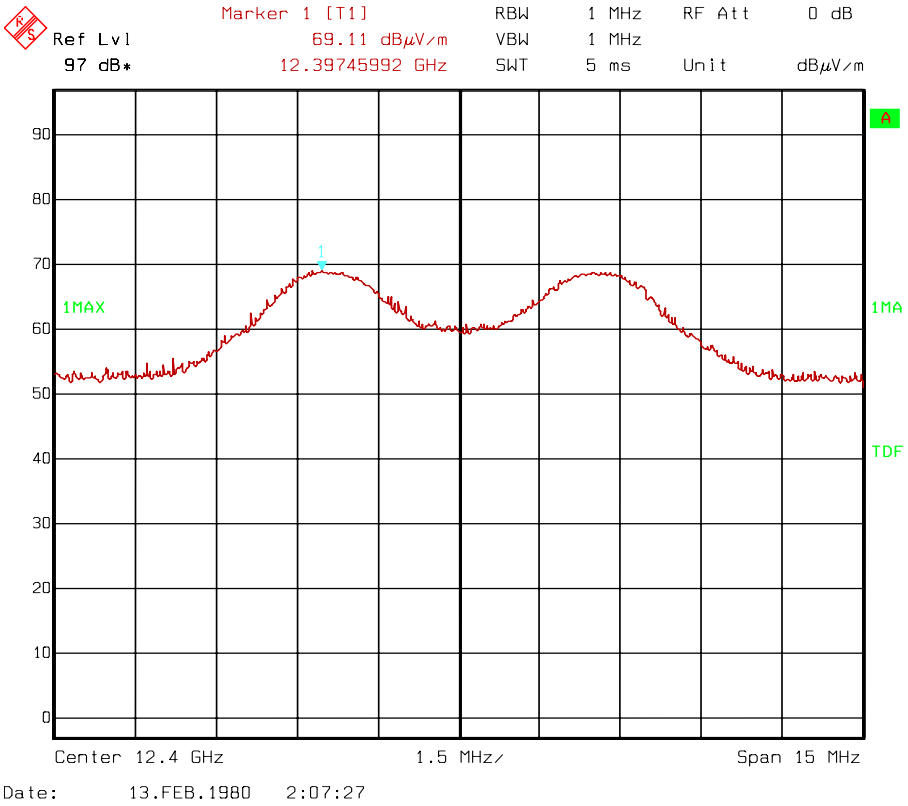
HP, Ch15 – 4th harmonic



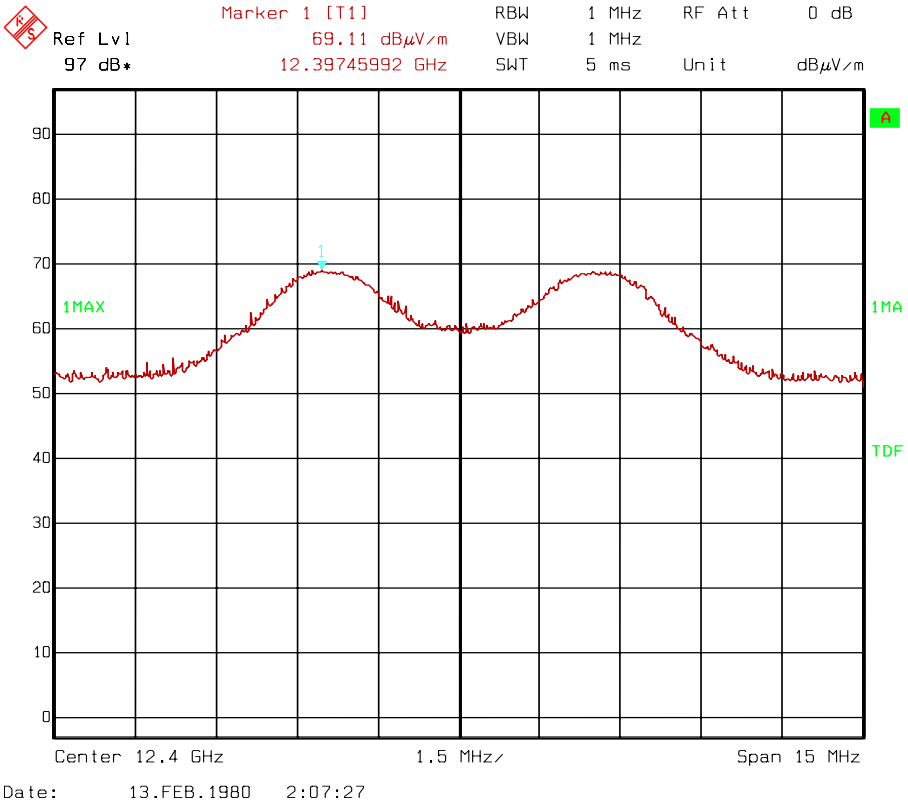
HP, Ch0 – 5th harmonic



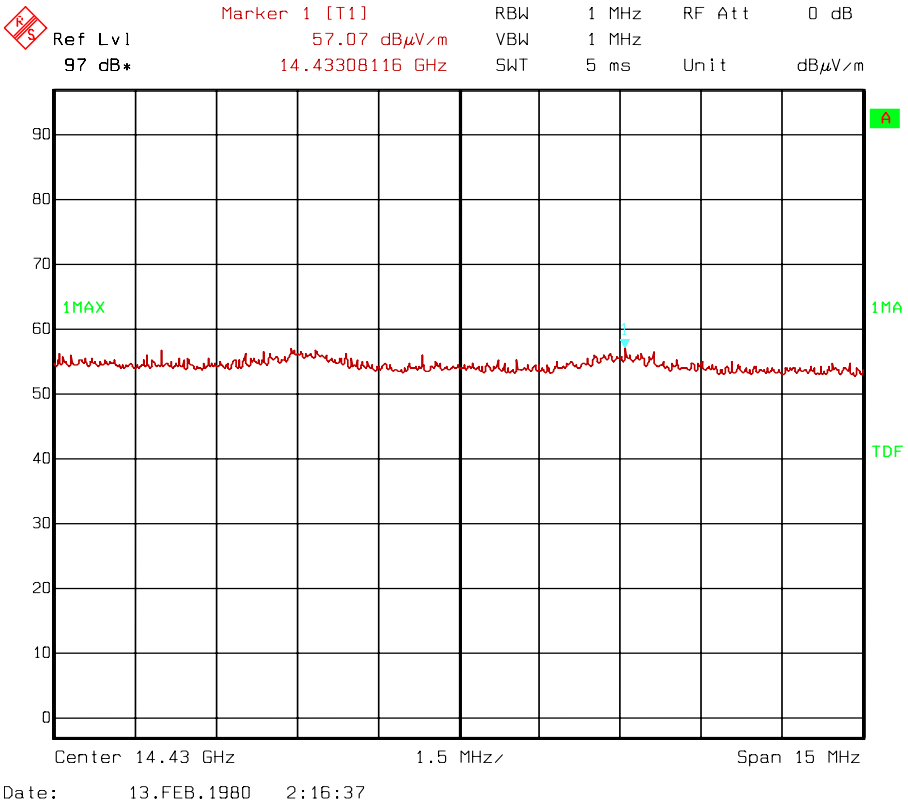
HP, Ch7 – 5th harmonic



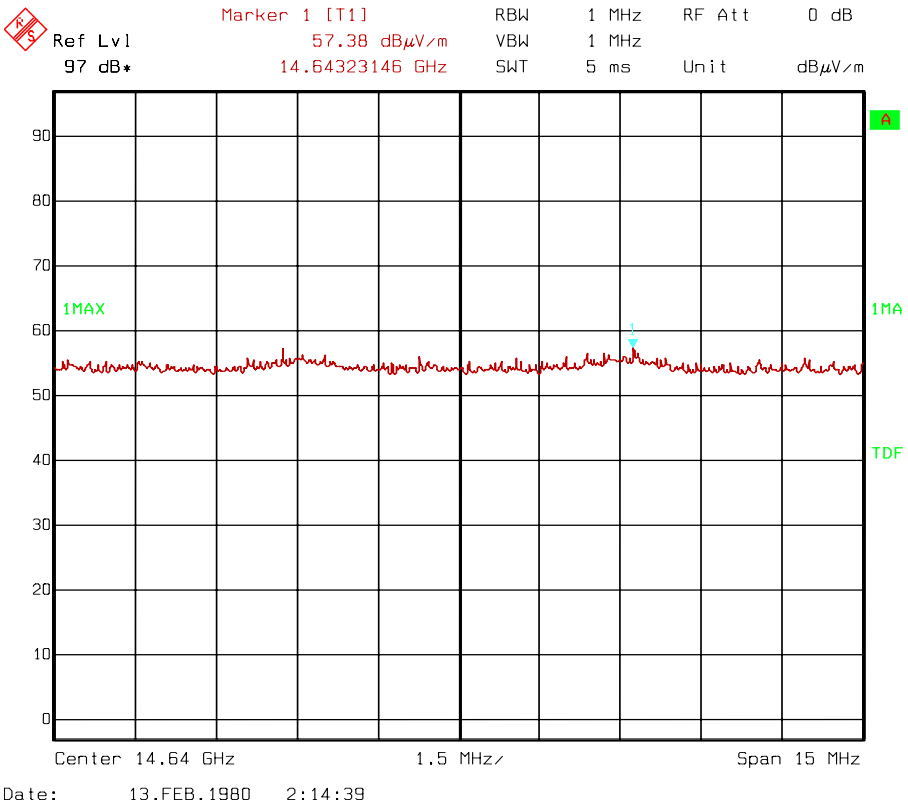
HP, Ch7 – 5th harmonic



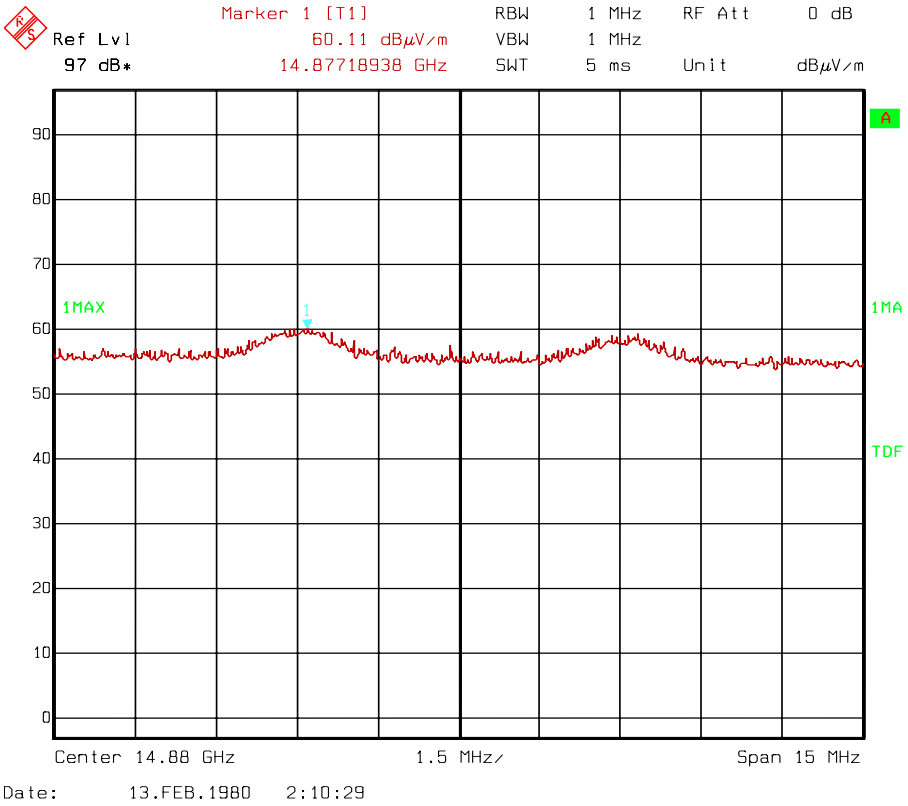
HP, Ch15 – 5th harmonic



HP, Ch0 – 6th harmonic



HP, Ch7 – 6th harmonic



HP, Ch15 – 6th harmonic

NEMKO AS 07. Jan 09 14:00

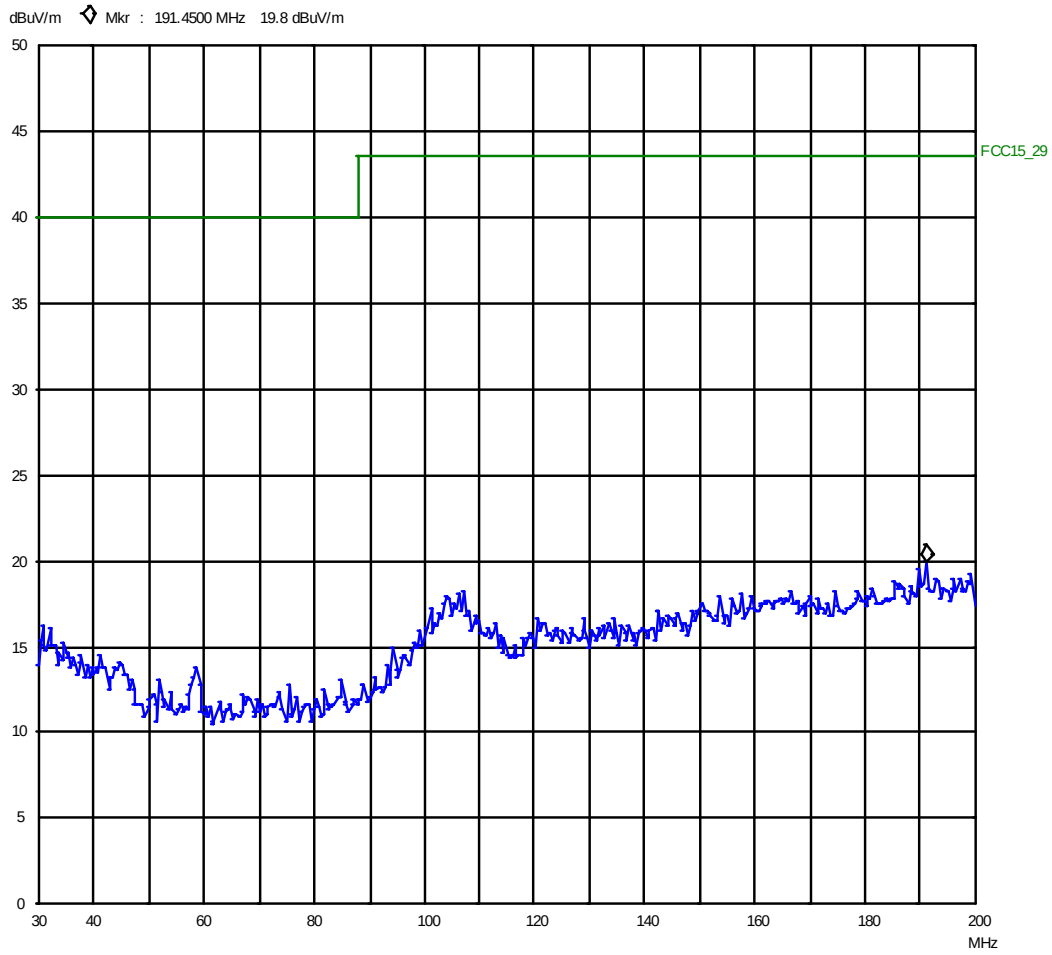
Peak

Operator: gns
Comment: HP 4m
3m distance

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
30M	200M	50k	120k	PK	50ms	AUTO	LN ON	60dB

Transducer No.	Start	Stop	Name
20	30M	200M	HK116



HP, 30 - 200MHz

NEMKO AS 07. Jan 09 13:50

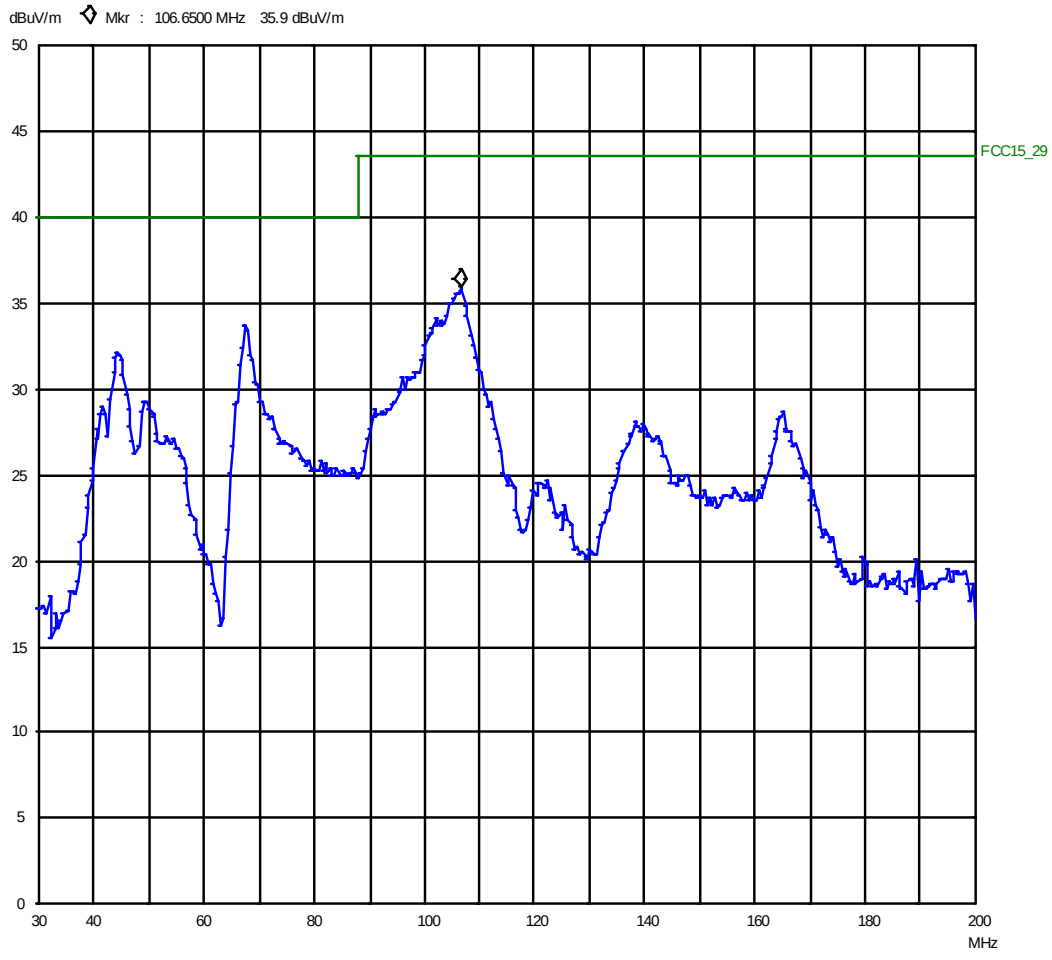
Peak

Operator: gns
Comment: VP 3m
3m distance

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
30M	200M	50k	120k	PK	50ms	AUTO	LN ON	60dB

Transducer No.	Start	Stop	Name
20	30M	200M	HK116



VP, 30 - 200MHz

NEMKO AS 07. Jan 09 14:44

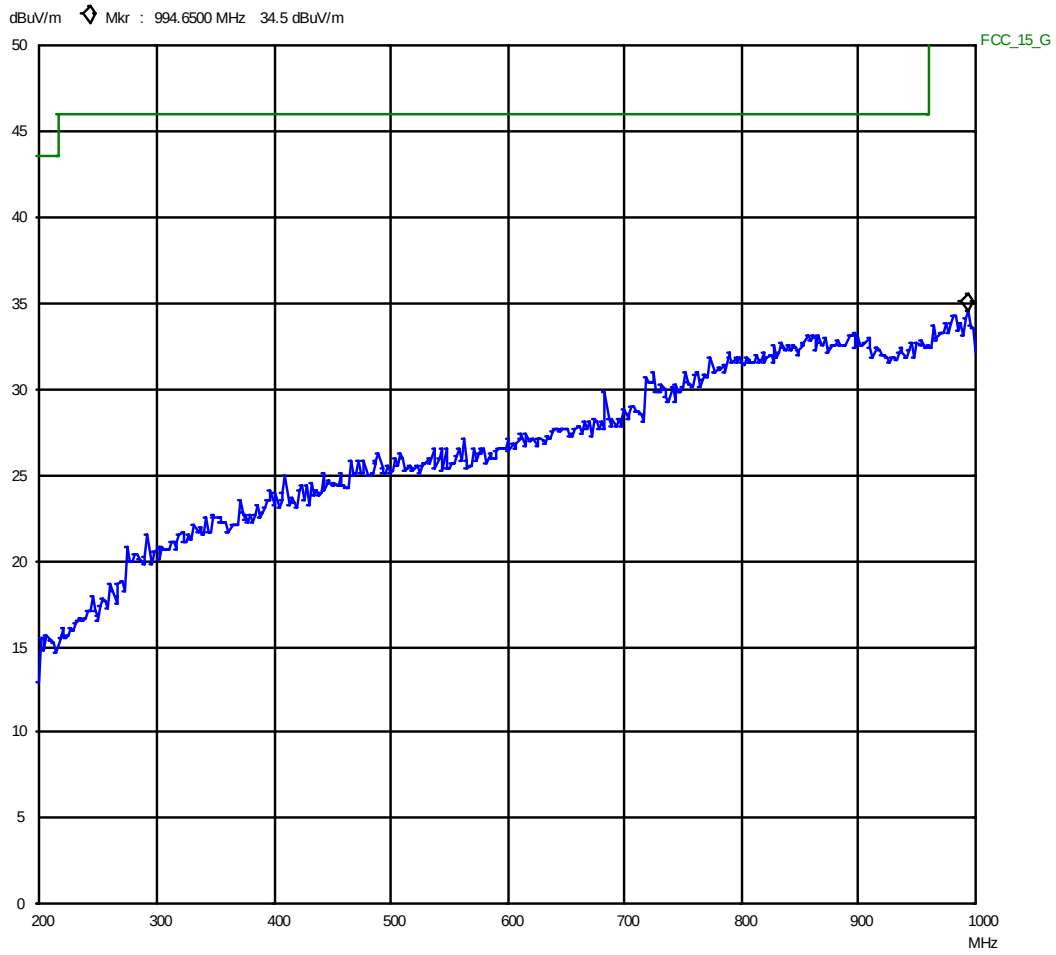
Peak

Operator: gns
Comment: HP 4m
3m distance

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
200M	1000M	50k	120k	PK	50ms	AUTO	LN ON	60dB

Transducer No.	Start	Stop	Name
21	200M	1000M	HL223



HP, 200 - 1000MHz

NEMKO AS 07. Jan 09 14:29

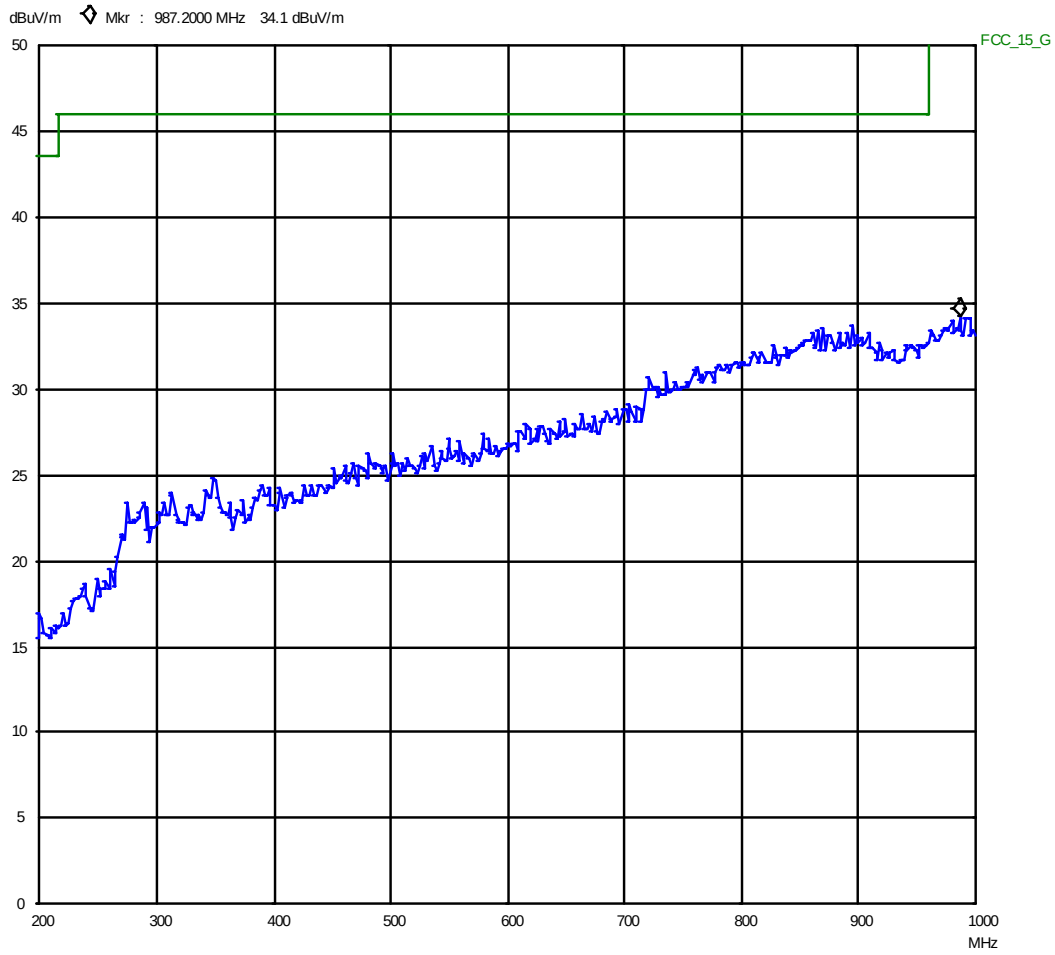
Peak

Operator: gns
Comment: VP 1m
3m distance

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
200M	1000M	50k	120k	PK	50ms	AUTO	LN ON	60dB

Transducer No.	Start	Stop	Name
21	200M	1000M	HL223



VP, 200 - 1000mHz

NEMKO AS 07. Jan 09 16:05

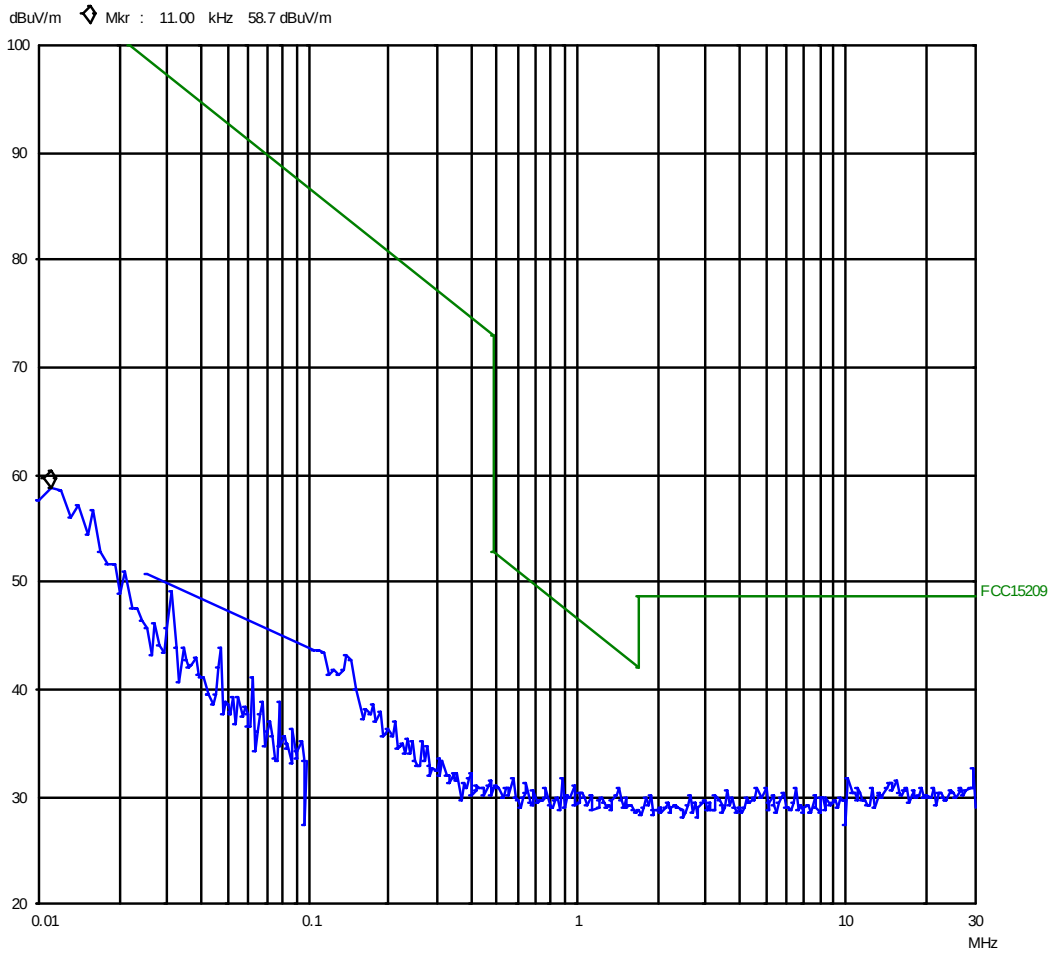
Peak

Operator: gns
Epoke

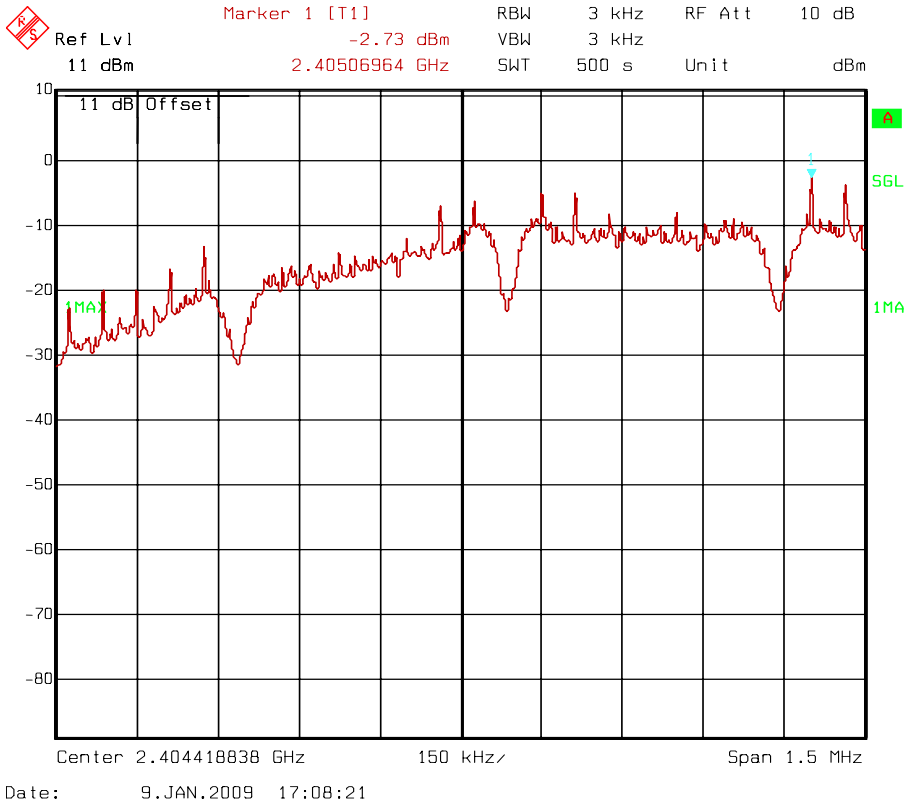
Scan Settings (4 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
10k	100k	1k	1k	PK	20ms	0dB	LN OFF	60dB
20k	20k	5k	9k	PK	20ms	AUTO	LN ON	60dB
20k	10M	5k	9k	PK	20ms	AUTO	LN OFF	60dB
10M	30M	5k	9k	PK	20ms	AUTO	LN OFF	60dB

Transducer No.	Start	Stop	Name
13	10k	30M	HFH2Z2

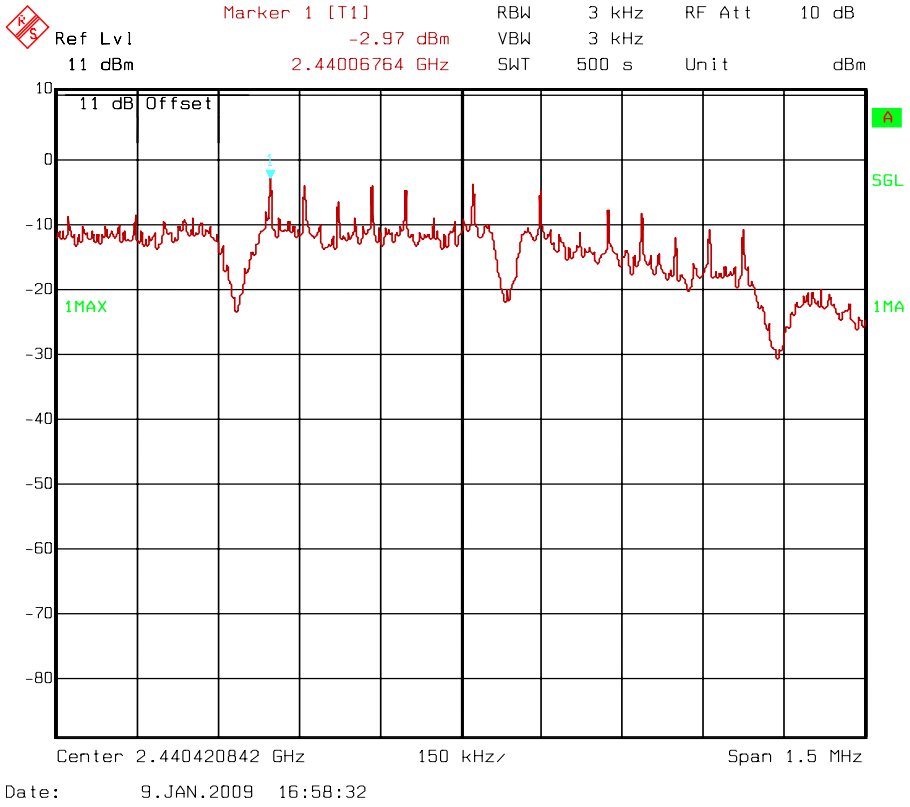


10kHz - 30MHz



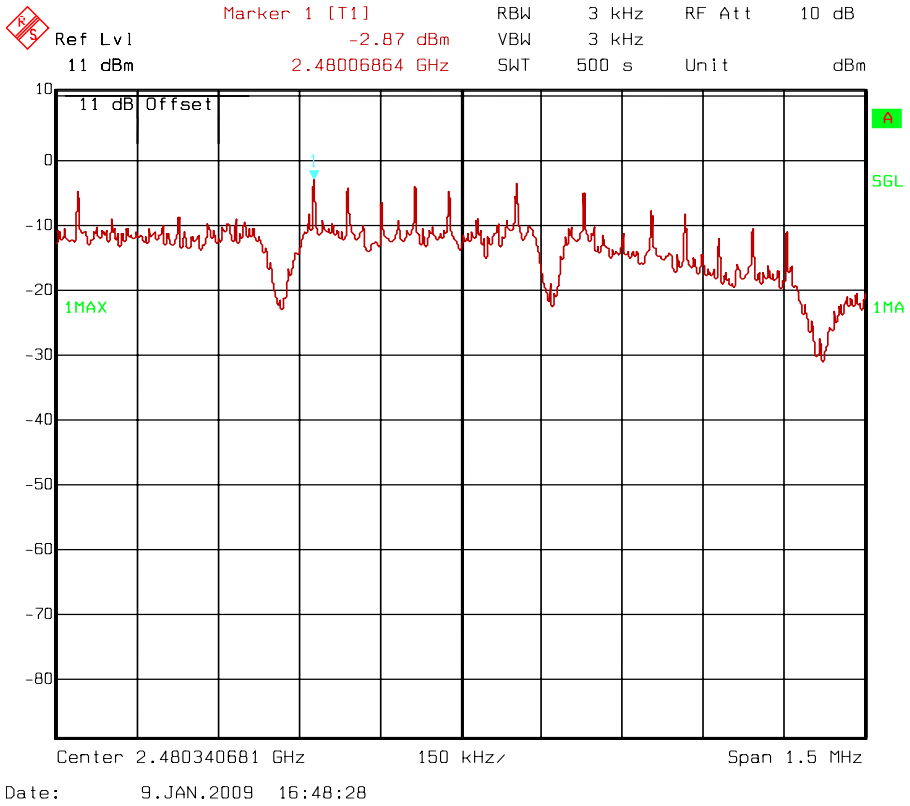
Ch0, Power Spectral density – at 50ohm connector, Test equipment: R&S FSEK ,LR1337

(Power setting :P16(maximum)



Ch7, Power Spectral density – at 50ohm connector, Test equipment: R&S FSEK ,LR1337

(Power setting :P16(maximum)



Ch15, Power Spectral density – at 50ohm connector – Test equipment: R&S FSEK ,LR1337

(Power setting :P16(maximum)

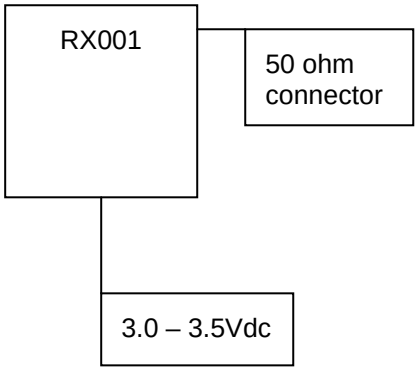
6 LIST OF TEST EQUIPMENT

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries are identified (numbered) by the Test Laboratory.

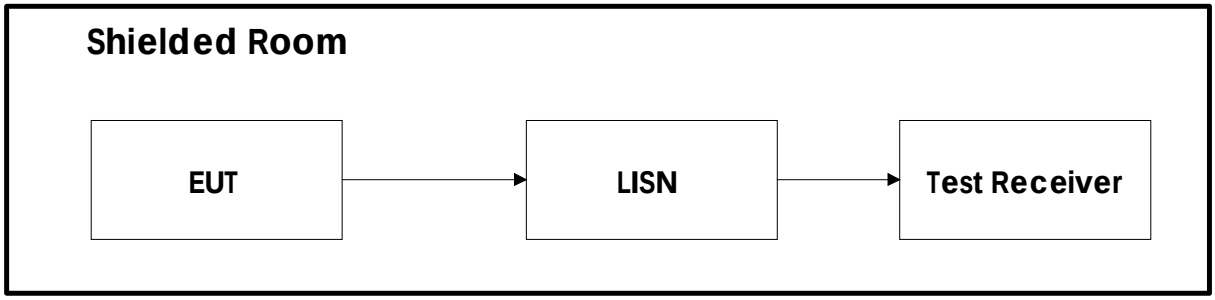
No.	Instrument/ancillary	Type of instrument/ancillary	Manufacturer	Ref. no.
1	FSEK	Spectrum Analyzer	Rohde & Schwarz	LR 1337
2	ESAI	Spectrum Analyzer	Rohde & Schwarz	LR 1090
3	3115	Antenna horn	EMCO	LR 1330
4	643	Antenna horn	Narda	LR 093
5	642	Antenna horn	Narda	LR 220
6	PM7320X	Antenna horn	Siverts lab	LR 103
7	DBF-520-20	Antenna horn	Systron Donner	LR 101
8	638	Antenna horn	Narda	LR 098
9	5VF1000/2000	BP filter	Trilithic	LR 1174
10	5VF2000/4000	BP filter	Texscan	LR 42
11	ESH3-Z3	LISN	Rohde & Schwarz	LR 1076
12	8449B	Amplifier	Hewlett Packard	LR 1322
13	959C	Printer	Hewlett Packard	LR 1414
14	HFH2-Z2	Antenna loop	Rohde and Schwarz	LR 285
15	10855A	Amplifier	Hewlett Packard	LR 1445
16	HL223	Antenna log.per	Rohde & Schwarz	LR 1261
17	HK116	Antenna biconic	Rohde & Schwarz	LR 1260
18	ESVS 30	Test Receiver	Rohde & Schwarz	LR 1101
19	8300D	DC power supply	Oltrinix	LR017

7 BLOCK DIAGRAM

7.1 System set up



7.2 Power Line Conducted Emission



7.3 Test Site Radiated Emission