FCC
Test Report
for
EPOP 300

Report Number: 10-301/3790/3/08
Report Produced by: -

R.N. Electronics Ltd.
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1. Contents

2. Summary of Test Results

The EPOP 300 was tested to the following standards: -

FCC Part 15C (effective date February 7, 2007); Class DXT Intentional Radiator

Any compliance statements are made reliant on the modes of operation as instructed to us by the Manufacturer based on their specific knowledge of the application and functionality of the equipment tested. Whilst every effort is made to assure quality of testing, type tests are not exhaustive and although no non-conformances may be found, this doesn't exclude the possibility of equipment not meeting the intentions of the standard, particularly under different conditions to those during testing.

Title	Reference	Results
1. Conducted Emissions	FCC Part 15C §15.207	PASSED
2. Radiated Emissions	FCC Part 15C §15.205, §15.209 & §15.249	PASSED
3. Modulation Bandwidth	FCC Part 15C §15.215(c), §15.249	PASSED
4. Intentional Radiator Field Strength	FCC Part 15C §15.249	PASSED
5. Frequency Tolerance	FCC Part 15C §15.225, §15.229, §15.233, §15.249(b)	NOT APPLICABLE[1]
6. Duty Cycle	FCC Part 15C §15.231, §15.240	NOT APPLICABLE[1]
7. Power Spectral Density	FCC Part 15C §15.247	NOT APPLICABLE[1]
8. Frequency separation	FCC Part 15C §15.247	NOT APPLICABLE[1]
9. No. of hopping channels	FCC Part 15C §15.247	NOT APPLICABLE[1]

[1] No specification requirement for this type of equipment.

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.

Date of Test: 8th & 10th October 2008

Test Engineer: Daniel Sims — Digitally signed by Daniel Sims DN: CN = Daniel Sims, C = GB, O = RN Electronics Date: 2008.11.20 17:21:48 Z

Approved By: Roger Ray — Digitally signed by Roger Ray DN: CN = Roger Ray, C = GB, O = RN Electronics Date: 2008.11.20 13:12:25 Z

Customer Representative:

3. Information about Equipment Under Test

3.1 Equipment Specification

Applicant	ZBD Displays Ltd Longford Business Centre Orchard Lea Winkfield Lane Windsor SL4 4RU
Manufacturer/Brand Name	ZBD Displays Ltd
Full name of EUT	EPOP 300
Model Number of EUT	EPOP 300
Serial Number of EUT	EW00004678B
FCC ID (if applicable):	
Date when equipment was received by RN Electronics Limited	8th October 2008
Date of test:	8th & 10th October 2008
Customer order number:	4203
A visual description of the EUT is as follows:	Small sealed plastic enclosure with LCD display on one side. The unit contains a 3V lithium battery. It has no user accessable controls or ports.
The main function of the EUT is:	an electronic shelf edge label.
Antenna:	Integral

Equipment Under Test Information specification:

Height	57mm
Width	113mm
Depth	16mm
Weight	0.1kg
Voltage	3V DC (Battery)
Current required from above voltage source	<0.1A
Highest Frequencies used / generated	902.5 – 927.5MHz

Purpose of Test: To demonstrate compliance with FCC OET regulations for intentional radiators.

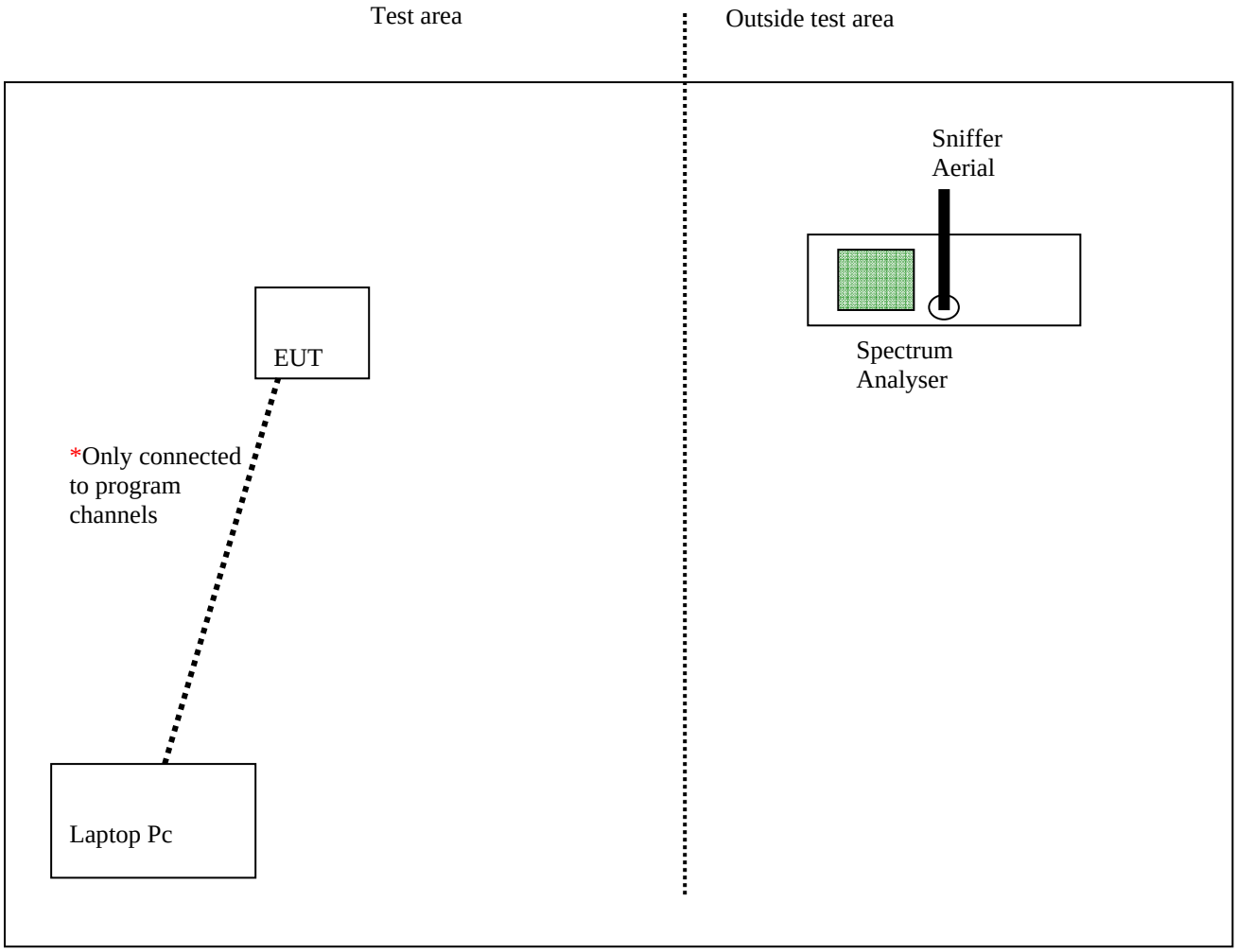
Modes of operation:

Mode	Description
TX Continuous Wave	Unmodulated continuous transmit.
TX Continuous Data	Continuous Transmit with Modulation.
RX	Receive mode

Any modifications made to the **EUT**, whilst under test, can be found in Section 12.

This report was printed on: 20 November 2008

3.2 Emissions configuration



*The Shelf edge label unit was only connected via the laptop for programming of channels and modes.

The spectrum analyser was only used to ensure the correct operating channel was programmed by detecting the RF carrier signal.

Bottom, middle & top channels were selected for tests were appropriate in combination with the above mentioned modes. These were:-

Bottom = 902.5 MHz
Middle = 915 MHz
Top = 927.5 MHz

Power level setting for tests was P5 which was the equivalent of -5dBm.

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, FCC Part 15 and those specifications incorporated by reference into 47CFR15 (e.g. ANSI C63.4-2003).

R.N. Electronics Ltd sites M and OATS are listed with the FCC. Registration Number 293246

4.1 Deviations

None.

5. Tests, Methods and Results
5.1 Conducted Emissions

Test not applicable. EUT is battery powered.

5.2 Radiated Emissions

5.2.1 Test Methods

Test Requirements FCC Part 15C, Reference (15.209)

Test Method: FCC Part 15C, Reference (15.209)

5.2.1.1 Configuration of EUT

The EUT was placed on a 0.8 metres high turntable. The front edge of the EUT was initially positioned facing the antenna. The EUT was measured at a distance of 3 metres. The EUT was rotated in all three orthogonal planes. Radiated Emissions testing was performed with a new battery.

5.2.1.2 Test Procedure

Tests were made in accordance with FCC Part 15 using the measuring equipment noted below.

Below 30MHz, measurements were made in a semi-anechoic chamber (pre-scan) with final measurements on an OATS without a ground plane. The antenna was placed 1m above the ground. The equipment and the antenna were rotated 360° to record the worst case emissions.

30MHz - 1GHz, measurements were made on a site listed with the FCC. The equipment was rotated 360° and the antenna scanned 1 – 4 metres in both horizontal and vertical polarisations to record the worst case emissions.

Above 1GHz, measurements were made in a semi-anechoic chamber with appropriate absorbing material for use in this range. The antenna was placed 1m above the ground in line with the EUT, which was rotated through 360° to record the worst case emissions.

At least 6 signals within 20dB and all signals within 10dB of the limit were investigated.

5.2.2 Test results

Tests were performed using Test Site M**.**

Test Environment:
M

Temperature: 20°C Humidity: 51%

Analyser plots for the Quasi-Peak / Average values as applicable and any table of signals within 20dB of the limit line can be found in Section 6.2 of this report.

These show that the **EUT** has **PASSED** this test.

5.2.2.1 Test Equipment used

E1, TMS933, E268, E342, TMS82, TMS81

See Section 10 for more details

5.3 Intentional Radiator Field Strength

5.3.1 Test Methods

Test Requirements FCC Part 15C, Reference (15.249)

Test Method: FCC Part 15C, Reference (15.249)

5.3.1.1 Configuration of EUT

The EUT was placed on a 0.8 metres high turntable. The front edge of the EUT was initially positioned facing the antenna. The EUT was measured at a distance of 3 metres. The antenna was scanned 1-4m in height in both Horizontal and Vertical polarisations. The EUT was rotated in all three orthogonal planes.

5.3.1.2 Test Procedure

Tests were made in accordance with FCC Part 15 using the measuring equipment noted below.

Measurements were made in a semi-anechoic chamber.

Both the equipment and the antenna were rotated 360° to record the maximised emission.

5.3.2 Test results

Tests were performed using Test Site M**.**

Test Environment:
Temperature: 20°C Humidity: 51 %

Any Analyser plots can be found in Section 6.3 of this report.

The maximised field strength measured was 92.3 dBuV/m @ 3metres, measured on the bottom channel with a horizontal measuring antenna with the EUT in a horizontal plane.

These results show that the EUT has **PASSED** this test.

5.3.2.1 Test Equipment used

E1, TMS933

See Section 10 for more details

5.4 Frequency Tolerance

Test not applicable. No requirement for this type of device and frequency range.

5.5 Duty Cycle

Test not applicable. No requirement for this type of device and frequency range.

5.6 Maximum Spectral Power Density

Test not applicable. No requirement for this type of device and frequency range.

5.7 20dB Bandwidth

5.7.1 Test Methods

Test Requirements FCC Part 15C, Reference (15.215)

Test Method: FCC Part 15C, Reference (15.215)

5.7.1.1 Configuration of EUT

The EUT was placed on a 0.8 metres high turntable. The front edge of the EUT was initially positioned facing the antenna. The EUT was measured at a distance of 3 metres.

5.7.1.2 Test Procedure

Tests were made in accordance with FCC Part 15 using the measuring equipment noted below.

Measurements were made in a semi-anechoic chamber.

Test site 'M' has been listed with the FCC.

5.7.2 Test results

Tests were performed using Test Site M.

Temperature of test Environment: 20°C

Analyser plots for the 20dB bandwidth can be found in Section 6.6 of this report.

Channel frequency	20 dB bandwidth
902.5MHz	82.5kHz
927.5MHz	82.5kHz

These results show that the **EUT** has **PASSED** this test.

5.7.2.1 Test Equipment used

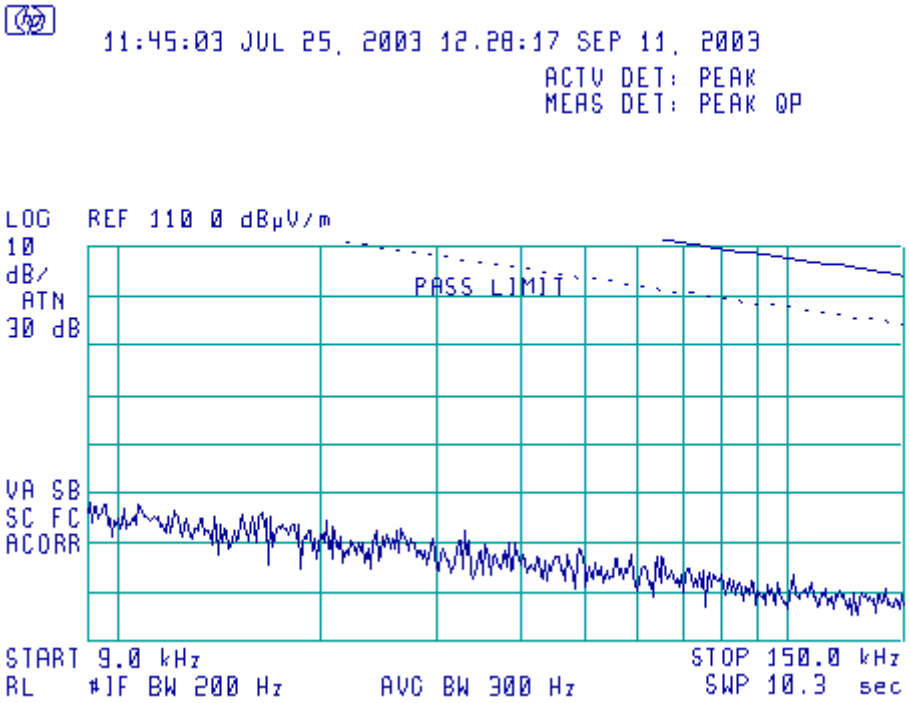
E1, TMS33

See Section 10 for more details.

6. Plots and Results
6.1 Conducted Emissions

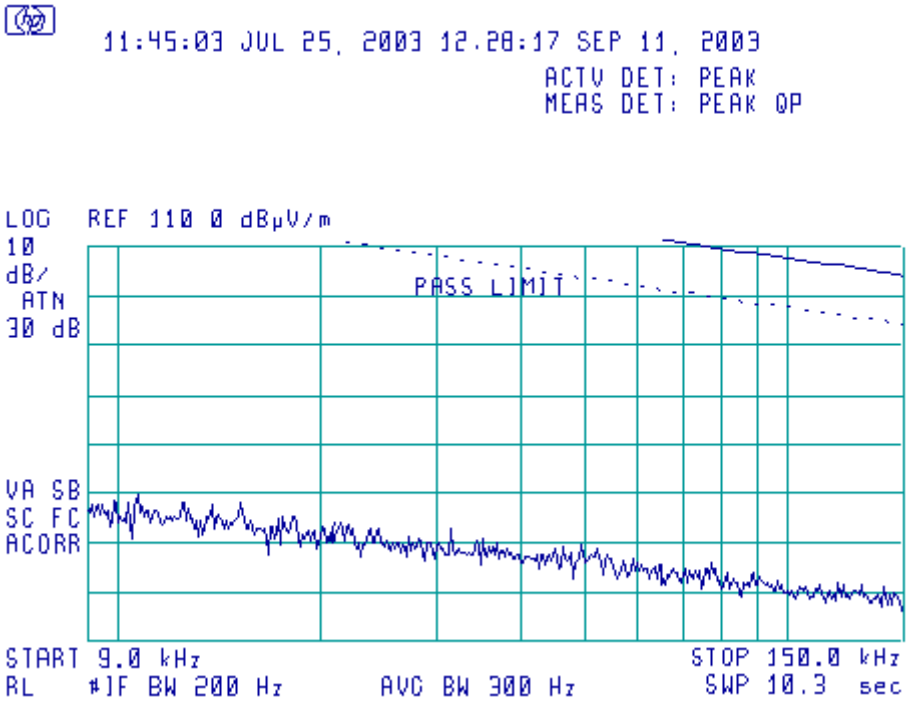
Test not applicable. EUT battery powered.

6.2 Radiated Emissions



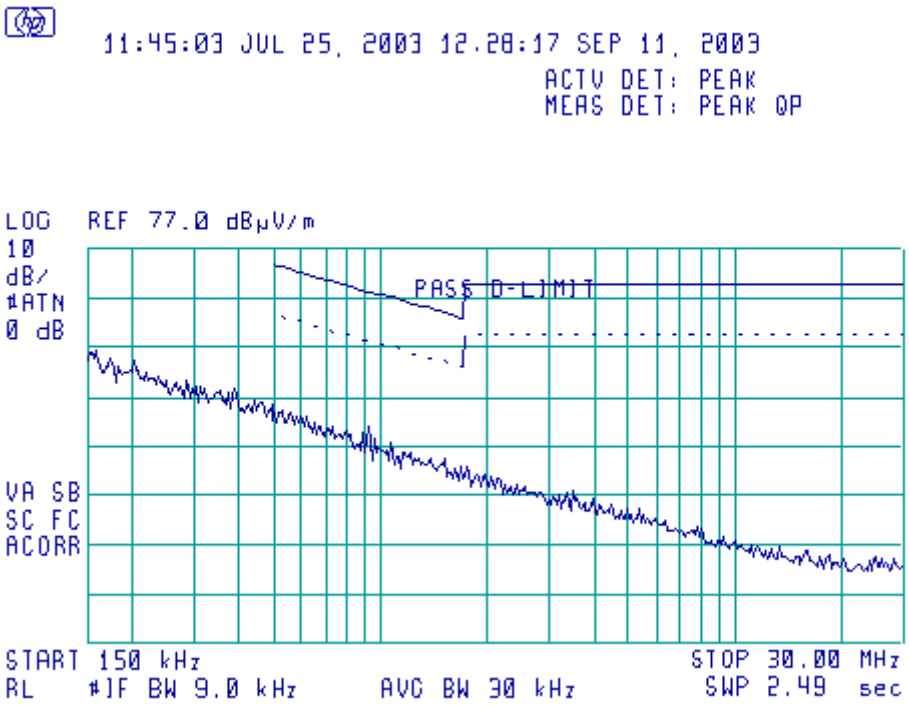
Quasi-Peak Values 9kHz to 150kHz parallel.

The plot shows a swept response of peak values using the quasi-peak limit line



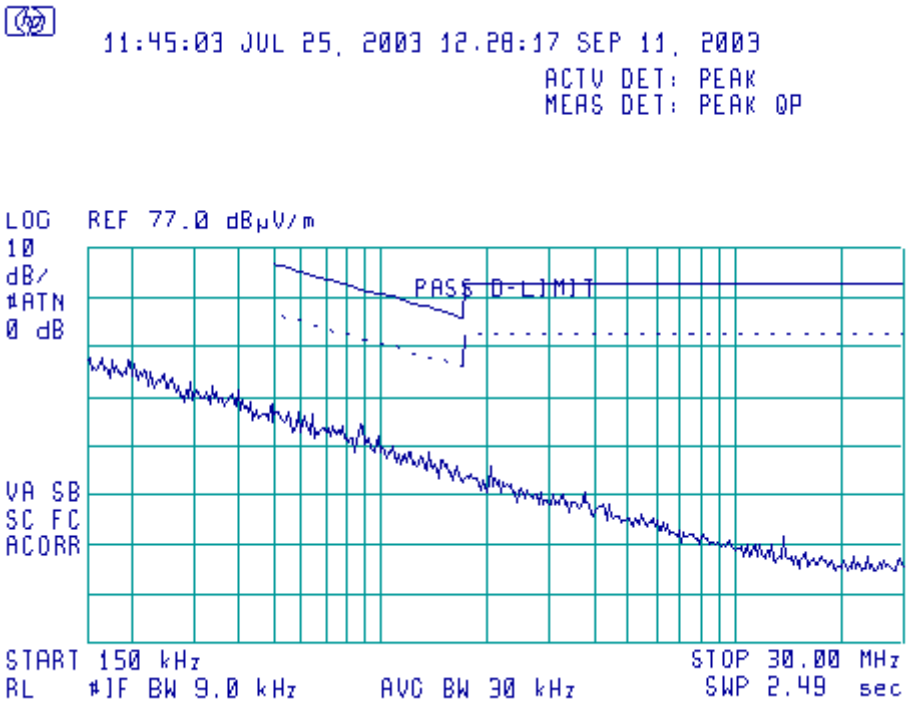
Quasi-Peak Values 9kHz to 150kHz perpendicular.

The plot shows a swept response of peak values using the quasi-peak limit line



Quasi-Peak Values 150kHz to 30MHz parallel.

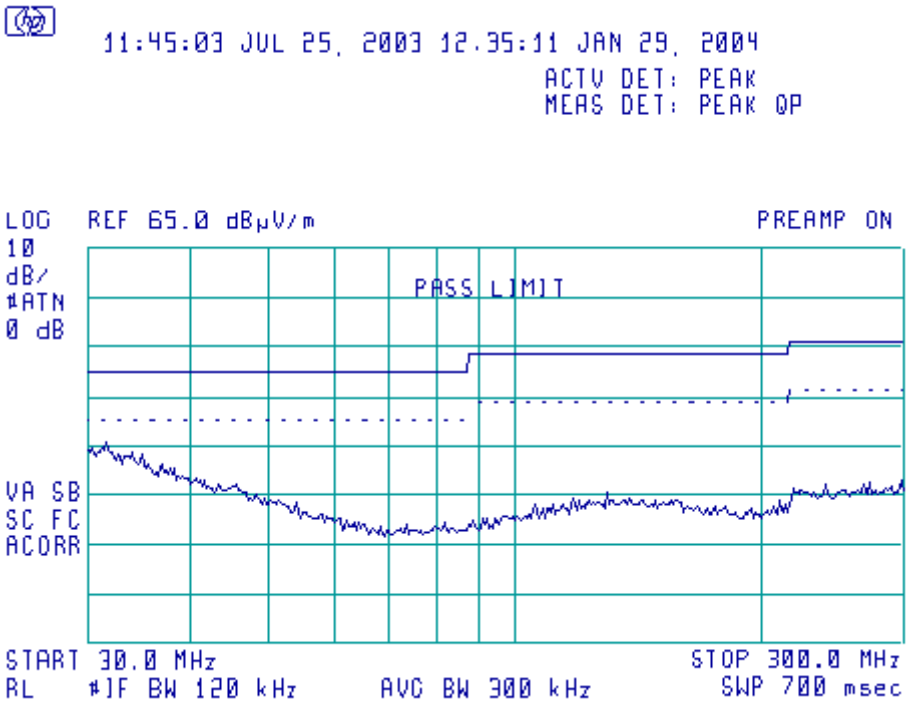
The plot shows a swept response of peak values using the quasi-peak limit line



Quasi-Peak Values 150kHz to 30MHz perpendicular.

The plot shows a swept response of peak values using the quasi-peak limit line

Bottom Channel



Quasi-Peak Values of 30 MHz. to 300 MHz.

Horizontal Polarisation

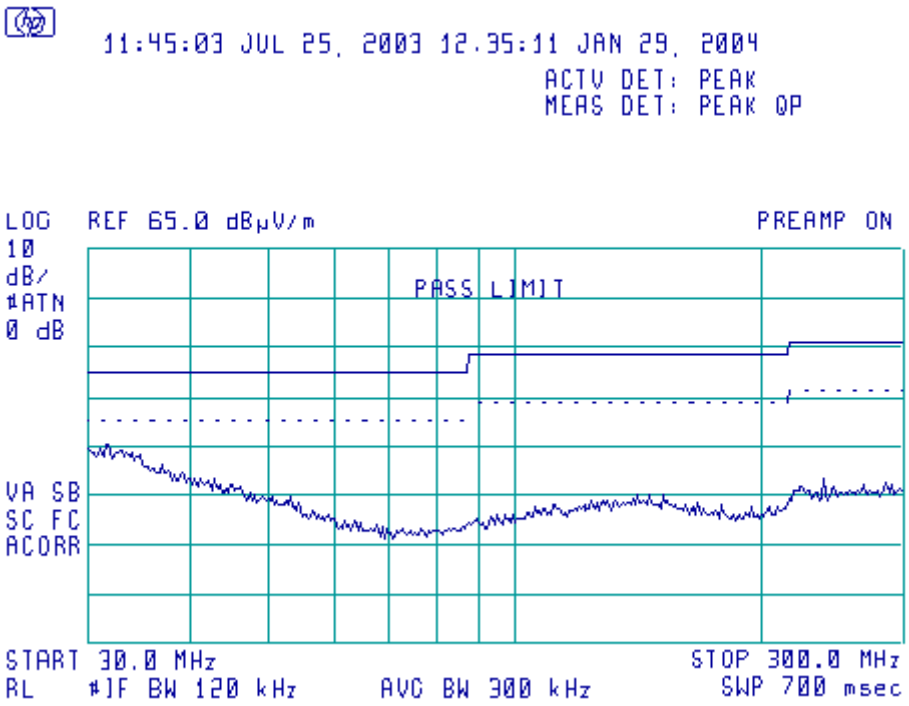
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-Peak Horizontal

None

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 30 MHz. to 300 MHz.

Vertical Polarisation

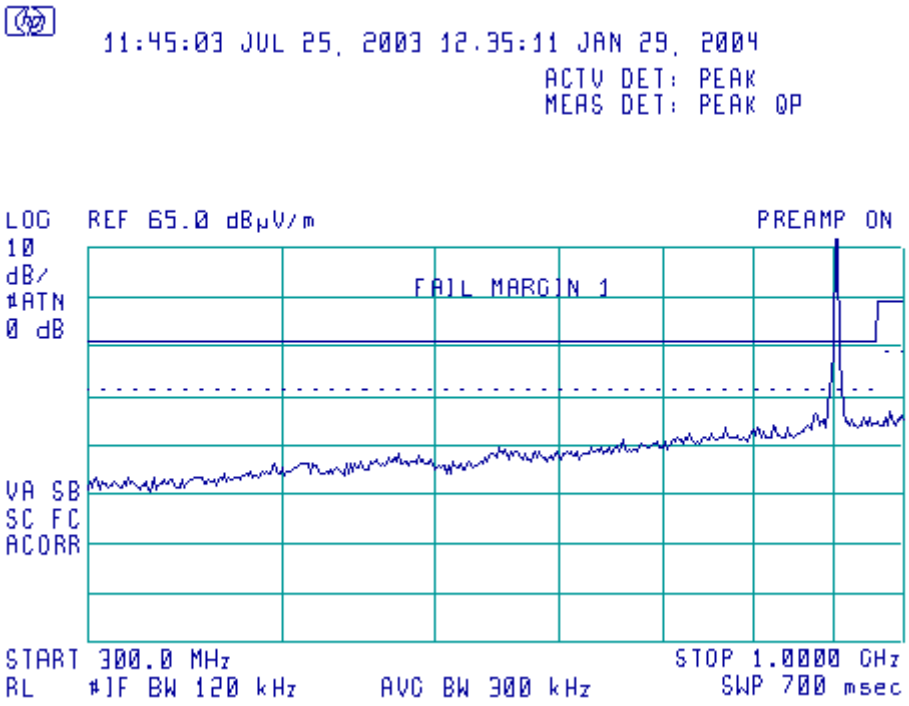
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-peak Vertical

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 300 MHz. to 1 GHz.

Horizontal Polarisation

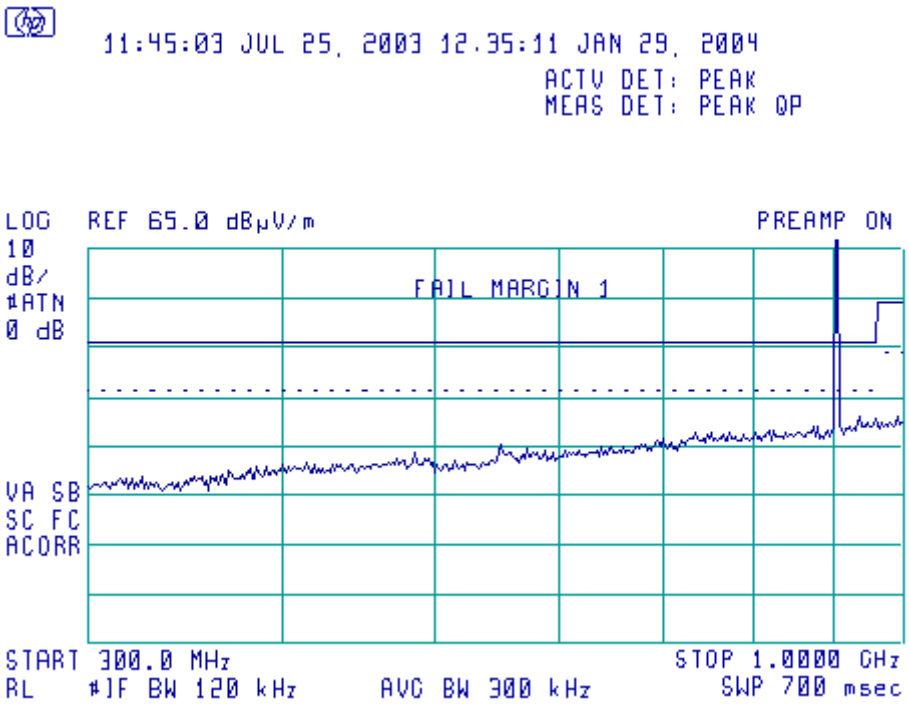
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-Peak Horizontal

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 300 MHz. to 1 GHz.

Vertical Polarisation

The plot shows a swept response of peak values using the quasi-peak limit line

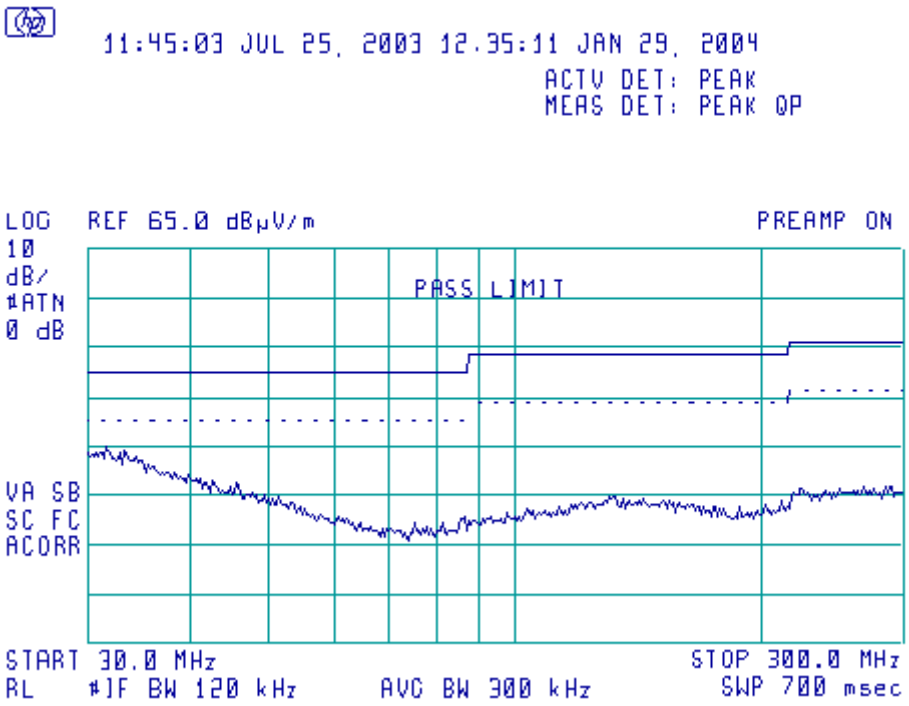
(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-peak Vertical

None.

Measurement Uncertainty of ± 5.2dB Applies

Middle Channel.



Quasi-Peak Values of 30 MHz. to 300 MHz.

Horizontal Polarisation

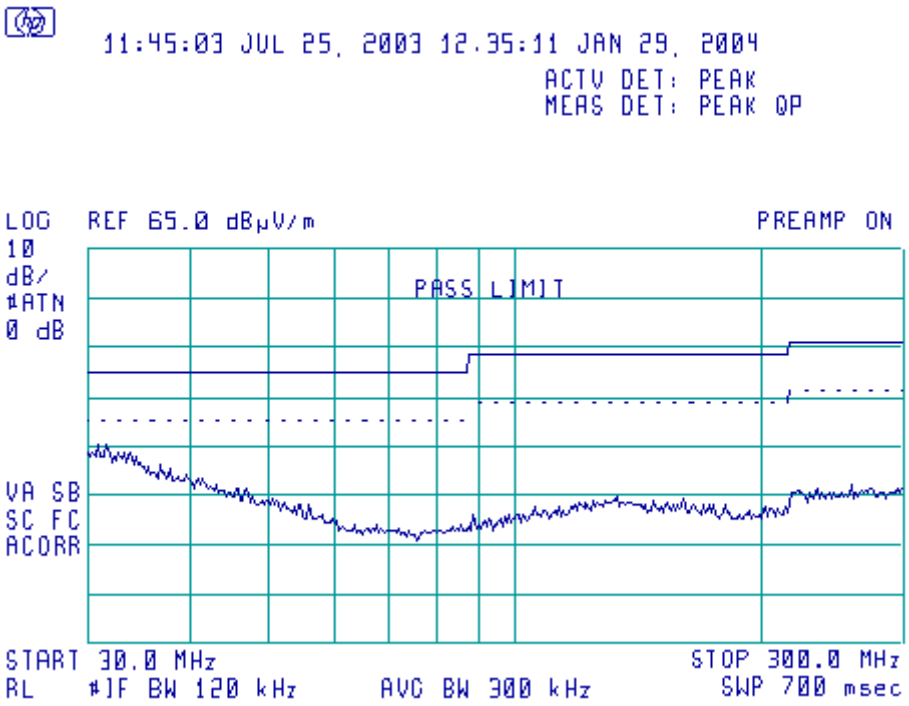
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-Peak Horizontal

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 30 MHz. to 300 MHz.

Vertical Polarisation

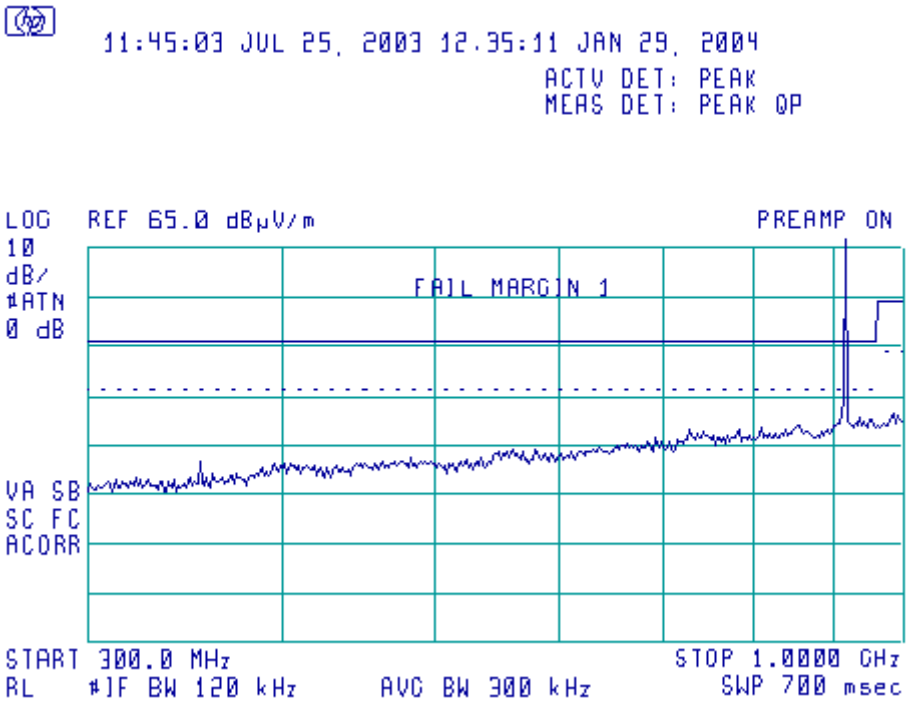
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-peak Vertical

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 300 MHz. to 1 GHz.

Horizontal Polarisation

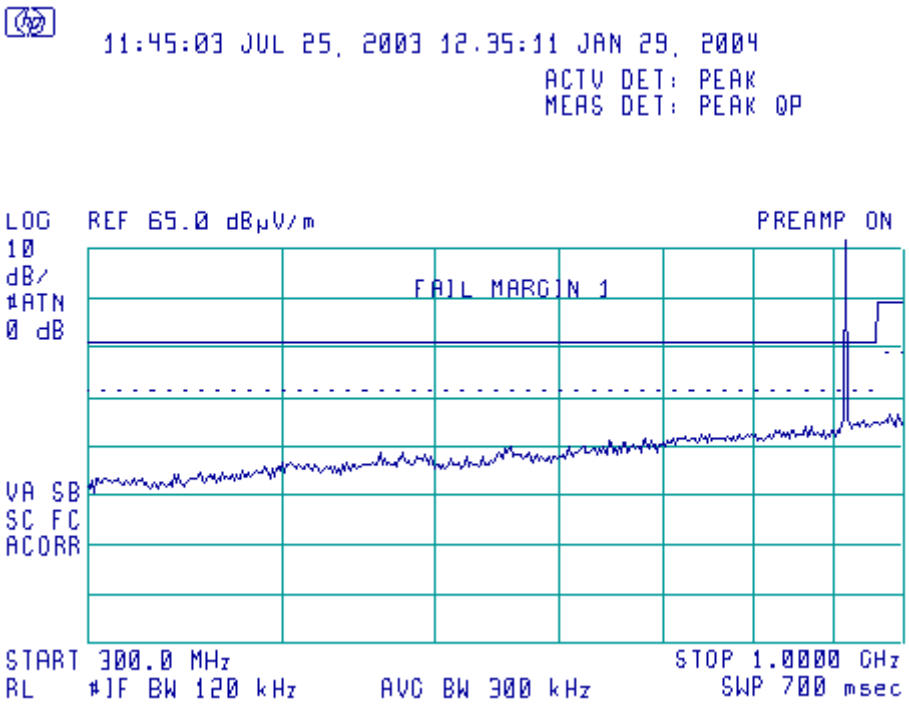
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-Peak Horizontal

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 300 MHz. to 1 GHz.

Vertical Polarisation

The plot shows a swept response of peak values using the quasi-peak limit line

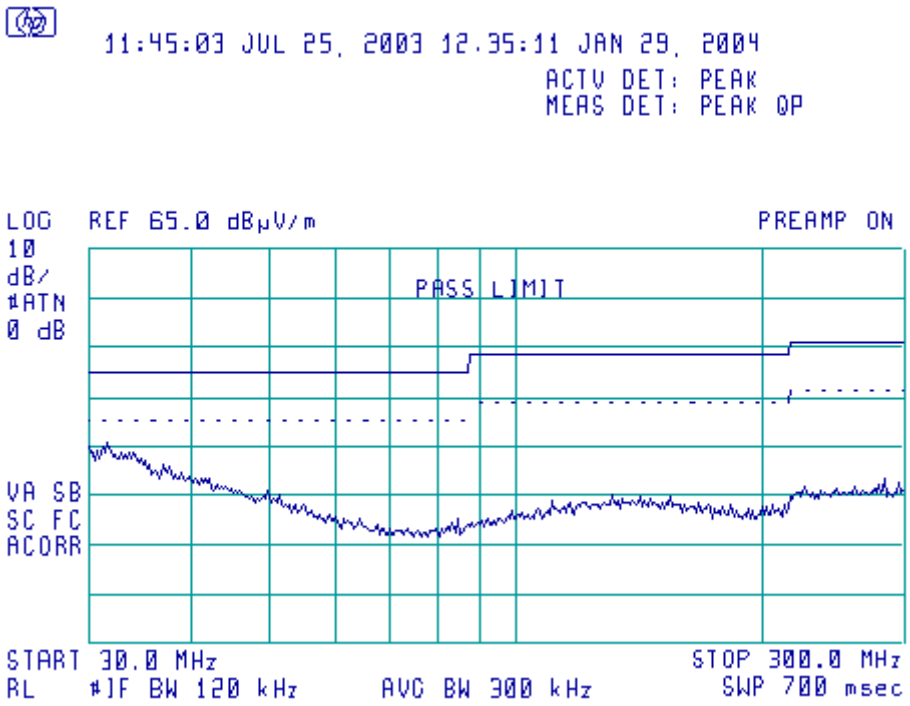
(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-peak Vertical

None.

Measurement Uncertainty of ± 5.2dB Applies

Top Channel.



Quasi-Peak Values of 30 MHz. to 300 MHz.

Horizontal Polarisation

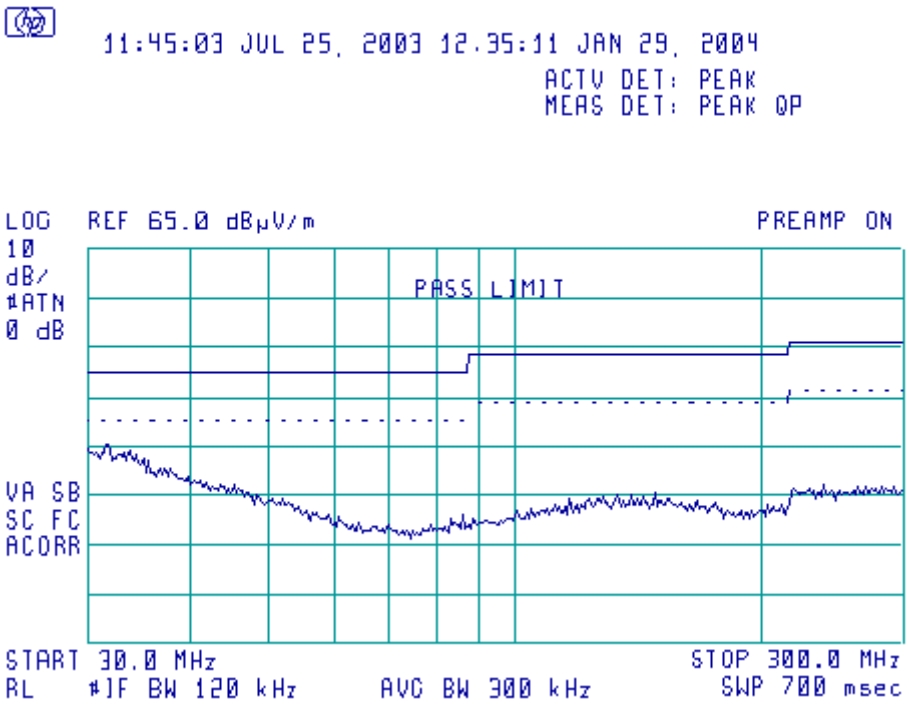
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-Peak Horizontal

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 30 MHz. to 300 MHz.

Vertical Polarisation

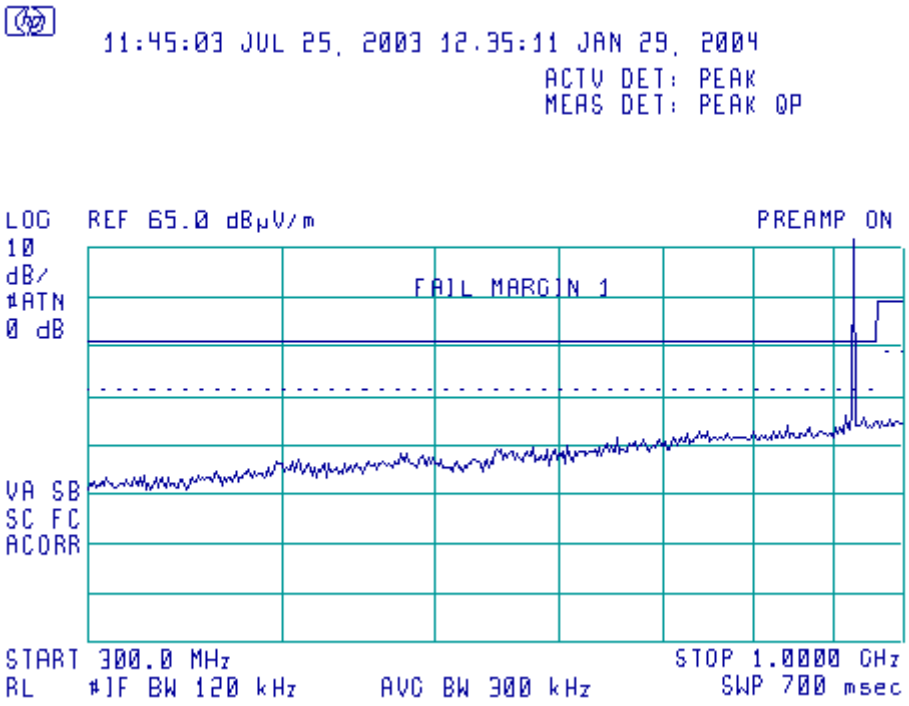
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-peak Vertical

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 300 MHz. to 1 GHz.

Horizontal Polarisation

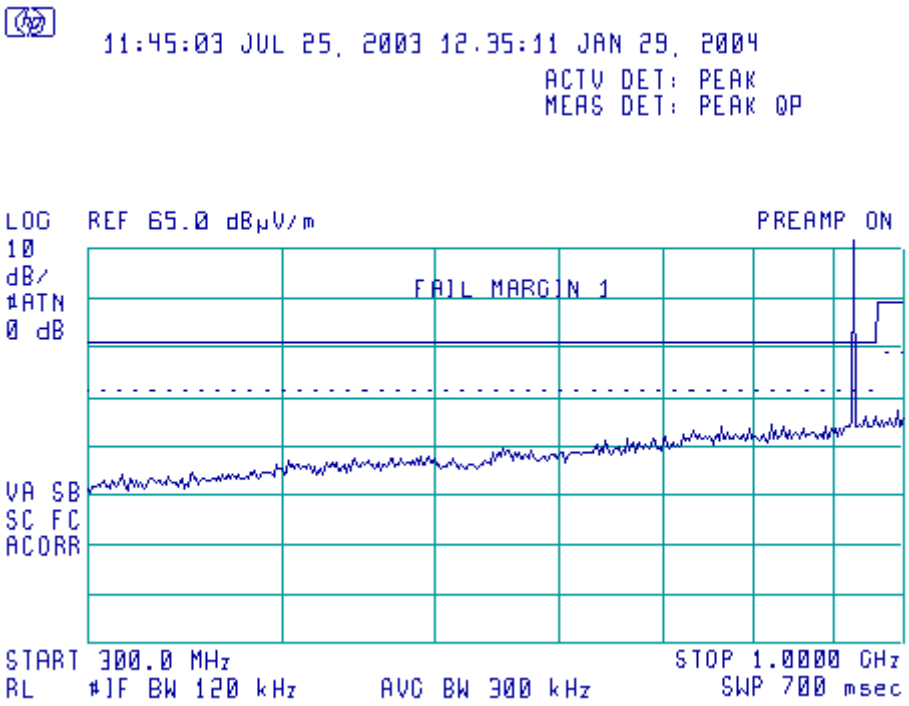
The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

Table of signals within 20dB of the limit line for Quasi-Peak Horizontal

None.

Measurement Uncertainty of ± 5.2dB Applies



Quasi-Peak Values of 300 MHz. to 1 GHz.

Vertical Polarisation

The plot shows a swept response of peak values using the quasi-peak limit line

(Any peaks within 20dB of the limit line have been calculated and appear in the table on following page of this report)

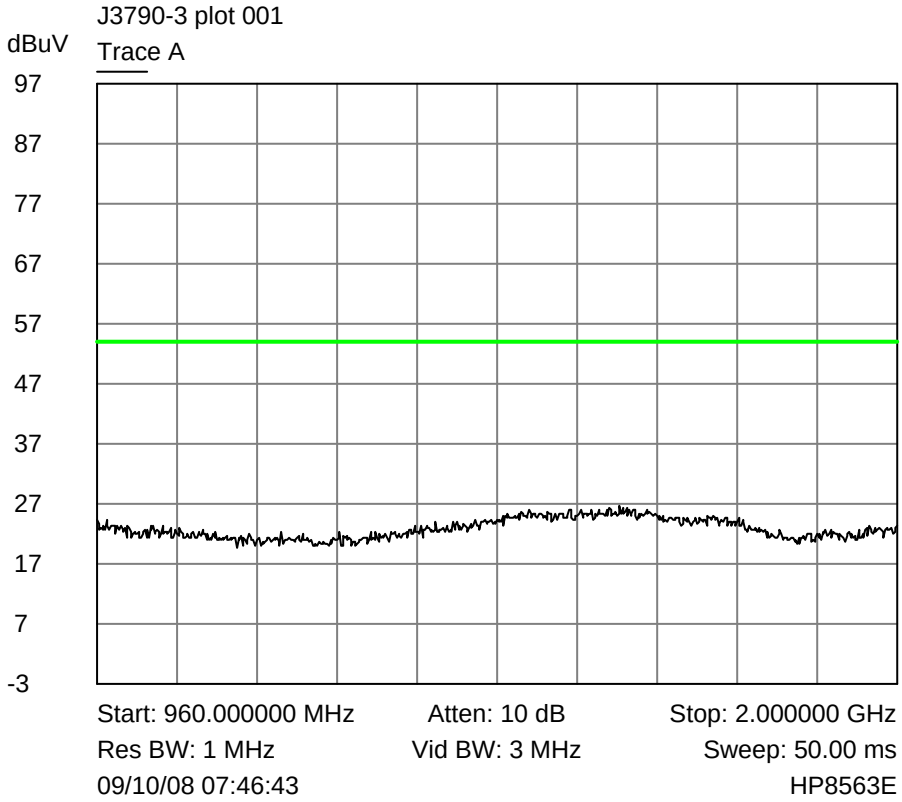
Table of signals within 20dB of the limit line for Quasi-peak Vertical

None

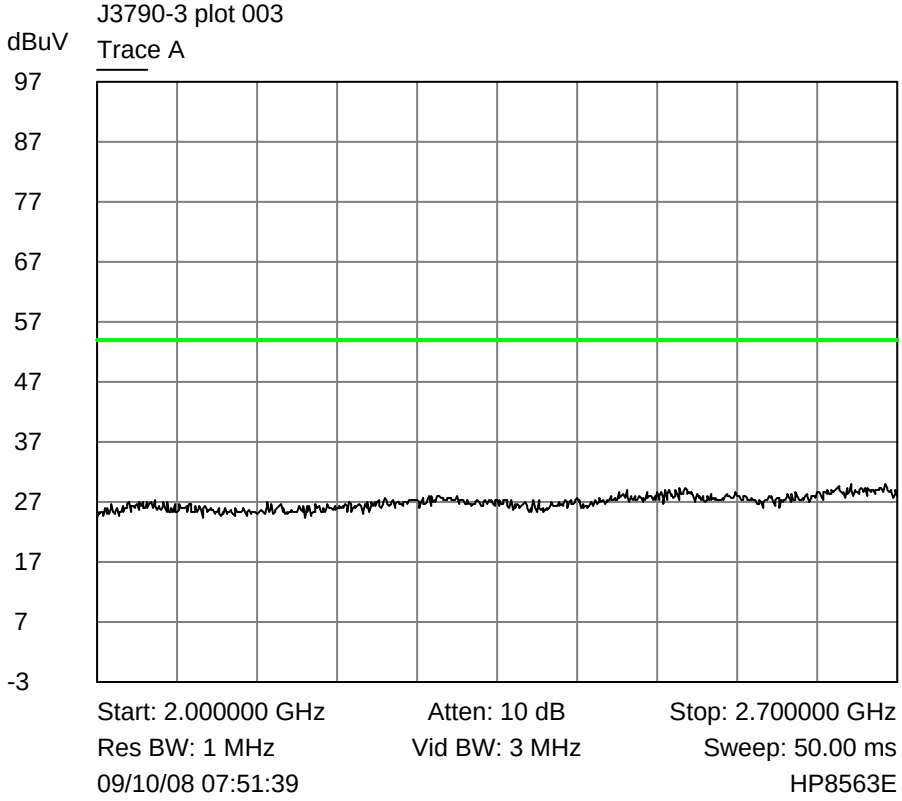
Measurement Uncertainty of ± 5.2dB Applies

Above 1GHz plots.

Bottom Channel.
Horizontal.

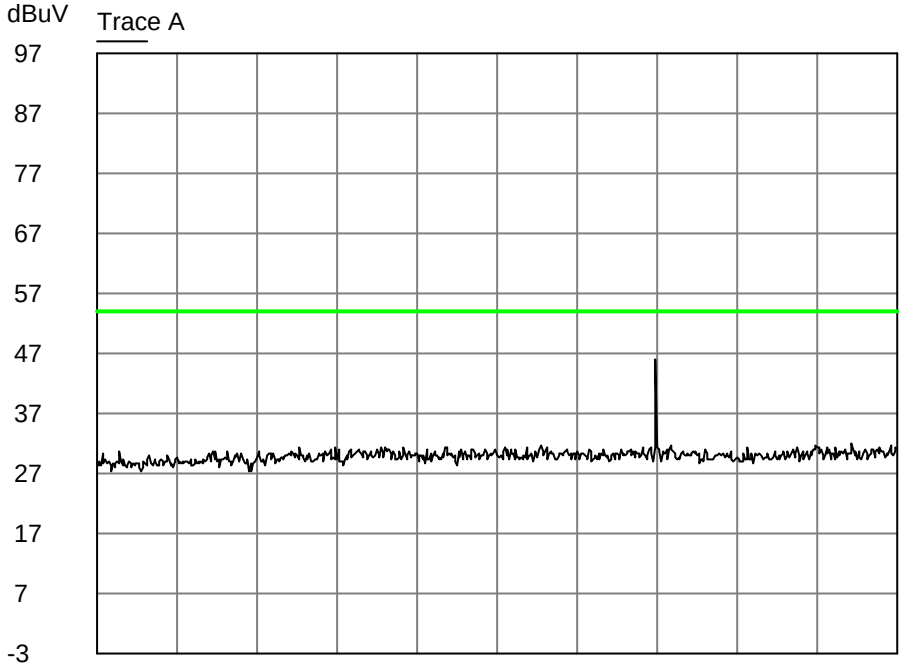


J3790-3 plot 003



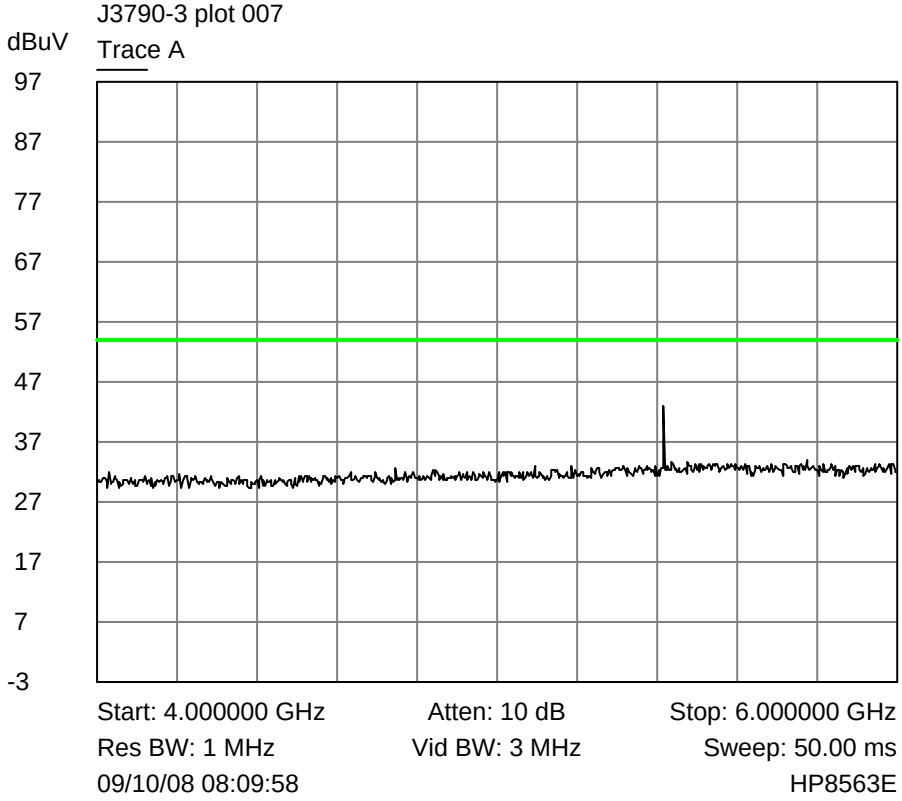
Start: 2.000000 GHz Atten: 10 dB Stop: 2.700000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 07:51:39 HP8563E

J3790-3 plot 006

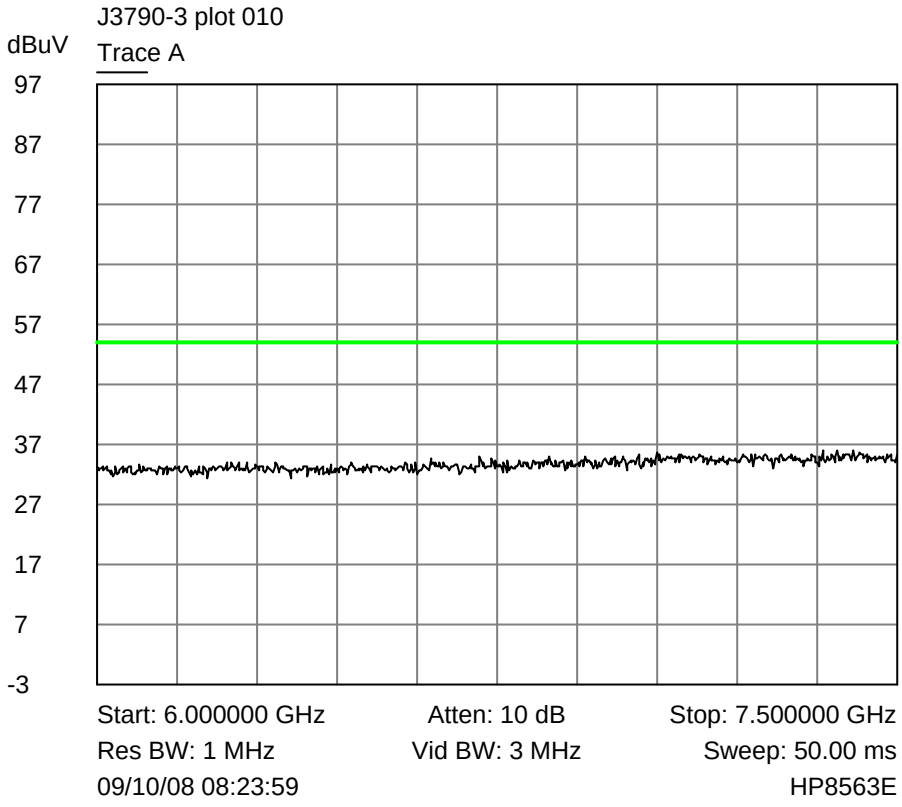


Start: 2.700000 GHz Atten: 10 dB Stop: 4.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 08:01:19 HP8563E

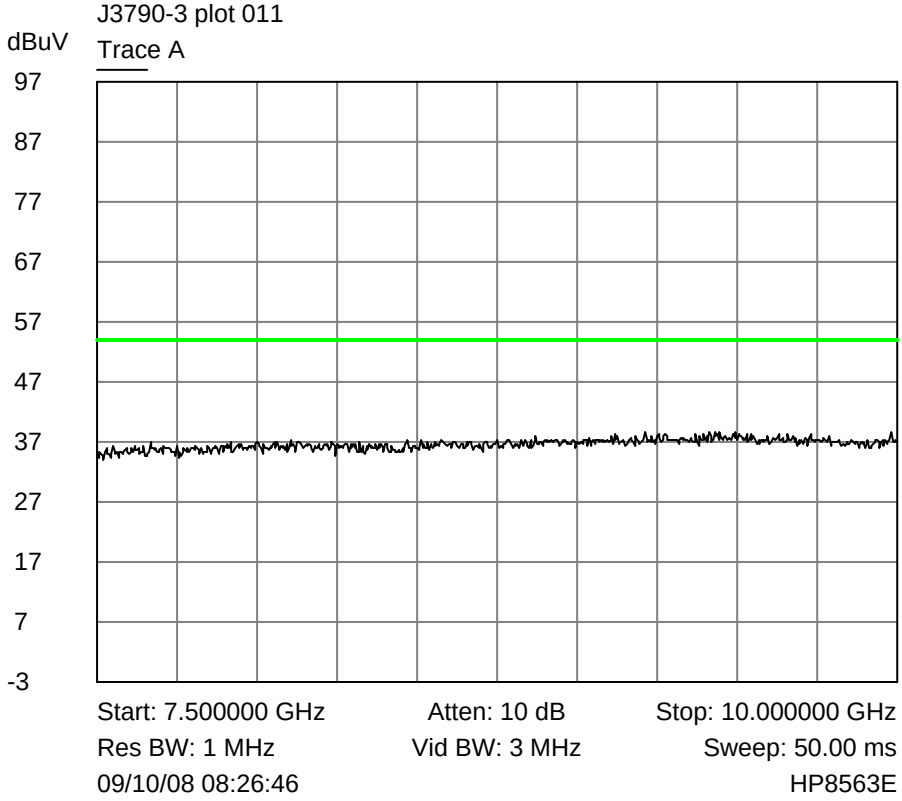
J3790-3 plot 007



J3790-3 plot 010

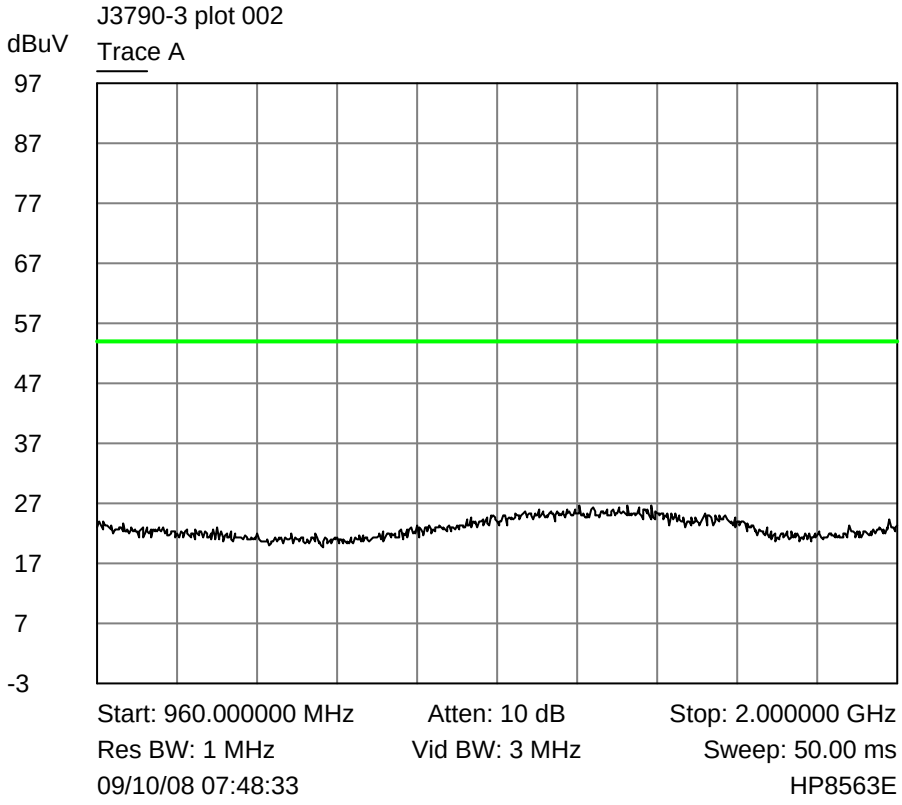


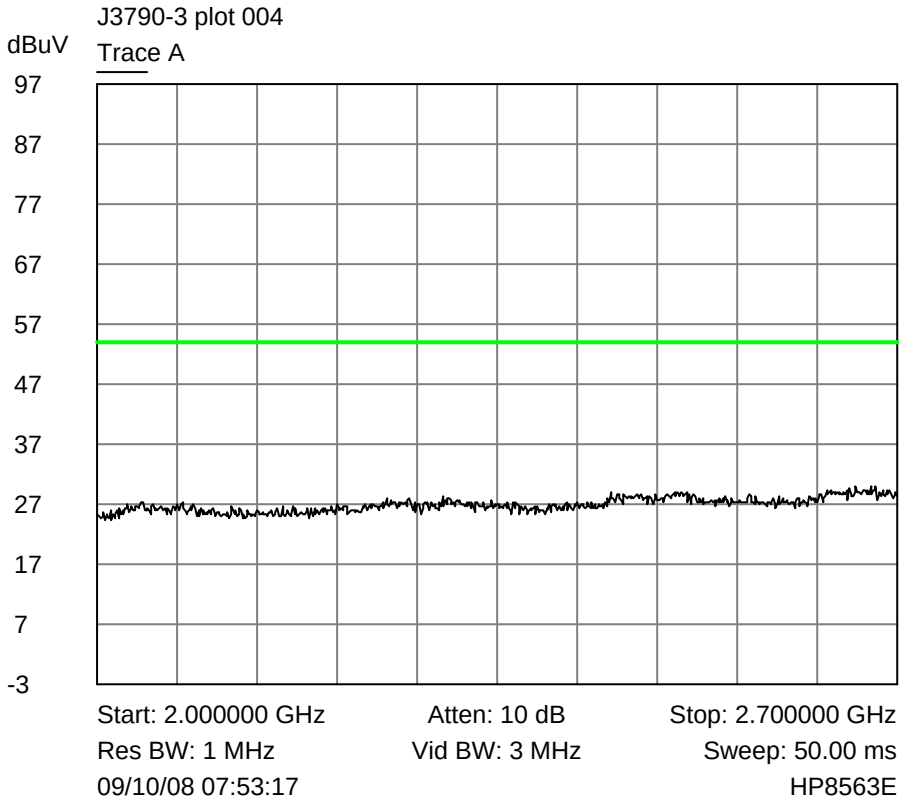
J3790-3 plot 011



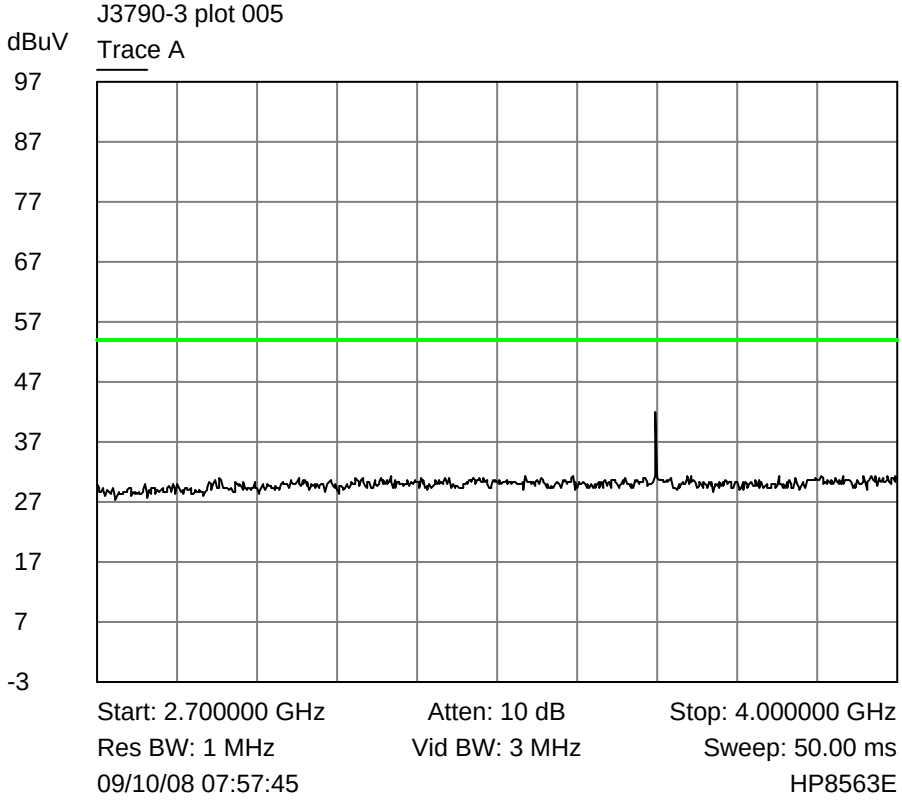
Start: 7.500000 GHz Atten: 10 dB Stop: 10.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 08:26:46 HP8563E

Vertical.

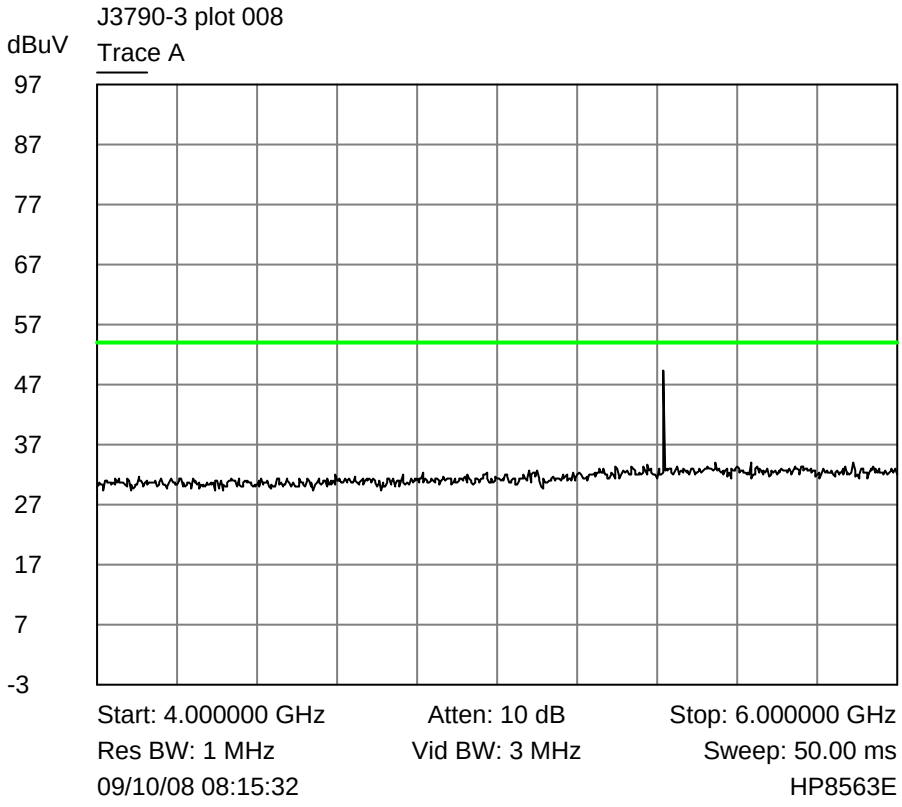




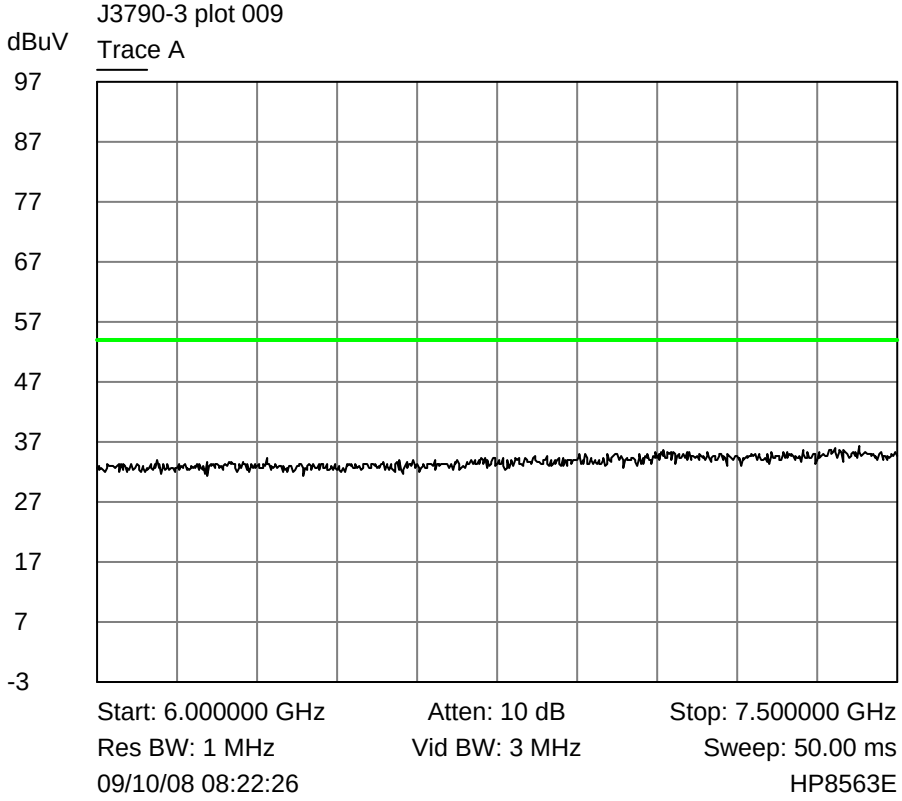
J3790-3 plot 005



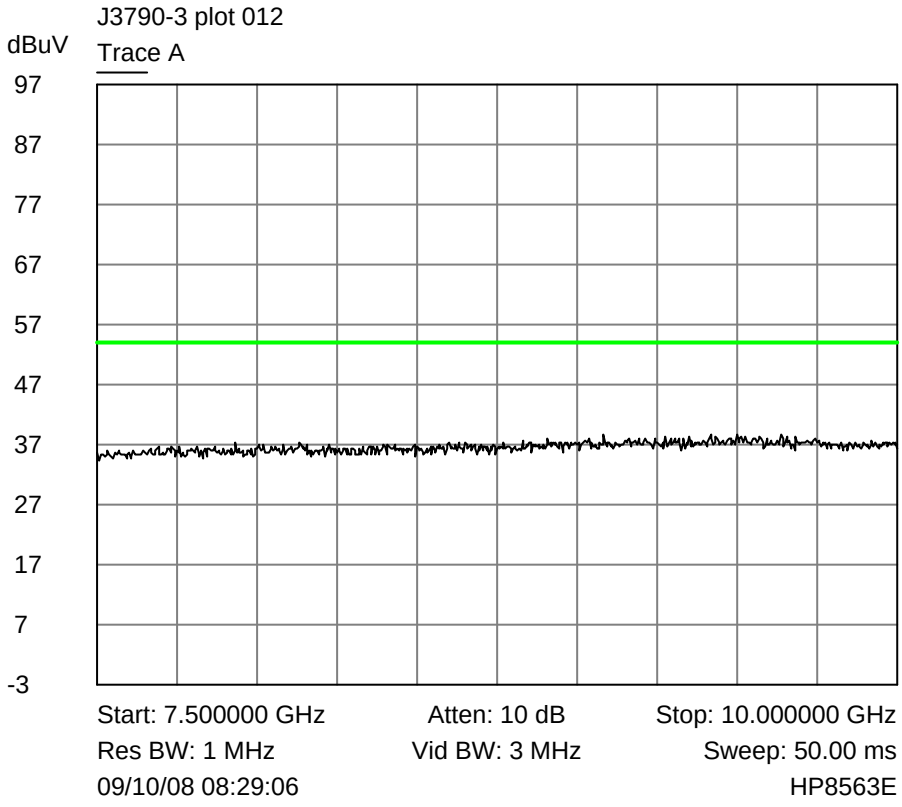
J3790-3 plot 008



J3790-3 plot 009

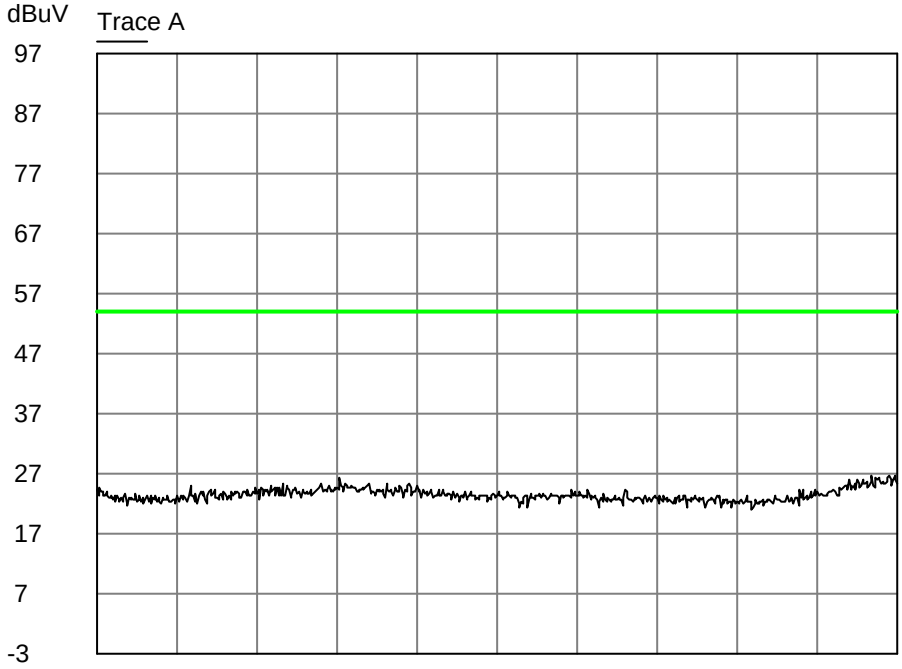


J3790-3 plot 012

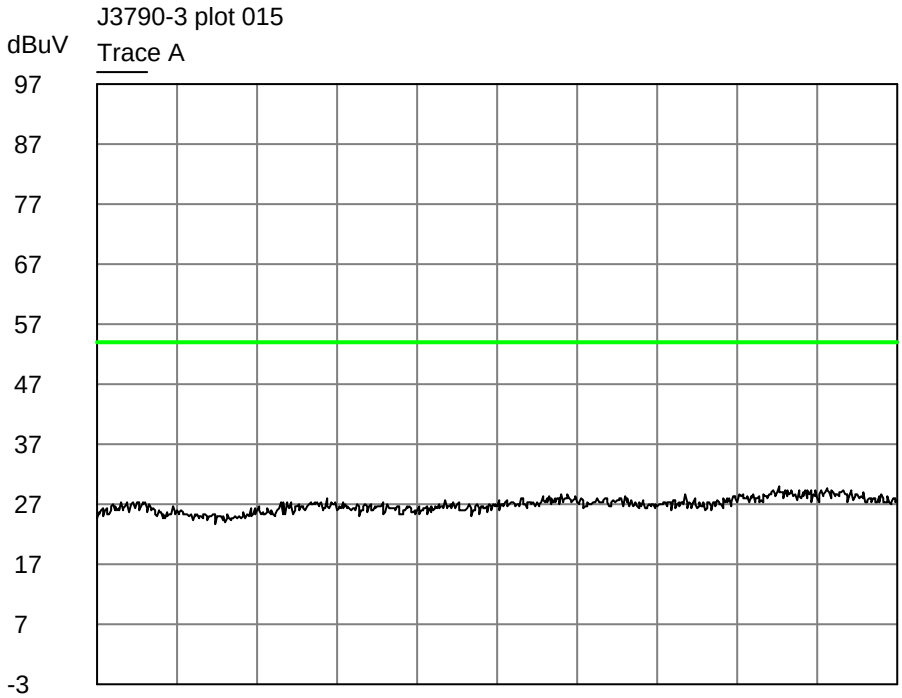


Middle Channel
Horizontal.

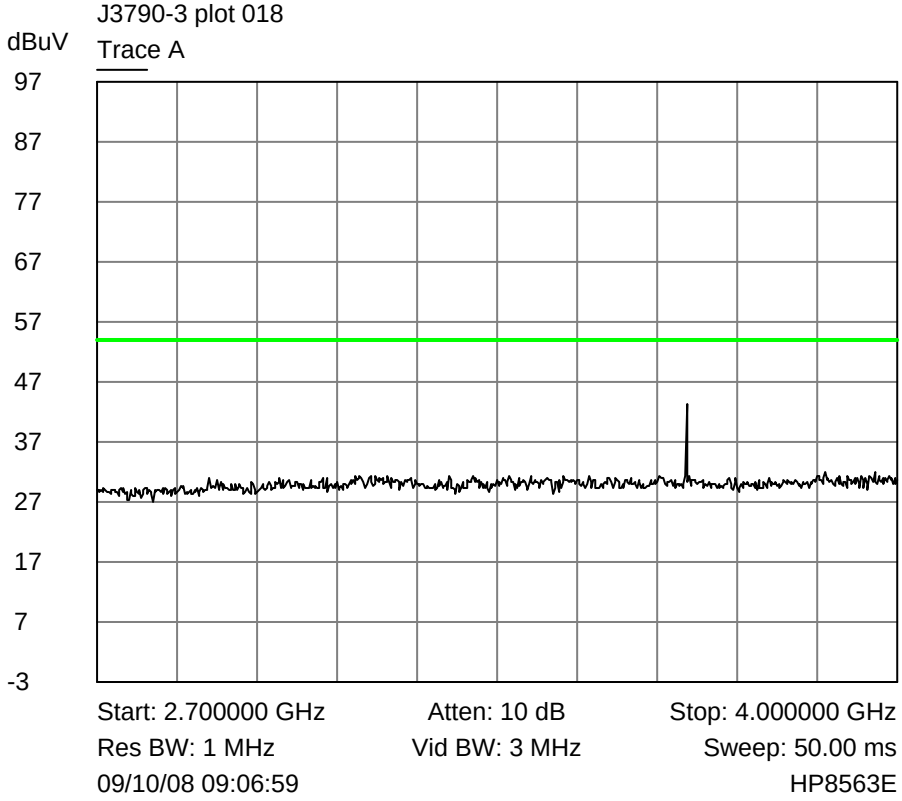
J3790-3 plot 014



J3790-3 plot 015

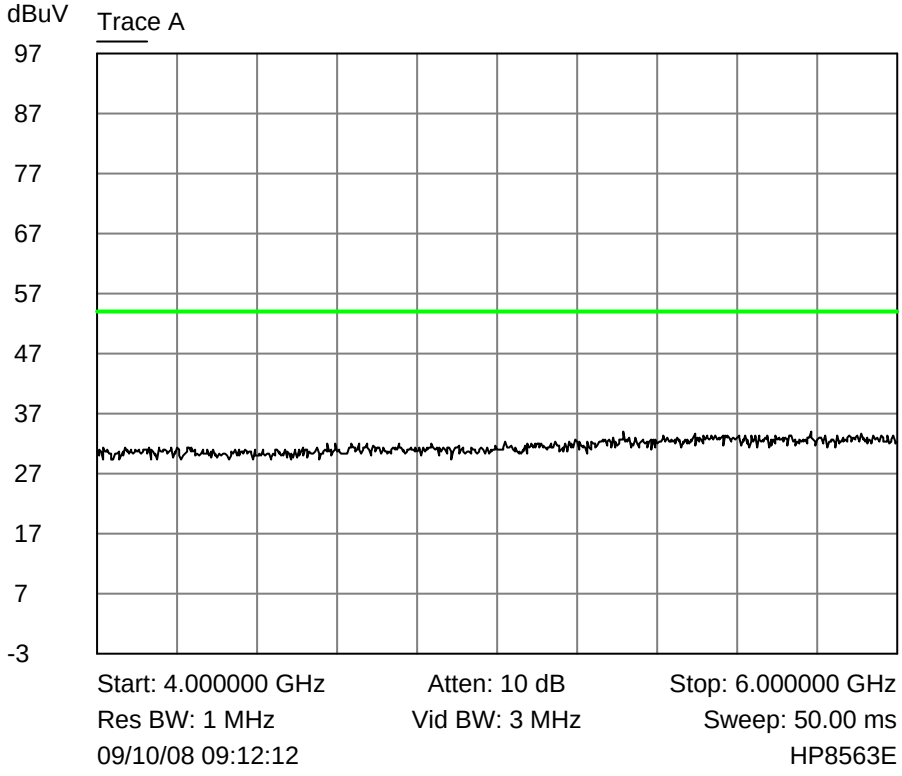


J3790-3 plot 018



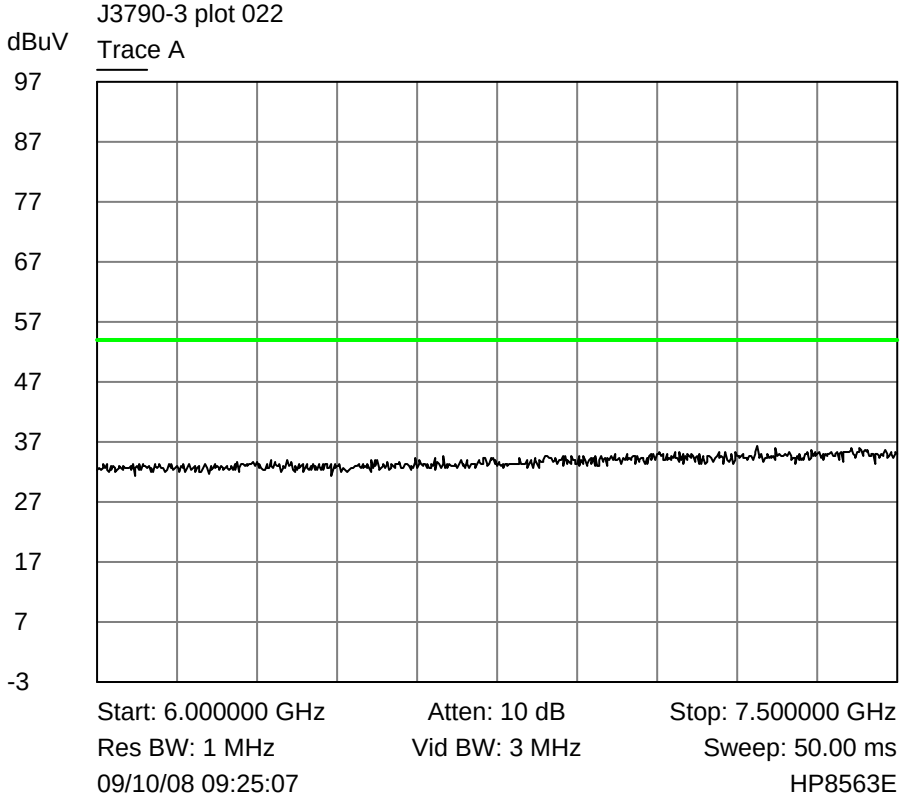
Start: 2.700000 GHz Atten: 10 dB Stop: 4.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:06:59 HP8563E

J3790-3 plot 019



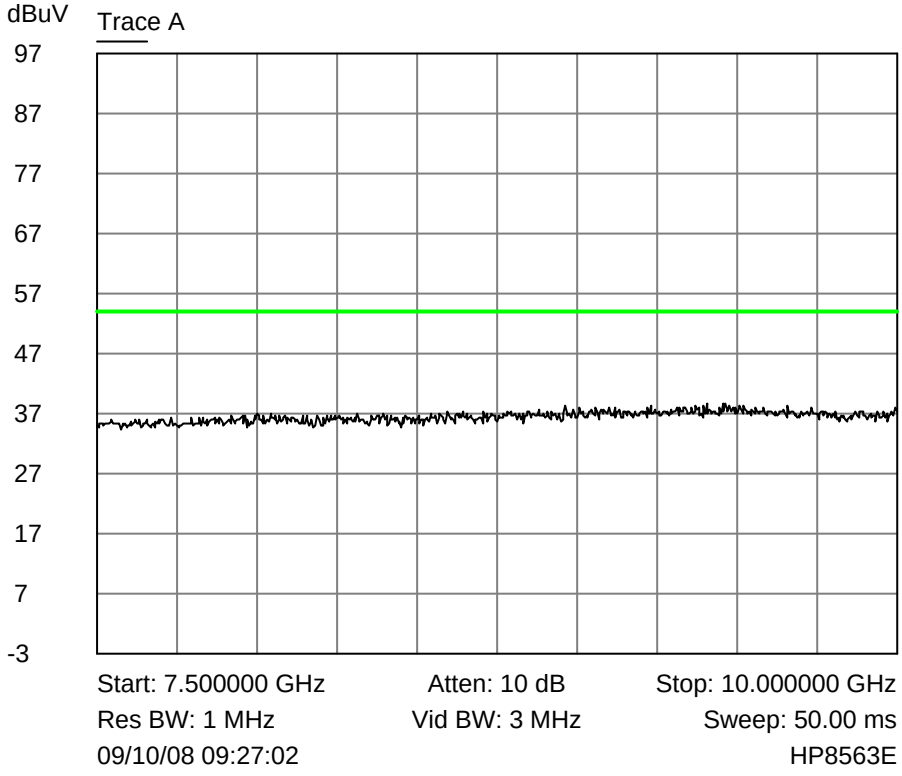
Start: 4.000000 GHz Atten: 10 dB Stop: 6.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:12:12 HP8563E

J3790-3 plot 022



Start: 6.000000 GHz Atten: 10 dB Stop: 7.500000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:25:07 HP8563E

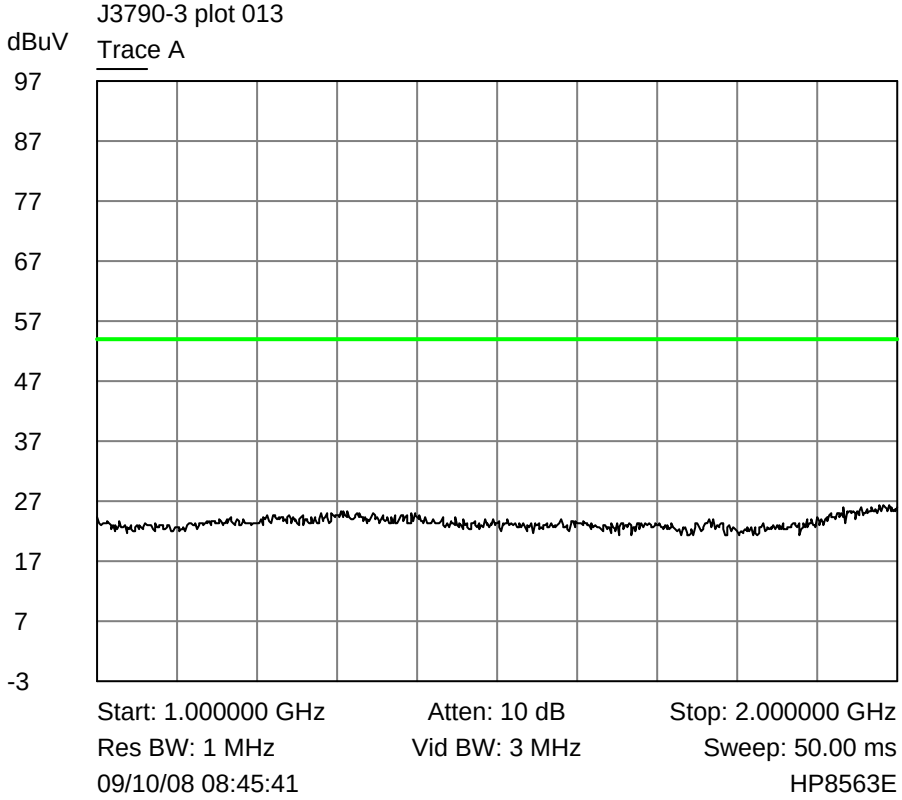
J3790-3 plot 023



Start: 7.500000 GHz Atten: 10 dB Stop: 10.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:27:02 HP8563E

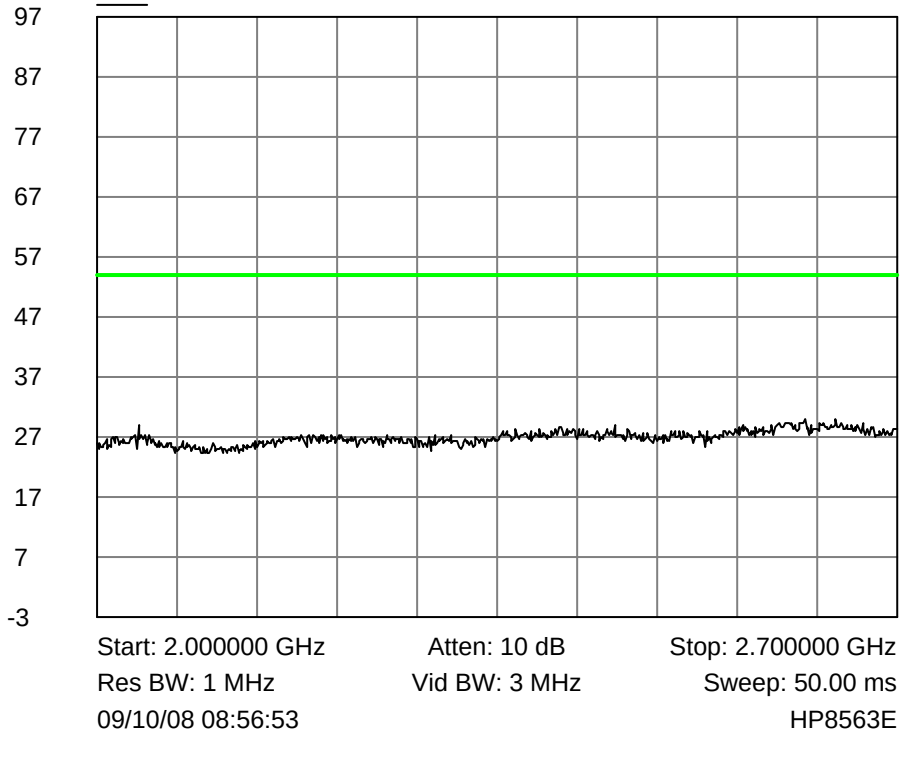
Vertical.

J3790-3 plot 013



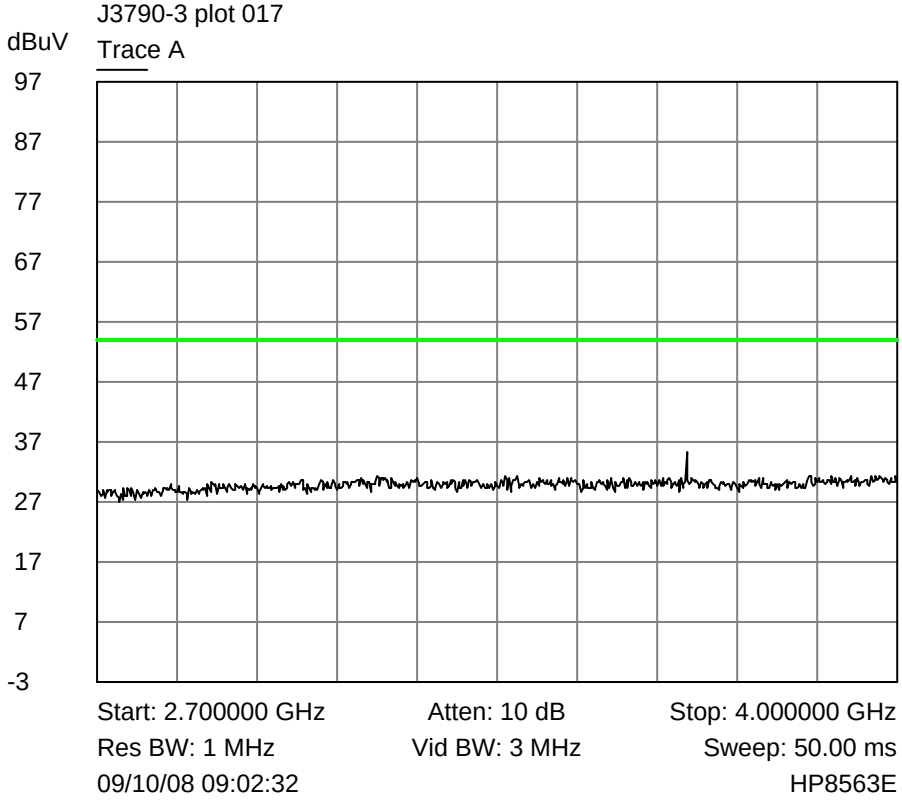
Start: 1.000000 GHz Atten: 10 dB Stop: 2.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 08:45:41 HP8563E

J3790-3 plot 016



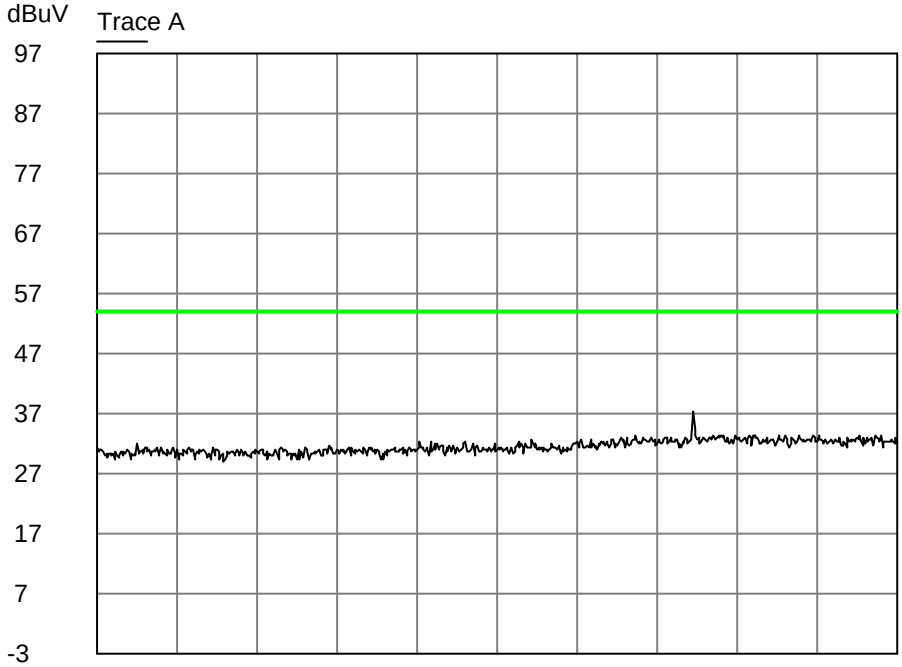
Start: 2.000000 GHz Atten: 10 dB Stop: 2.700000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 08:56:53 HP8563E

J3790-3 plot 017



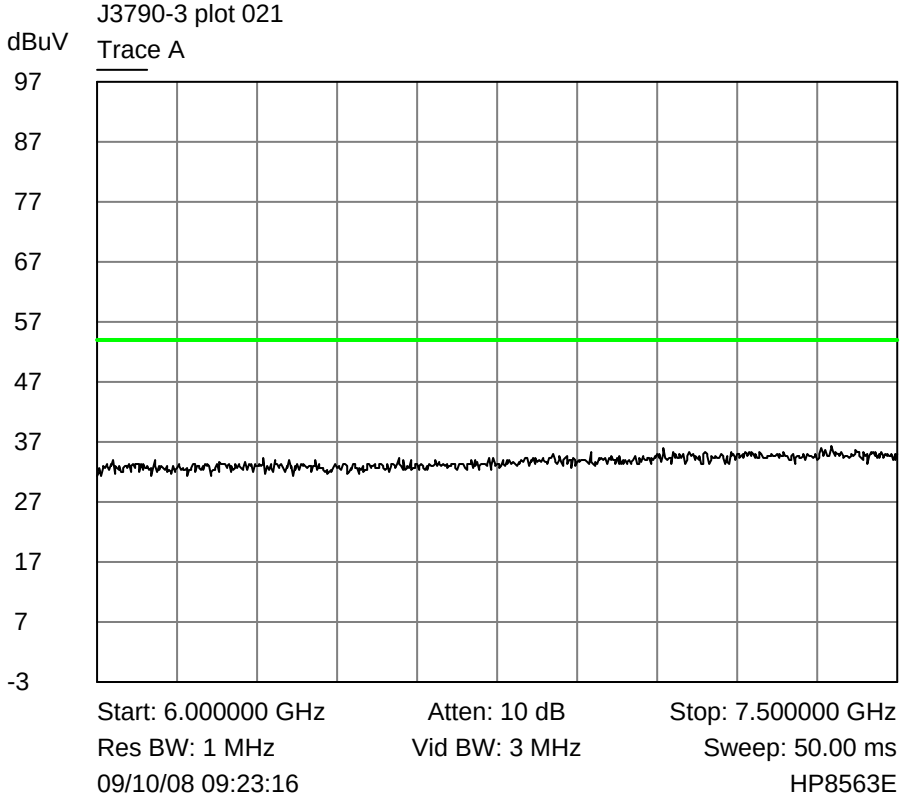
Start: 2.700000 GHz Atten: 10 dB Stop: 4.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:02:32 HP8563E

J3790-3 plot 020

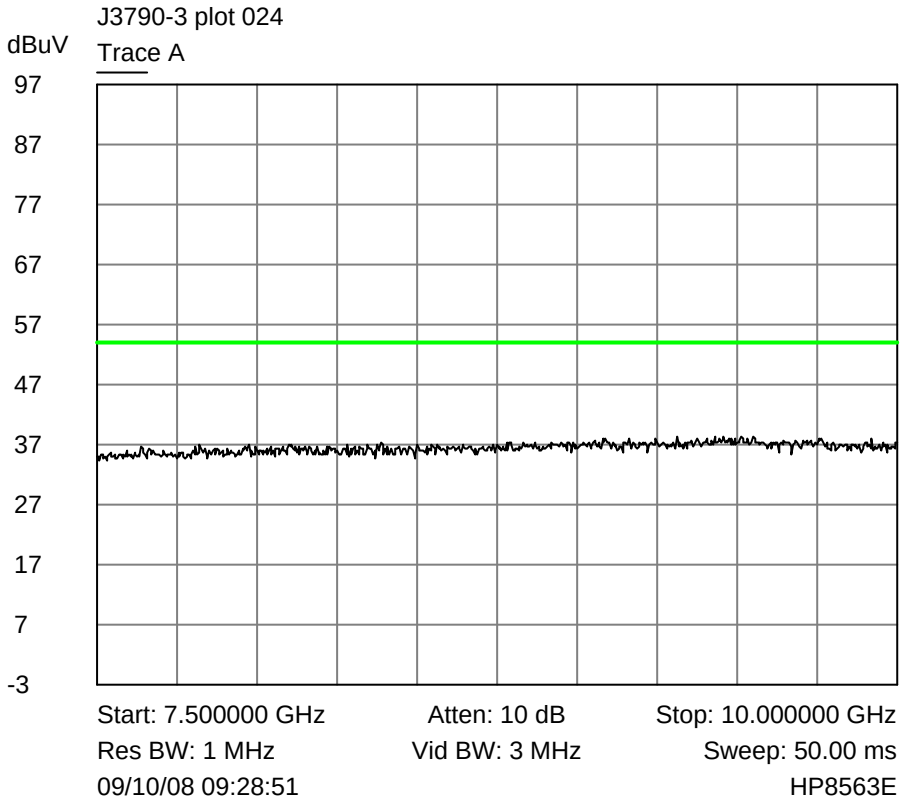


Start: 4.000000 GHz Atten: 10 dB Stop: 6.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:20:34 HP8563E

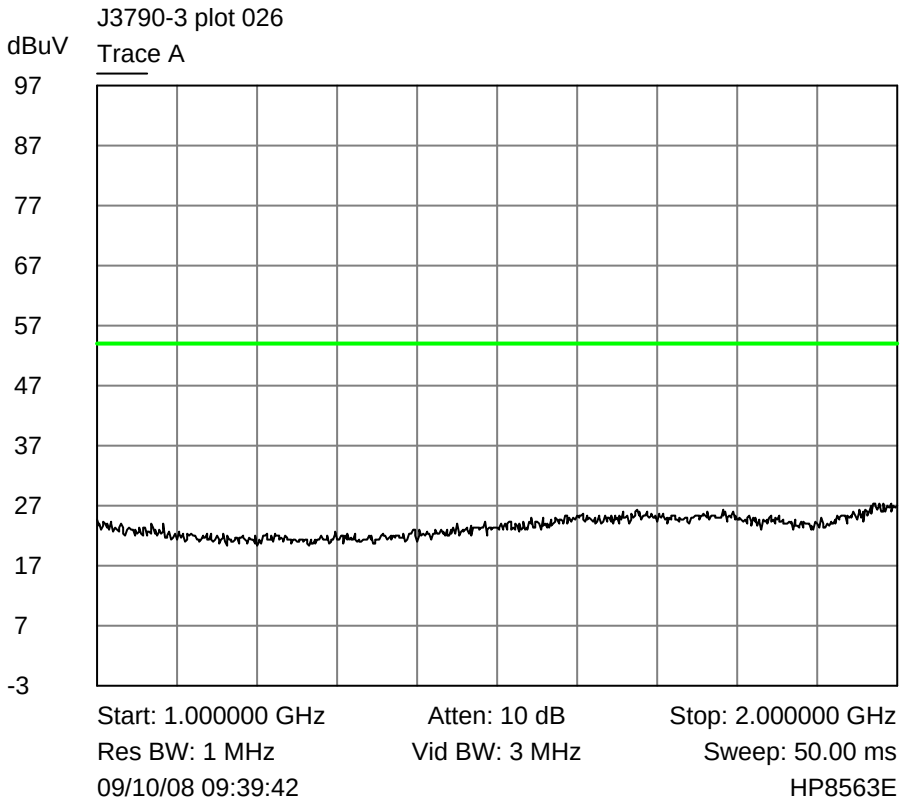
J3790-3 plot 021

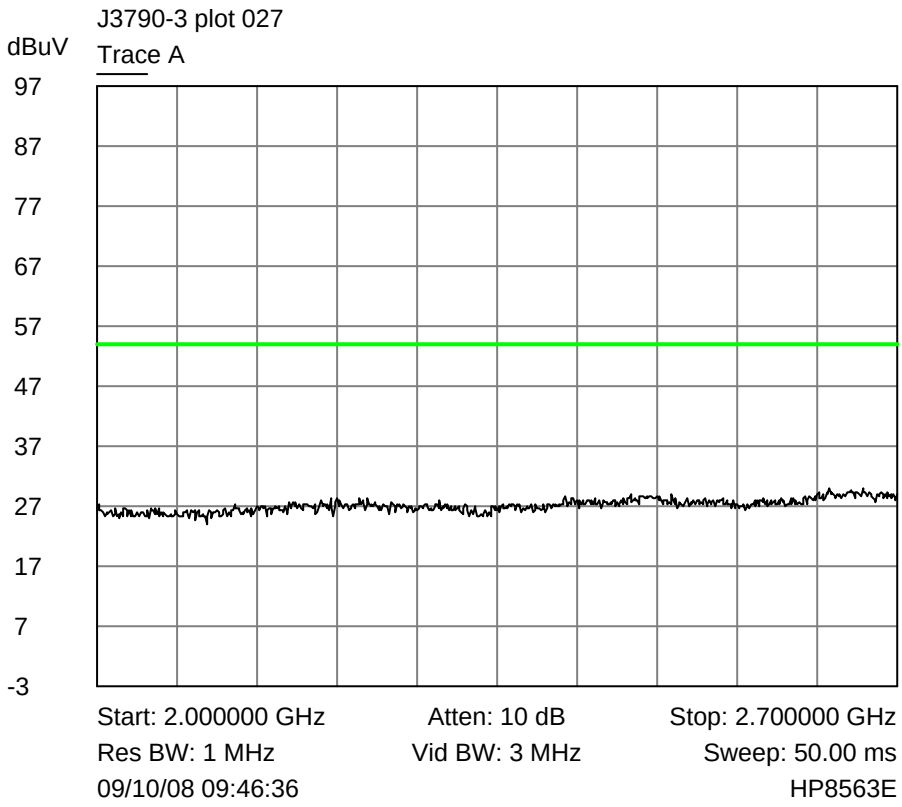


J3790-3 plot 024

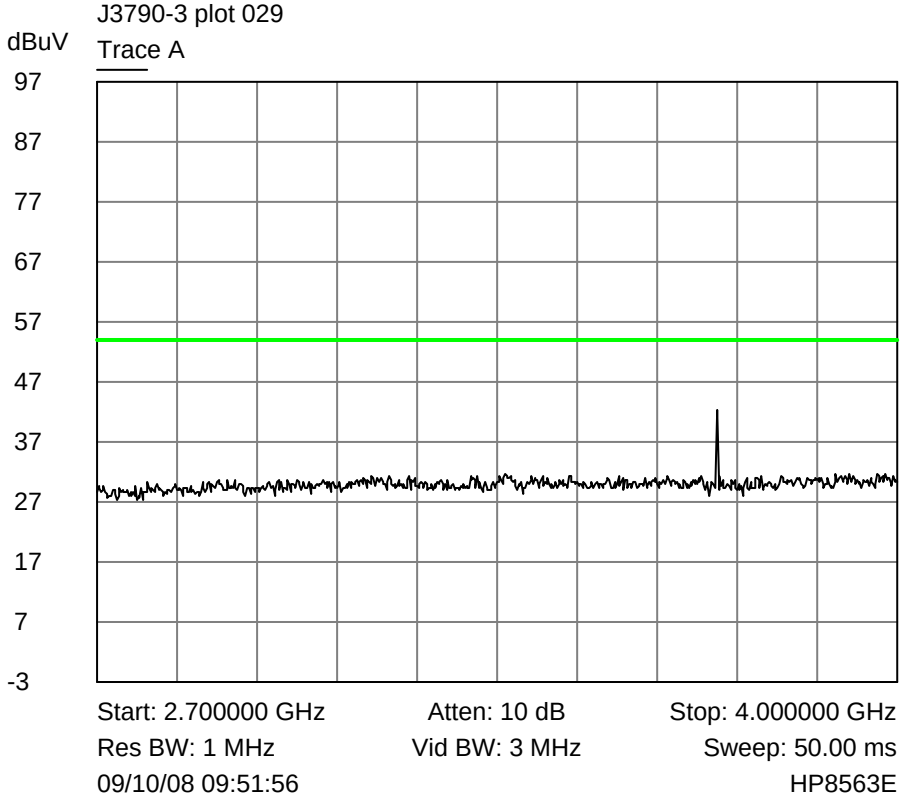


Top Channel
Horizontal.



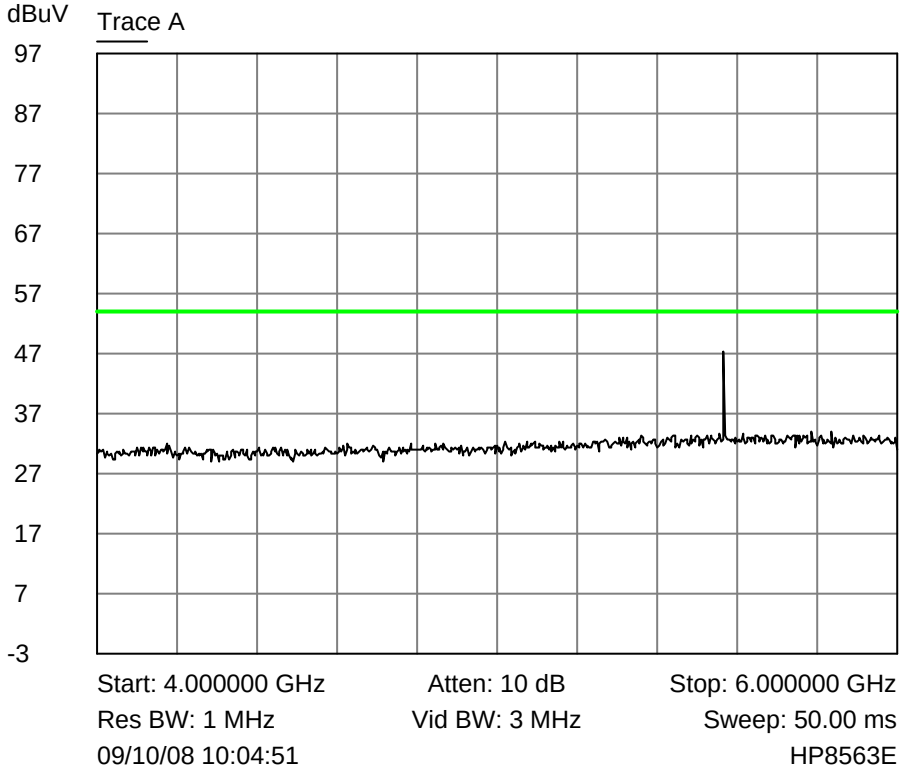


J3790-3 plot 029



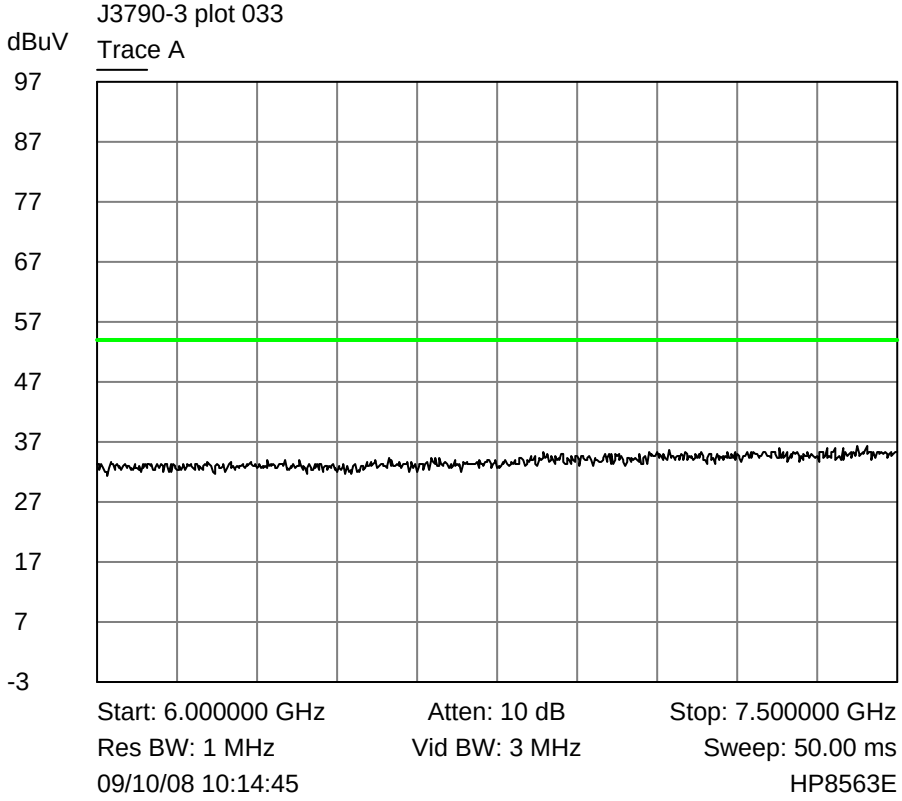
Start: 2.700000 GHz Atten: 10 dB Stop: 4.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:51:56 HP8563E

J3790-3 plot 032

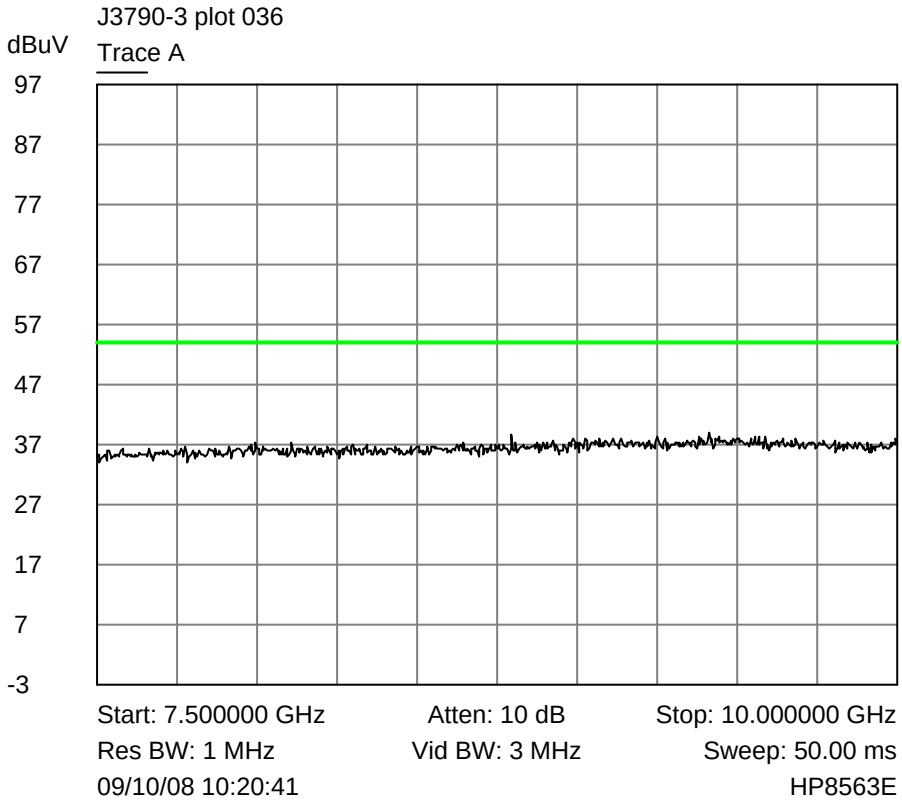


Start: 4.000000 GHz Atten: 10 dB Stop: 6.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 10:04:51 HP8563E

J3790-3 plot 033

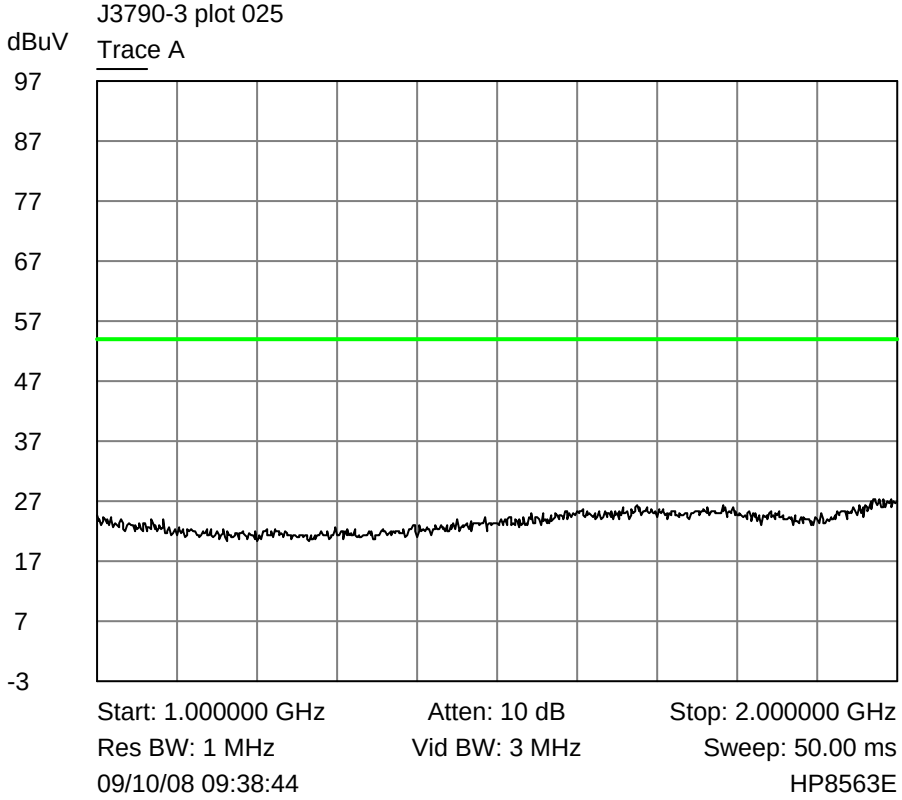


J3790-3 plot 036



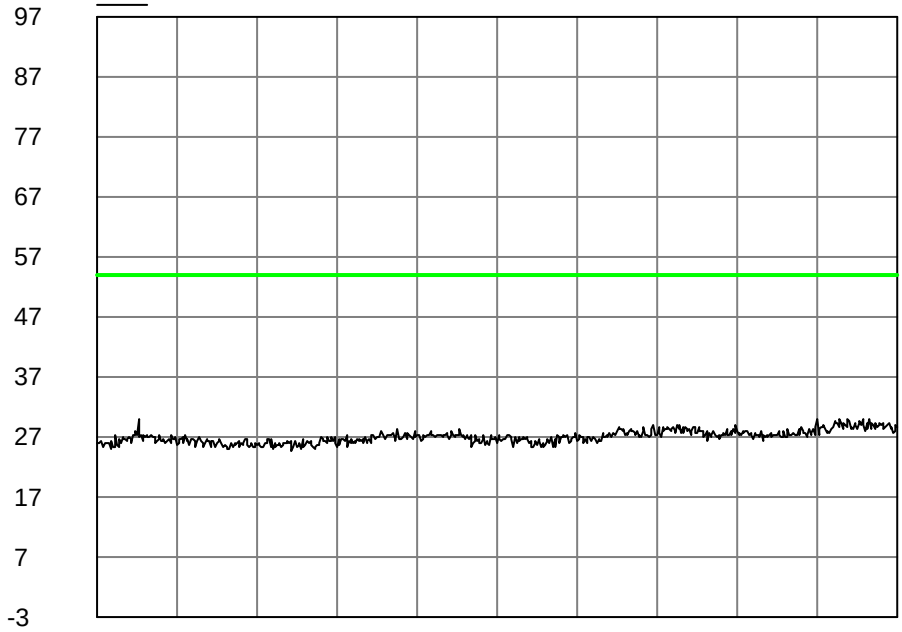
Vertical.

J3790-3 plot 025



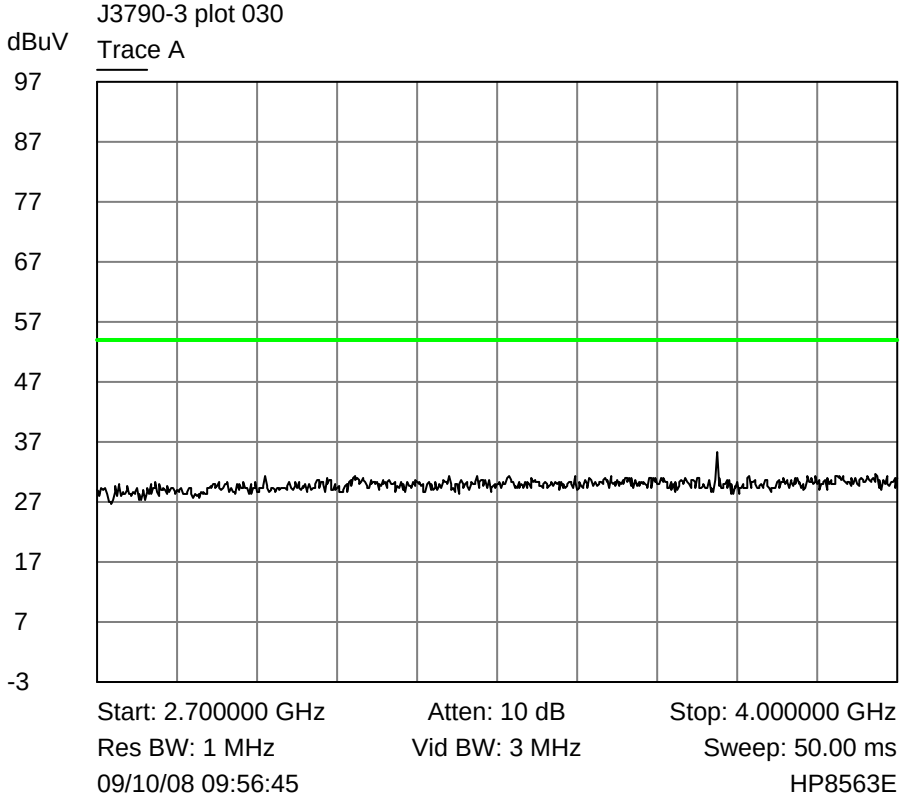
Start: 1.000000 GHz Atten: 10 dB Stop: 2.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:38:44 HP8563E

J3790-3 plot 028



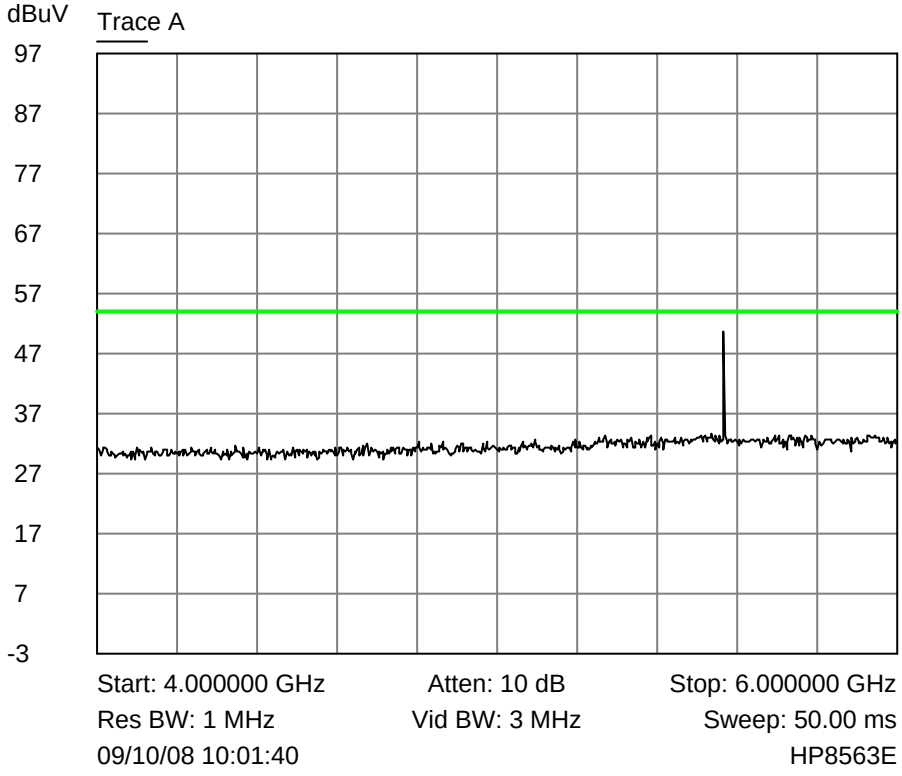
Start: 2.000000 GHz Atten: 10 dB Stop: 2.700000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:47:58 HP8563E

J3790-3 plot 030



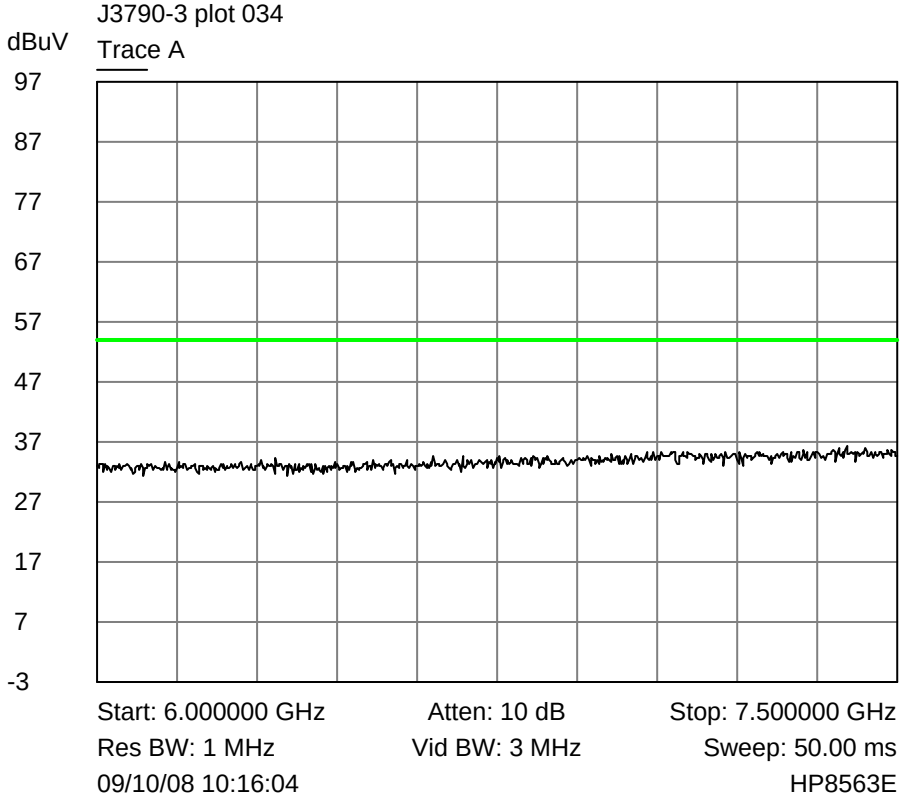
Start: 2.700000 GHz Atten: 10 dB Stop: 4.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 09:56:45 HP8563E

J3790-3 plot 031

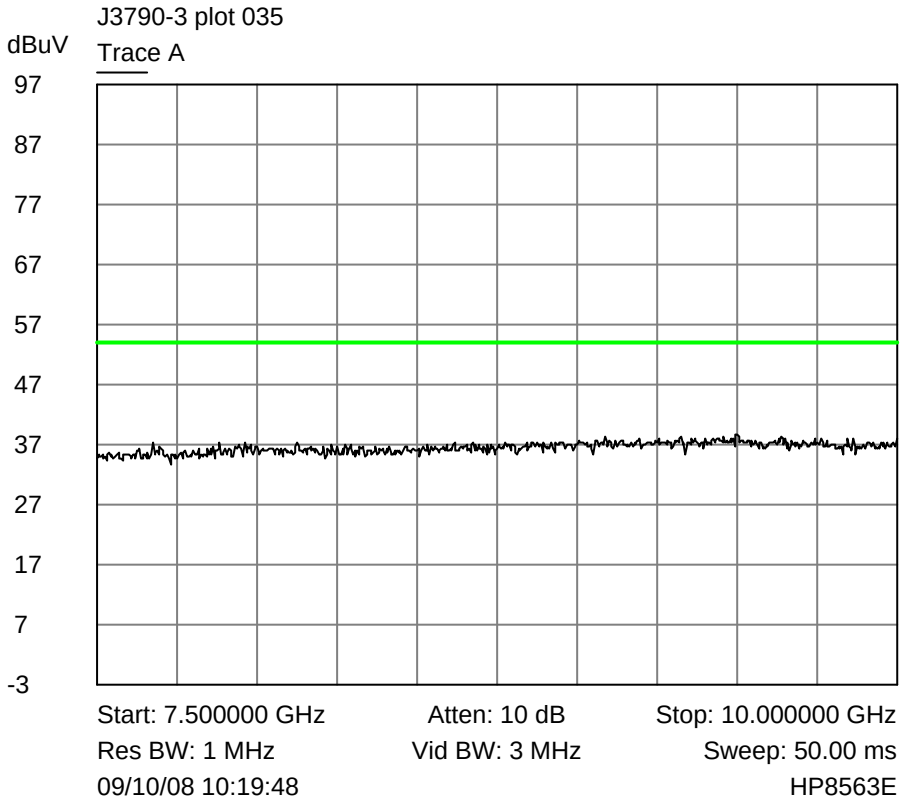


Start: 4.000000 GHz Atten: 10 dB Stop: 6.000000 GHz
Res BW: 1 MHz Vid BW: 3 MHz Sweep: 50.00 ms
09/10/08 10:01:40 HP8563E

J3790-3 plot 034



J3790-3 plot 035



Above 1GHz radiated emissions signal lists.

Bottom channel TX

Number	Frequency (MHz)	Measured Average	Measured – Limit (54dBuV/m)	Measuring Antenna Polarisation
1	3610	49.5	-4.5	Horizontal
2	3610	42.0	-12.0	Vertical
3	5415	45.0	-9.0	Horizontal
4	5415	50.8	-3.2	Vertical

Middle channel TX

Number	Frequency (MHz)	Measured Average	Measured – Limit (54dBuV/m)	Measuring Antenna Polarisation
1	3660	38.0	-16.0	Vertical
2	3660	46.0	-8.0	Horizontal
3	5490	50.1	-3.9	Horizontal
4	5490	52.0	-2.0	Vertical

Top channel TX

Number	Frequency (MHz)	Measured Average	Measured – Limit (54dBuV/m)	Measuring Antenna Polarisation
1	3710	44.5	-9.5	Horizontal
2	3710	40.0	-14.0	Vertical
3	5565	52.0	-2.0	Vertical
4	5565	50.1	-3.9	Horizontal

Receive modes.
Bottom channel RX

Number	Frequency (MHz)	Measured Average	Measured – Limit (54dBuV/m)	Measuring Antenna Polarisation
1	5415	51.0	-3.0	Horizontal
2	5415	53.1	-0.9	Vertical

Middle channel RX

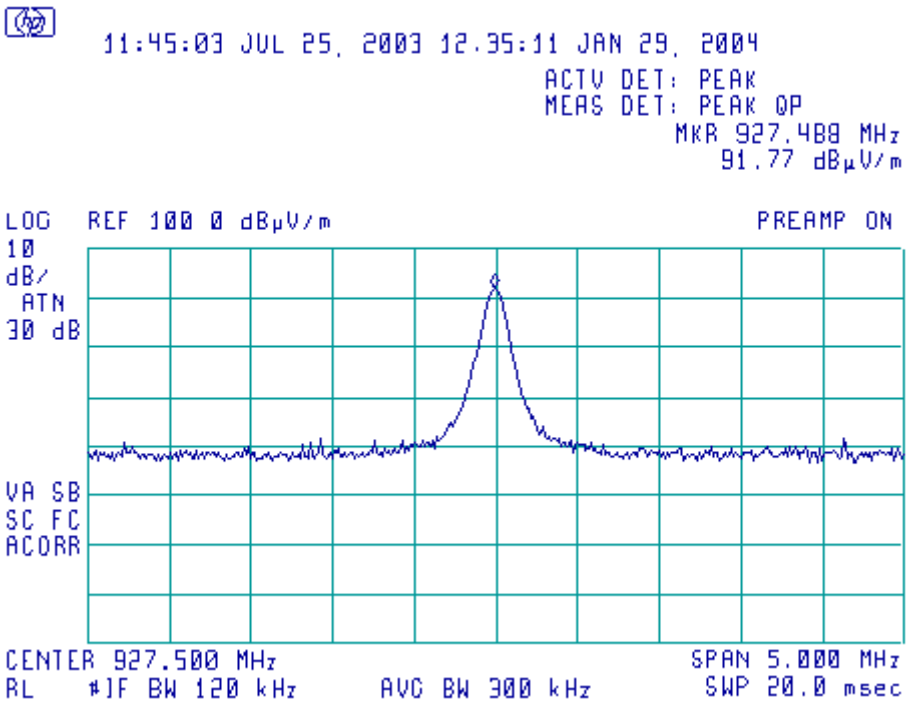
Number	Frequency (MHz)	Measured Average	Measured – Limit (54dBuV/m)	Measuring Antenna Polarisation
1	5490	50.0	-4.0	Horizontal
2	5490	53.5	-0.5	Vertical

Top channel RX

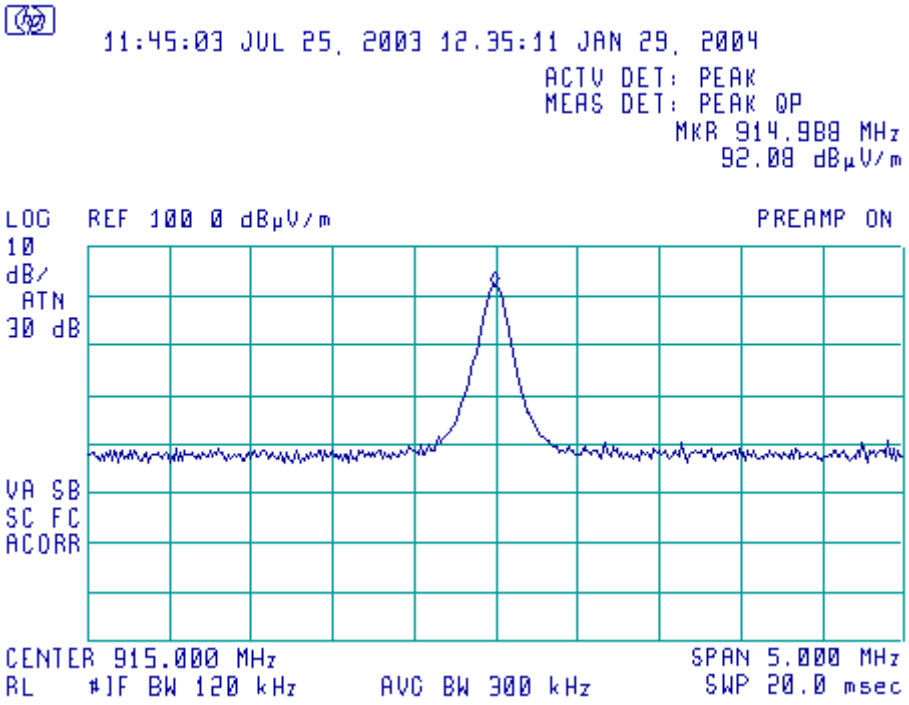
Number	Frequency (MHz)	Measured Average	Measured – Limit (54dBuV/m)	Measuring Antenna Polarisation
1	5565	54.0	-0.0	Horizontal
2	5565	54.0	-0.0	Vertical

6.3 Fundamental Emissions

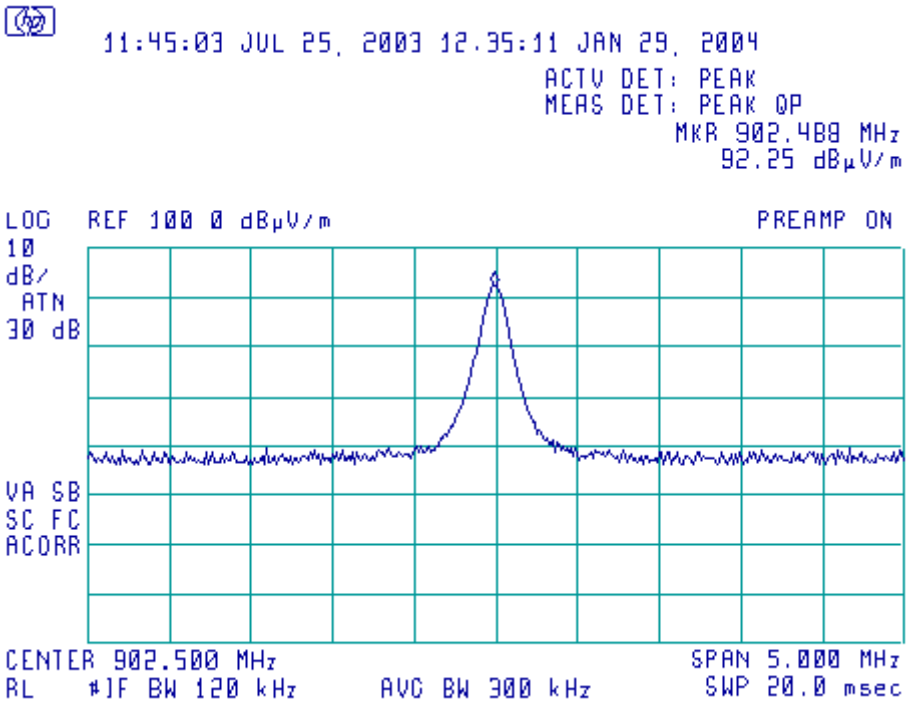
Top channel



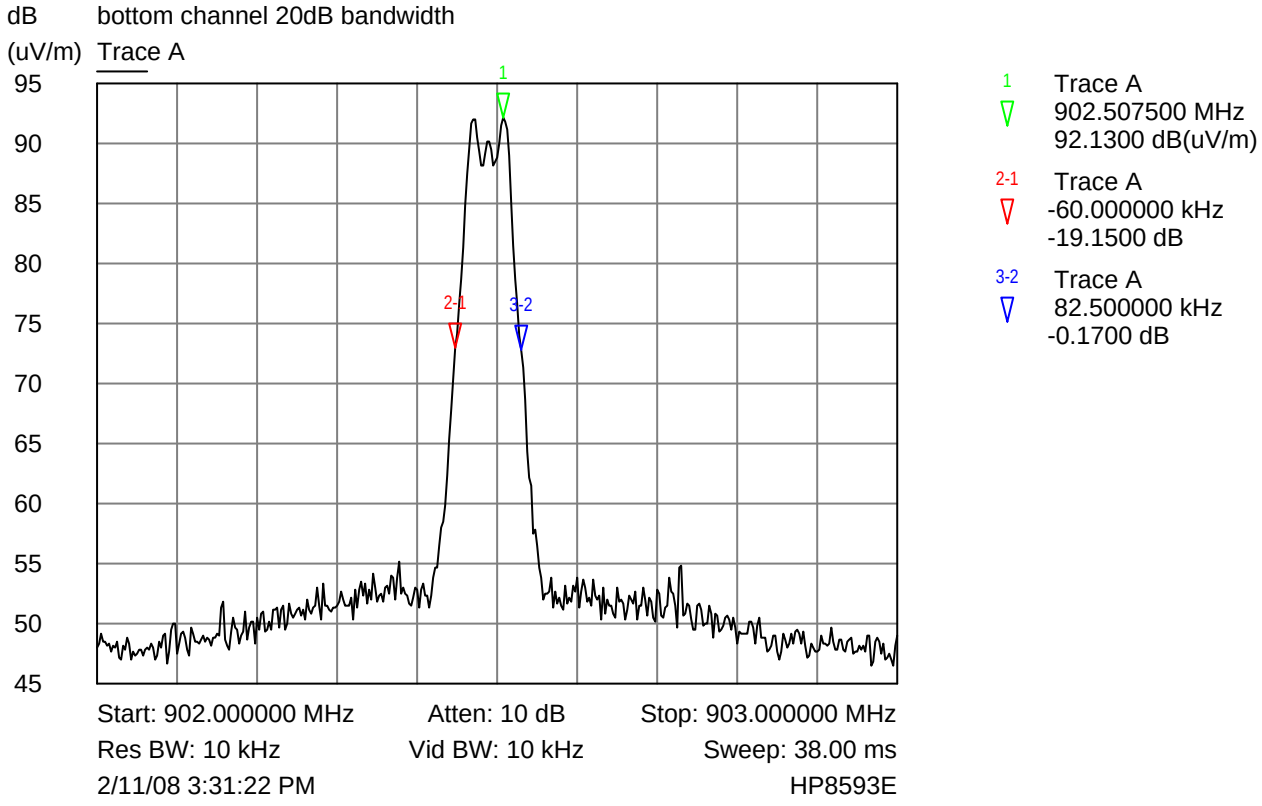
Middle channel

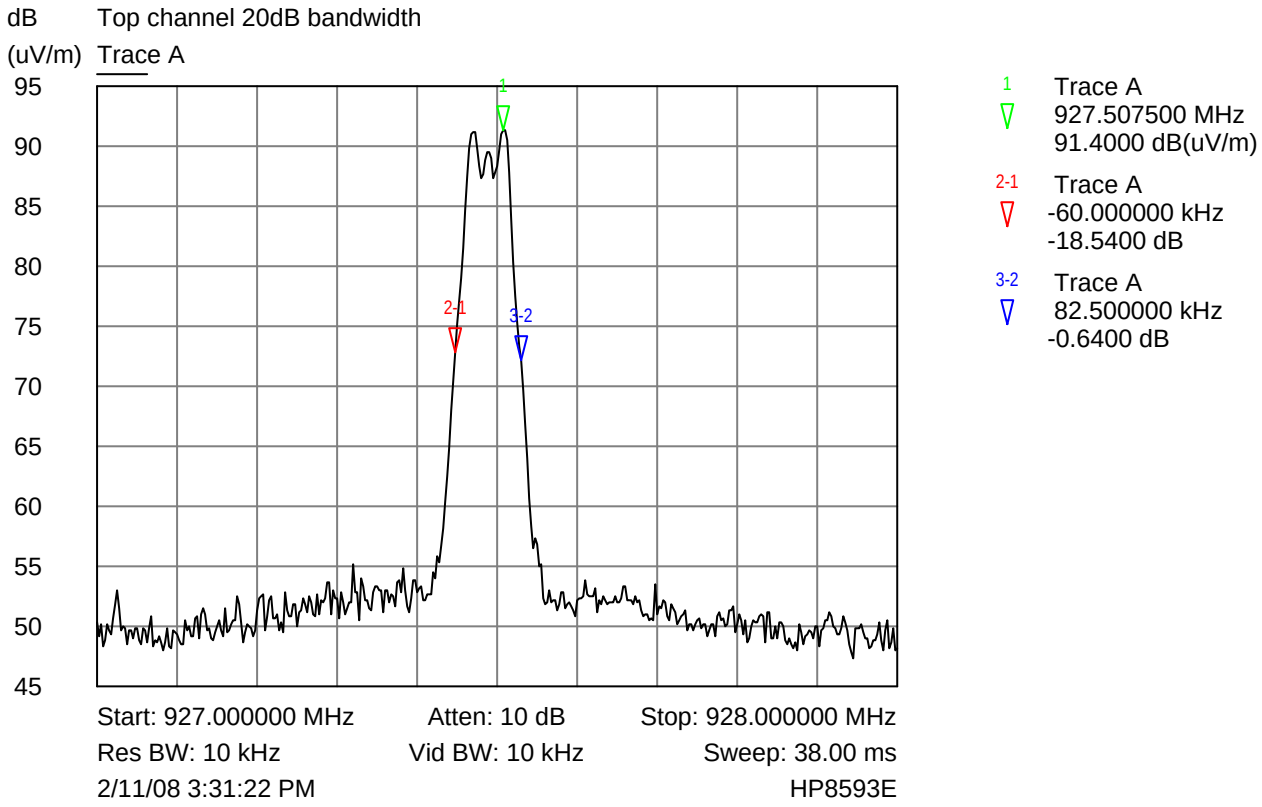


Bottom channel



6.4 20dB Bandwidth





6.5 Duty Cycle

Test not applicable. No specification requirement for this type of equipment.

6.6 Maximum Spectral Power Density

Test not applicable. No specification requirement for this type of equipment.

7 Explanatory Notes

7.1 Explanation of FAIL LIMIT 1 Statement

The **FAIL MARGIN 1** statement(s) may appear on the graphical plots when the receiver used to measure your equipment detects a signal that exceeds the dashed line. This does not mean that the **EUT**, has failed the test only that the 10 dB calculation margin set, has been exceeded on a peak measurement.

Following the indication that the margin has been exceeded, measurements are made at the frequency (ies) of the peaks. These peaks have been calculated to either Quasi Peak or Average Peak dependant on the test. A table of results has been printed on the reverse of the page. This table looks similar to the one illustrated below: -

Signal Number	Frequency (MHz)	Peak (dBµV)	PK Delta L 1 (dB)	Avg (dBµV)	Av Delta L 1 (dB)
1	12345.0000	12.9	-2.5	10.2	-5.2

The First column, labelled Signal Number, is a number that the receiver has given to each signal, which has been calculated.

Column Two, labelled Frequency (MHz), is the frequency of the signal received.

Column Three, labelled Peak (dBµV), (can also be labelled, in the case of Quasi Peak, Peak dBµV/m) is the Level that was received at peak amount in dB above 1µV.

Column Four, labelled PK Delta L1 (dB), is the same level as Column three but is given in a level relative to the limit line required.

Column Five, labelled AVG (dBµV), (can also be labelled, in the case of Quasi Peak, QP dBµV/m) when undertaking a Quasi peak test, This is the Average or Quasi peak calculation results given in dBµV or dBµV/m above 1µV.

Column Six, labelled AV Delta L 1 (dB), (can also be labelled, in the case of Quasi Peak, QP Delta L 1 (dB)) is the Average or Quasi Peak calculation relevant to the limit line. The results entered in this column indicate the signal level relative to the compliance limit required. Negative numbers indicate that the product is compliant.

7.2 Explanation of limit line calculations for radiated measurements

The limits given in the test standard are normally expressed as absolute values (e.g. in µV/m at a specified distance), whereas the measured values are expressed as peak, quasi peak or average values in dBµV/m referenced to the measuring instrument inputs. RN Electronics calibrate the test set-up to account for any path losses, antenna gains, etc. so that the value read at the receiver relates directly to the absolute value required, except that it is expressed in dB relative to one microVolt and may need to take account of any alternative measuring distance used. Examples:

(a) limit of 500 µV/m equates to 20.log (500) = 54 dB µV/m.

(b) limit of 300 µV/m at 10m equates to 20.log (300 . 10/3) = 60 dB µV/m at 3m

8. Photographs

Photograph of the EUT as viewed from in front of the antenna, site M.

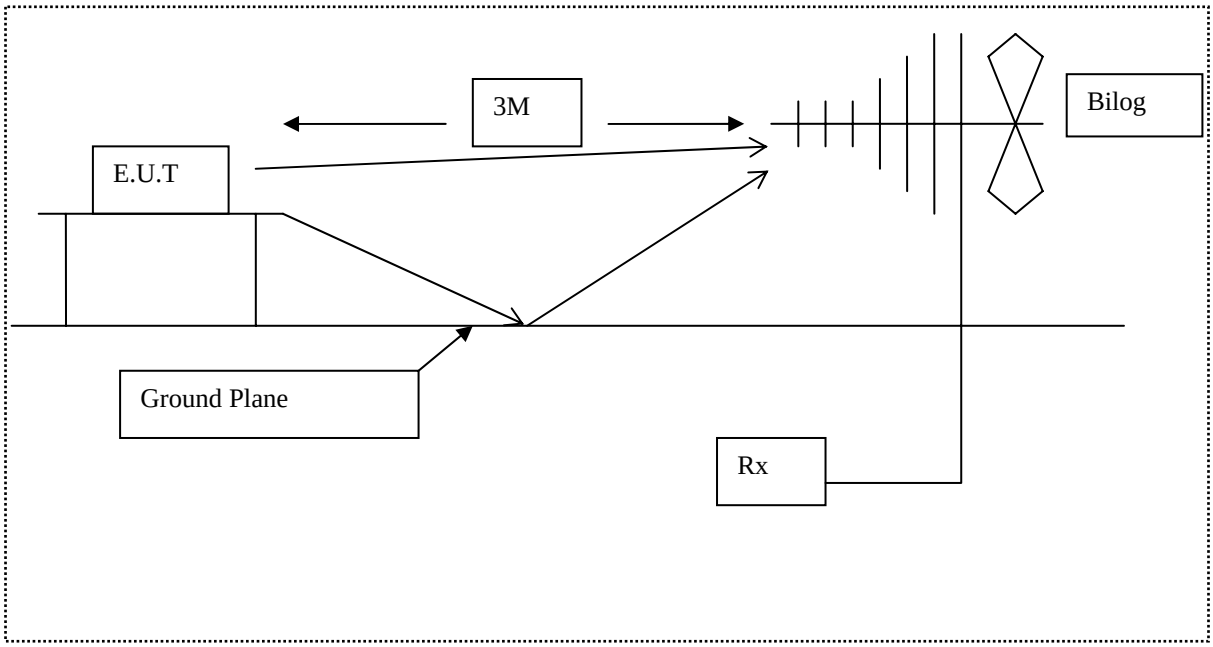


Diagram of the radiated emissions test setup.

Not applicable. EUT battery powered only.

Photograph of the EUT as viewed from screened room (conducted emissions)

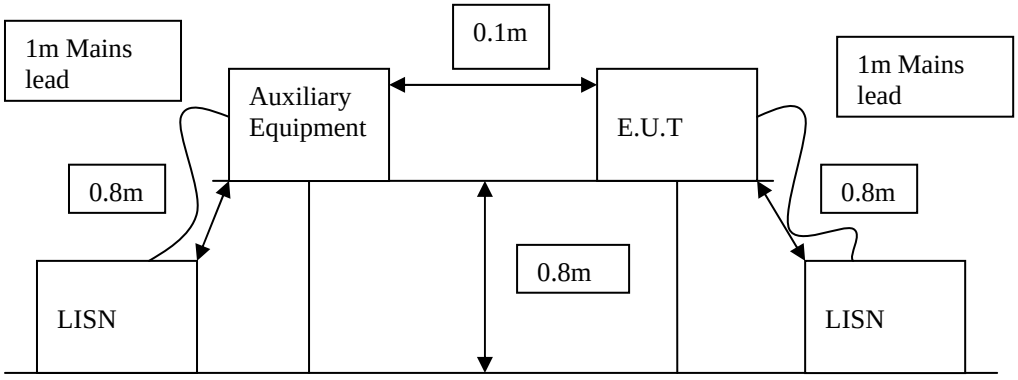


Diagram of the conducted emissions test setup.

8.1 Indentifying Photograph of EUT

Out of enclosure.

In enclosure

9. Signal Leads

The EUT had no signal leads.

10. 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.

RNNo	Model	Description	Manufacturer	Date Calibrated	Period
E1	HP8542E	EMI Receiver & RF Filter	Hewlett Packard	13-Nov-07	12
E268	BHA 9118	1-18 GHz Horn Antenna	Schaffner	26-May-06	60
E342	8563E	Spectrum Analyser 26.5 GHz	HP	15-Feb-07	24
TMS81	6502	Active Loop Antenna	EMCO	11-Dec-07	24
TMS82	8449B	Pre Amplifier 1 - 26 GHz	Agilent	28-Oct-07	12
TMS933	CBL6141A	Bilog Antenna 30MHz - 2GHz	York EMC	10-Sep-07	36

11. Auxiliary equipment

11.1 Auxiliary equipment supplied by ZBD Displays Ltd

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

Manufacturer	Description	Model Number	Serial Number
ZBD Displays	USB interface for test jig	120-0050-02	11
Sony Vaio	Laptop PC + Mouse	PCG-R600HEP	-
ZBD Displays	Programming test jig	-	-

11.2 Auxiliary equipment supplied by RN Electronics Limited

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

No auxiliary equipment was provided by RN Electronics Ltd.

12. Modifications

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

With respect to section 5.3 Intentional radiator field strength, A power setting of P5 (-5dBm) had to be programmed in order to remain under the specification limit of 94dBuV/m at 3 metres.

13. Compliance information

Products subject to the Declaration of Conformity procedure are required to be supplied with a compliance information statement. A copy of this statement may be included here:

RN Electronics
EMC & RADIO TEST SERVICES

Certificate of Test

The equipment noted below has been tested by ***R.N. Electronics Limited*** and conforms with the relevant subpart of FCC part 15, subject to deviations as detailed in this report.

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:	EPOP 300
Model Number(s):	
Unique Serial Number(s):	EW00004678B
Manufacturer:	ZBD Displays Ltd
Customer Purchase Order Number:	4203
R.N. Electronics Limited Report Number:	10-301/3790/3/08
Test Standards:	FCC Part 15C: effective date February 7th, 2007 Class DXT Intentional Radiator
Date:	8th & 10th October 2008

For and on behalf of
R.N. Electronics Limited

Signature: Roger Ray

Digitally signed by Roger Ray
DN: CN = Roger Ray, C = GB, O = RN Electronics
Date: 2008.11.20 13:12:37 Z

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