



FCC Licensed Transmitter Test Report for

**Miniature Radio Microphone Pocket Transmitter
Mini TX**

Reference Standard 47CFR Part 2, Subpart J: Oct 2004
Manufacturer Audio Limited
For type of equipment and serial number, refer to section 3
Report Number 12-140A/3226/3/06
This report supersedes report no. 12-140/3326/3/06
Report Produced by: -

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1. Contents

1.	CONTENTS	3
2.	SUMMARY OF TEST RESULTS	4
3.	INFORMATION ABOUT EQUIPMENT UNDER TEST	5
4.	SPECIFICATIONS.....	6
4.1	Relevant Standards	6
4.2	Measurement Uncertainty.....	6
4.2	Tests at Extremes of Temperature and Voltage.....	6
5.	TESTS, METHODS AND RESULTS	7
5.1	Carrier Power.....	7
5.2	Modulation Characteristics	9
5.3	Occupied Bandwidth	11
5.4	Spurious Emissions at Antenna Terminals	12
5.5	Field Strength of Spurious Radiation.	16
5.6	Frequency Error.....	19
6.	GRAPHICAL RESULTS	21
7.	PHOTOGRAPHS	68
7.1	EUT Front View	68
7.2	EUT Reverse Angle.....	69
7.3	EUT Antenna Connector Port	70
7.4	EUT Display / Controls	71
7.5	EUT Internal Construction	72
7.6	EUT Identification Label.....	73
7.7	EUT Chassis	74
7.8	Test set-up, spurious emissions	75
8.	SIGNAL LEADS.....	76
9.	TEST EQUIPMENT CALIBRATION LIST	77
10.	AUXILIARY EQUIPMENT.....	78
10.1	Supplied by Audio Limited	78
10.2	Supplied by RN Electronics Limited.....	78
11.	MODIFICATIONS	79

2. Summary of Test Results

The Mini TX was tested for compliance to the following standard for licensed transmitters: -

47CFR Part 2, Subpart J: Oct 2004

47CFR Part 74, Subpart H: Oct 2004

Title	References	Results
1. RF Power Output.	47CFR Part 2, Subpart J	conducted: PASSED
		radiated: NOT APPLICABLE ¹
2. Modulation Characteristics.	47CFR Part 2, Subpart J	frequency response: PASSED ²
		modulation limiting: PASSED
3. Occupied Bandwidth	47CFR Part 2, Subpart J	PASSED
4. Spurious Emissions at Antenna Terminals.	47CFR Part 2, Subpart J	PASSED
5. Field Strength of Spurious Radiation.	47CFR Part 2, Subpart J	PASSED
6. Frequency Stability.	47CFR Part 2, Subpart J	PASSED

¹ EUT had a 50Ω antenna connector port.

² No Limits specified for this test.

This report relates to the equipment tested as identified by a unique serial number and at the time it was tested. It does not relate to any other similar equipment and performance of the product before or after the test cannot be guaranteed.

The measurement uncertainty, where stated, is the expanded uncertainty based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

Date of Test:

22nd November to 12th December 2006

Test Engineer:

Approved By:

3. Information about Equipment Under Test

Applicant Audio Limited
Audio House
Progress Road
High Wycombe
Buckinghamshire
HP12 4JD

Brand name of EUT Audio Ltd

Model Number(s) of EUTs Mini TX

Serial Numbers of EUTs 628839-1, 628839-2, 628839-3, 628839-17,
628839-18

FCC ID (if applicable):

Date when equipment was received by
RN Electronics Limited 20th November 2006

Date of test: 22nd November to 12th December 2006

Customer order number: P26932

Visual description of EUT: Small black enclosure with sma antenna
connector & 4 pin lemo connector on the top
with internal red/orange L.E.Ds under the casing.
The unit has a removeable bottom section for
batteries.

Main function of the EUT: Radio Mic transmitter for professional audio
applications.

EUT Information specification.

Height	83mm
Width	49mm
Depth	16mm
Weight	90gm
Voltage	3V DC
Current required from above voltage source	150mA

EUT Configurations for testing.

Choice of model(s) for type testing	production model
Method of achieving an unmodulated carrier frequency	No audio input applied
Audio capsule / test fixture used	Audio coax lead
Declared power level (dBm)	+14dBm
Declared channel bandwidth (kHz)	200kHz

Description of ancillary equipment connected to the equipment under test, for the purpose of tests, can be found in Section 10. Auxiliary Equipment.

Any modifications made to the EUT, whilst under test, can be found in Section 11. Modifications

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File name AUDIOLD.140A

PAGE 5 OF 79

QMF21J – 3; FCC CFR 47 PART 2 J OCT 2004; ISSUE 01 OCT 05

4. Specifications

The tests were performed by RN Electronics Engineer Daniel Sims who set up the tests, the test equipment, and operated it in accordance with the **R.N. Electronics Ltd** procedures manual and the relevant standards listed below.

4.1 Relevant Standards

	Standard Number	Version	Description
4.1.1	47CFR Part 74, Subpart H	Oct 2004	Part 74 - Experimental Radio, Auxiliary, Special Broadcast and other Program Distributional Services.
4.1.2	47CFR Part 2, Subpart J	Oct 2004	Part 2 - Frequency Allocations and Radio Treaty Matters; General Rules And Regulations.
4.1.3	ITU Rec. SM.329	10 (02/03)	Unwanted emissions in the spurious domain

4.2 Measurement Uncertainty

Parameter	Uncertainty
RF frequency	<±7 x 10 ⁻⁸
Conducted RF power variations using a test fixture	<±0.75 dB
Maximum frequency deviation:	<±1 %
Radiated emission of transmitter valid up to 12.75 GHz	<±3.3 dB
Radiated emission of receiver valid up to 12.75 GHz	<±3.3 dB

4.2 Tests at Extremes of Temperature and Voltage

The following test conditions were used to simulate testing at nominal or extremes.

Temperature Test Conditions		Voltage Test Conditions	
T amb	per ambient conditions of the laboratory	V nom	3V DC
T cold	-30°C	V min	2.2V DC
T hot	+50°C	V max	3V DC

- ☐ A permanent internal RF port was used for testing.
- ☐ A test fixture was used for testing.
- ☐ A temporary RF port was created for testing.
- ☒ The equipment external RF port was used for testing.

5. Tests, Methods and Results

5.1 Carrier Power

5.1.1 Conducted

5.1.1.1 Test Methods

Test Requirements	47CFR Part 2, Subpart J
Test Method:	47CFR Part 2, Subpart J, Clause §2.1046
Limits:	47CFR Part 2, Subpart J, Clause §74.861(e)(1)(ii)

5.1.1.1.1 Configuration of EUT

The EUT was placed in a temperature controlled chamber and thermal balance was achieved before testing commenced. Measurements were made at the 50 ohm coaxial transmit / receive port.

5.1.1.1.2 Test Procedure

Tests were made in accordance with the Test Method noted above using the measuring equipment noted in the 'Test Equipment' Section. The power stated is the maximum power observed from an average power detector.

5.1.1.2 Test results

Ambient conditions.

Temperature: 21°C

Relative humidity: 49%

Output Power	+14dBm
Channel Spacing	200kHz
Modulation	FM

	470.1MHz channel	475MHz channel	479.9MHz channel	699.1MHz channel	711MHz channel
Measured Power (mW)	30.4	31.9	28.4	28.8	27.2
Measured Power (dBm)	+14.82	+15.04	+14.54	+14.58	+14.35

	722.9MHz channel	944.1MHz channel	951.9MHz channel
Measured Power (mW)	23.8	27.6	26.4
Measured Power (dBm)	+13.77	+14.41	+14.21

5.1.1.3 Test Equipment used

C031, C032, E227, TMS10, TMS73

See Section 9 for more details

5.1.2 Radiated

TEST NOT APPLICABLE. UNIT HAD A 50Ω ANTENNA CONNECTOR PORT FOR TESTS.

5.2 Modulation Characteristics

5.2.1 Frequency response

5.2.1.1 Test Methods

Test Requirements	47CFR Part 2, Subpart J
Test Method:	47CFR Part 2, Subpart J, §2.1047
Limits:	47CFR Part 2, Subpart J, §74.861(e)(1)(iii)

5.2.1.1 Configuration of EUT

The EUT was tested on the bench / in the chamber with the door open and ambient conditions were monitored.

5.2.1.2 Test Procedure

Tests were made in accordance with the Test Method noted above using the measuring equipment noted in the 'Test Equipment' Section.

5.2.2 Test Results

Ambient conditions.

Temperature: 22°C Relative humidity: 39%

Results for this test are presented graphically, please refer to section6. Graphical Results.

LIMIT: Any form of modulation may be used. A maximum deviation of +/- 75 kHz is permitted when FM is employed.

5.2.3 Test Equipment used

TMS10, P147, TMS49, TMS55

See Section 9 for more details

5.2.2 Modulation Limiting

5.2.2.1 Test Methods

Test Requirements	47CFR Part 2, Subpart J
Test Method:	47CFR Part 2, Subpart J, §2.1047
Limits:	47CFR Part 2, Subpart J, none stated

5.2.2.1 Configuration of EUT

The EUT was tested on the bench / in the chamber with the door open and ambient conditions were monitored.

5.2.2.2 Test Procedure

Tests were made in accordance with the Test Method noted above using the measuring equipment noted in the 'Test Equipment' Section.

5.2.3 Test Results

Ambient conditions.

Temperature: 22°C Relative humidity: 39%

Results for this test are presented graphically, please refer to section6. Graphical Results.

5.2.4 Test Equipment used

TMS10, P147, TMS49, TMS55

See Section 9 for more details

5.3 Occupied Bandwidth

5.3.1 Test Methods

Test Requirements:	47CFR Part 2, Subpart J
Test Method:	47CFR Part 2, Subpart J, §2.1049
Limits:	47CFR Part 2, Subpart J, Clause §74.861(e)(6)

5.3.1.1 Configuration of EUT

The EUT was tested on the bench / in the chamber with the door open and ambient conditions were monitored.

5.3.1.2 Test Procedure

Tests were made in accordance with the Test Method noted above, using the measuring equipment noted in the 'Test Equipment' section.

5.3.1.3 Test Results

Ambient conditions.

Temperature: 23°C

Relative humidity: 53%

Channel	99% Bandwidth	15kHz Mod frequency @ 85% of max deviation	2.5kHz Mod frequency @ 85% of max deviation
470.1 MHz	124kHz	Plot 1	Plot 10
475 MHz	124 kHz	Plot 2	Plot 11
479.9 MHz	126 kHz	Plot 3	Plot 12
607.9 MHz	122 kHz	Plot 21	Plot 20
614.1 MHz	122 kHz	Plot 22	Plot 23
699.1 MHz	124 kHz	Plot 7	Plot 14
711 MHz	124kHz	Plot 6	Plot 15
722.9 MHz	146 kHz	Plot 8	Plot 16
805.9 MHz	124 kHz	Plot 25	Plot 24
944.1 MHz	122 kHz	Plot 4	Plot 17
951.9 MHz	124 kHz	Plot 5	Plot 18

Results for this test are presented graphically, please refer to section6. Graphical Results.

5.3.1.4 Test Equipment used

TMS57, TMS73, TMS6-2, P147, TMS55, TMS49, TMS10

See Section 9 for more details

5.4 Spurious Emissions at Antenna Terminals

5.4.1 Conducted

5.4.1.1 Test Methods

Test Requirements 47CFR Part 2, Subpart J
Test Methods: 47CFR Part 2, Subpart J, §2.1051
ITU-R Rec. SM.329

Limits: 47CFR Part 2, Subpart J, Clause §74.861(e)(6)(iii)

5.4.1.1.1 Configuration of EUT

The EUT was tested on the bench / in the chamber with the door open and ambient conditions were monitored.

5.4.1.1.2 Test Procedure

Tests were made in accordance with the Test Method noted above using the measuring equipment noted in the 'Test Equipment' Section. The power stated is the maximum power observed using a peak detector.

5.4.1.2 Test results

Ambient conditions.

Temperature: 21°C

Relative humidity: 51%

Spurious emissions within 20dB of limit.

Channel Name	470.1MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
NONE	
Frequency Range	Plot Number
9k – 150kHz	1
150k – 30MHz	4
30M – 1000MHz	7
1 – 3.5GHz	10
3.5 – 5GHz	15

Channel Name	475MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
950	-33.7
Frequency Range	Plot Number
9k – 150kHz	2
150k – 30MHz	5
30M – 1000MHz	8
1 – 3.5GHz	11
3.5 – 5GHz	15

Channel Name	479.9MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
959.8	-33
Frequency Range	Plot Number
9k – 150kHz	3
150k – 30MHz	6
30M – 1000MHz	9
1 – 3.5GHz	12
3.5 – 5GHz	13

Channel Name	Standby (470.1-479.9 unit)
Channel Spacing	n/a
Modulation Type	n/a
Power Level	n/a

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
NONE	
Frequency Range	Plot Number
9k – 150kHz	16
150k – 30MHz	17
30M – 1000MHz	18
1 – 5GHz	19

Channel Name	699.1MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
2796	-31.5
Frequency Range	Plot Number
9k – 150kHz	20
150k – 30MHz	25
30M – 1000MHz	26
1 – 3.5GHz	31
3.5 – 7.5GHz	32

Channel Name	711MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
2844	-30.8
Frequency Range	Plot Number
9k – 150kHz	21
150k – 30MHz	24
30M – 1000MHz	27
1 – 3.5GHz	30
3.5 – 7.5GHz	33

Channel Name	722.9 MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
2891	-31.1
Frequency Range	Plot Number
9k – 150kHz	22
150k – 30MHz	23
30M – 1000MHz	28
1 – 3.5GHz	29
3.5 – 7.5GHz	34

Channel Name	Standby (699.1-722.9 unit)
Channel Spacing	n/a
Modulation Type	n/a
Power Level	n/a

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
NONE	
Frequency Range	Plot Number
9k – 150kHz	39
150k – 30MHz	38
30M – 1000MHz	37
1 – 3.5GHz	36
3.5 – 7.5GHz	35

Channel Name	944.1MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
1888	-30.3
Frequency Range	Plot Number
9k – 150kHz	40
150k – 30MHz	41
30M – 1000MHz	45
1 – 3.5GHz	46
3.5 – 7GHz	49
7 – 10GHz	50

Channel Name	951.9MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
1903	-31.1
Frequency Range	Plot Number
9k – 150kHz	43
150k – 30MHz	42
30M – 1000MHz	44
1 – 3.5GHz	47
3.5 – 7GHz	48
7 – 10GHz	51

Channel Name	Standby (944.1-951.9 unit)
Channel Spacing	n/a
Modulation Type	n/a
Power Level	n/a

Spurious Frequency (MHz)	Measured Spurious Level (dBm)
NONE	
Frequency Range	Plot Number
9k – 150kHz	52
150k – 30MHz	53
30M – 1000MHz	54
1 – 3.5GHz	55
3.5 – 7GHz	56
7 – 10GHz	57

Limits: -13dBm.

Standby mode was plotted and tested for each separate unit.

Results for this test are also presented graphically, please refer to section6.

Graphical Results.

5.4.1.3 Test Equipment used

E227, TMS69, TMS73, TMS77, E252, E253, E237, E236, E266, E3

See Section 9 for more details

5.5 Field Strength of Spurious Radiation.

5.5.1 Test Methods

Test Requirements: 47CFR Part 2, Subpart J
Test Methods: 47CFR Part 2, Subpart J, §2.1053
ITU-R Rec. SM.329

Limits: 47CFR Part 2, Subpart J, Clause §74.861(e)(6)(iii)

5.5.1.1 Configuration of EUT

The EUT was placed in a vertical position in a shielded anechoic chamber. New batteries were used in the EUT. It was confirmed from rotation in three orthogonal planes that a maximum was found. Measurements were made at 3m distance, then substitution was performed using a known signal generator.

5.5.1.2 Test Procedure

Tests were made in accordance with the Test Methods noted above using the measuring equipment noted in the 'Test Equipment' Section.

5.5.2 Test Results

Ambient conditions.

Temperature: 21°C

Relative humidity: 46%

Spurious emissions found within 20dB of the limit

Channel Frequency	470.1MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	475MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	479.9MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	699.1MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	711MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	722.9MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	944.1MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	951.9MHz
Channel Spacing	200kHz
Modulation Type	FM Voice
Power Level	+14dBm

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Channel Frequency	Standby
Channel Spacing	n/a
Modulation Type	n/a
Power Level	n/a

Spurious Frequency (MHz)	Measured Spurious Level (dBm)	Antenna Polarisation	EUT Polarisation
NONE FOUND			

Limits: -13dBm. (43-10logP)

5.5.3 Test Equipment Used

E266, E268, E285, E3, TMS82, TMS903, E238, E239, E136

See Section 9 for more details

Output Power	+14dBm
Channel Spacing	200kHz
Modulation	CW Mode

Temperature	Voltage	Bottom Channel 699.1MHz	Middle Channel 711MHz	Top Channel 722.9MHz
-30°C	Nominal	699.087206	710.987119	722.886606
-20°C	Nominal	699.090629	710.990446	722.890332
-10°C	Nominal	699.092154	710.992028	722.891880
0°C	Nominal	699.092387	710.992278	722.892087
10°C	Nominal	699.091209	710.991059	722.890922
20°C	Nominal	699.104877	711.005531	722.905193
20°C	Minimum	699.103728	711.004215	722.903956
20°C	Maximum	699.104877	711.005531	722.905193
30°C	Nominal	699.094321	710.994202	722.894155
40°C	Nominal	699.091740	710.991509	722.891525
50°C	Nominal	699.090143	710.990010	722.889815
Variation in Hz from fundamental		-12794 / +4877	-12881 / +5531	-13394 / +5193
Variation in % from fundamental		+0.0007 / -0.0018	+0.0008 / -0.0018	+0.0007 / -0.0019

Output Power	+14dBm
Channel Spacing	200kHz
Modulation	CW Mode

Temperature	Voltage	Bottom Channel 944.1MHz	Top Channel 951.9MHz
-30°C	Nominal	944.064435	951.892012
-20°C	Nominal	944.097611	951.897688
-10°C	Nominal	944.099658	951.899658
0°C	Nominal	944.099863	951.899850
10°C	Nominal	944.115072	951.915344
20°C	Nominal	944.100399	951.900407
20°C	Minimum	944.100134	951.900110
20°C	Maximum	944.100399	951.900407
30°C	Nominal	944.097243	951.897222
40°C	Nominal	944.095511	951.895433
50°C	Nominal	944.094445	951.894401
Variation in Hz from fundamental		-35565 / +15072	-7988 / +15344
Variation in % from fundamental		-0.0038 / +0.0016	-0.00084 / +0.0016

5.6.3 Test Equipment used

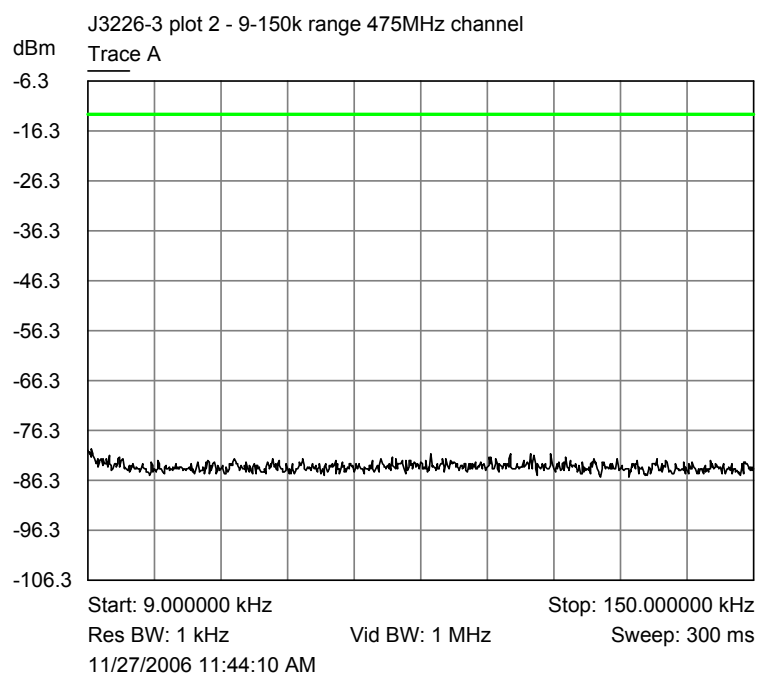
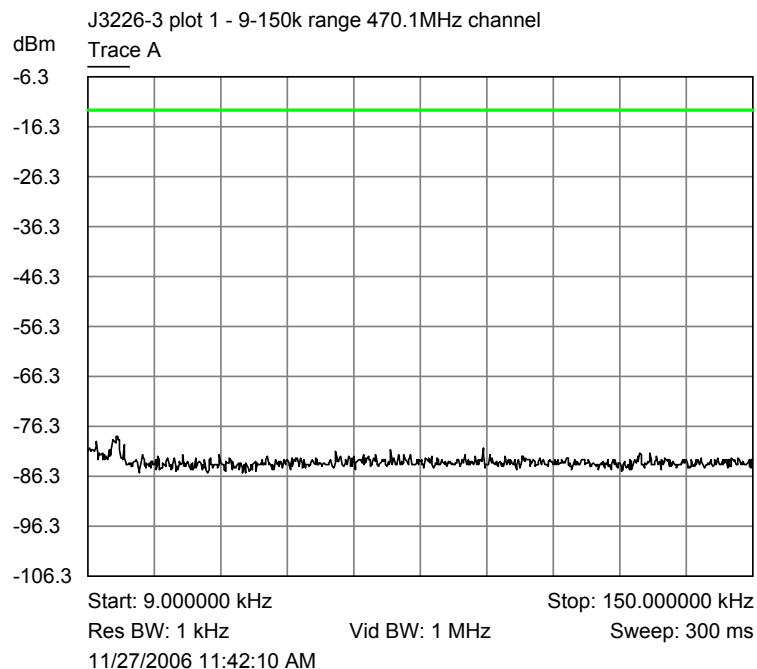
TMS6-2, P147, TMS10, TMS39, TMS73, TMS80

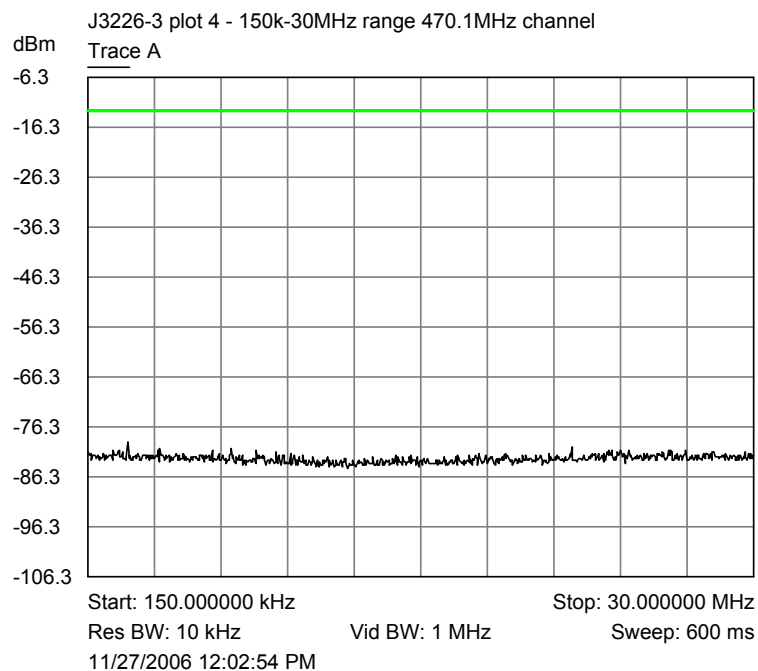
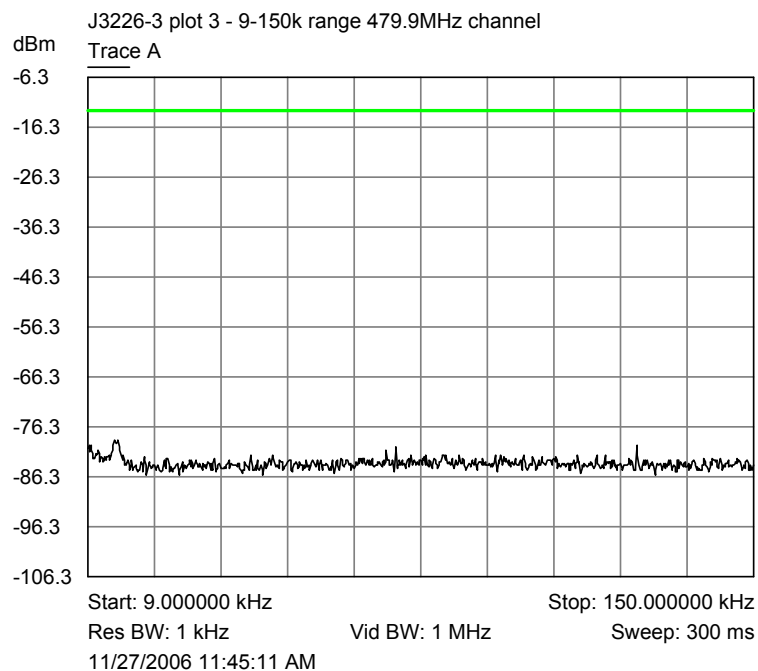
See Section 9 for more details

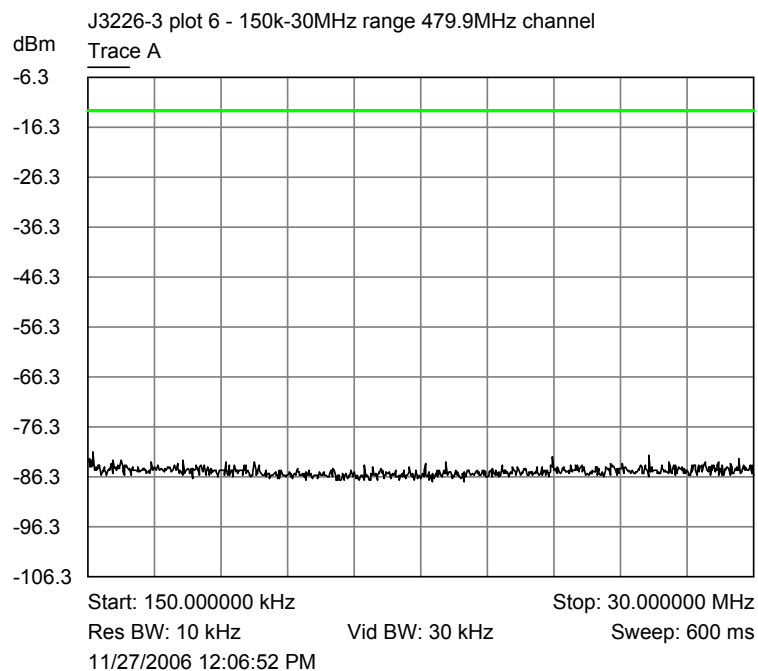
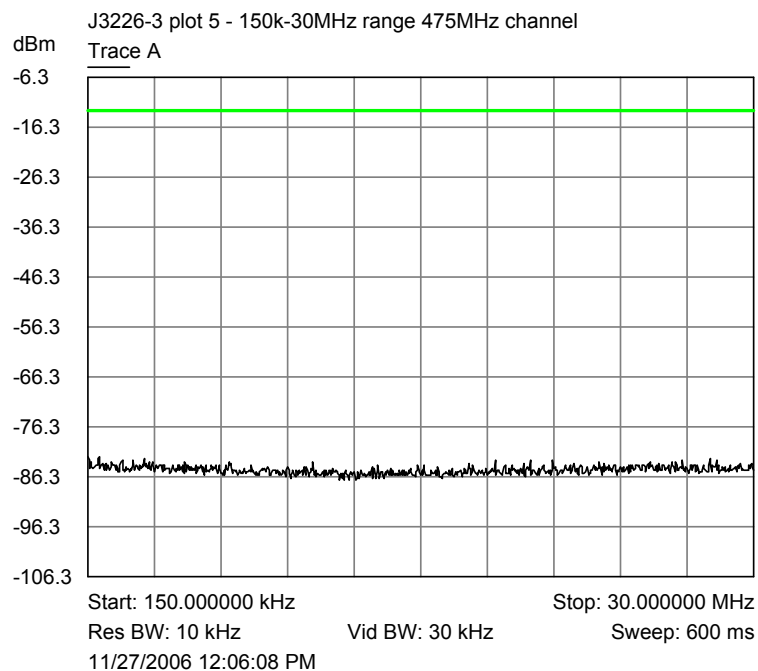
6. Graphical Results

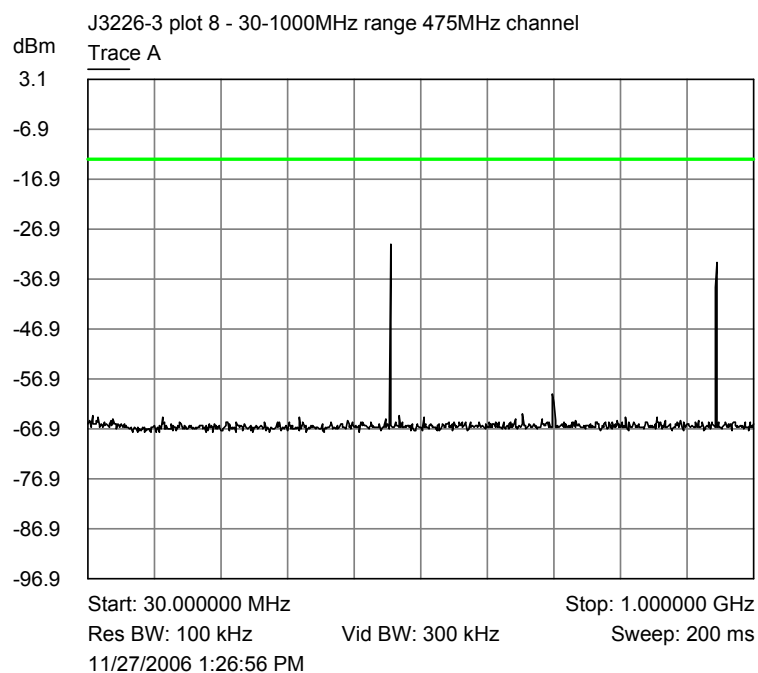
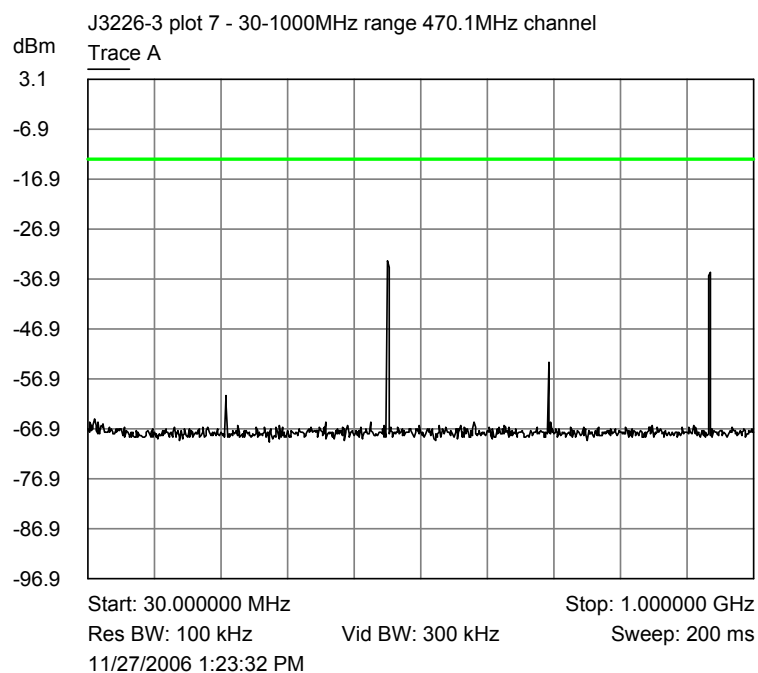
Conducted Emissions.

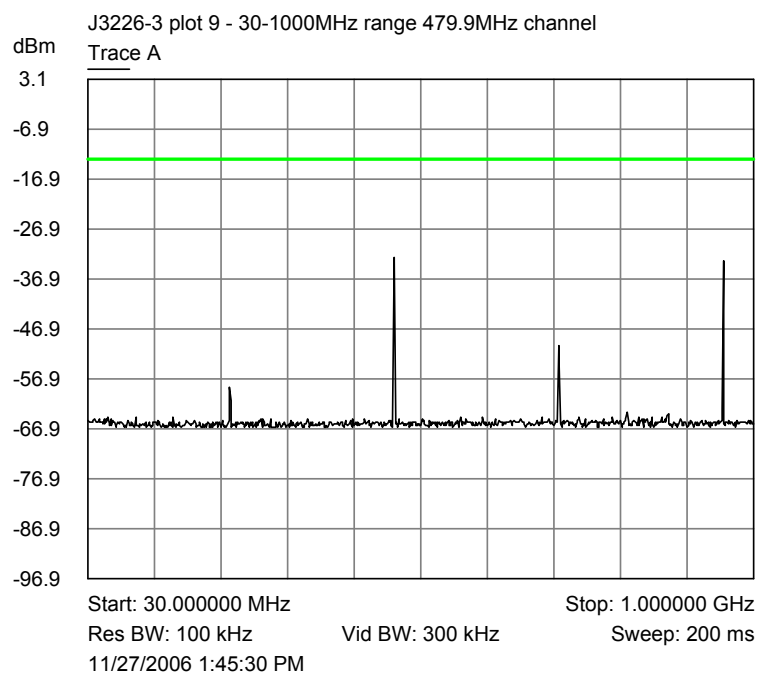
470.1 – 479.9MHz unit.

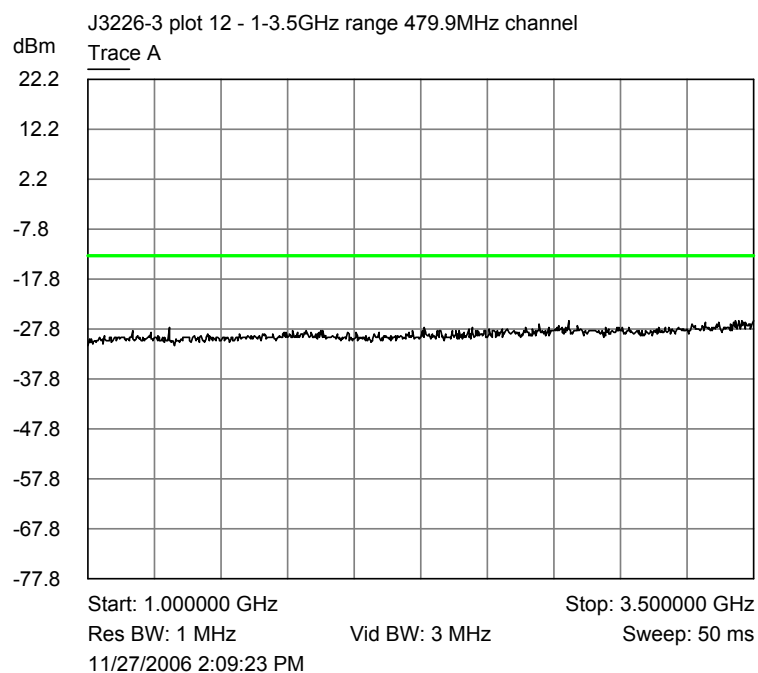
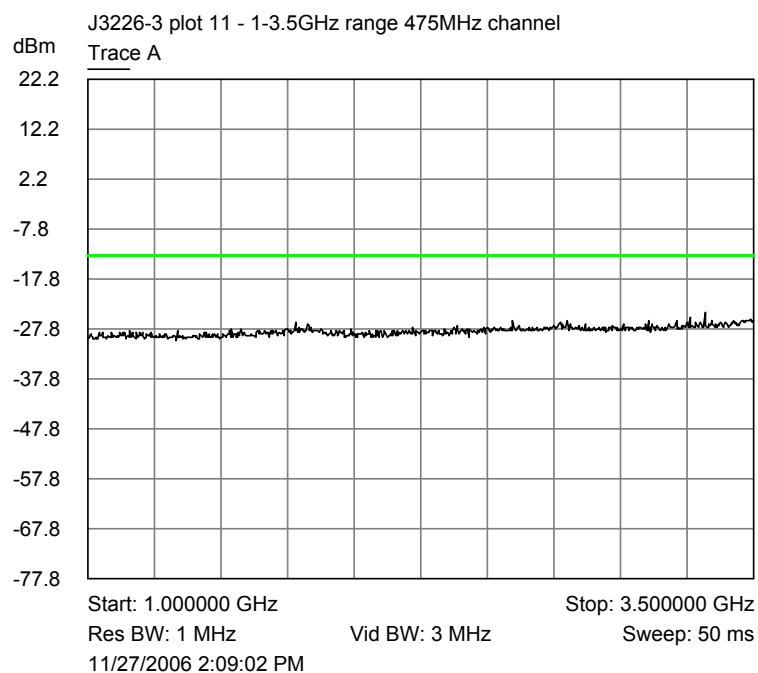


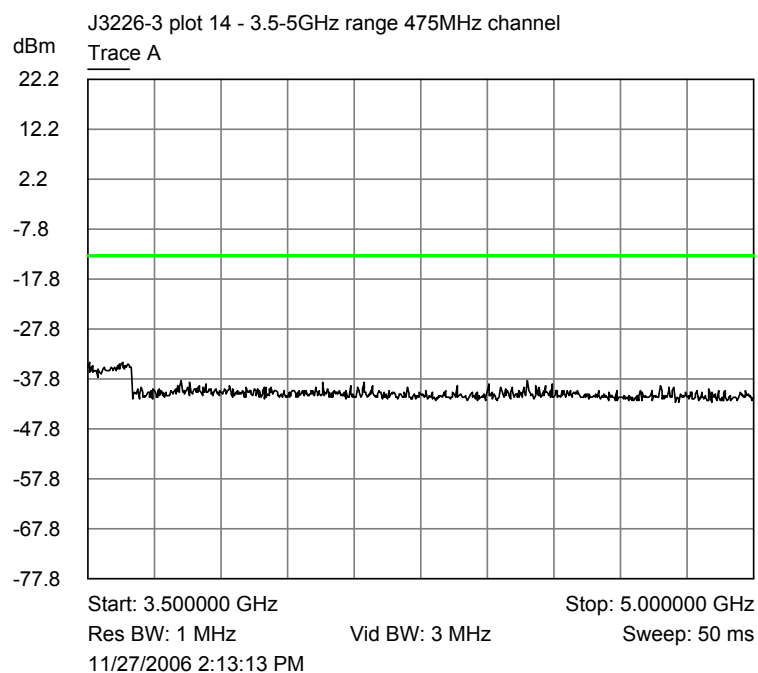


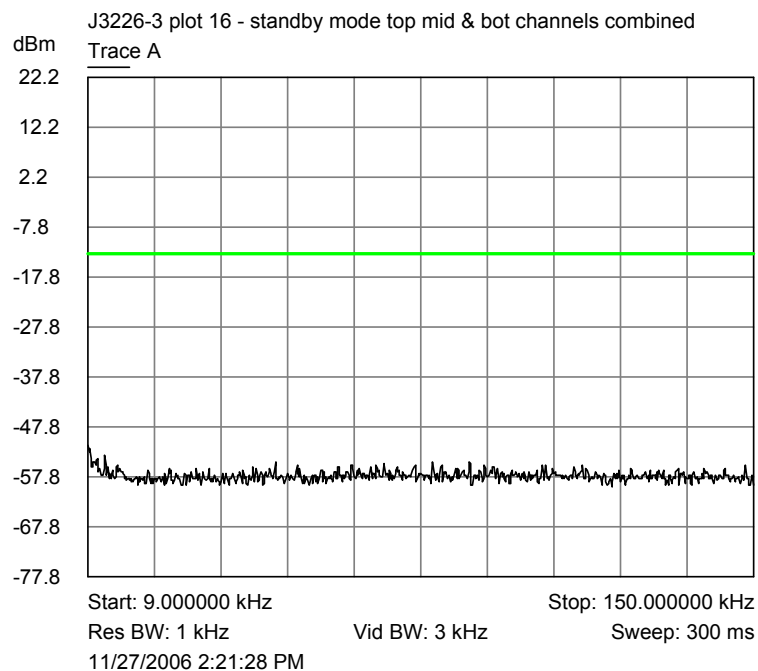
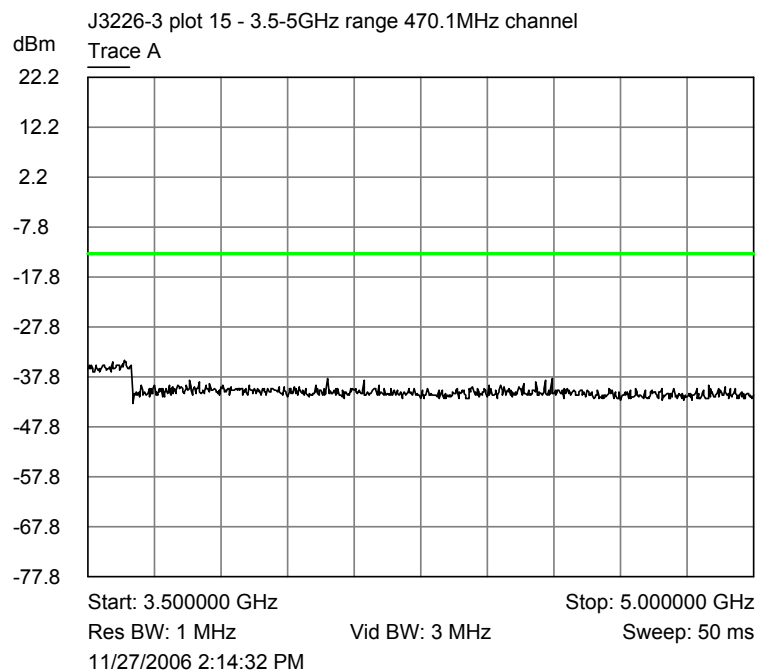


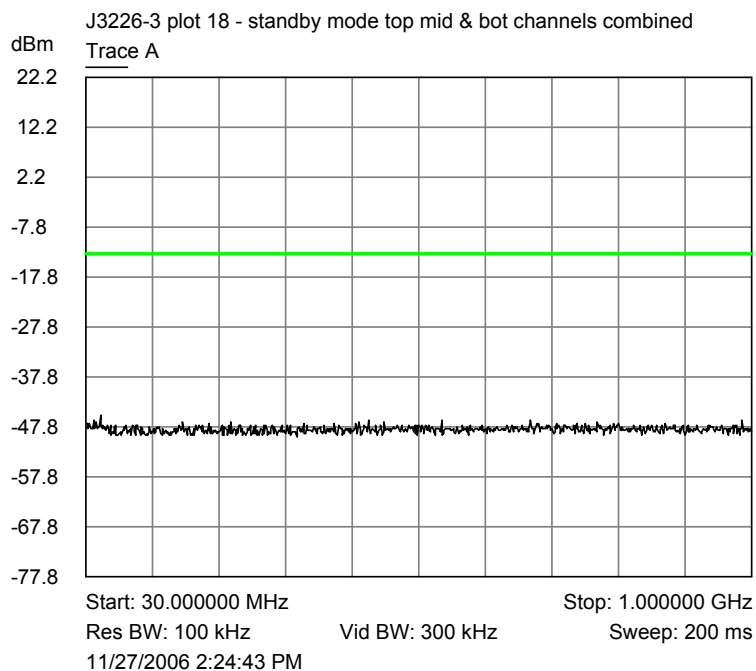
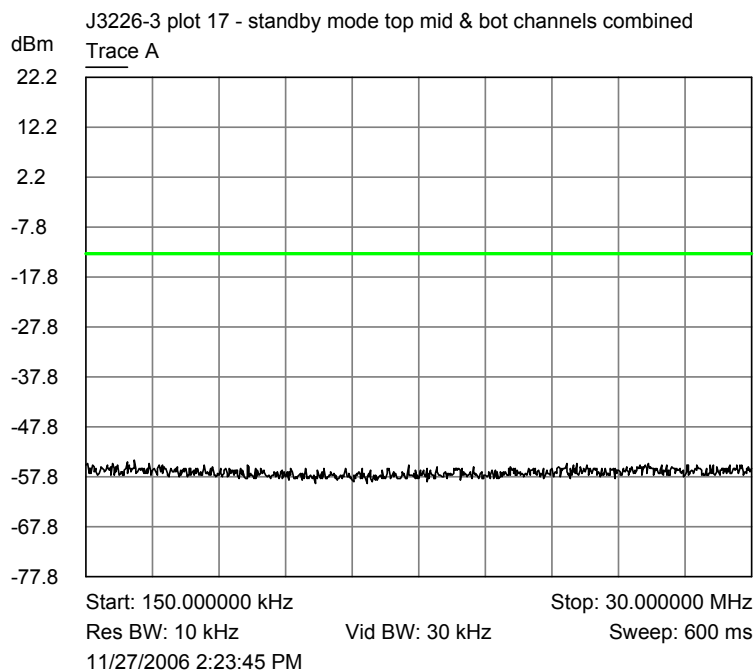


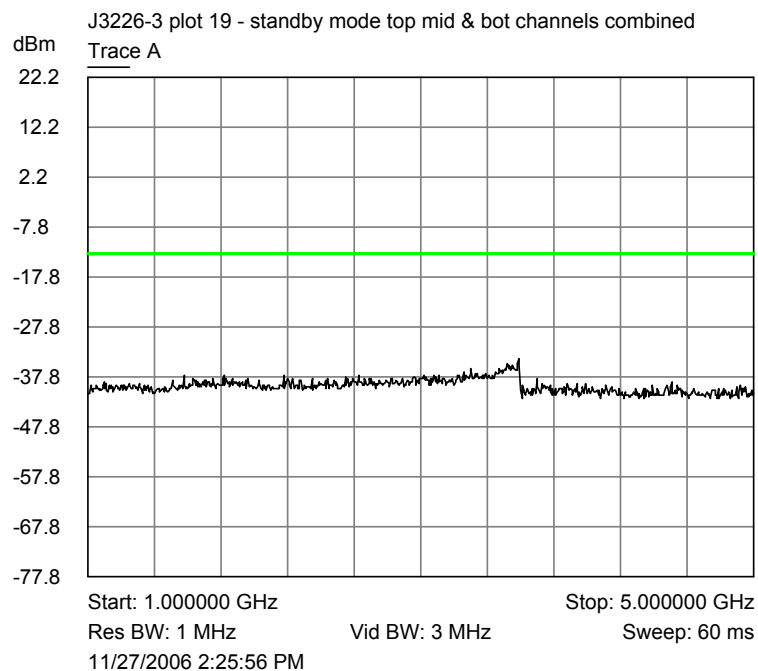




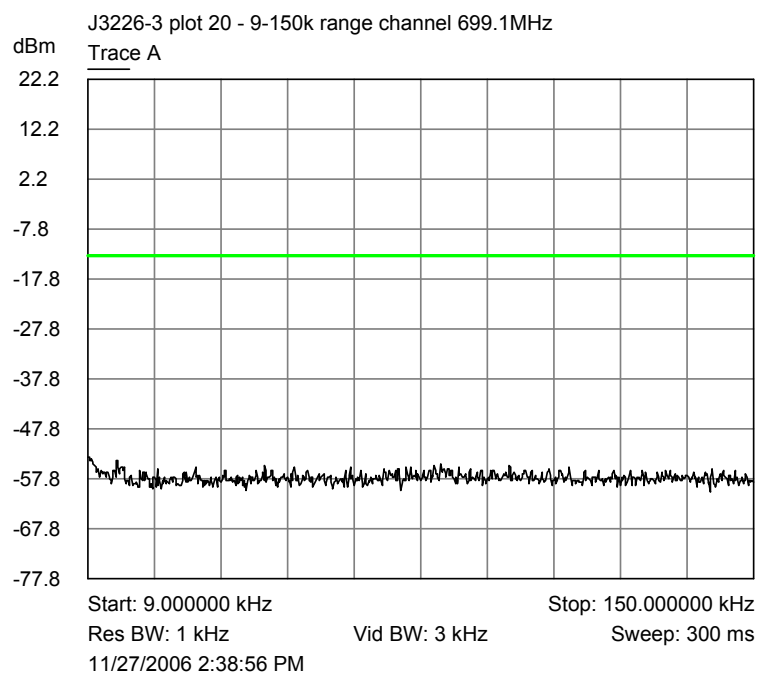


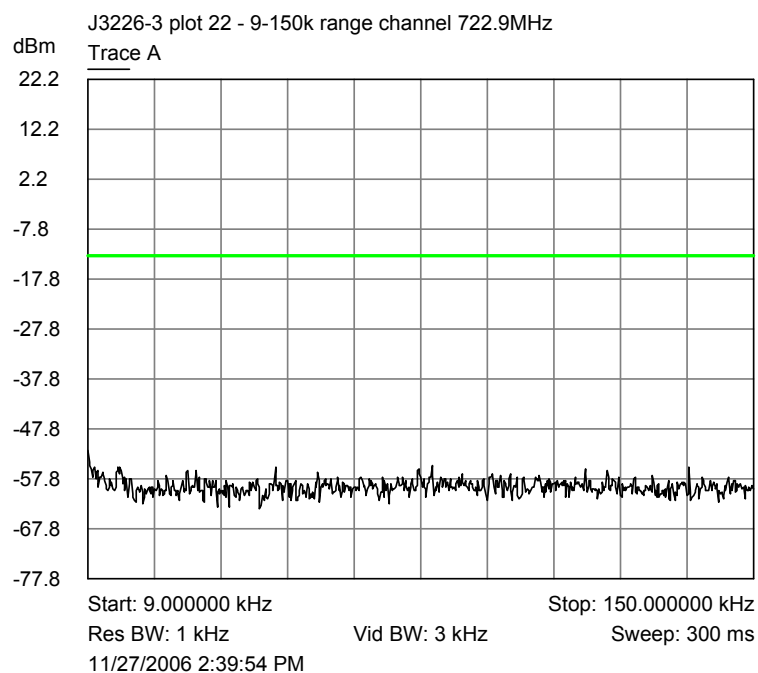
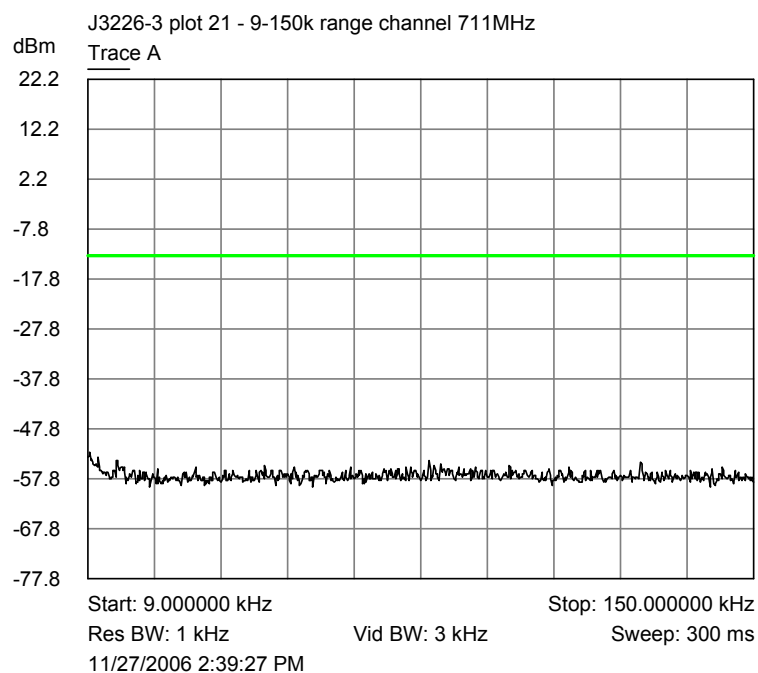


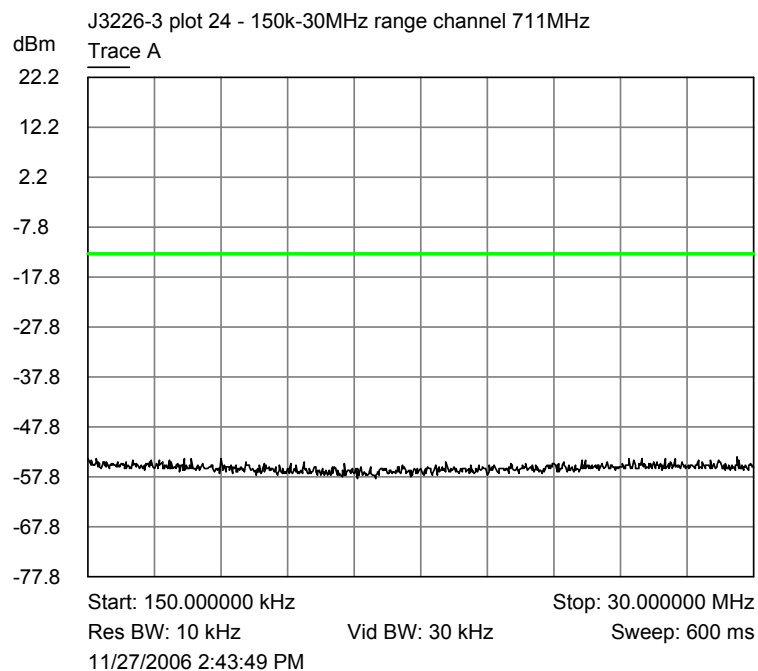
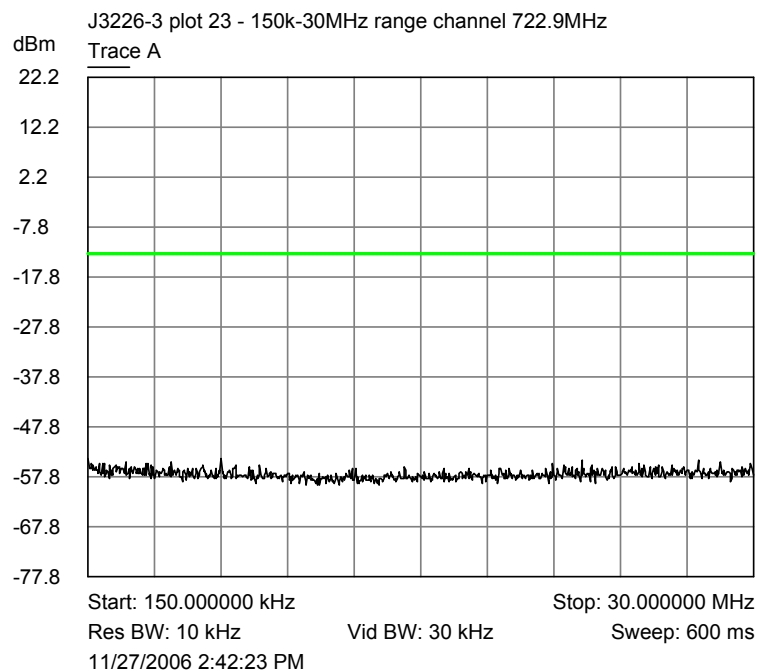


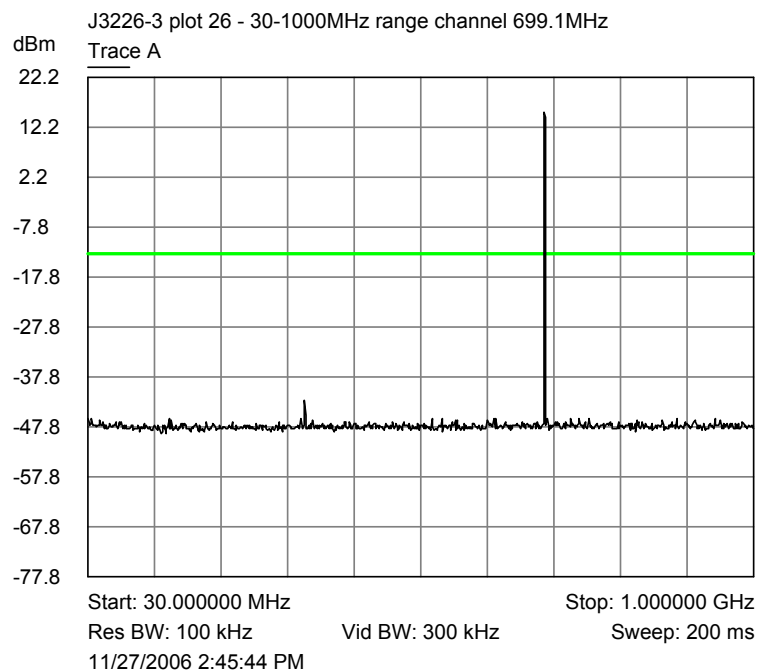
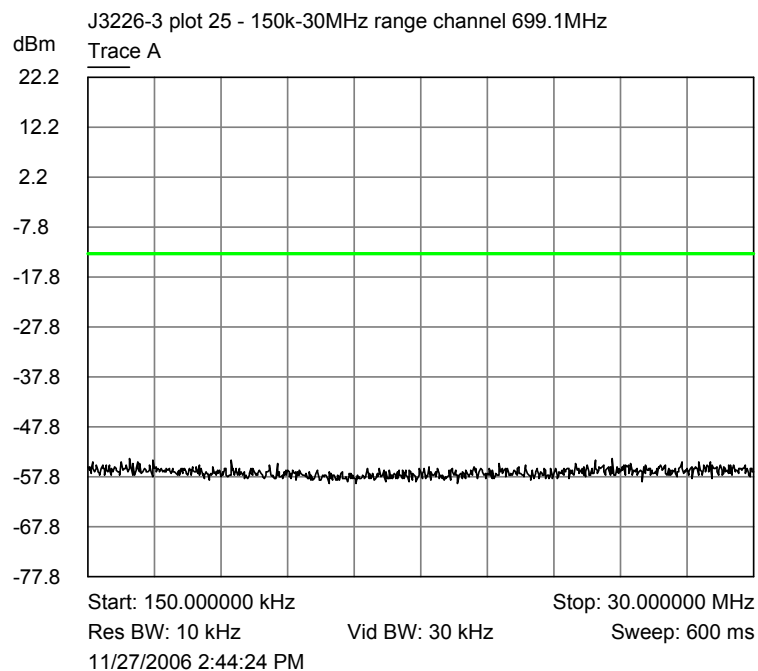


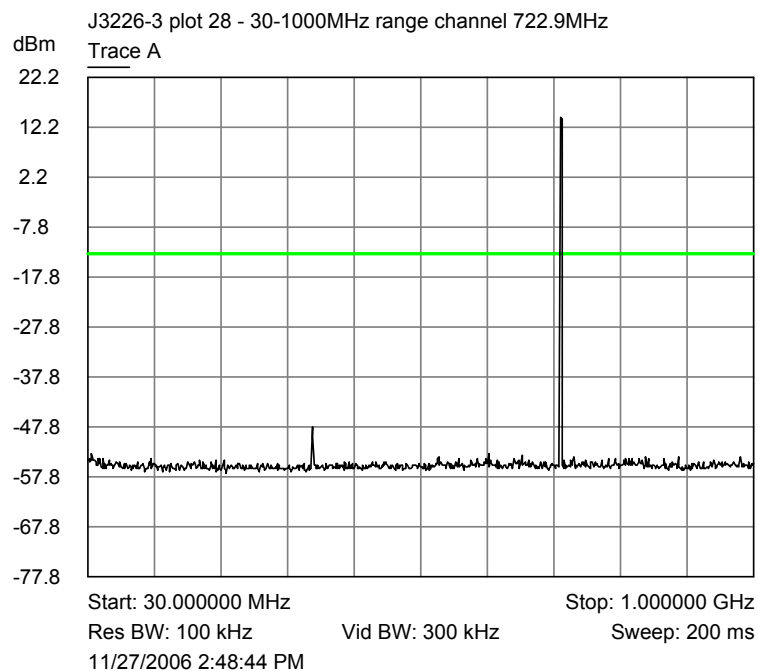
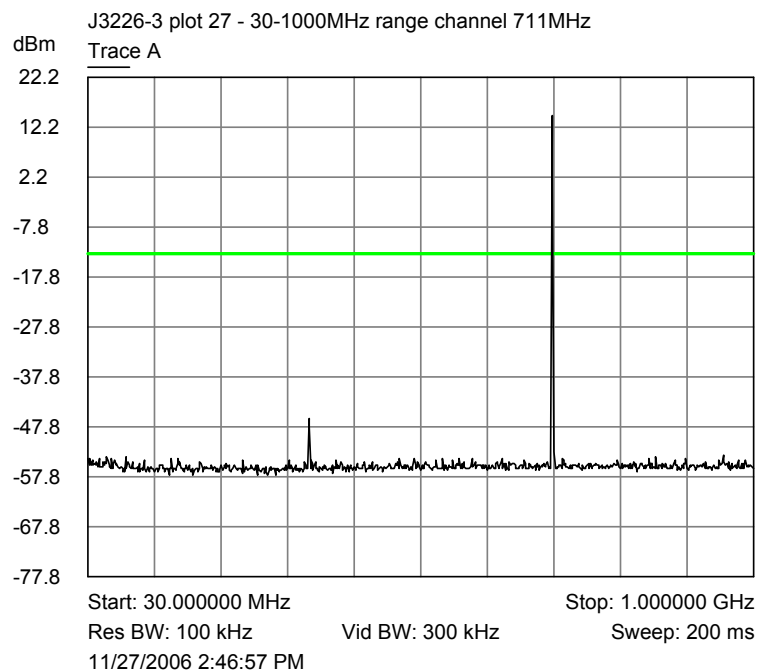
699.1 – 722.9MHz unit.

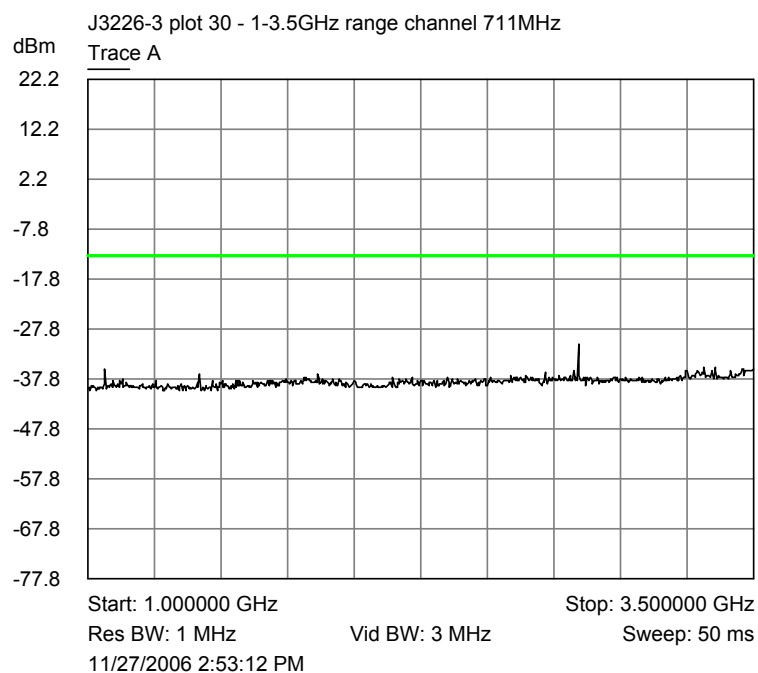
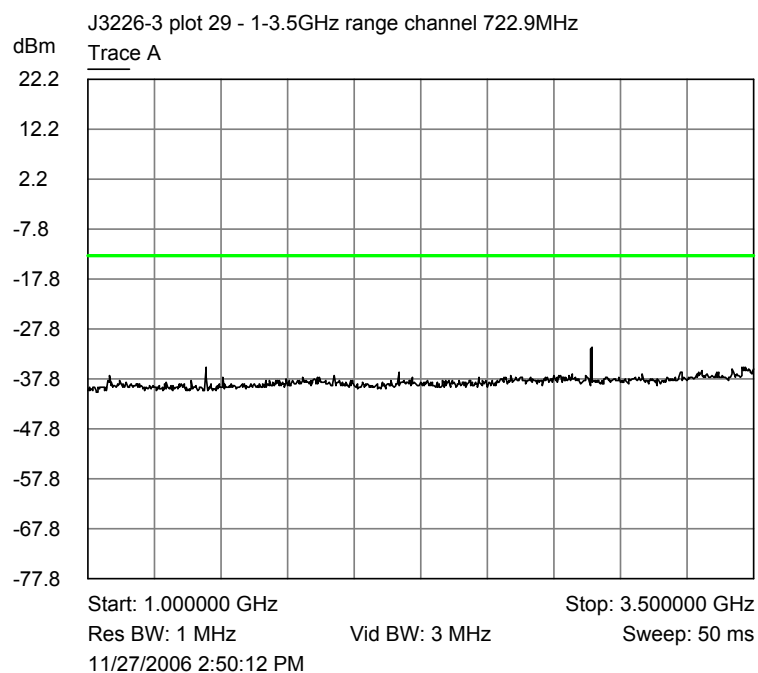


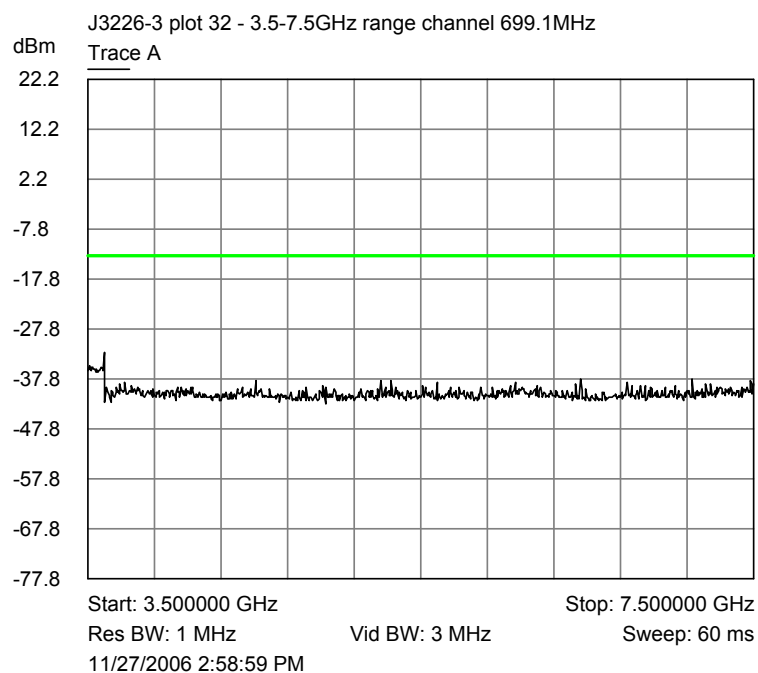
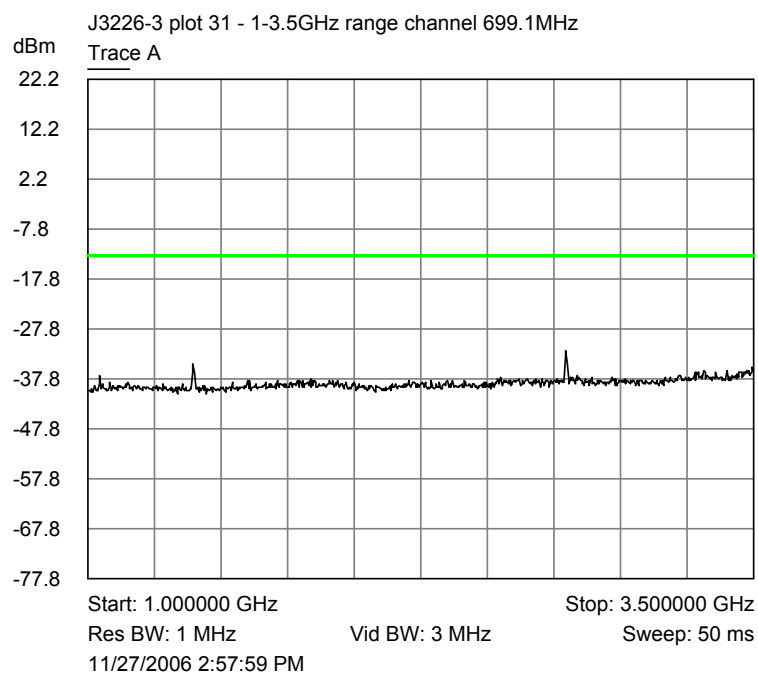


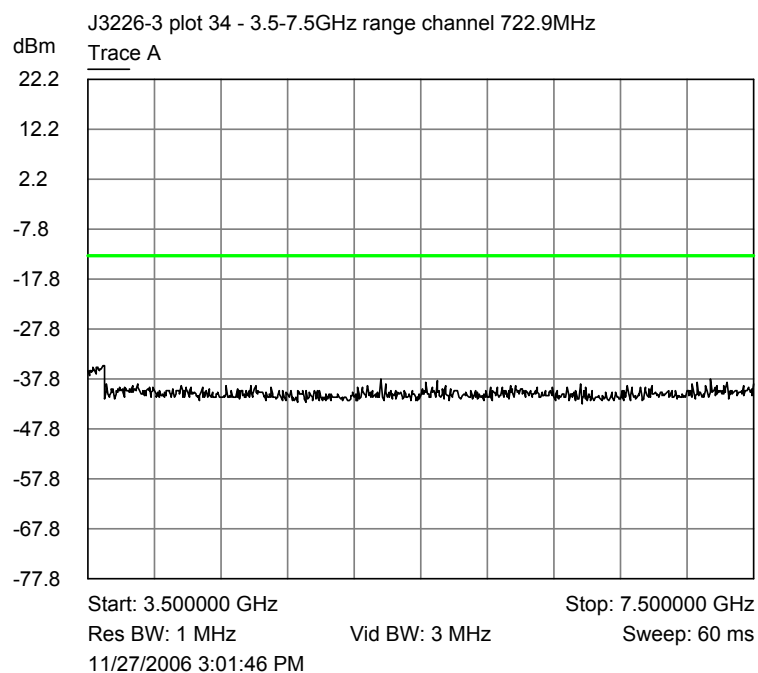
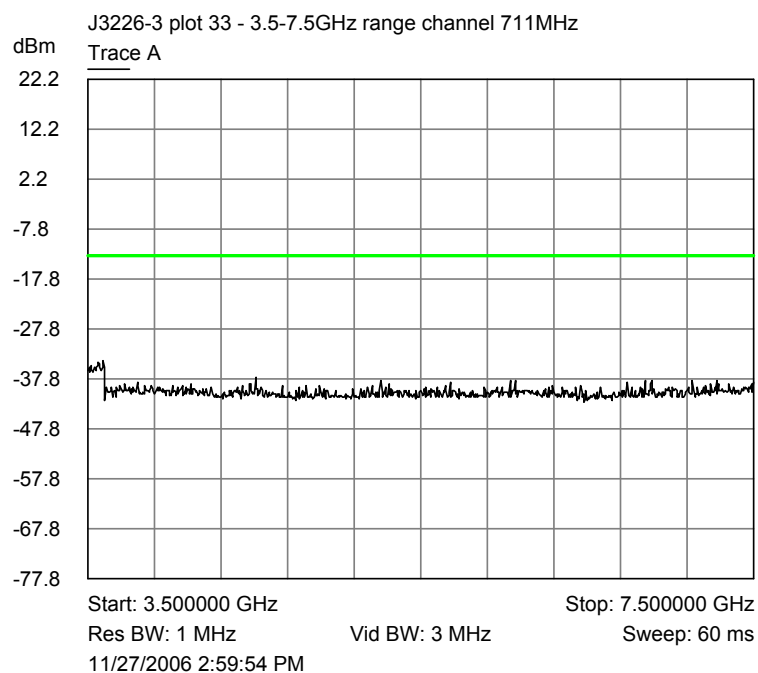


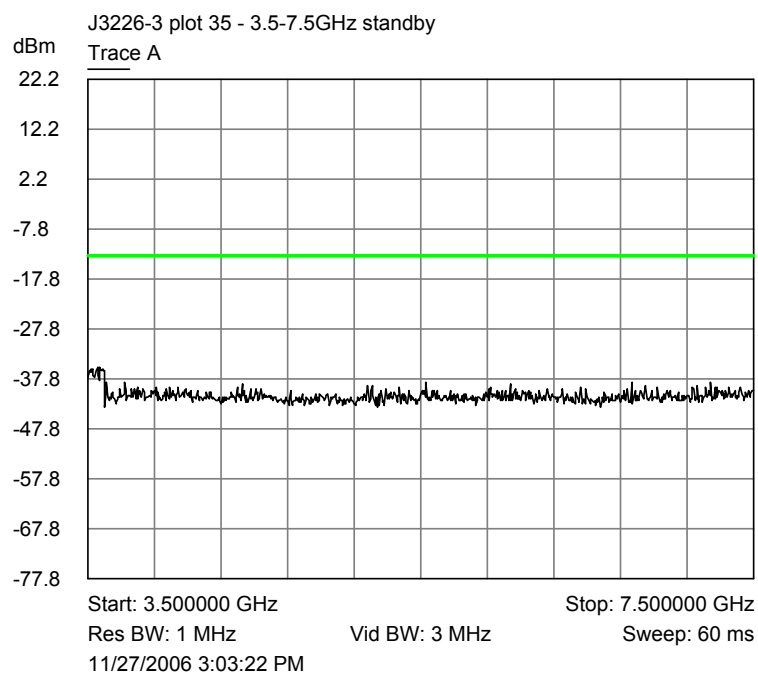


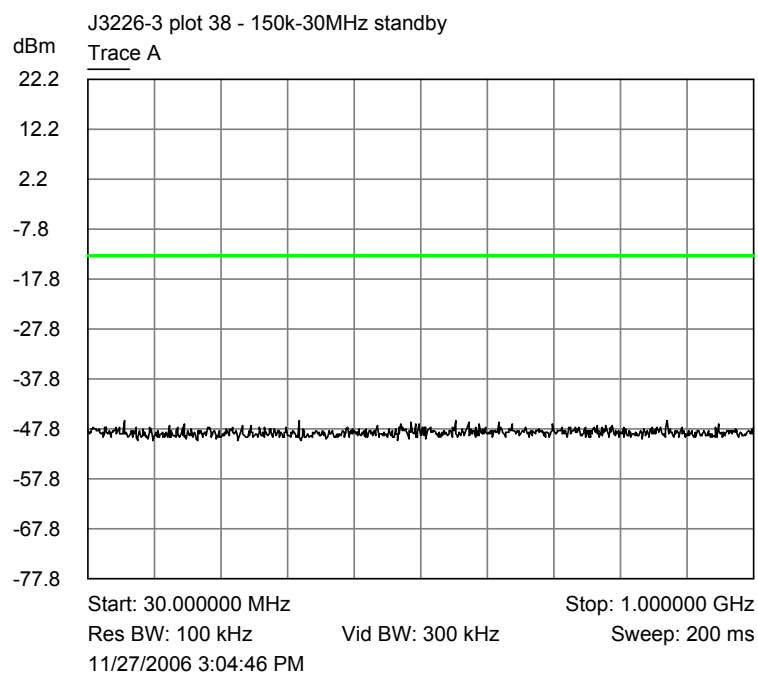
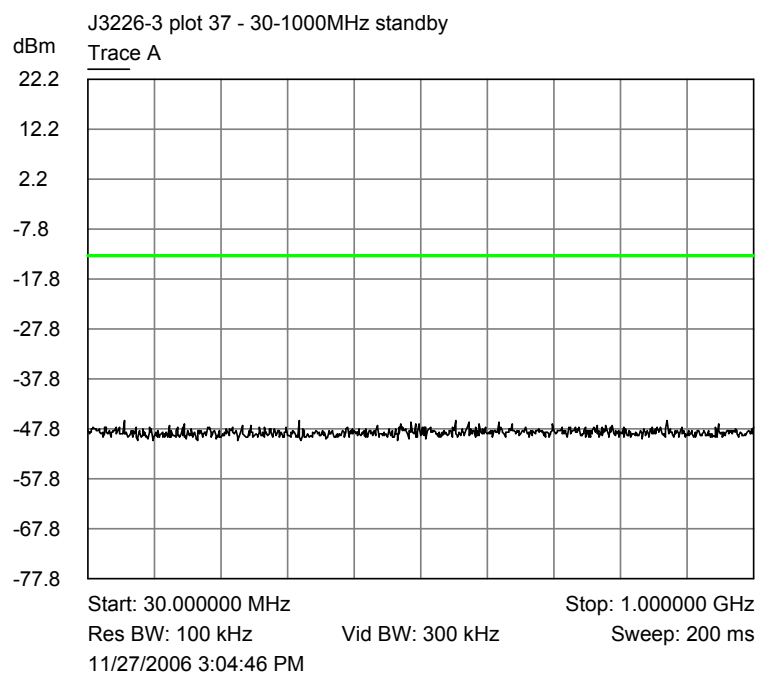


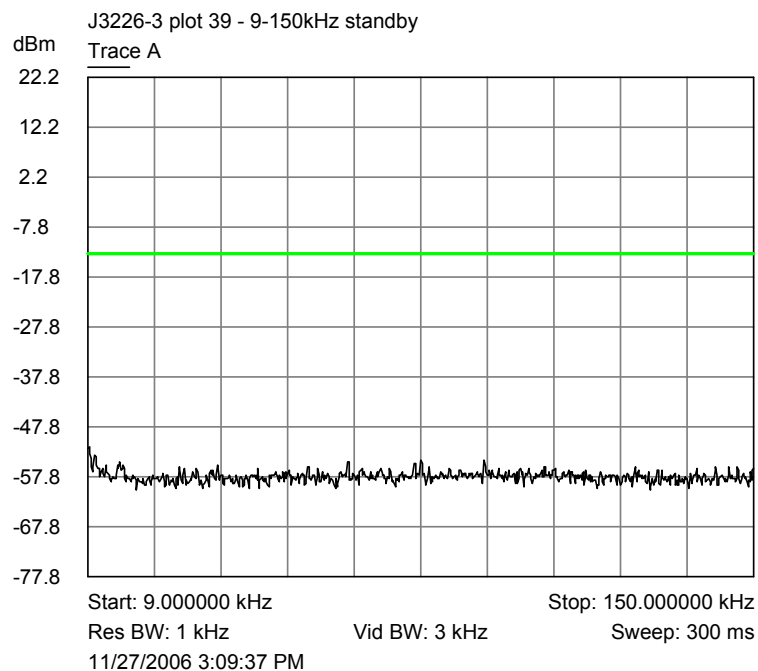




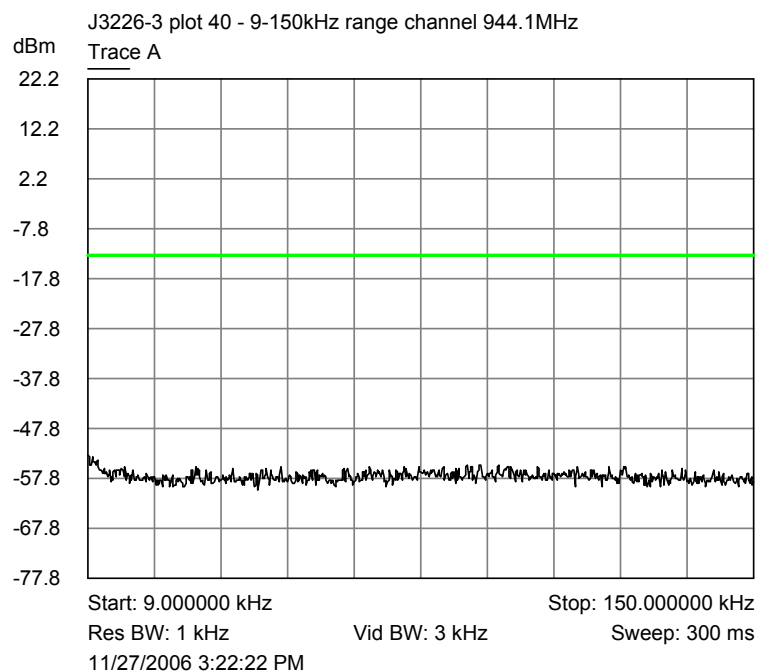


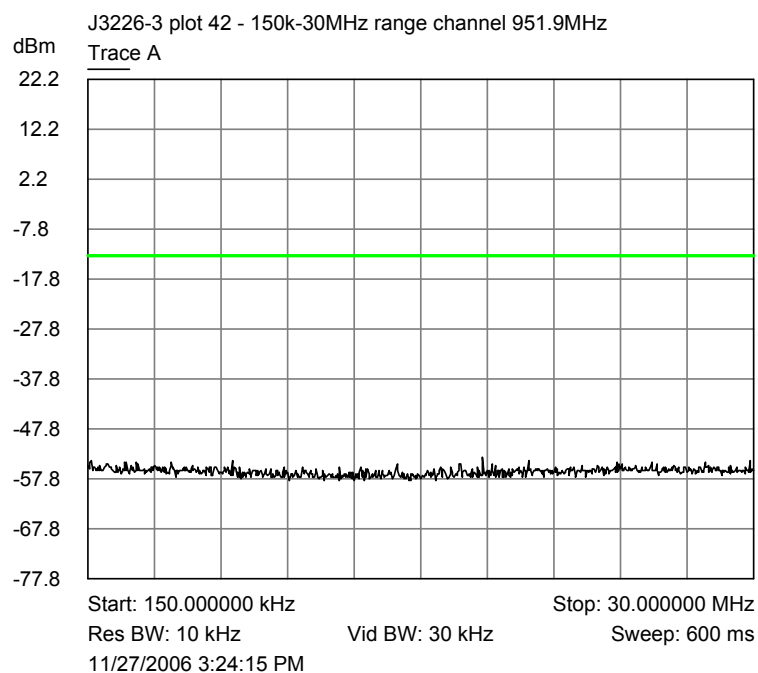
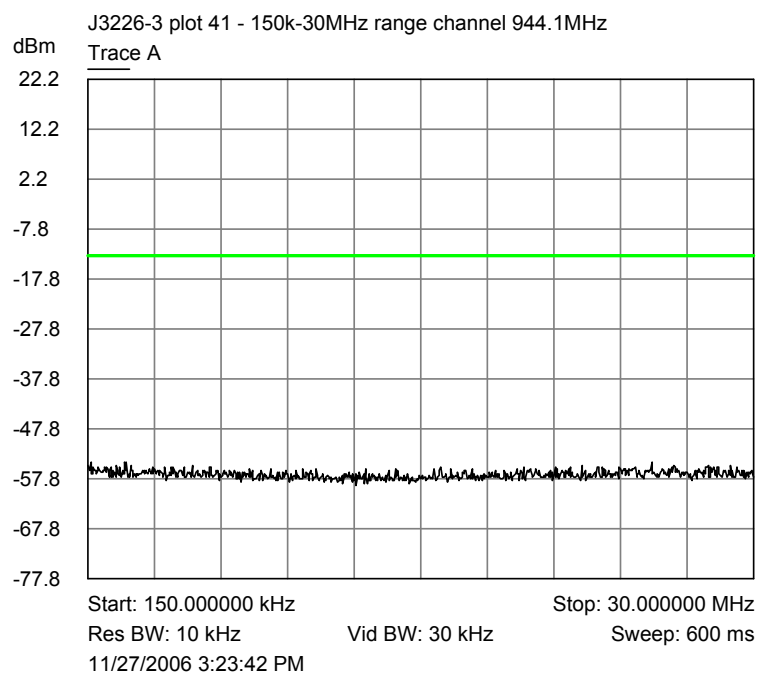


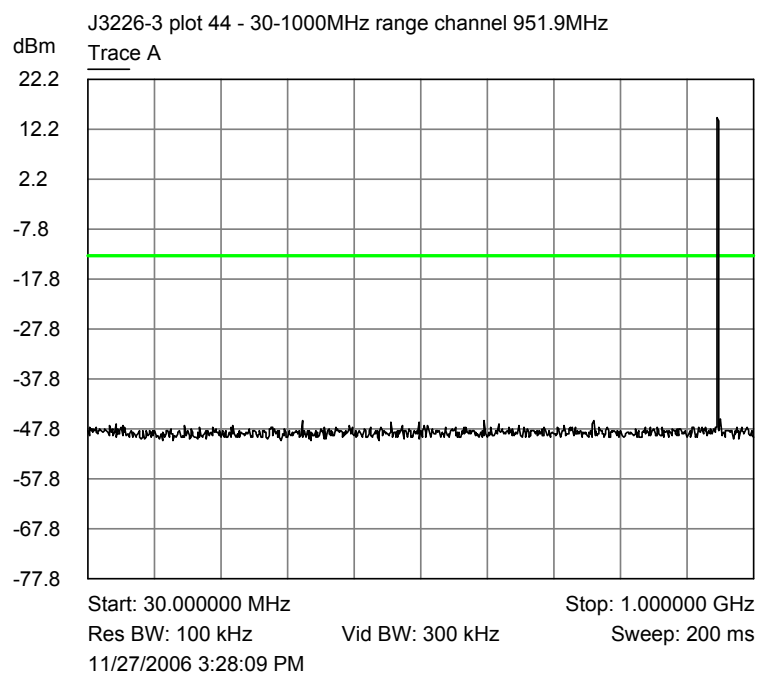
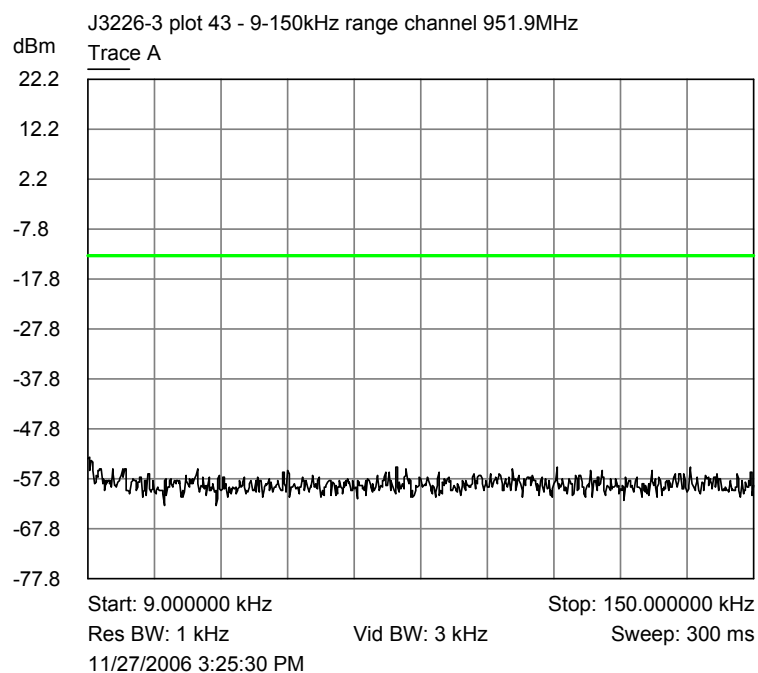


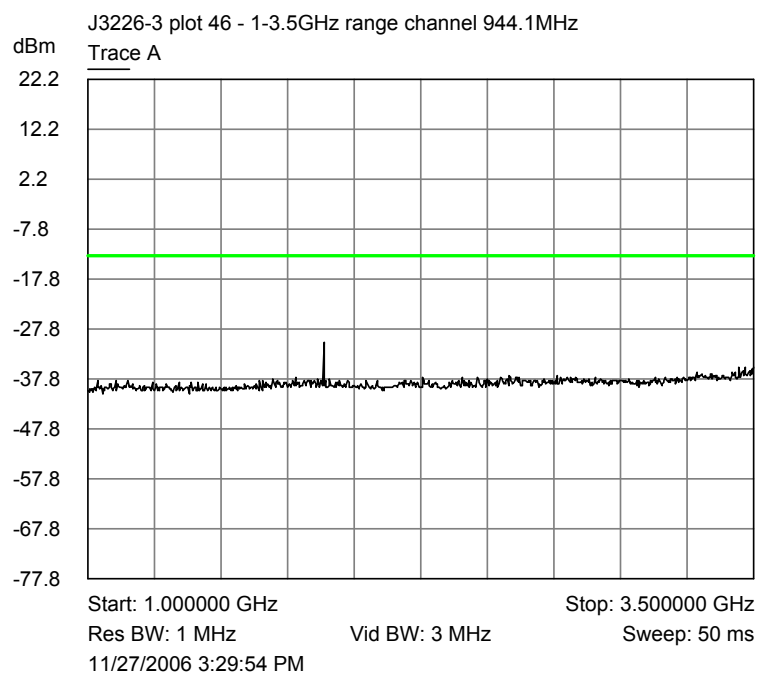
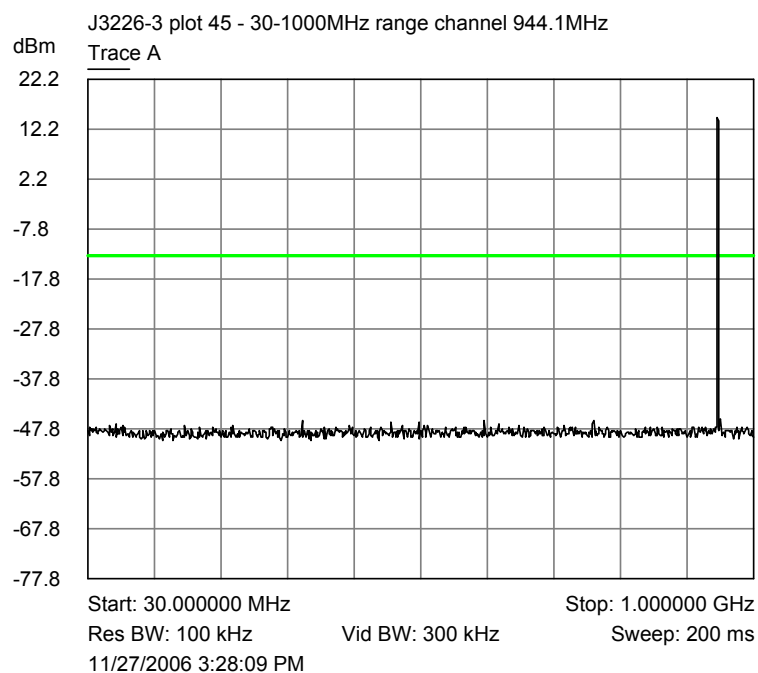


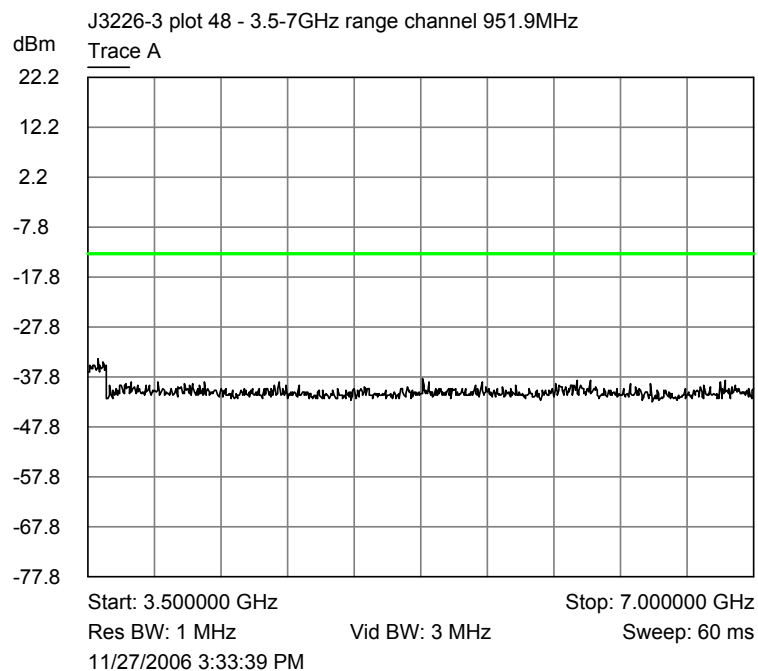
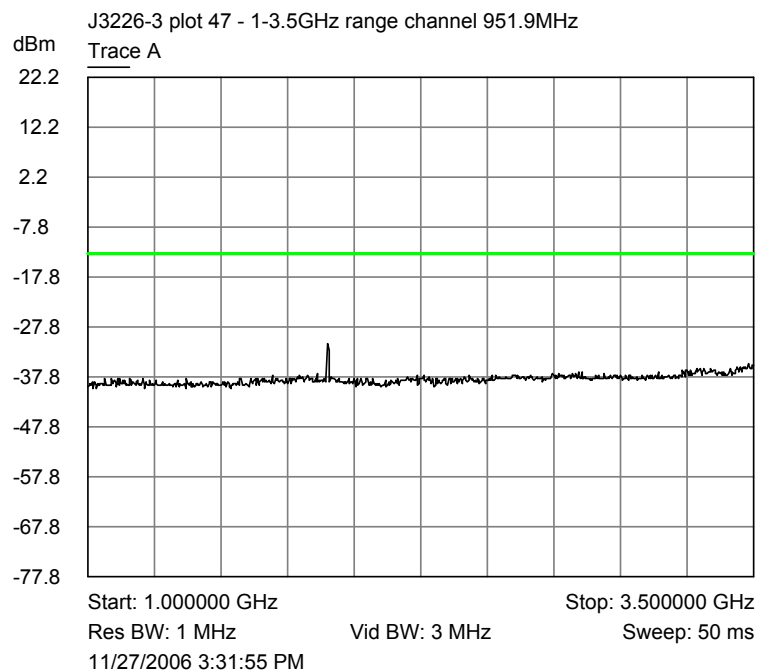
944.1 – 951.9MHz unit.

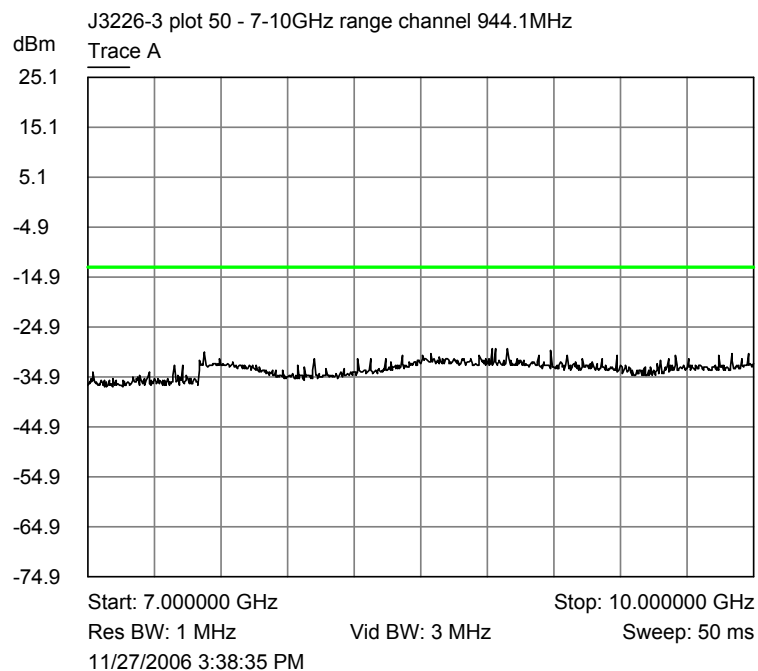
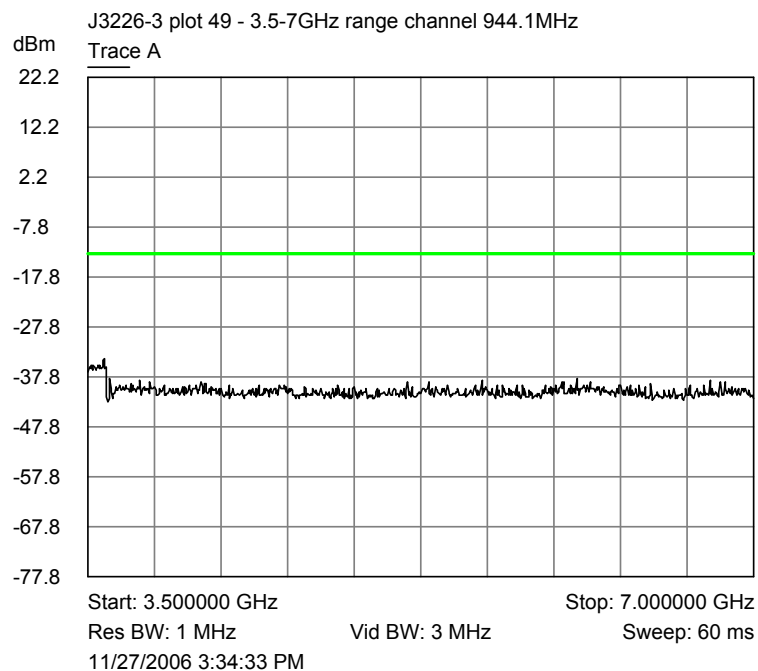


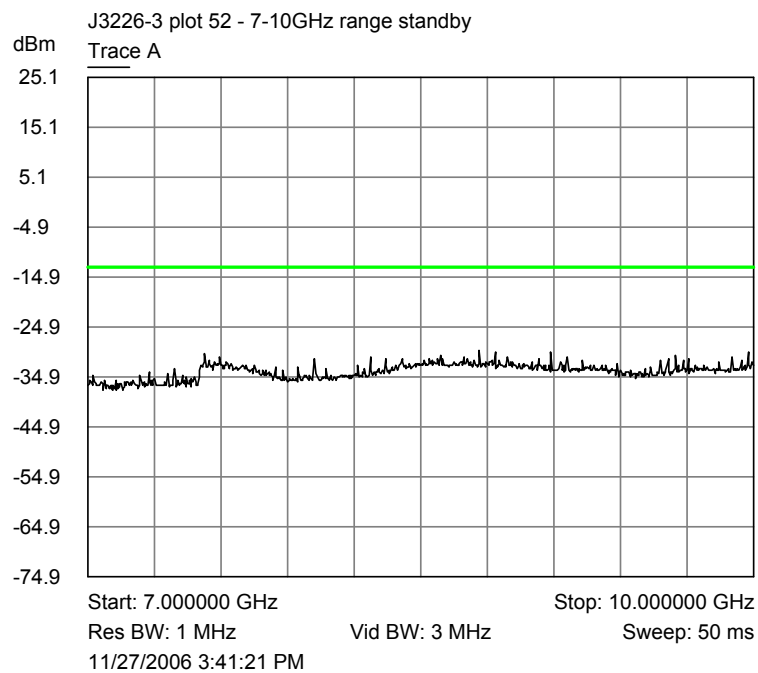
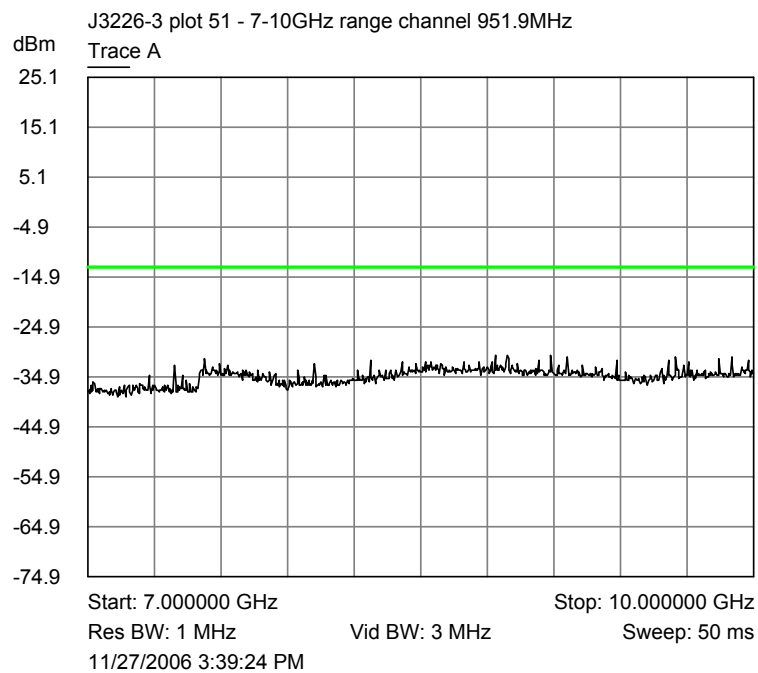


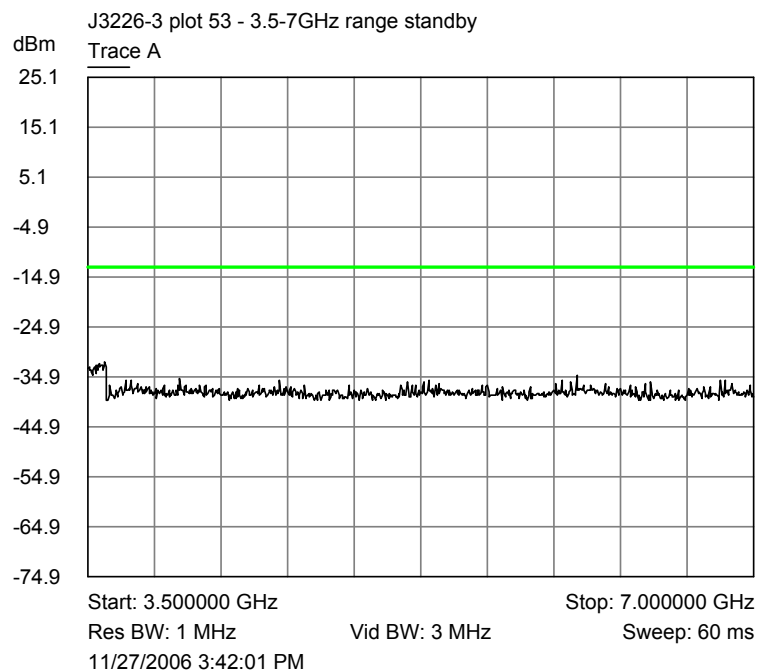


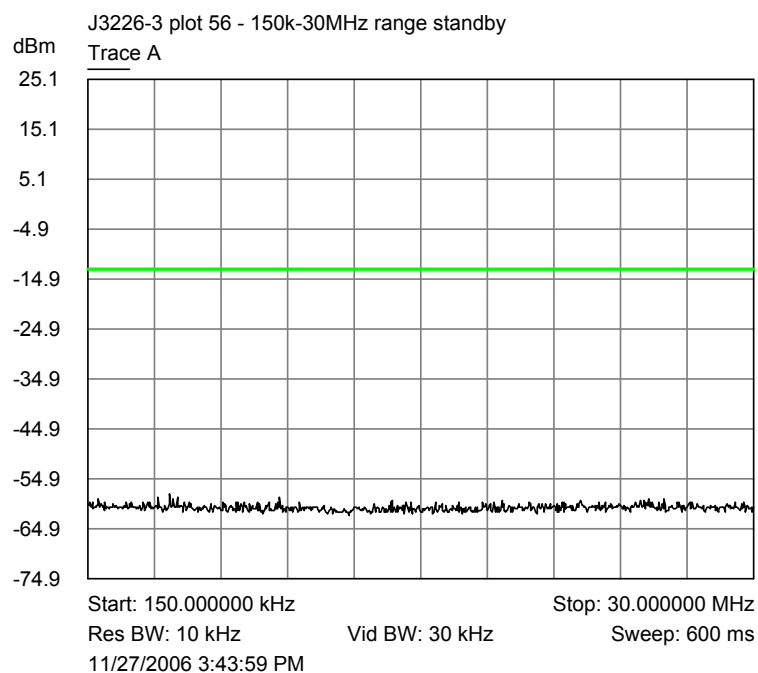
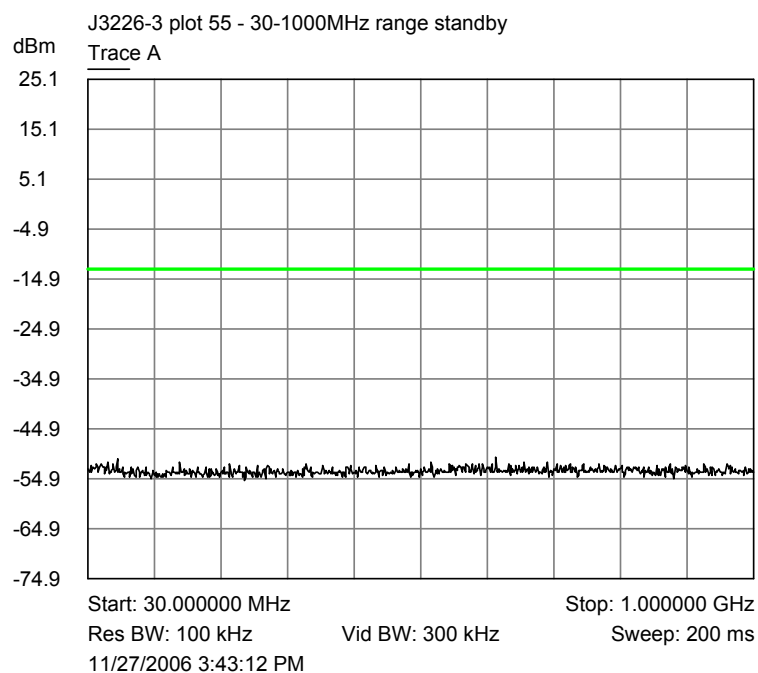


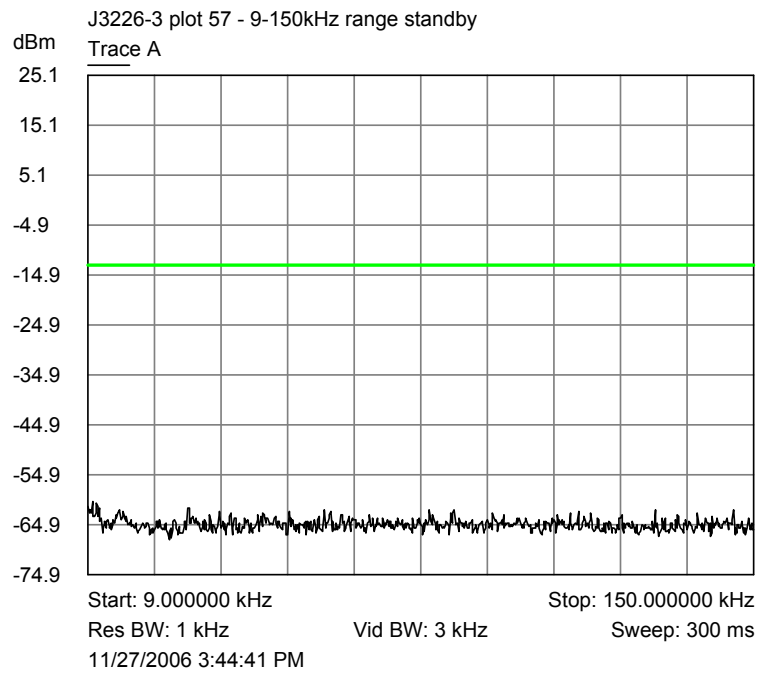




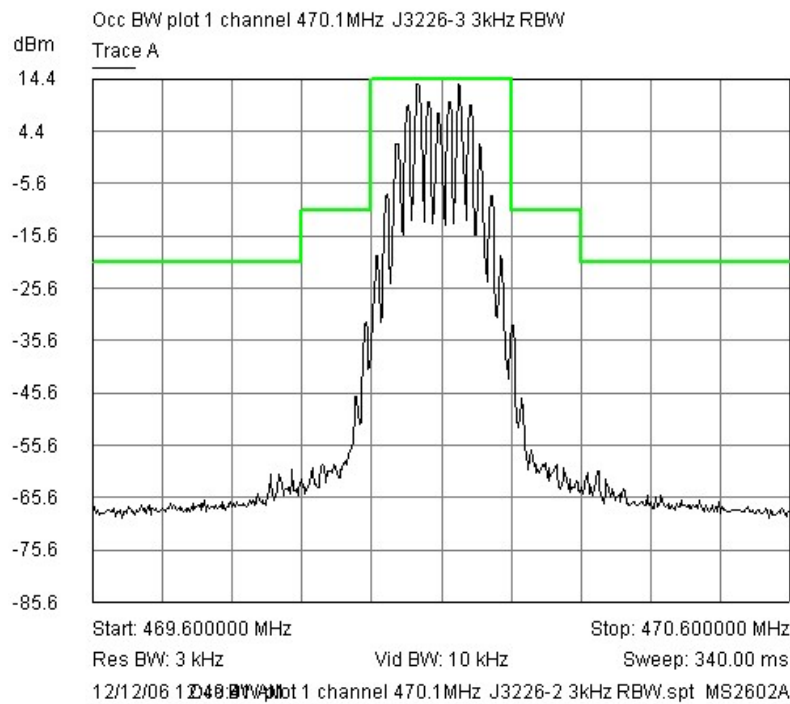
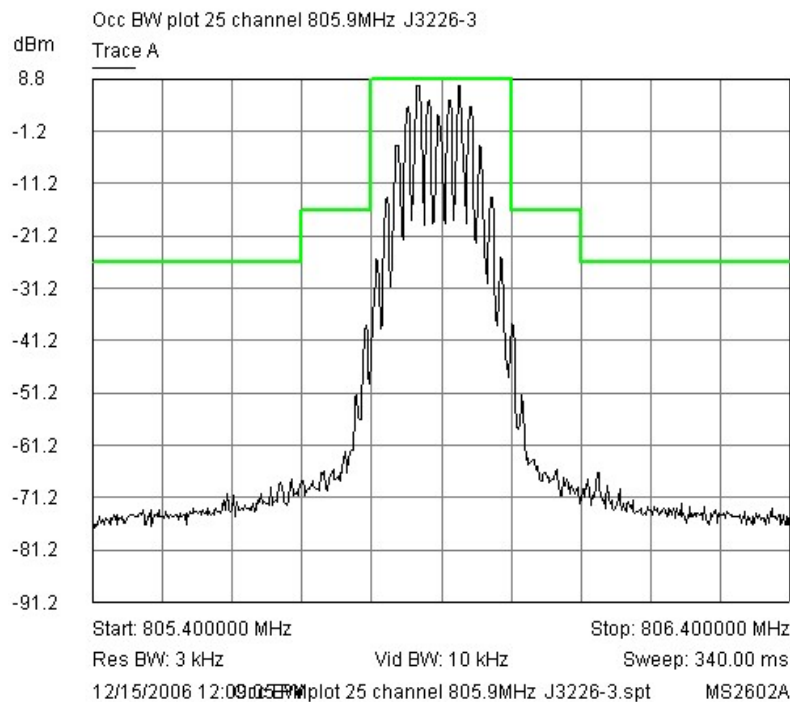


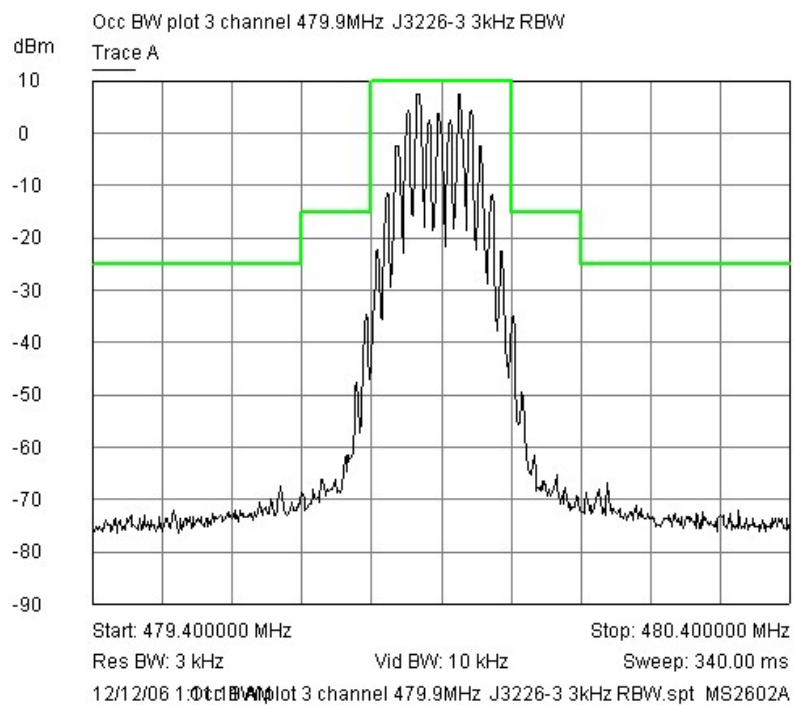
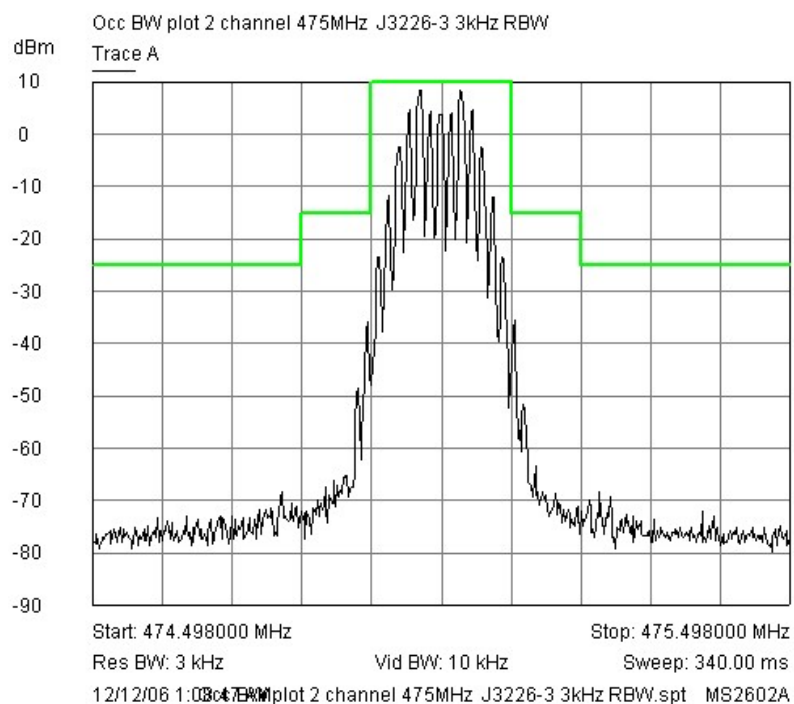


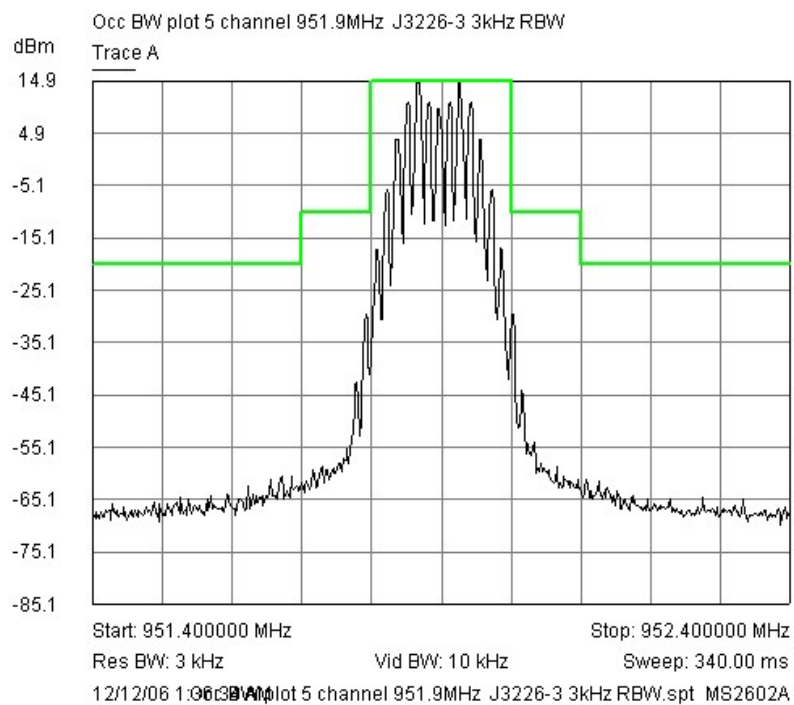
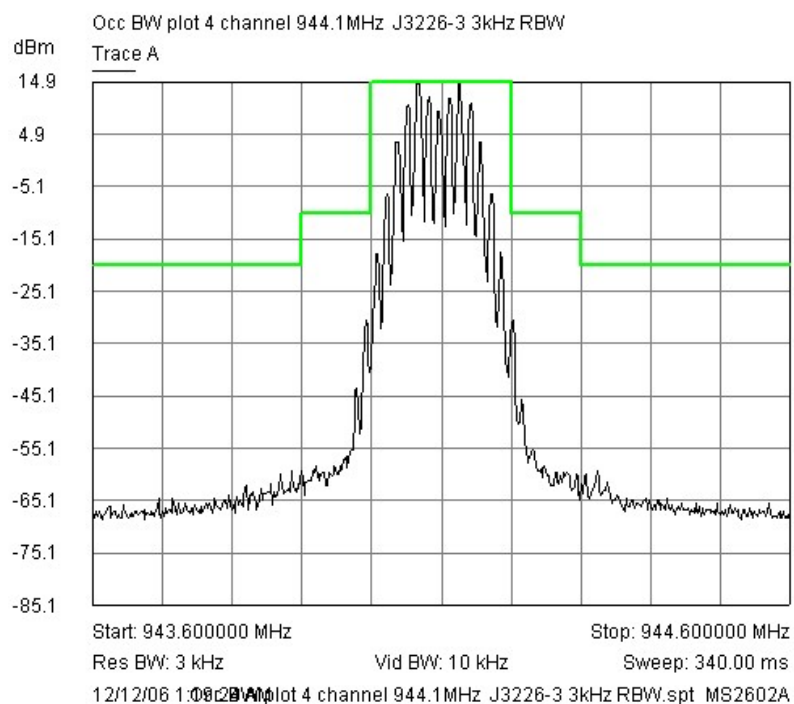


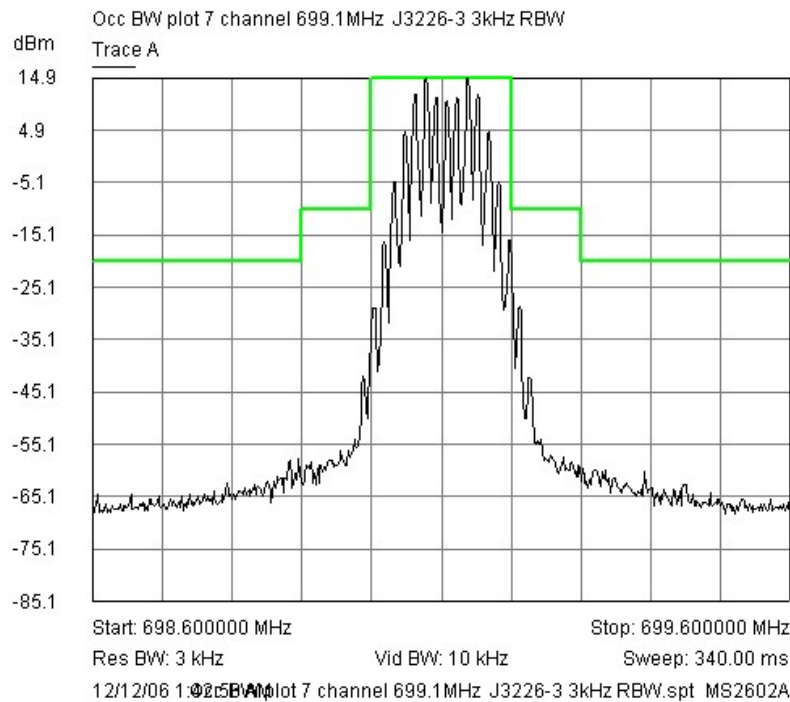
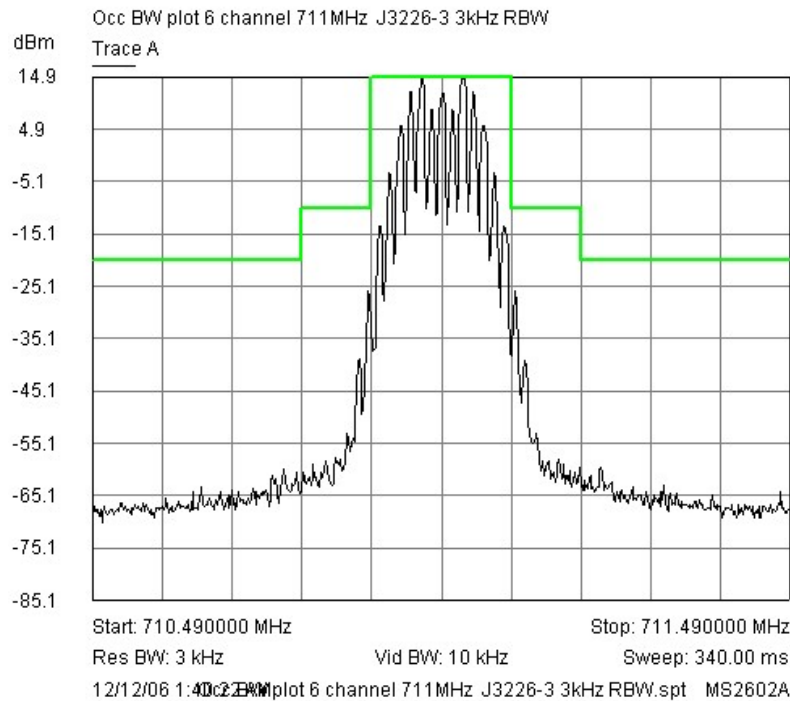


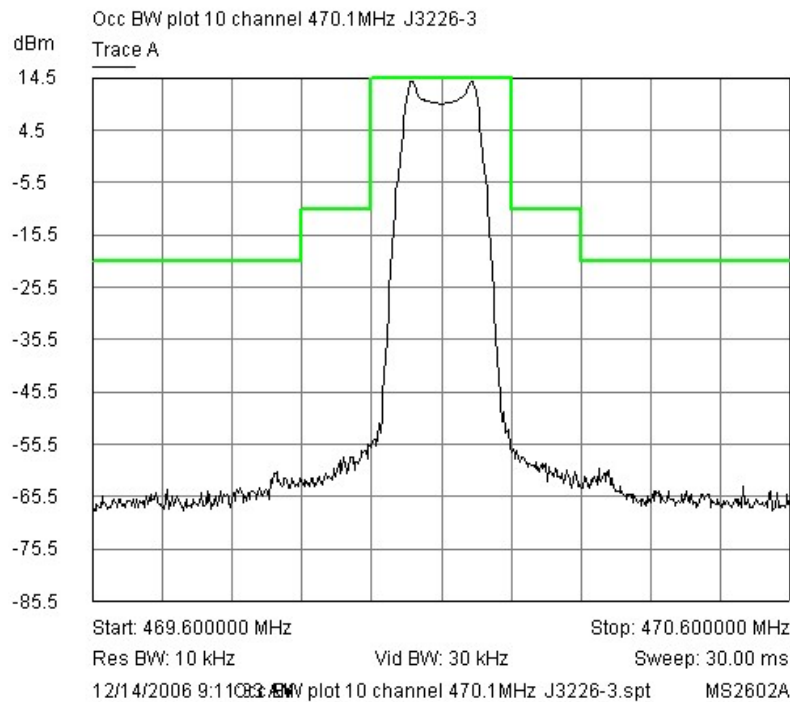
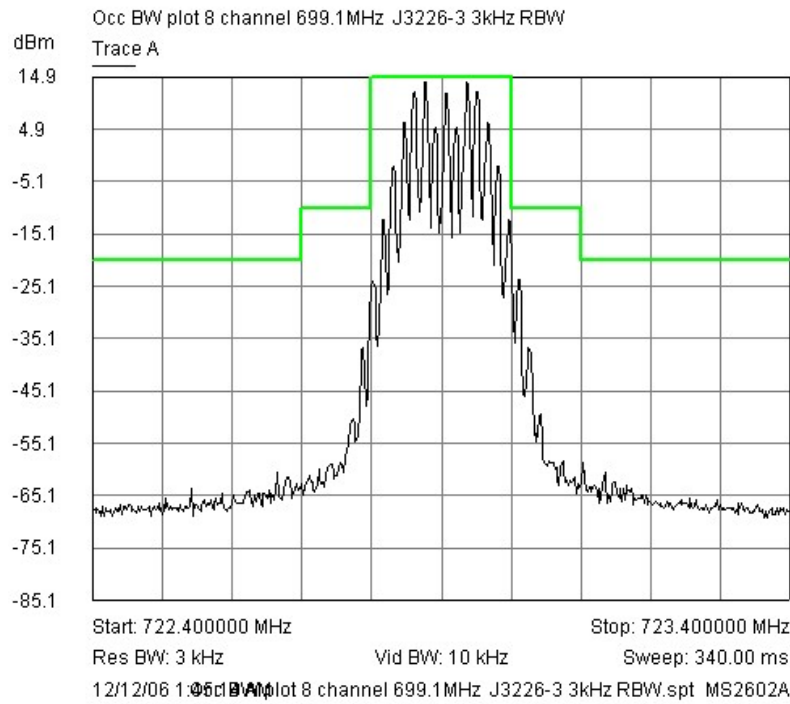
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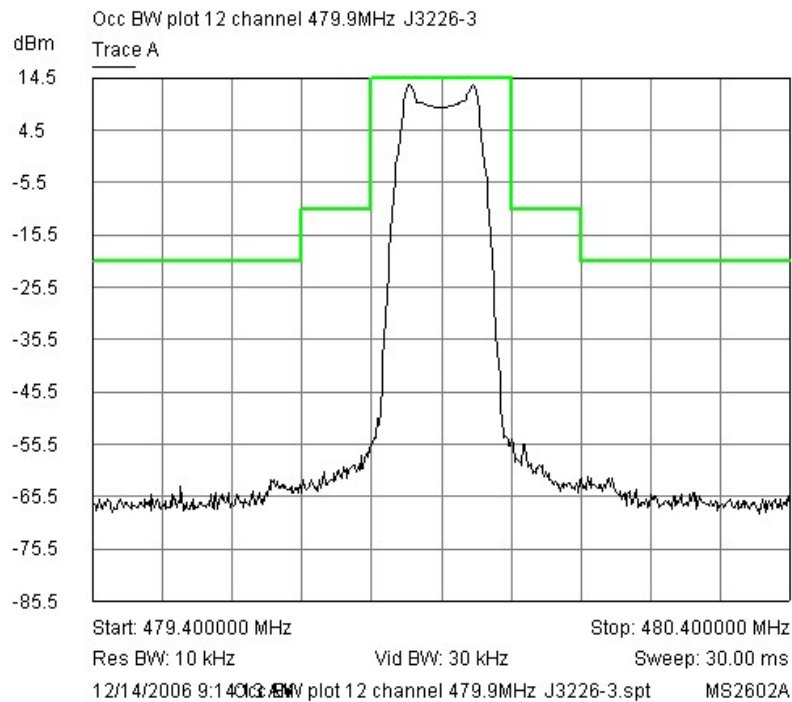
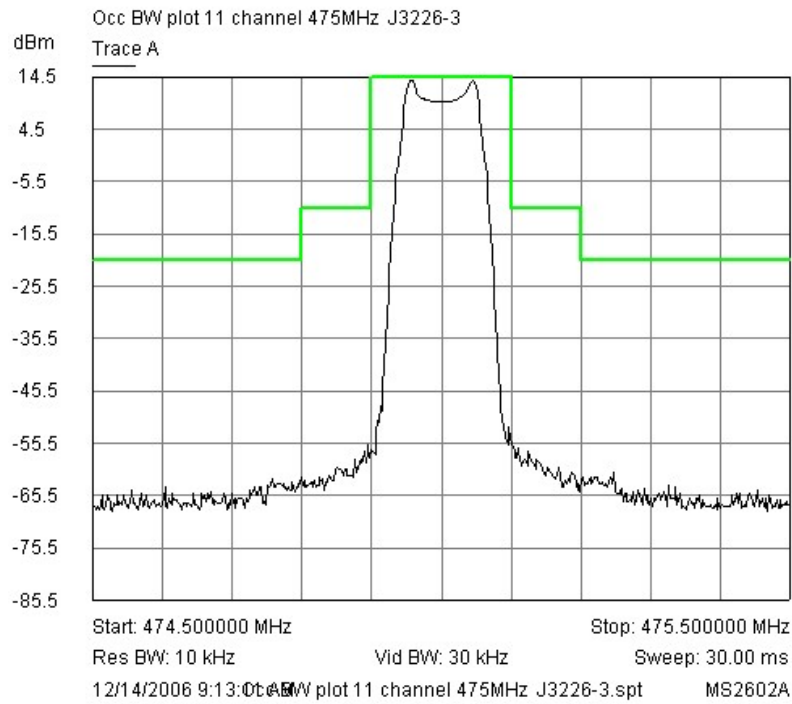


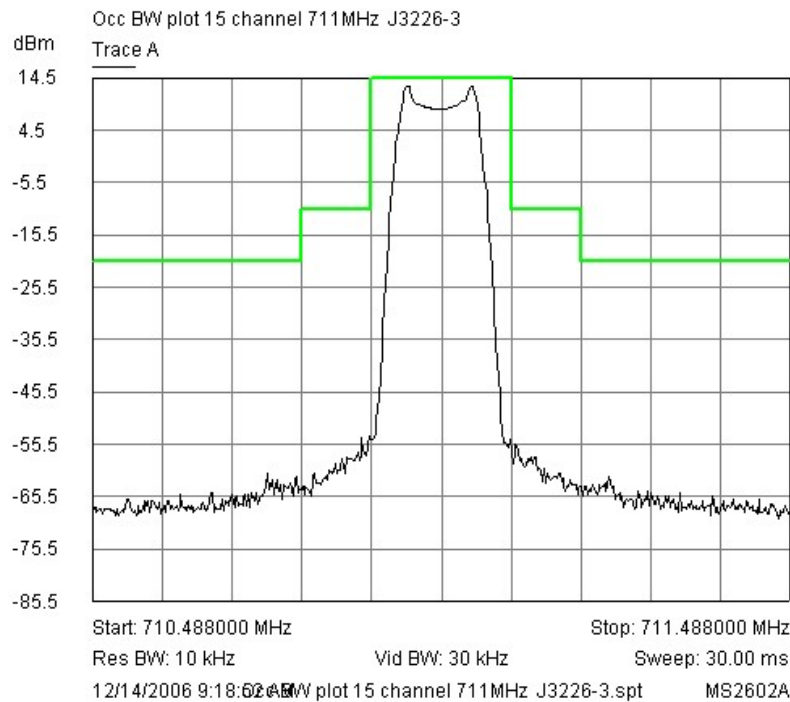
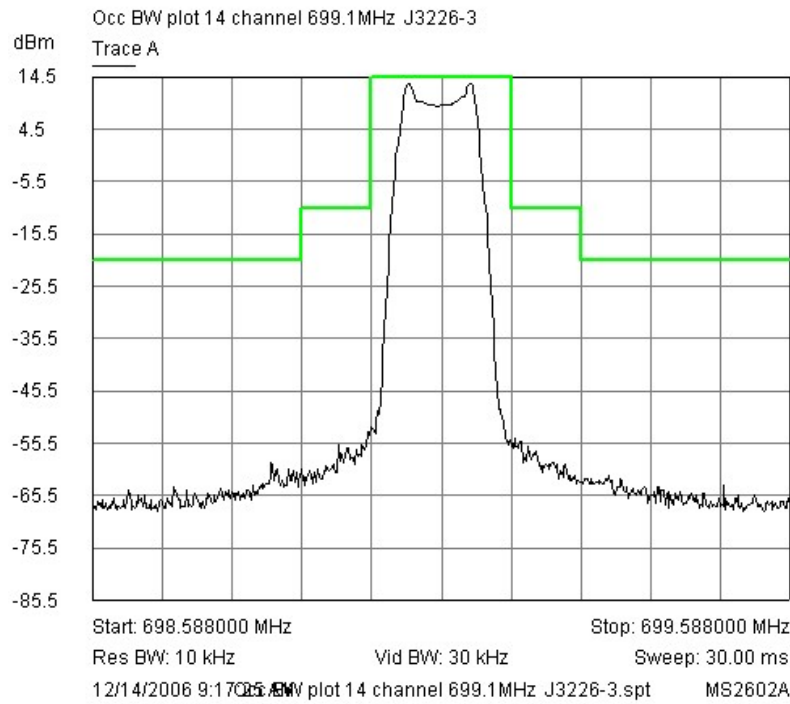


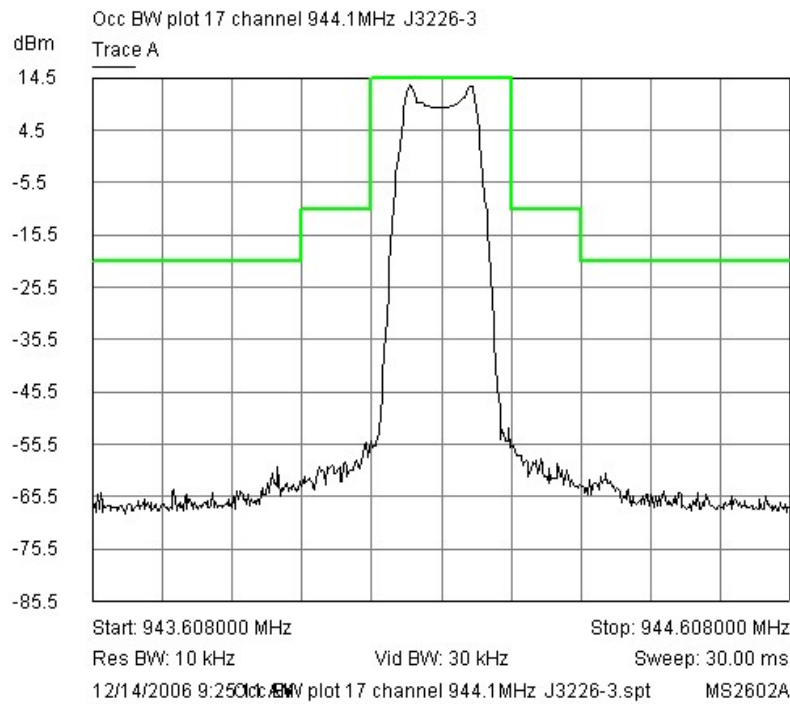
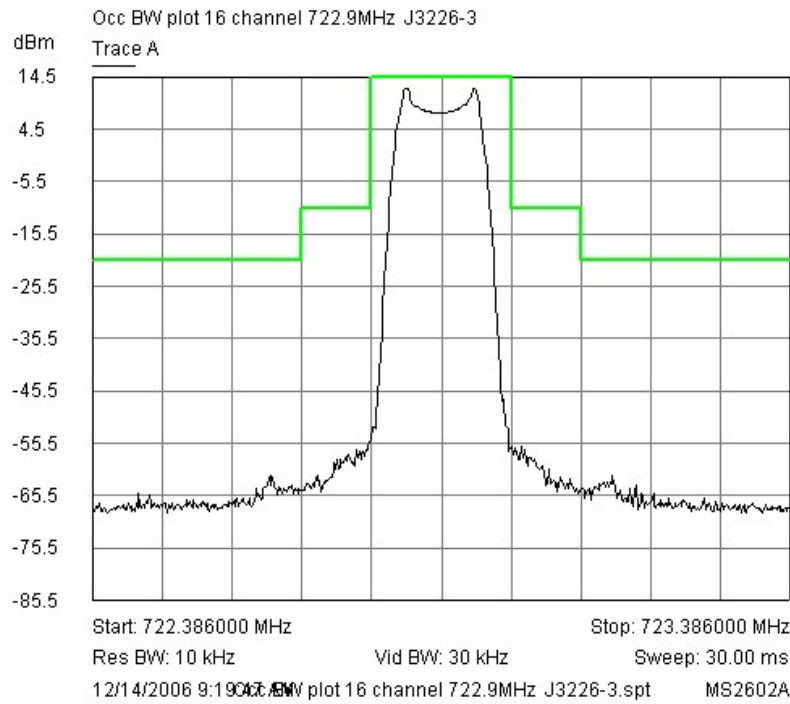


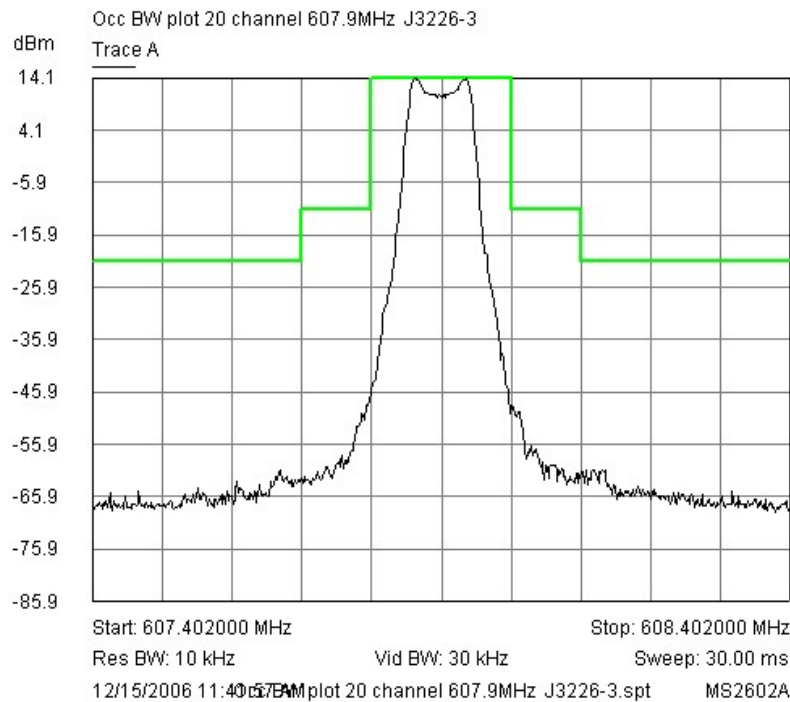
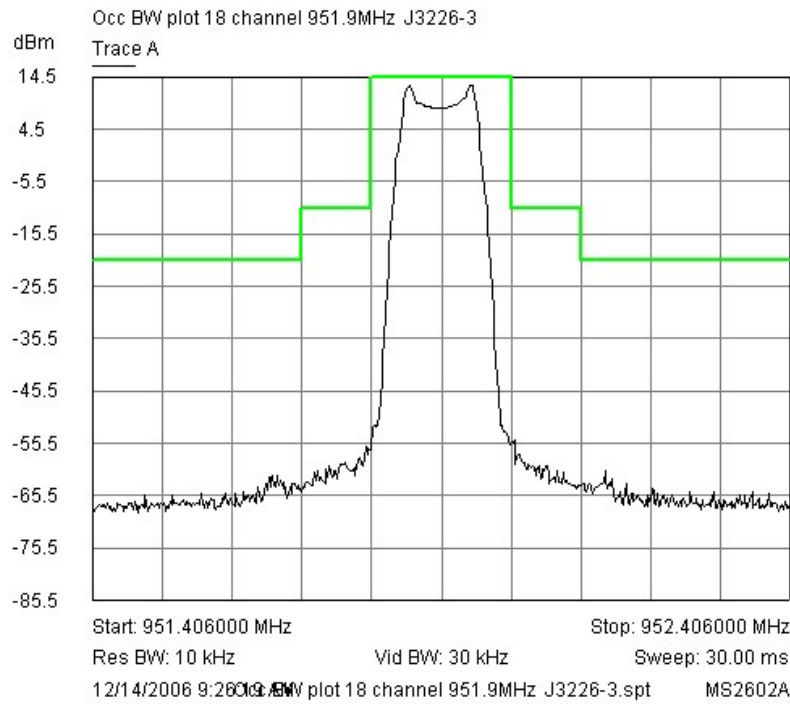


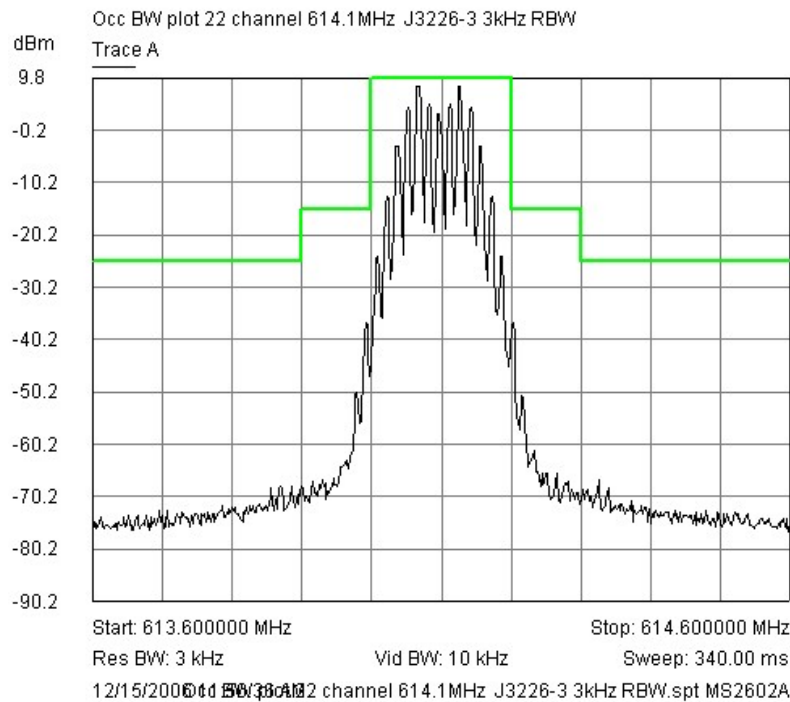
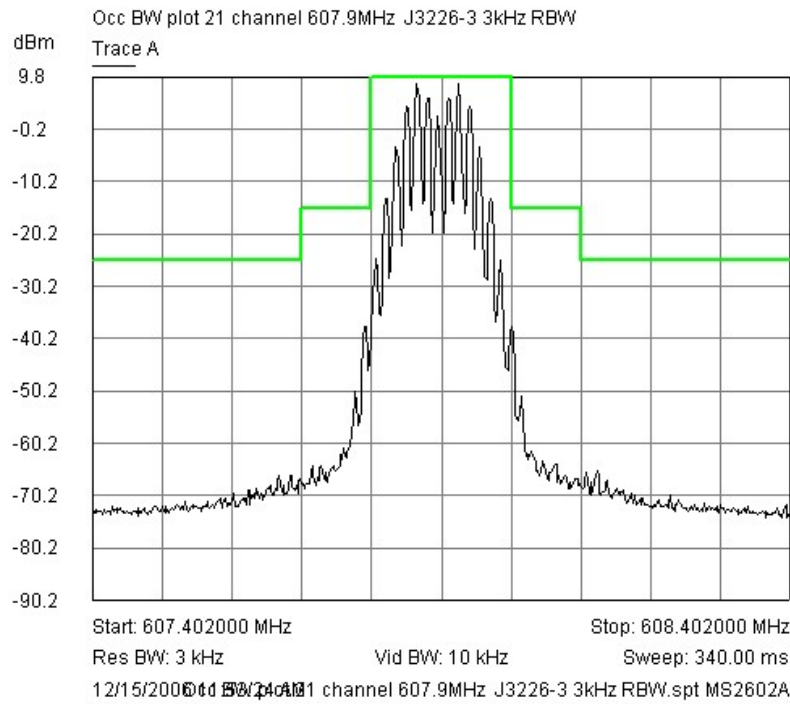


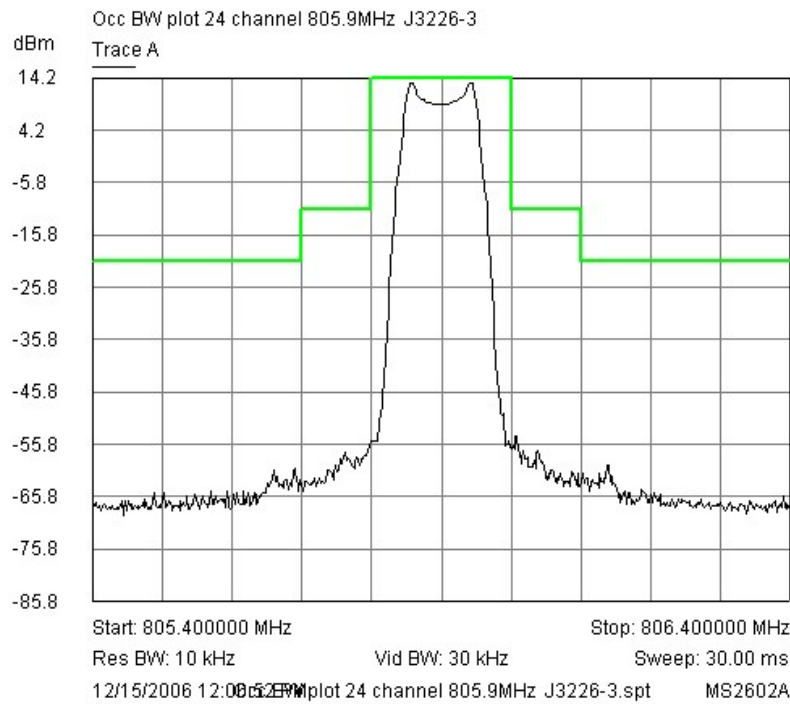
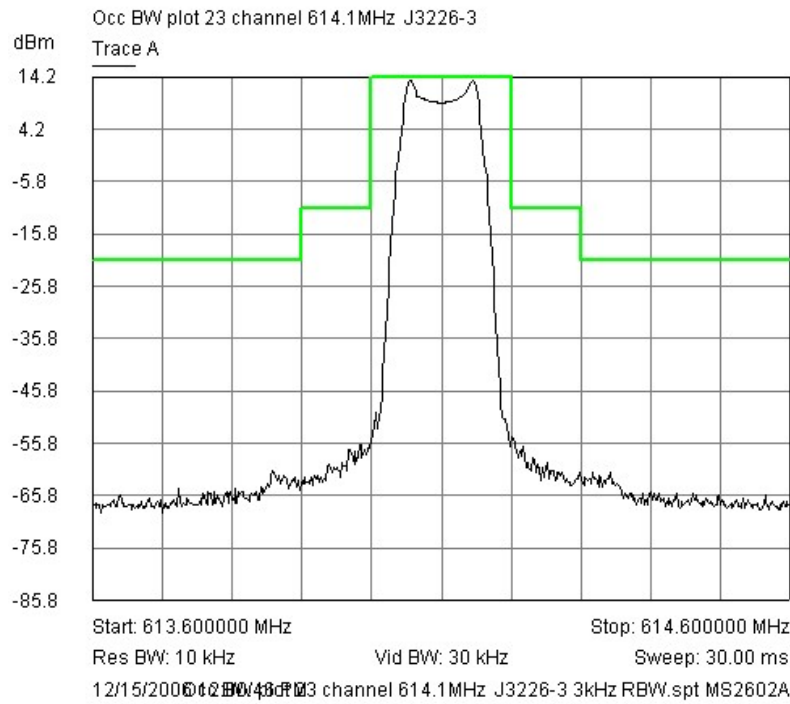




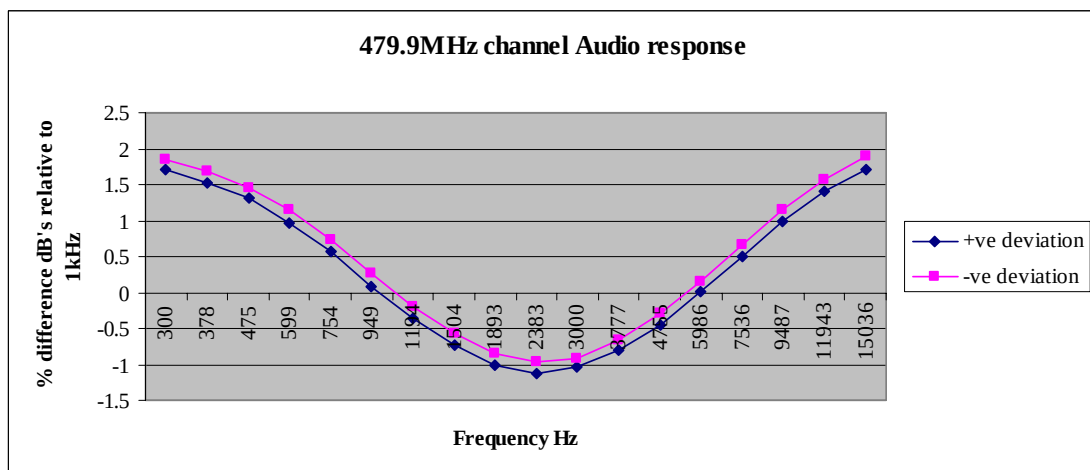
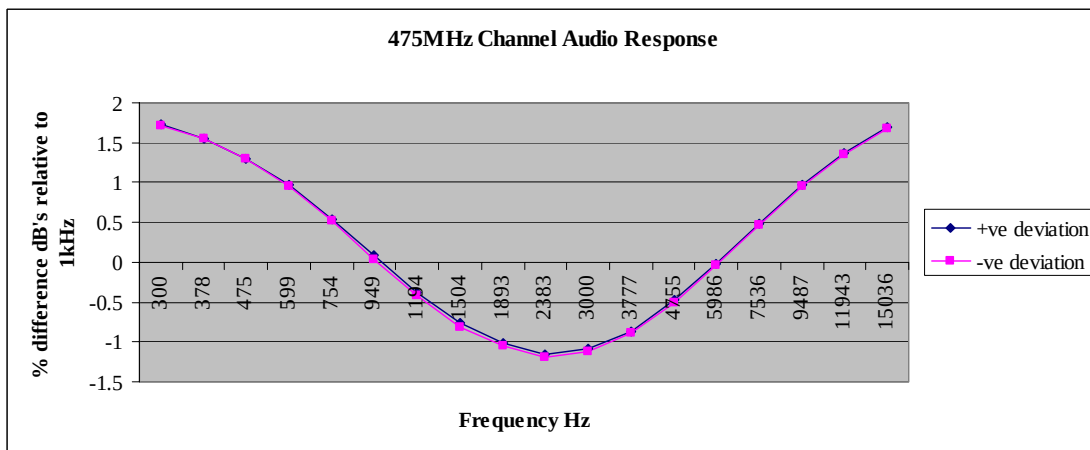
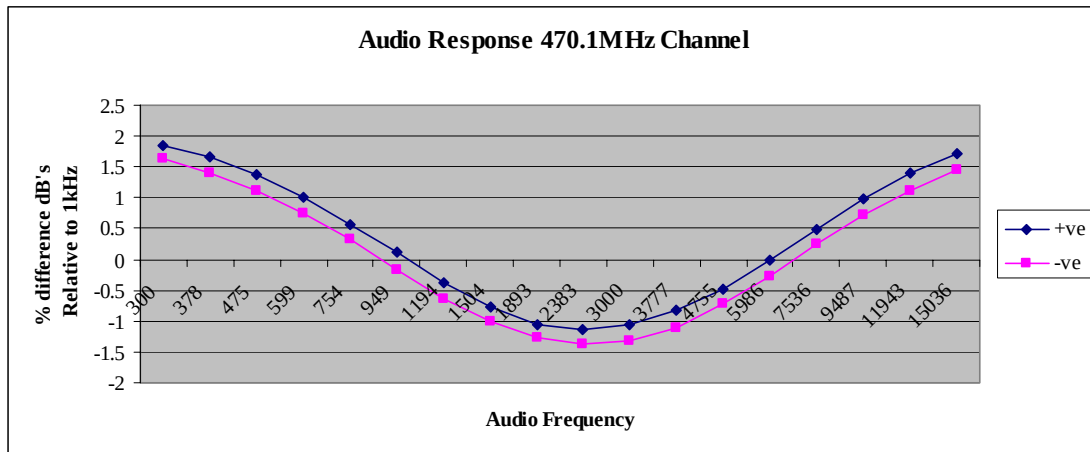


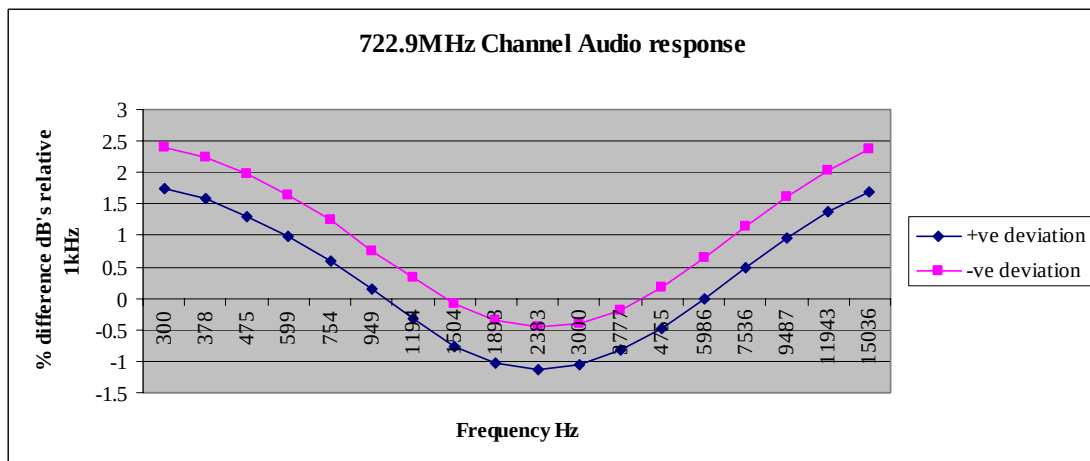
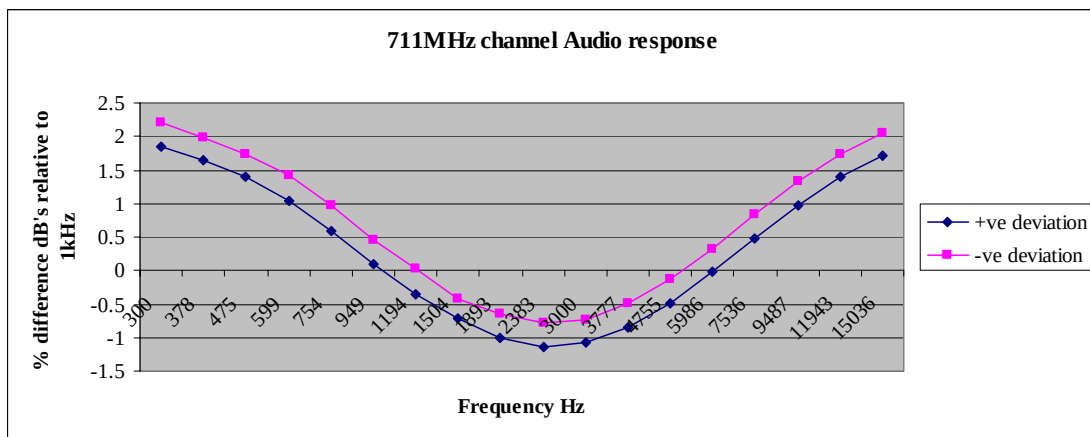
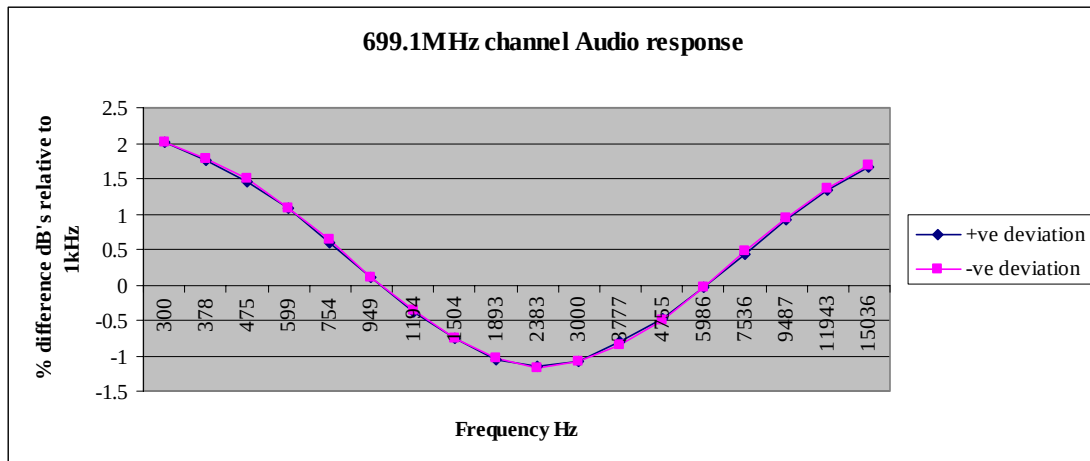


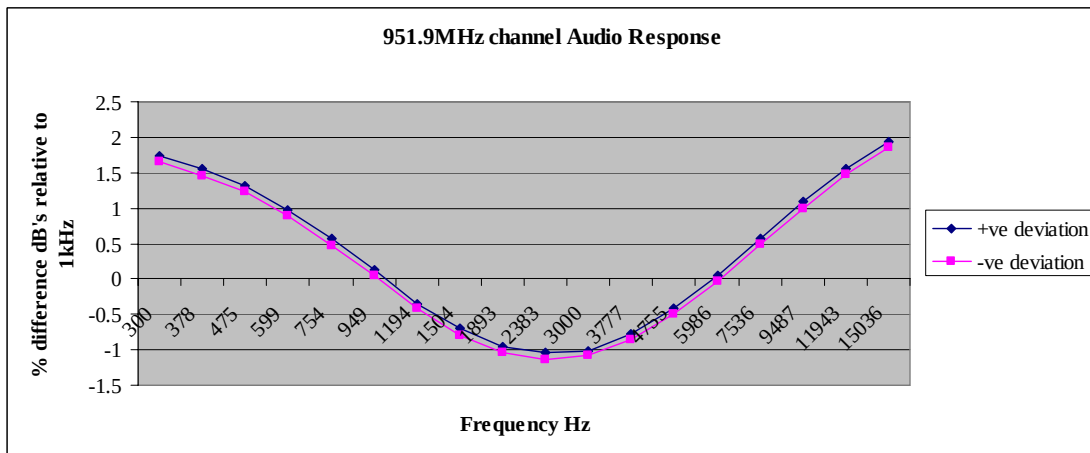
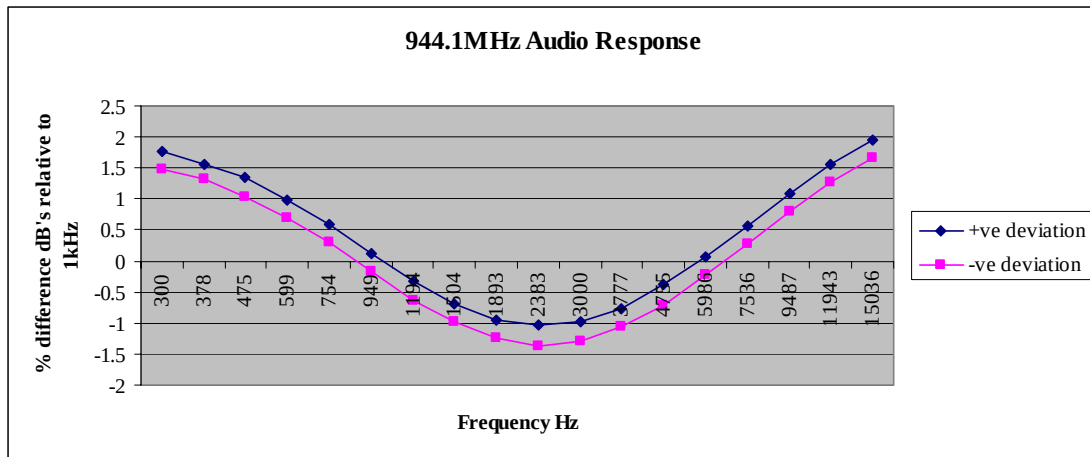




Audio Response.

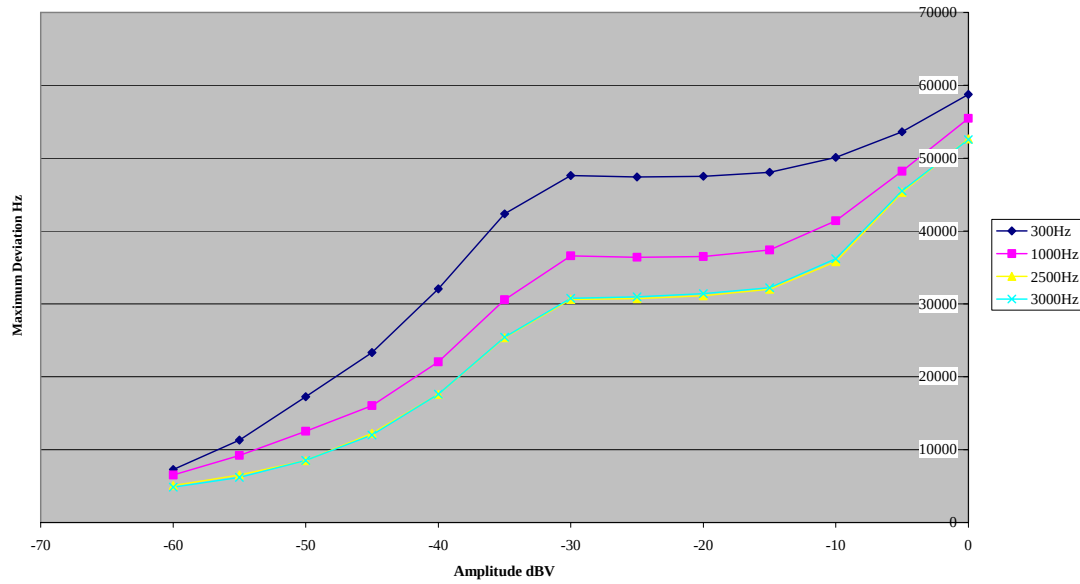




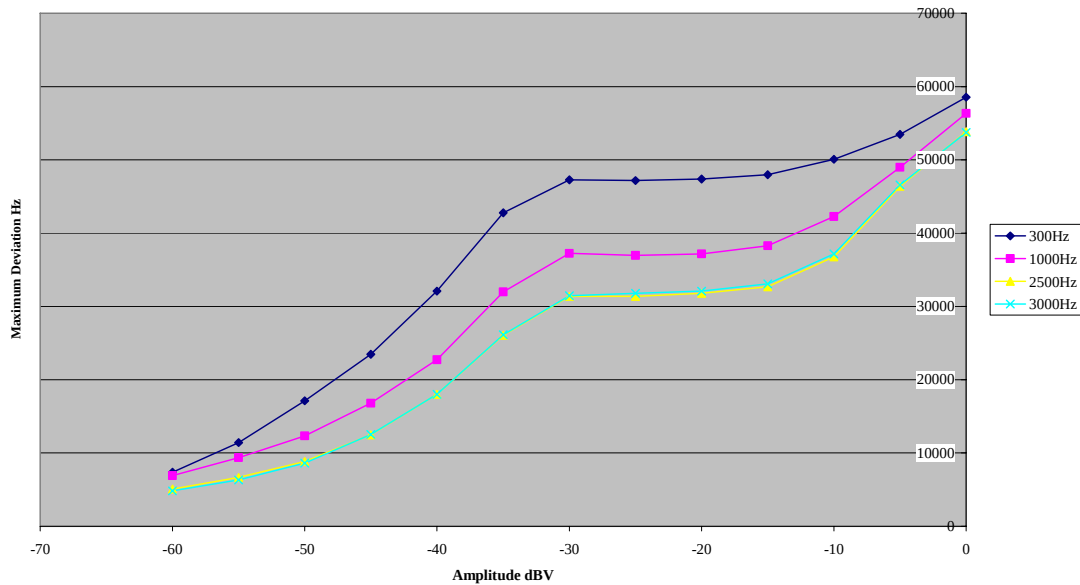


Modulation Limiting.

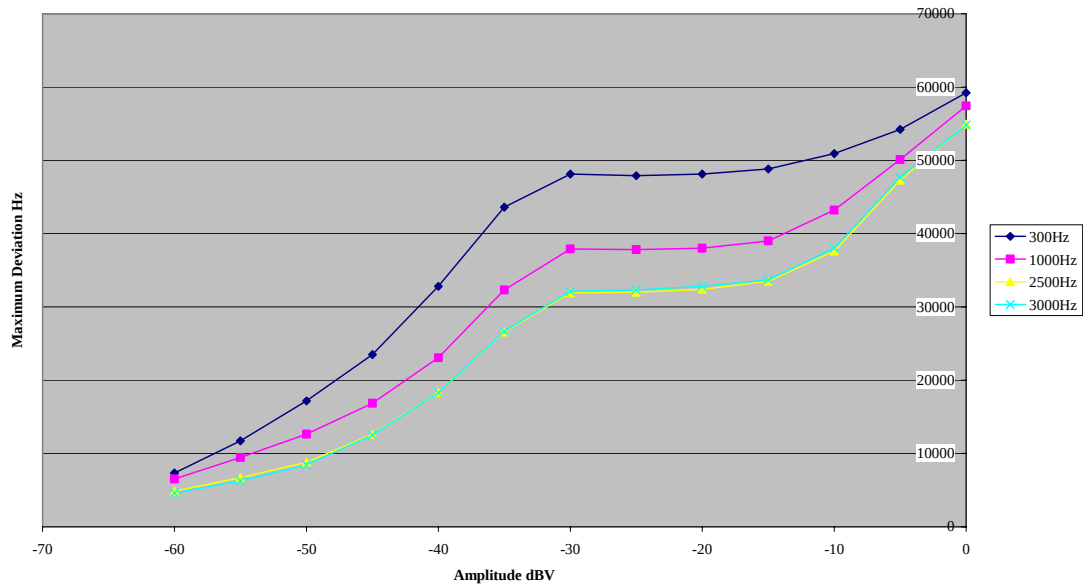
Modulation Limiting 470.1MHz Channel



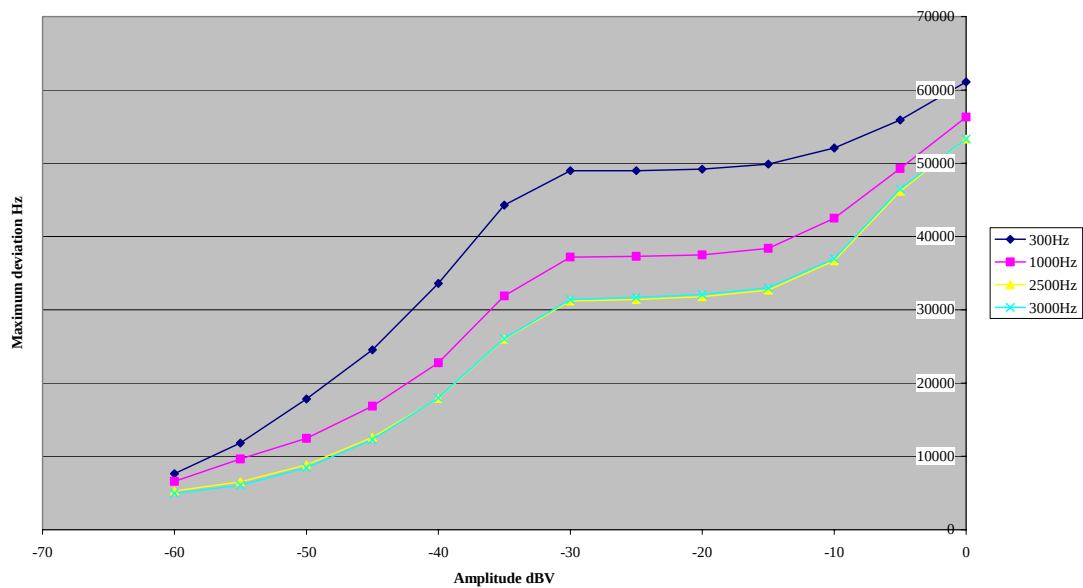
Modulation Limiting 475MHz Channel



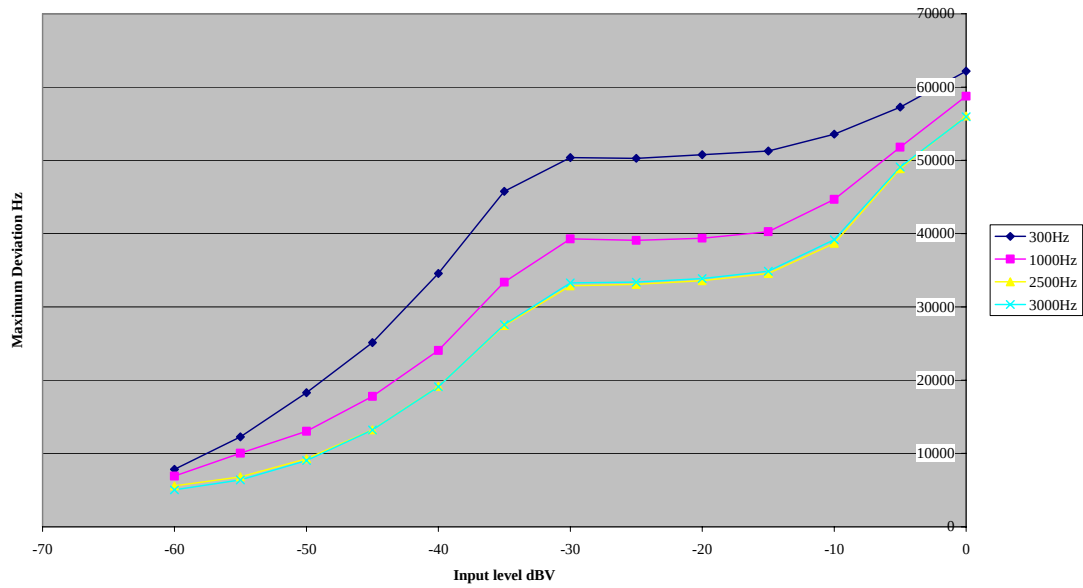
Modulation Limiting 479.9MHz Channel



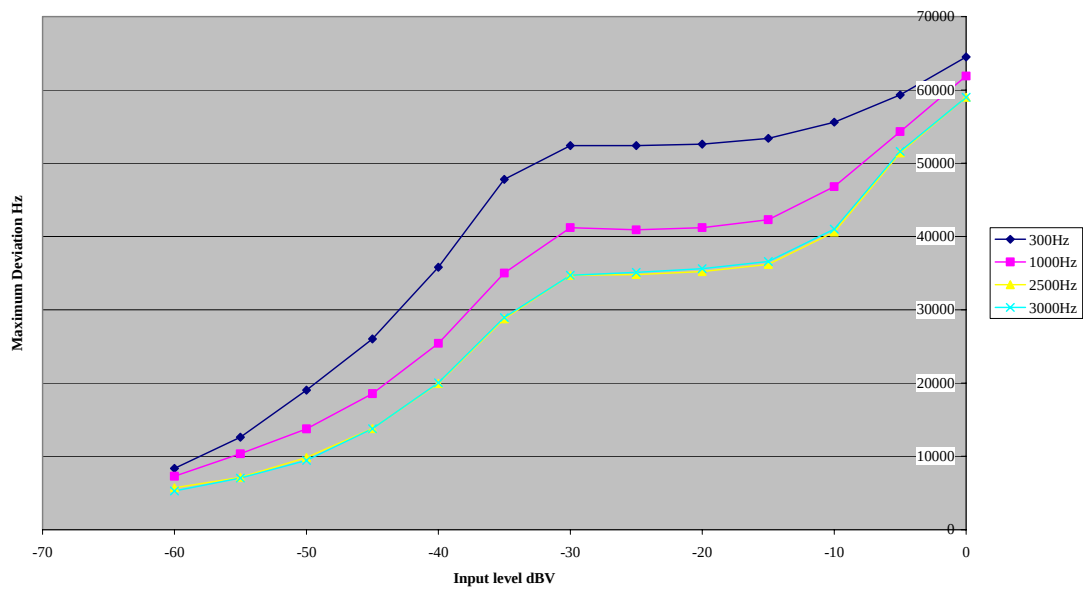
Modulation Limiting 699.1MHz Channels



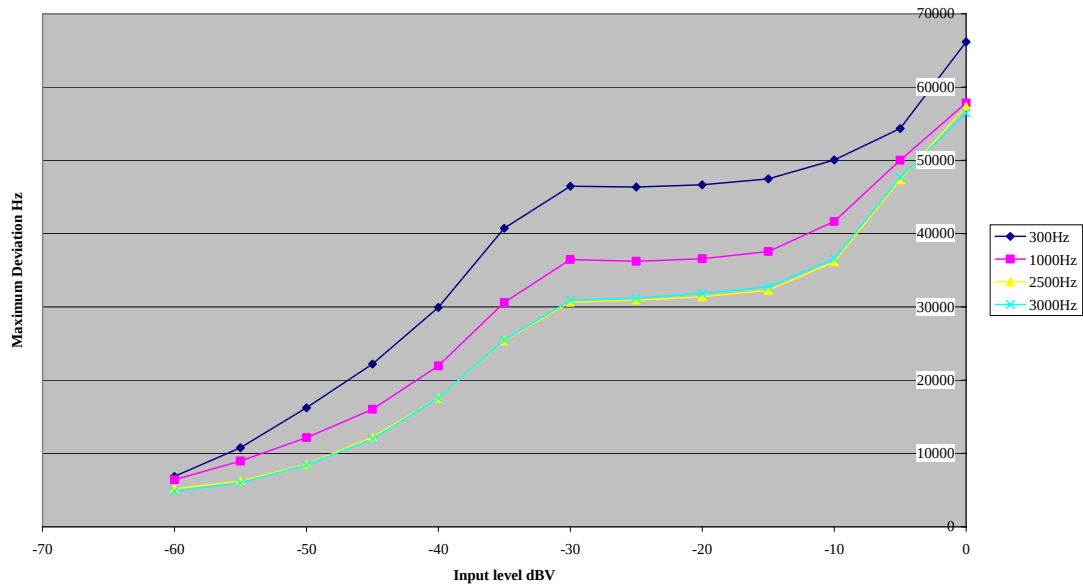
Modulation Limiting 711MHZ Channel



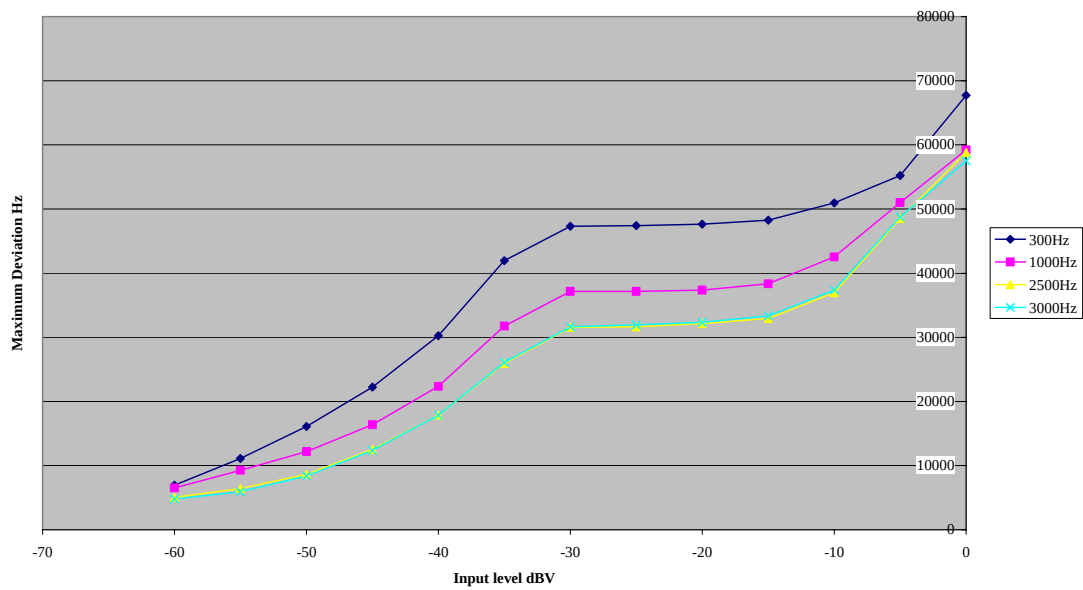
Modulation limiting 722.9MHz Channel



Modulation Limiting 944.1MHz Channel



Modulation Limiting 951.9MHz channel



7. Photographs

7.1 EUT Front View



7.2 EUT Reverse Angle



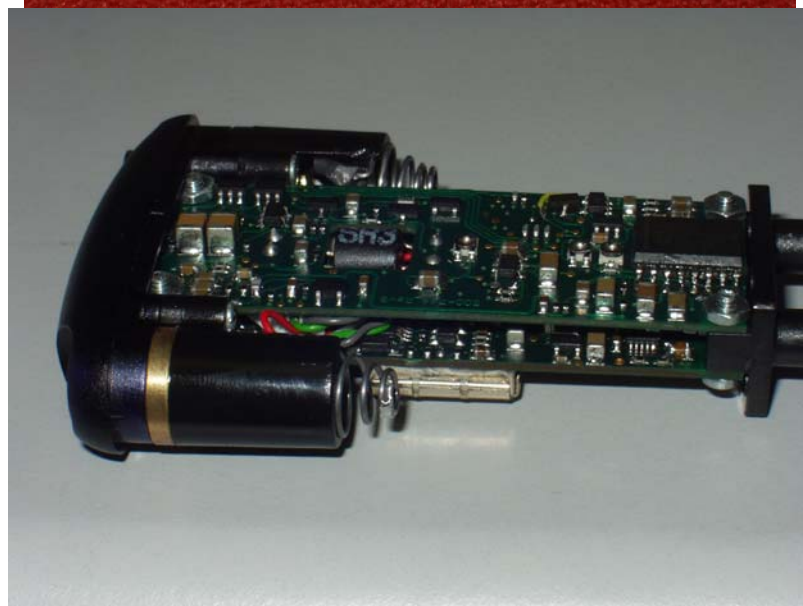
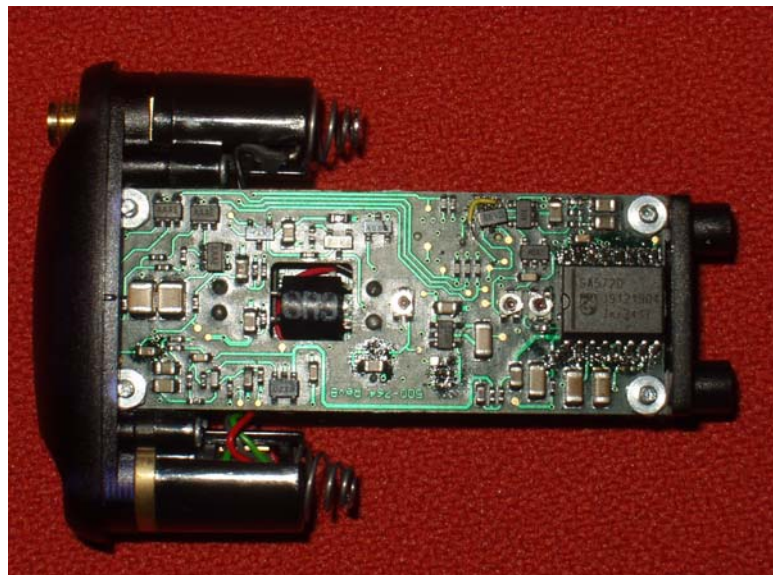
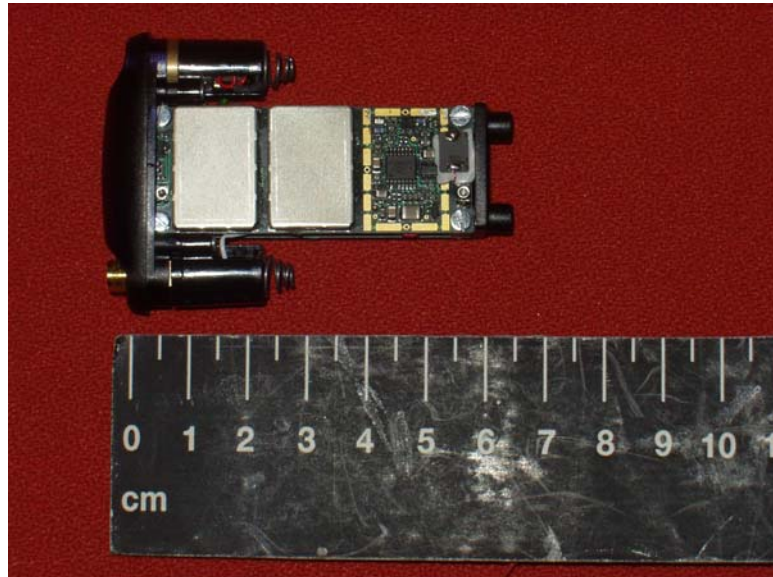
7.3 EUT Antenna Connector Port



7.4 EUT Display / Controls



7.5 EUT Internal Construction



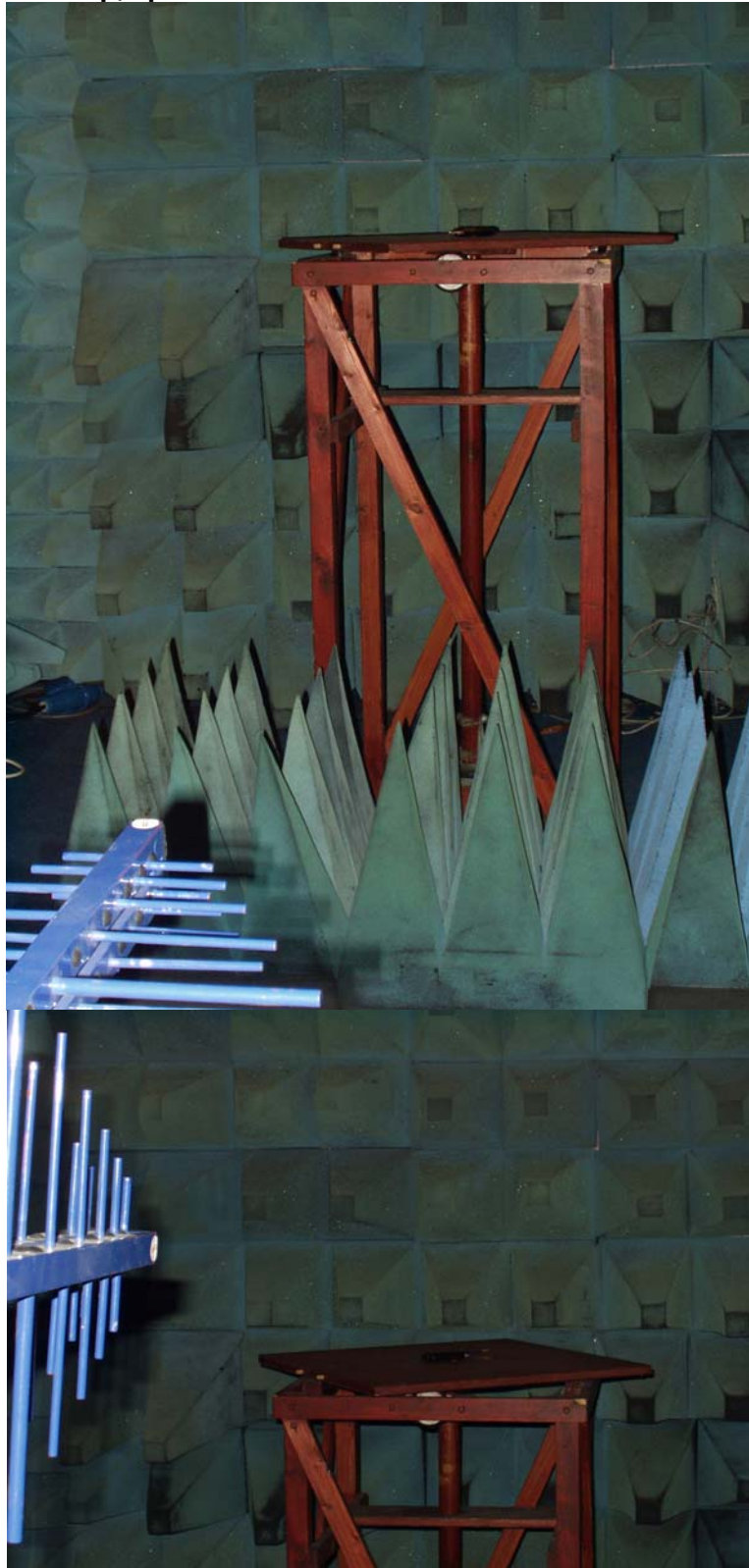
7.6 EUT Identification Label



7.7 EUT Chassis



7.8 Test set-up, spurious emissions



8. Signal Leads

Port Name	Cable Type
Antenna	sma
Audio I/P	3 core screened coax

9. Test Equipment Calibration list

The following table lists the test equipment used, last calibration date and calibration interval. All test equipment used has been maintained within the calibration requirements of **R.N. Electronics Ltd.** test facility quality system. Calibration intervals are regularly reviewed dependent on equipment manufacturer's recommendations and actual usage of the equipment.

RN No	Model	Description	Manufacturer	Last Cal	Interval
C031	437B	Power Meter	Hewlett Packard	Sep 19-06	12 mths
C032	8482A	Power Sensor	Hewlett Packard	Sep 22-06	12 mths
E227	6632A	System DC Power Supply	Hewlett Packard	Oct 13-06	12 mths
E236	MP526D	590 MHz HPF	Anritsu	NA	NA
E237	TTR 37S-3EE	Tuneable Notch Filter 250-500MHz	Telonic Berkeley Inc.	NA	NA
E252	6810.19.A	10 dB Attenuator	Suhner	Nov 13-06	12 mths
E253	6810.19.A	10 dB Attenuator	Suhner	Nov 13-06	12 mths
E266	2032	5.4GHz Signal Generator	Marconi Instruments	Feb 14-06	24 mths
E268	BHA 9118	1-18 GHz Horn Antenna	Schaffner	May 26-06	60 mths
E285	8546A	EMI Receiver	Hewlett Packard	Jul 03-06	12 mths
E3	HP8593E	Spectrum Analyser	Hewlett Packard	Sep 20-06	24 mths
P147	AC1000	PSU : 32v	Thurlby Thander	NA	NA
TMS10	TH200	ThermoHygrometer	RS Components	May 18-06	24 mths
TMS39	VMT04/16	Environmental Oven	Heraeus Votsch	NA	NA
TMS49	8901B	Modulation Analyser	Hewlett Packard	Mar 24-06	24 mths
TMS55	8903B	Audio Analyser	Hewlett Packard	Nov 07-06	24 mths
TMS57	2534	Digital Multimeter	Philips	Dec 14-05	24 mths
TMS6-2	MS2602A	Spectrum Analyser	Anritsu	Nov 17-05	24 mths
TMS69	R3271	Spectrum Analyser	Advantest	NA ¹	NA
TMS73	0.083333333	Off Air Standard	Quartzlock	NA	NA
TMS77	8673B	Synthesised Signal Generator	Hewlett Packard	Nov 14-05	24 mths
TMS80	206-3722	Digital Thermometer & K Probe	RS Components Ltd	Apr 26-06	12 mths
TMS814	MP627A	Doublet Antenna 200-1700 MHz	Anritsu Electric Co Ltd	NA	NA
TMS82	8449B	Pre Amplifier 1 - 26 GHz	Agilent	Oc 17-06	12 mths
TMS903	CBL6111A	Bilog Antenna 30MHz - 1GHz	Chase	Feb 28-06	26 mths

¹ Used for indication only.

10. Auxiliary Equipment

10.1 Supplied by Audio Limited

Auxiliary equipment used for the purpose of test supplied by the above has been listed below

NONE.

10.2 Supplied by RN Electronics Limited

Auxiliary equipment used for the purpose of test supplied by the above has been listed below

NONE.

11. Modifications

In order for the EUT to produce the results shown within this report the following modifications, if any, were implemented.

NONE.



Certificate of Test

The equipment noted below has been tested by **R.N. Electronics Limited** and conforms with the relevant subpart of chapter 47 of the Code of Federal Regulations tested per 47CFR2 subpart J.

This certificate relates to the equipment, as identified by unique serial number(s) and further detailed in the referenced report, in the condition(s) at the time it was tested. It does not relate to any other similar equipment and performance of the product before or after the test cannot be guaranteed. Furthermore, this is a certificate of test only and should not be confused with an equipment authorisation.

Equipment: Miniature Radio Microphone Pocket Transmitter
Mini TX

FCC ID (if applicable):

Manufacturer: Audio Limited

Customer Purchase Order Number: P26932

R.N. Electronics Limited
Report Number: 12-140A/3226/3/06

Test Standards: CFR 47 FCC Part 74 subpart H : Oct 2004

Date: 22nd November to 12th December 2006

The measurement uncertainty gives a 95% confidence that the equipment meets the limits specified in the standards

For and on behalf of
R.N. Electronics Limited

Signature:



Technical Manager

QMF21J – 3; FCC CFR 47 PART 2 J OCT 2004; ISSUE 01 OCT 05