



FCC 47CFR part 15C

Test Report

For
epop500c

Reference Standard: FCC 47CFR part 15C
Manufacturer: ZBD Displays Ltd
For type of equipment and serial number, refer to section 3
Report Number: 11-518/4902/3A/11

This report supersedes report number:
11-518/4902/3/11.

Report Produced by: -

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2. Summary of Test Results

The epop500c was tested to the following standards: -

FCC 47CFR Part 15C (effective date October 1st, 2011); 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	NOT APPLICABLE ²
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

¹ No specification requirement for this type of equipment.

² EUT is a battery powered product.

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:

21st to 29th November 2011

Test Engineer:

Approved By:

Customer Representative:

3. Equipment Under Test (EUT)

3.1 Equipment Specification

Applicant	ZBD Displays Ltd Building 3 Kingswood Kings Ride Ascot Berkshire SL5 8AD
Manufacturer of EUT	ZBD Displays Ltd
Brand name of EUT	ZBD Displays Ltd
Model Number of EUT	epop 500C
Serial Number of EUT	ES00000008
Date when equipment was received by RN Electronics	21st November 2011
Date of test:	21st to 29th November 2011
Customer order number:	6160 & 6262
Visual description of EUT:	Small plastic enclosure with one side showing a framed LCD panel. On the rear is a battery compartment.
Main function of the EUT:	an electronic shelf edge label.
Height	83 mm
Width	103 mm
Depth	22 mm
Weight	0.2 kg
Voltage	4.5 V DC from 3 off AAA batteries
Current required from above voltage source	Not specified

3.2 EUT Configurations for testing

Frequency range	902.5 - 927.5 MHz
Normal use position	shelf edge
Normal test signals	GFSK (38.4kBaud)
Declared Power Level	0dBm
Declared Channel Bandwidth	Wideband
Highest Frequencies generated/used	927.5 MHz

3.3 EUT Modes

Mode	Description of mode	Used for Testing
Unmodulated carrier TX 902.5MHz	constant CW transmission	YES
Unmodulated carrier TX 915MHz	constant CW transmission	YES
Unmodulated carrier TX 927.5MHz	constant CW transmission	YES
Standby /RX mode 902.5MHz	Receive mode	YES
Standby /RX mode 915MHz	Receive mode	YES
Standby /RX mode 927.5MHz	Receive mode	YES
Constant Transmit data 902.5MHz	constant system modulated transmission	YES
Constant Transmit data 915MHz	constant system modulated transmission	YES
Constant Transmit data 927.5MHz	constant system modulated transmission	YES

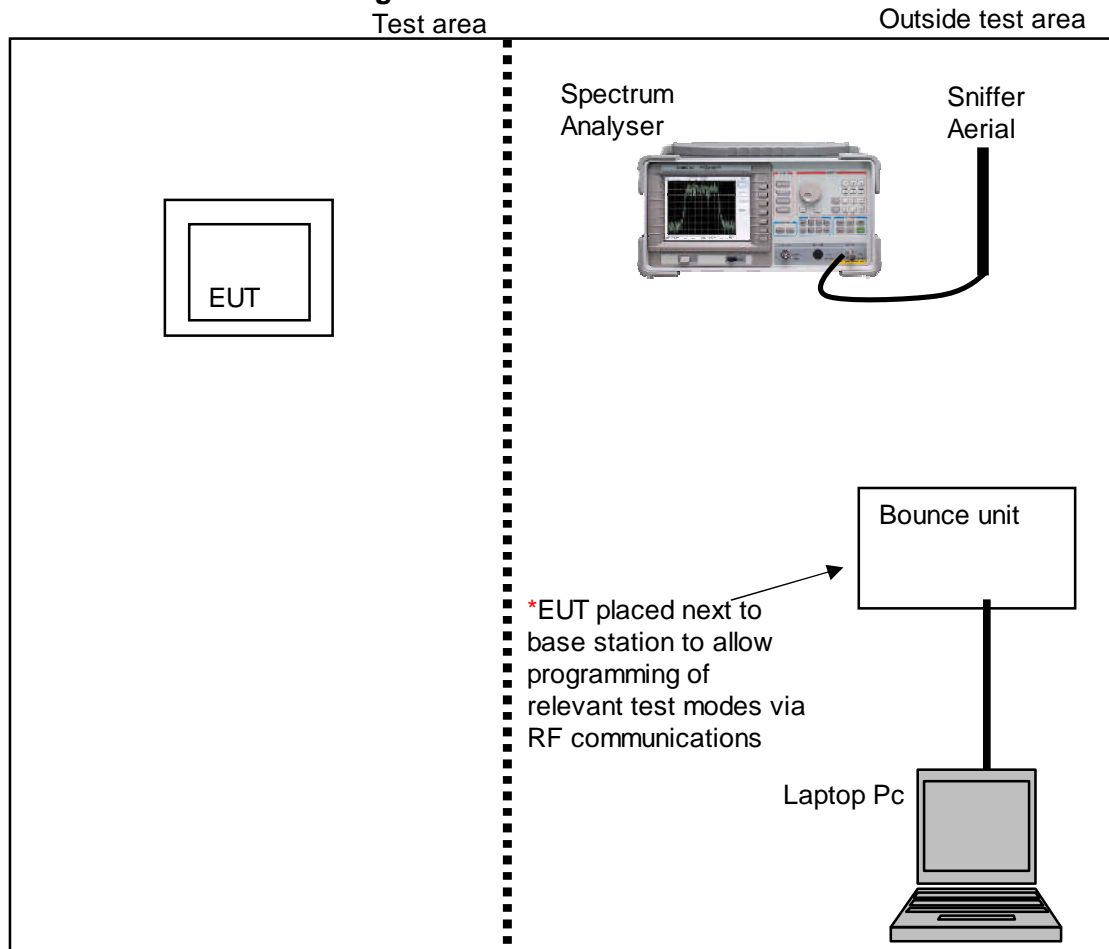
Other channels between the frequencies selected above were available each at 500 kHz channel spacing, however only the top, middle & bottom channels (covering the entire range) were selected for tests.

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

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

This report was printed on: 21 March 2012

3.4 Emissions Configuration



New batteries were fitted into the unit before tests began and monitored to ensure supply parameters were maintained.

*The unit was only placed next to the base station for programming of channels and modes, and once programmed the EUT was placed back into the test chamber.

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 (see section 3.3). These were:-

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

Power level setting for tests was P4.

Description of ancillary equipment connected to the equipment under test, for the purpose of tests, can be found in Section 11.

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.

4.2 Test fixture/ Antenna configuration

- ☐ 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 integral Antenna was used for testing.

4.3 Measurement Uncertainties

Parameter	Uncertainty
Transmitter Tests	
Bandwidth	<± 1.9 %
Radiated RF Power	<± 3.5 dB
Radiated Spurious Emissions	<± 3.4 dB
H-Field Emissions	<± 2.8 dB
Spectrum Mask	<± 4.1 dB
Receiver Tests	
Radiated Spurious Emissions	<± 3.4 dB

5. Tests, Methods and Results
5.1 Conducted Emissions

Test not applicable, EUT is battery powered only.

5.2 Radiated Emissions

5.2.1 Test Methods

Test Requirements FCC Part 15C, Reference (15.209)

Test Method: ANSI C63.4, Reference (8.)

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 new batteries.

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.

Temperature: 19-21°C

Humidity: 42%

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. Band Edge Compliance plots can be found in section 6.6 of this report.

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

5.2.2.1 Test Equipment used

E410, E411, E412, TMS933, E428, E289, TMS81, E429

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.

The equipment was rotated 360° to record the maximised emission.

5.3.2 Test results

Tests were performed using Test Site M.

Temperature: 19°C Humidity: 42 %

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

Table of results with the EUT set to a power level of P4

Channel	EUT position	Measuring Antenna Polarisation	Result (dBuV/m @ 3m)	Result (mW)
Bottom	Horizontally flat	Horizontal	91.7	0.44
Middle	Horizontally flat	Horizontal	90.4	0.33
Top	Horizontally flat	Horizontal	88.2	0.20

Limits: 94dBuV @ 3m.

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

5.3.2.1 Test Equipment used

E410, E411, E412, TMS933

See Section 10 for more details

5.4 Frequency Tolerance

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

5.7 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 tested on a bench via a calibrated test fixture and ambient conditions were monitored.

5.7.1.2 Test Procedure

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

5.7.2 Test results

Tests were performed using Test Site A.

Temperature of test Environment: 18°C Humidity: 55 %

Analyser plots for the 20dB bandwidth can be found in Section 6.5 of this report.

Channel	Result	Plot reference
Bottom	64.0 kHz	J4902-3, Bottom channel 20dB BW (Constant TX modulated)
Middle	65.0 kHz	J4902-3, Middle channel 20dB BW (Constant TX modulated)
Top	66.5 kHz	J4902-3, Top channel 20dB BW (Constant TX modulated)

Limits: Remain within the assigned band (902 – 928 MHz).

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

5.7.2.1 Test Equipment used

E342, E434

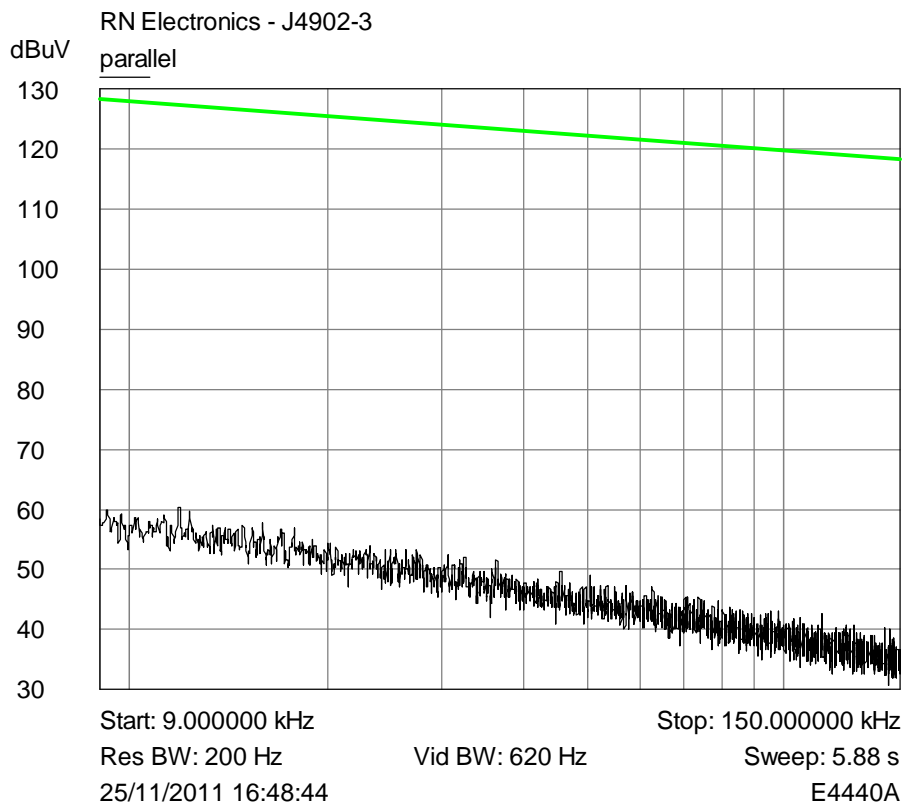
See Section 10 for more details.

6. Plots and Results
6.1 Conducted Emissions

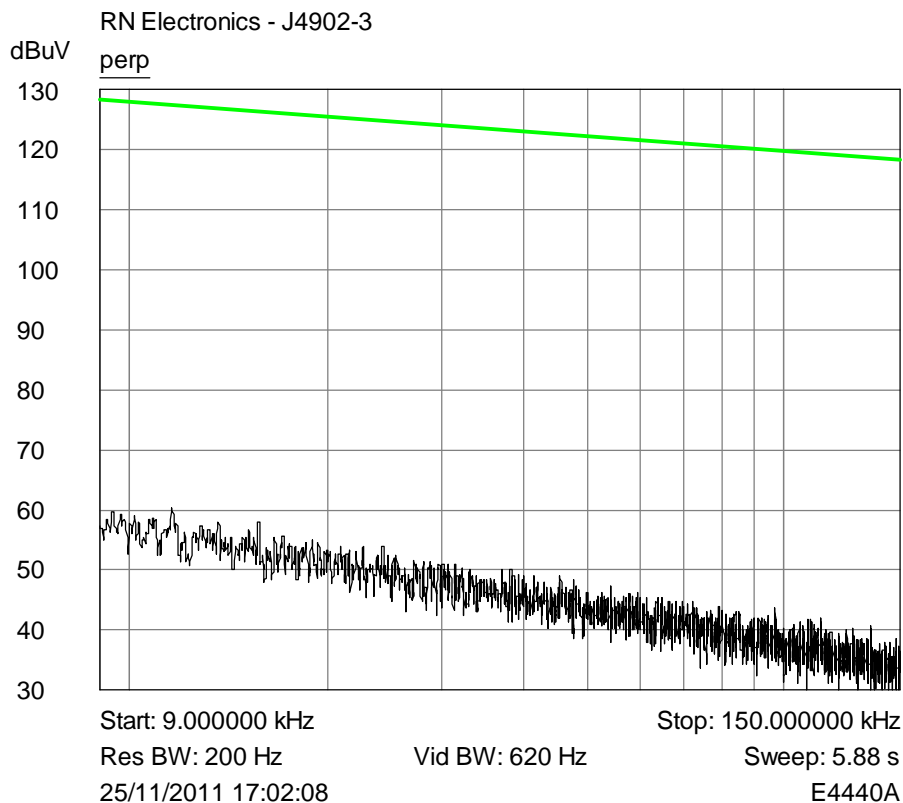
Test not applicable, EUT is battery powered.

6.2 Radiated Emissions

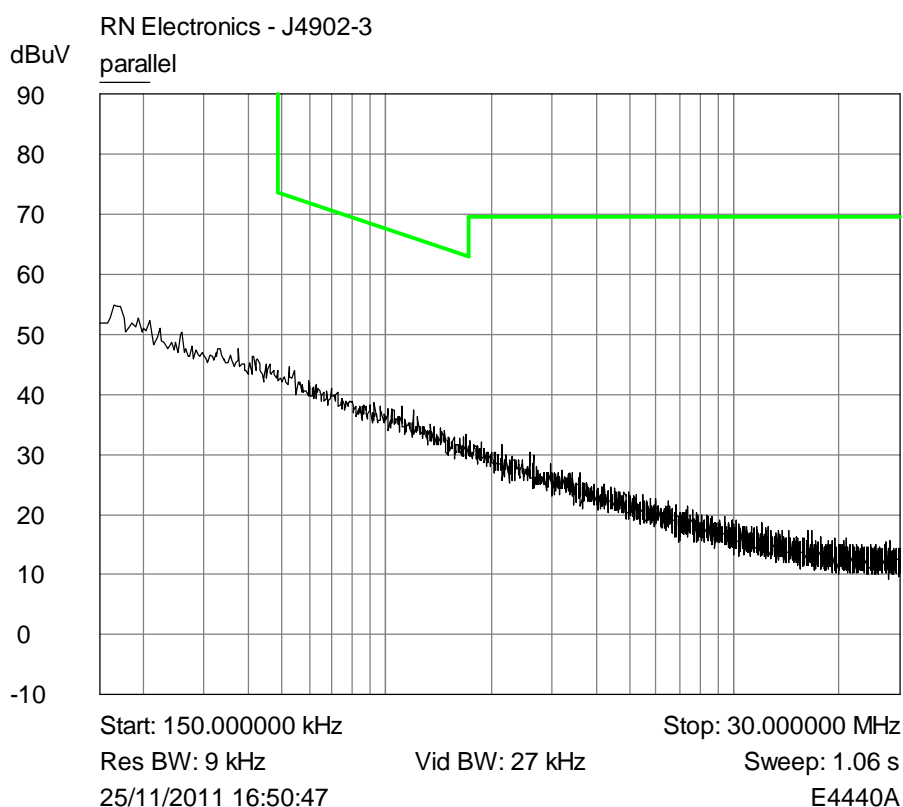
Plots shown are for Middle channel Transmit mode only.



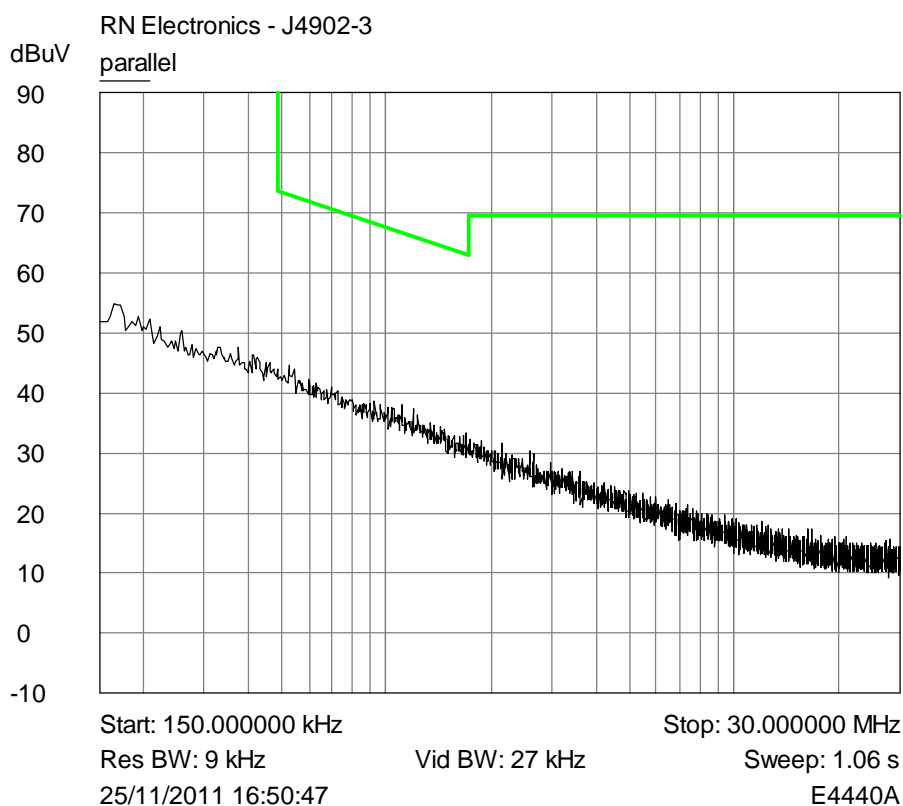
Plot of peak Parallel emissions 9kHz – 150kHz against the quasi-peak limit line.



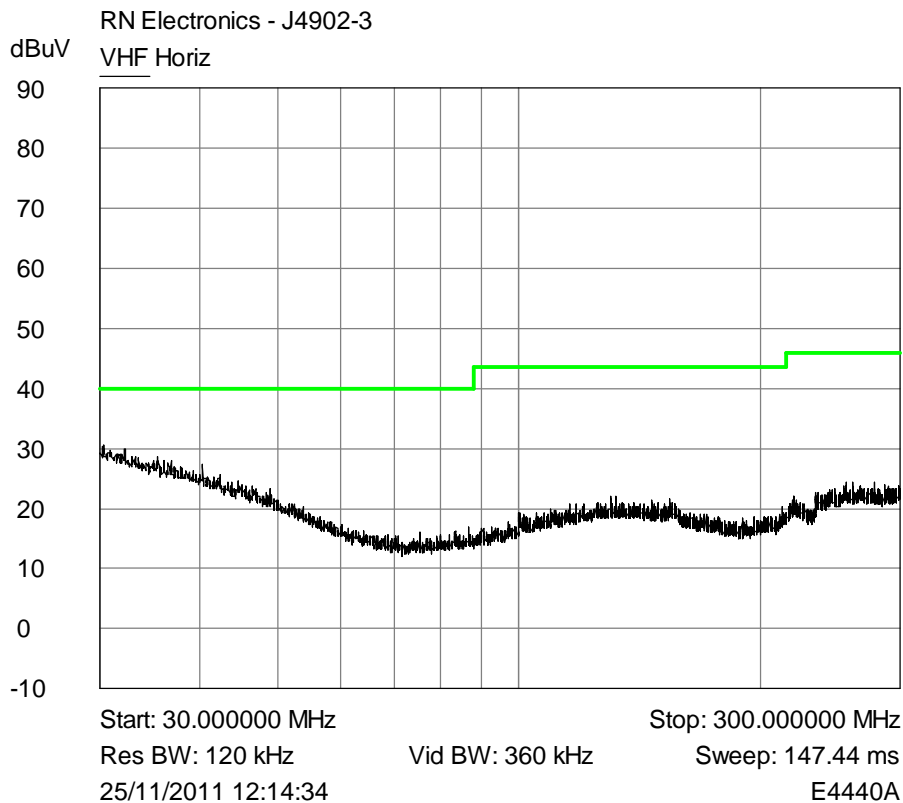
Plot of peak Perpendicular emissions 9kHz – 150kHz against the quasi-peak limit line.



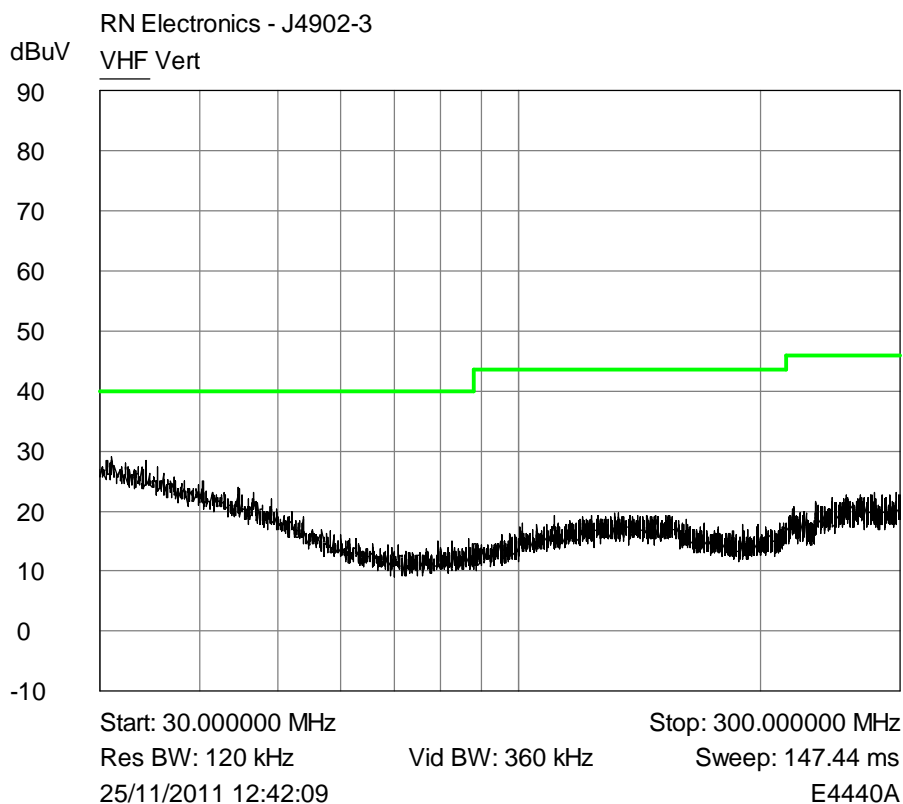
Plot of peak Parallel emissions 150kHz - 30MHz against the quasi-peak limit line.



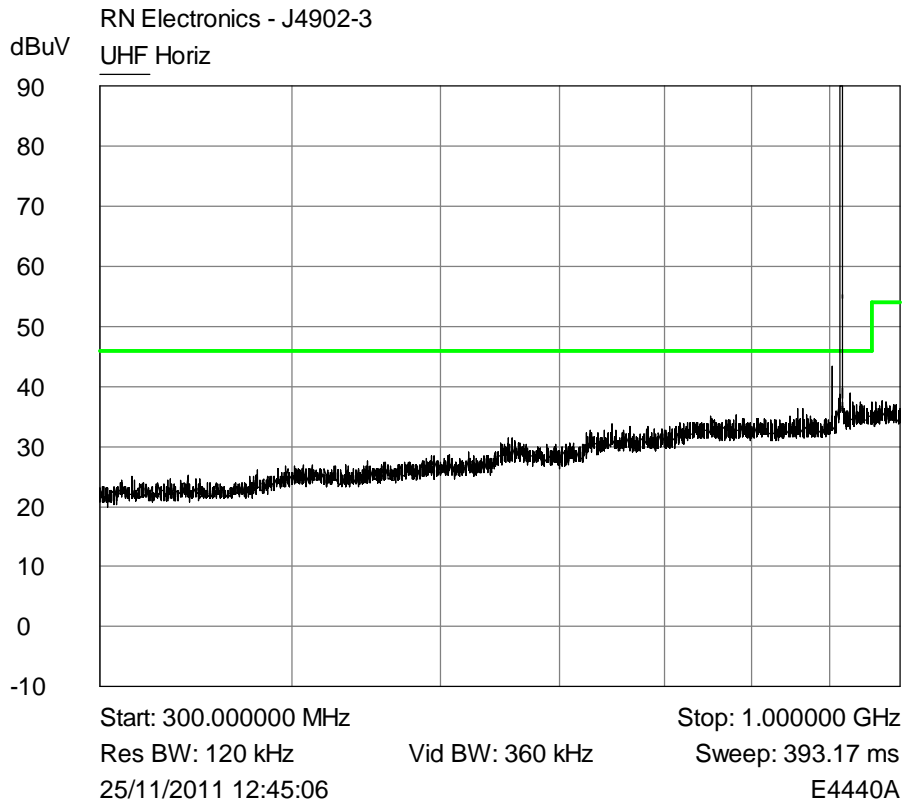
Plot of peak Perpendicular emissions 150kHz - 30MHz against the quasi-peak limit line.



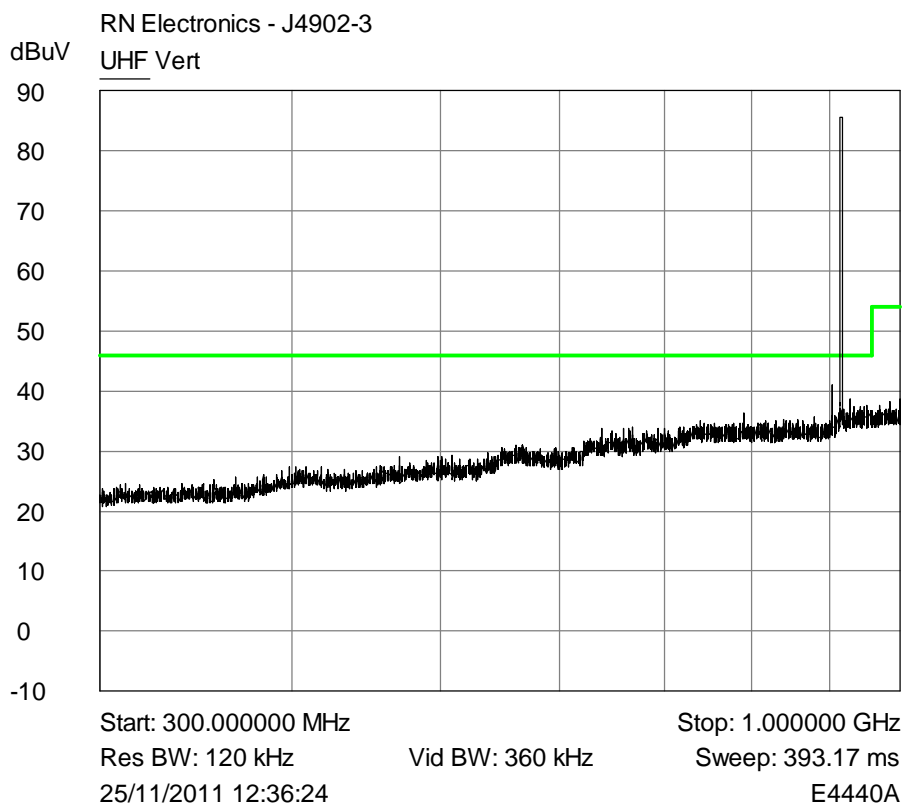
Plot of peak horizontal emissions 30MHz - 300MHz against the quasi-peak limit line.



Plot of peak vertical emissions 30MHz - 300MHz against the quasi-peak limit line.



Plot of peak horizontal emissions 300MHz - 1GHz against the quasi-peak limit line.



Plot of peak vertical emissions 300MHz - 1GHz against the quasi-peak limit line.

Table of signals measured below 1GHz.

Horizontal bottom Channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP - Lim1 (dB)
1	889.498	42.3	40.3	-5.7
2	915.498	43.7	41.7	-4.3

Vertical bottom channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP - Lim1 (dB)
1	889.498	41.6	39.3	-6.7
2	915.498	41.7	39.0	-7.0

Horizontal middle Channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP - Lim1 (dB)
1	901.998	44.5	42.5	-3.5
2	927.998	41.1	38.6	-7.4

Vertical middle channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP - Lim1 (dB)
1	901.998	42.3	39.6	-6.4
2	927.998	40.7	36.7	-9.3

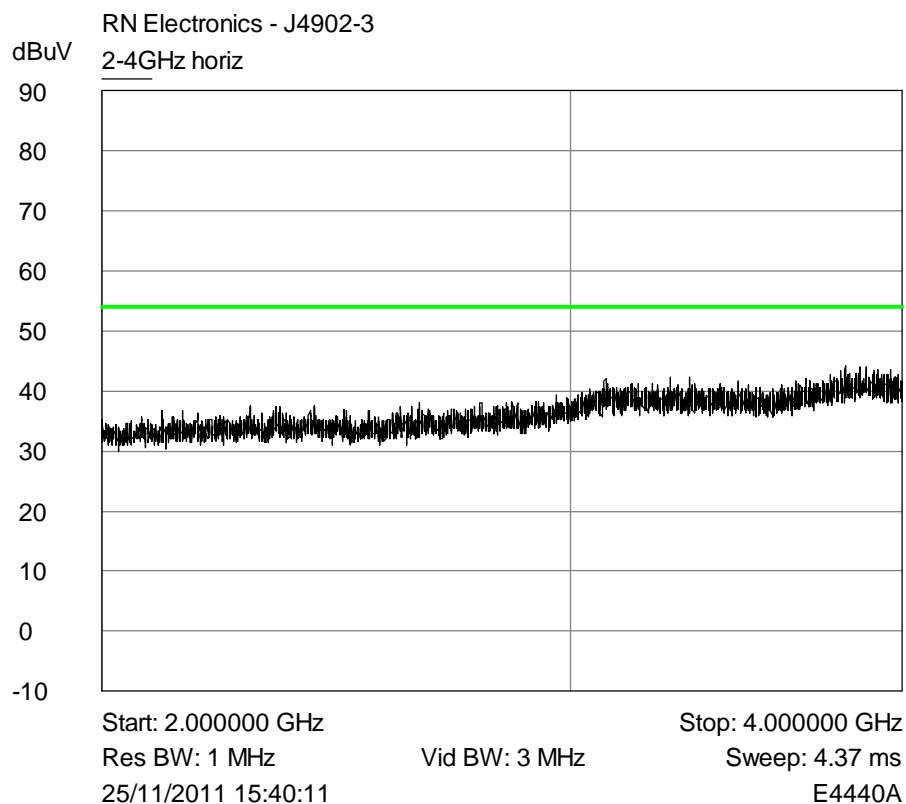
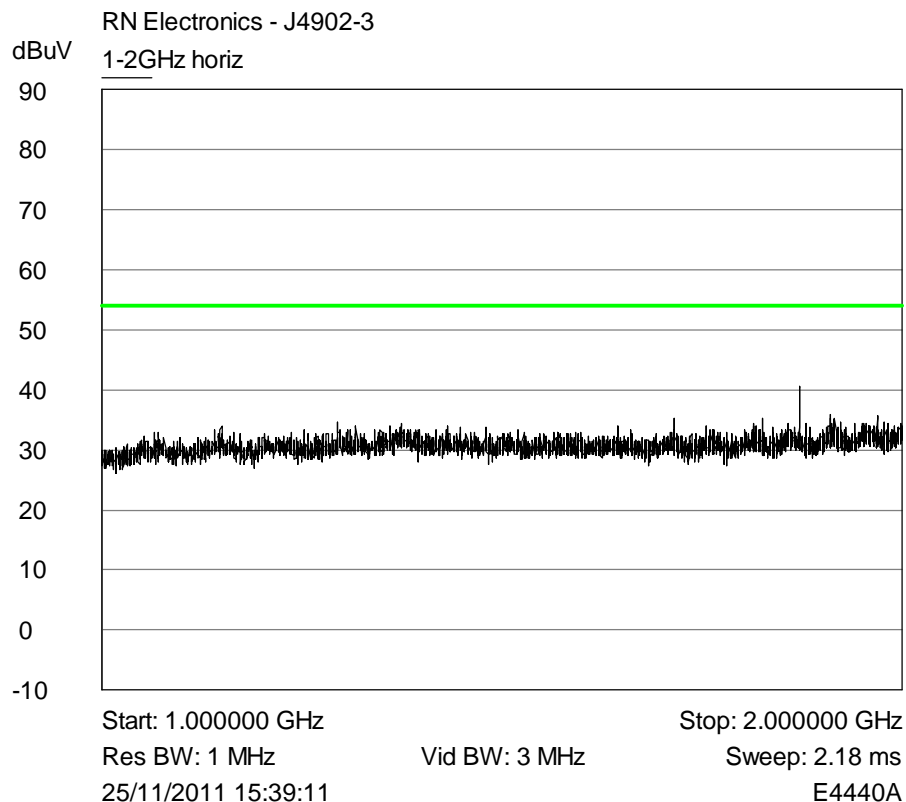
Horizontal Top Channel

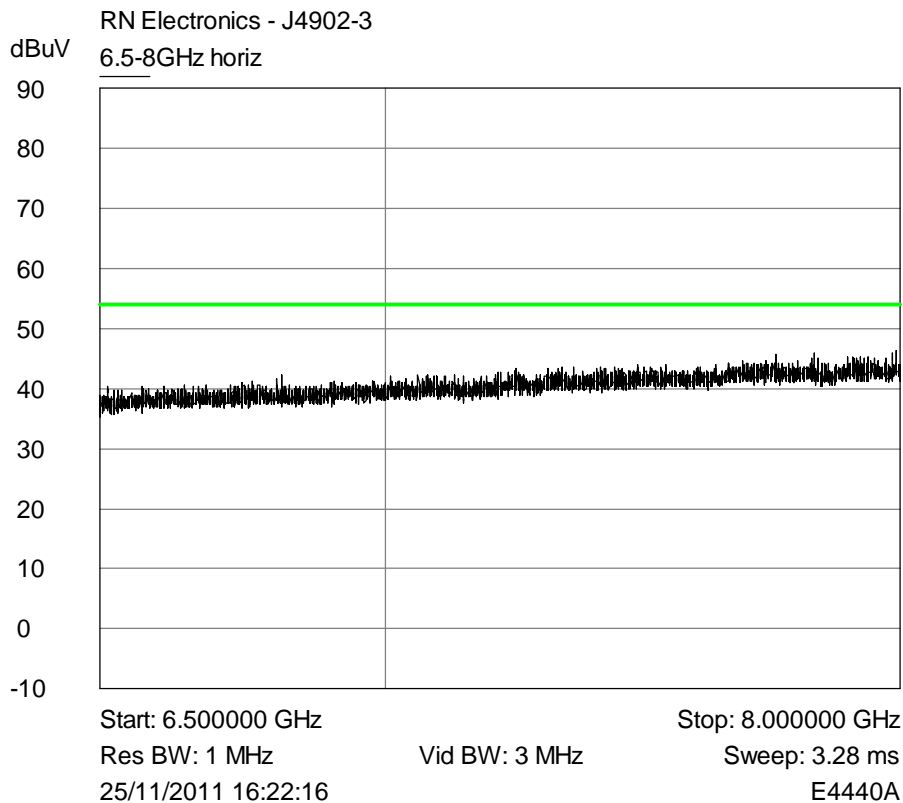
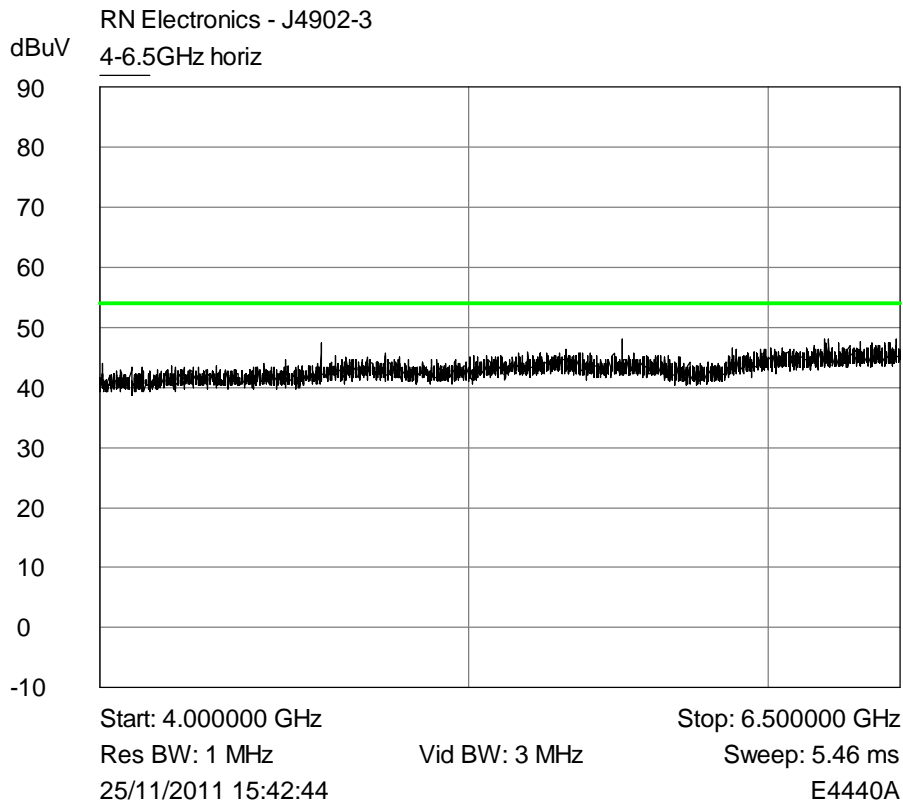
Signal No.	Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP - Lim1 (dB)
1	914.498	44.8	42.5	-3.5
2	940.498	42.0	37.5	-8.5

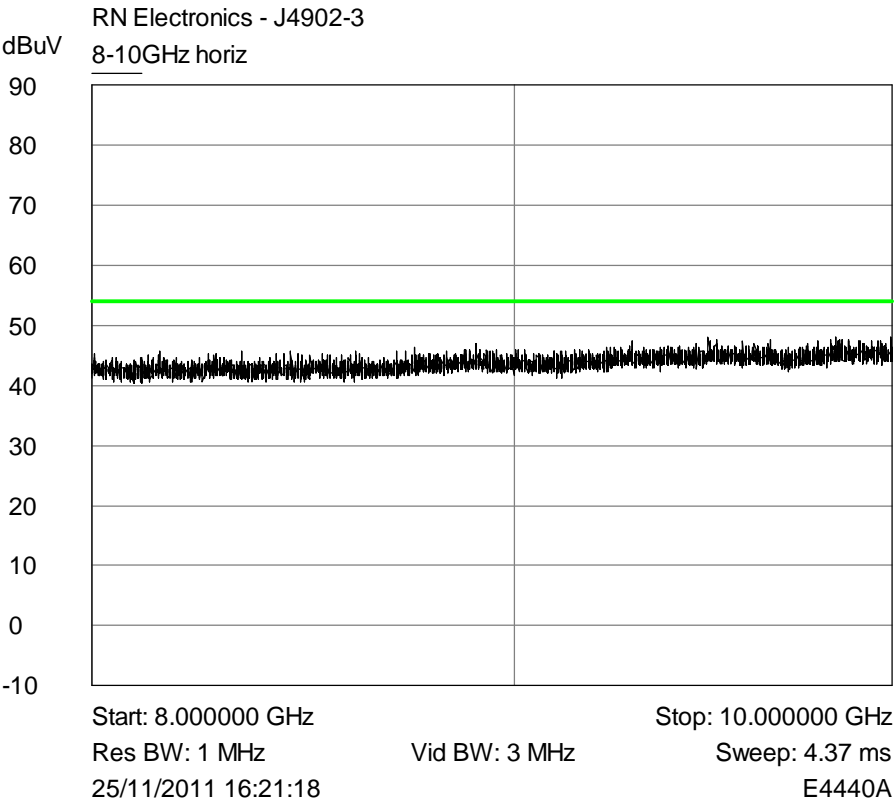
Vertical Top channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP - Lim1 (dB)
1	914.524	39.5	36.1	-9.9
2	940.502	40.9	37.1	-8.9

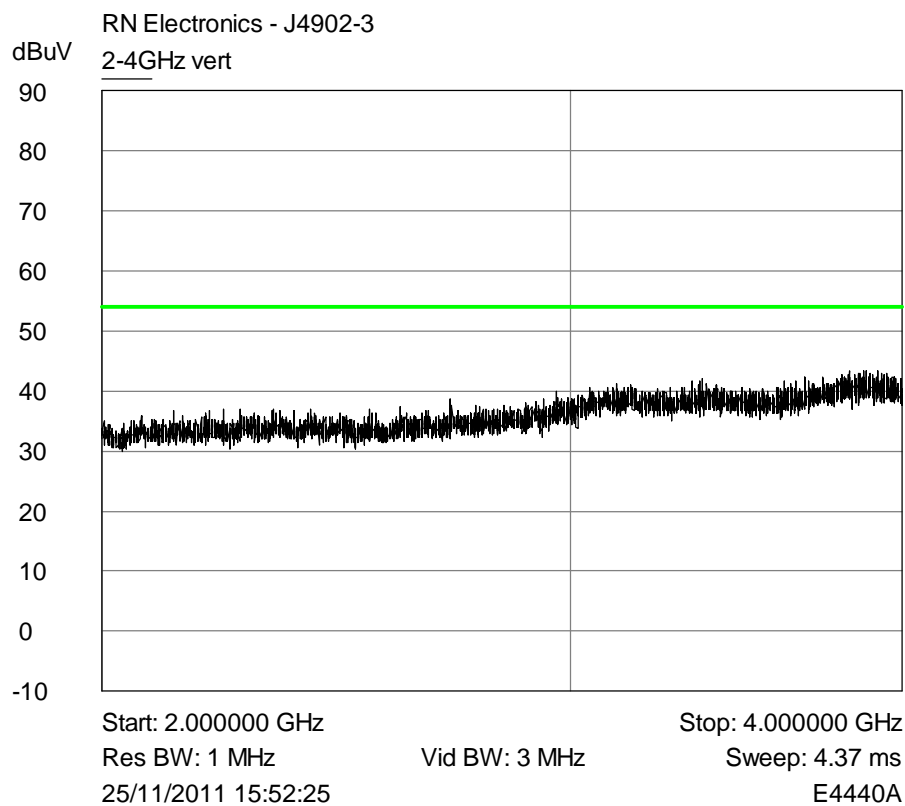
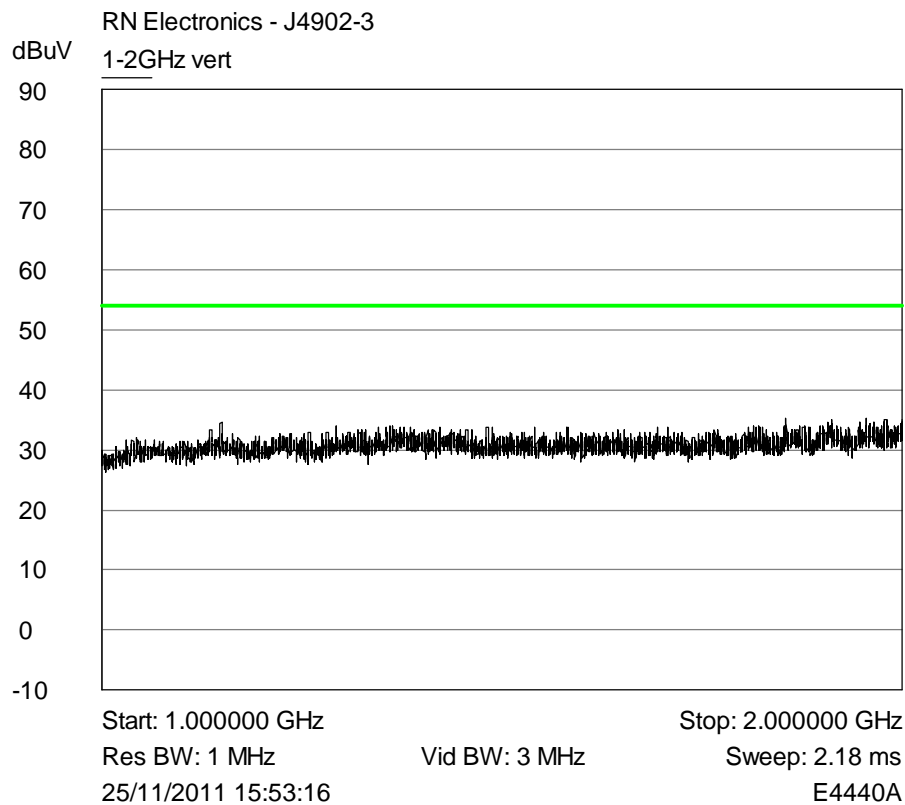
Plots of Peak horizontal emissions 1GHz - 10GHz against the Average limit line.

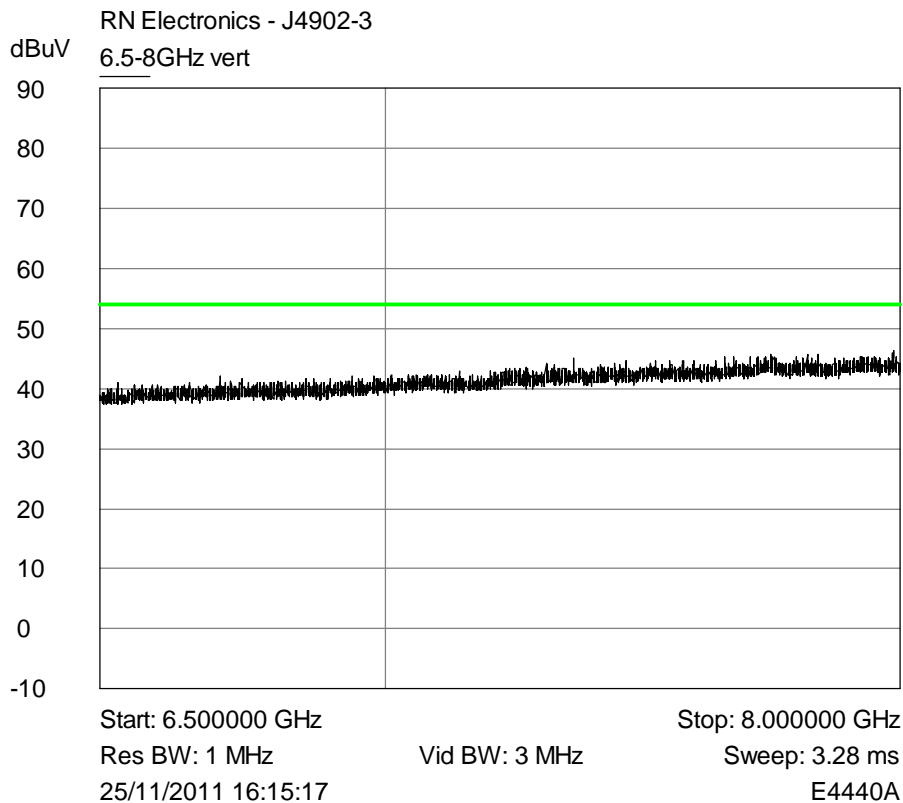
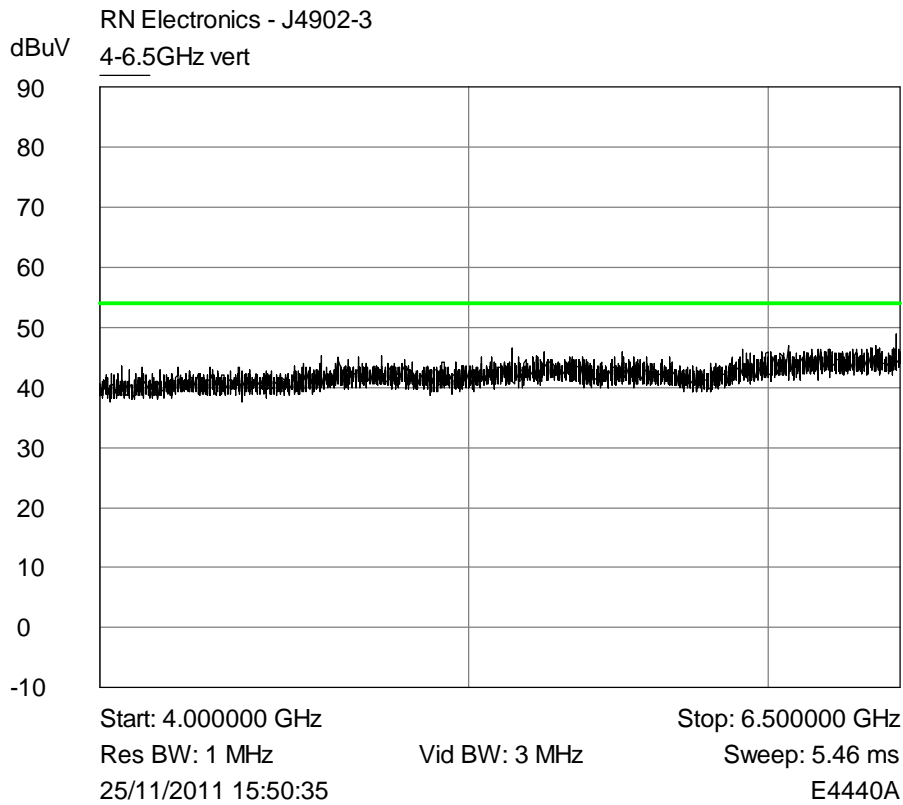






Plot of Peak Vertical emissions 1GHz - 10GHz against the Average limit line.





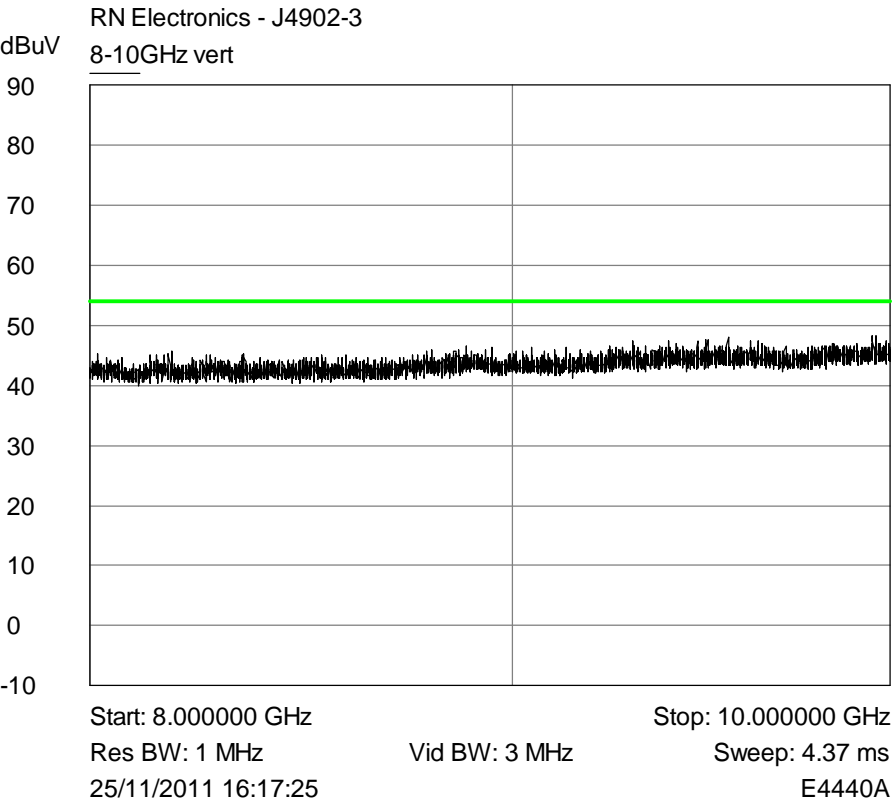


Table of signals measured above 1GHz.

Horizontal

Bottom channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	AV Amp (dBuV)	AV - Lim1 (dB)
1	4512.506	46.7	38.1	-15.9
2	5414.995	49.0	41.8	-12.2
3	6317.516	49.5	40.0	-14.0

Middle channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	AV Amp (dBuV)	AV - Lim1 (dB)
1	1829.996	40.0	33.0	-21.0
2	4574.989	50.5	45.0	-9.0
3	5489.988	50.9	44.7	-9.3

Top channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	AV Amp (dBuV)	AV - Lim1 (dB)
1	4637.488	50.4	44.6	-9.4
2	5564.986	54.2	50.3	-3.7

Vertical

Bottom channel

No signals measurable.

Middle channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	AV Amp (dBuV)	AV - Lim1 (dB)
1	4574.991	47.4	38.6	-15.4

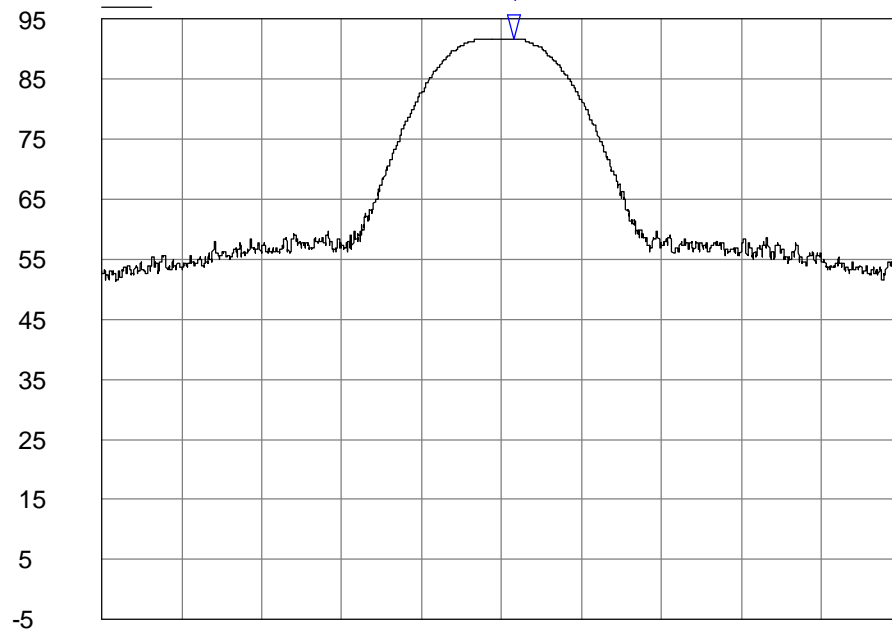
Top channel

Signal No.	Freq (MHz)	Peak Amp (dBuV)	AV Amp (dBuV)	AV - Lim1 (dB)
1	4637.500	48.9	39.2	-14.8
2	5564.989	49.9	42.5	-11.5

6.3 Fundamental Emissions

J4902-3, Plot 001, ERP BOTTOM CHANNEL

Trace A



1 Trace A
902.515810 MHz
91.7447 dBuV

Start: 902.000000 MHz

Stop: 903.000000 MHz

Res BW: 120 kHz

Vid BW: 360 kHz

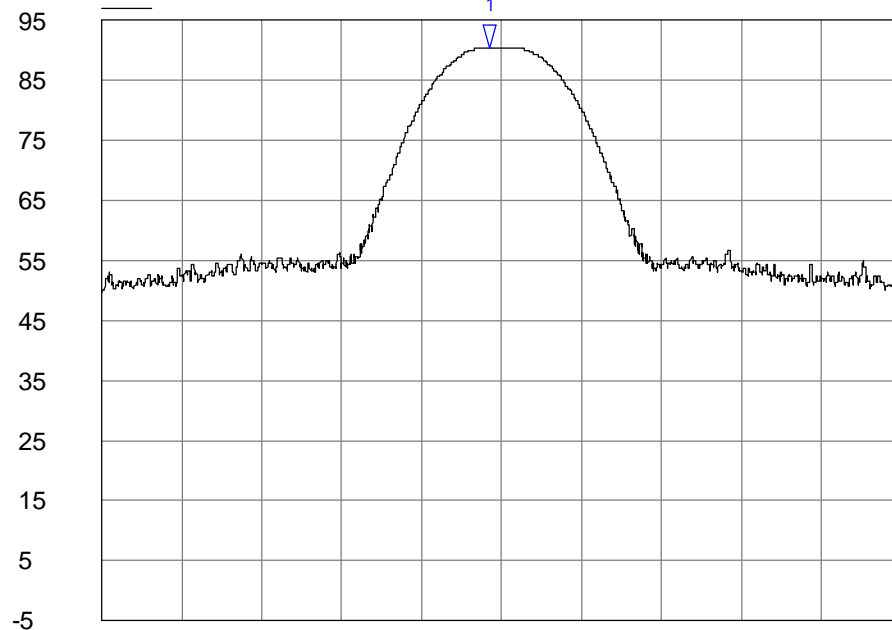
Sweep: 1.09 ms

25/11/2011 12:02:36

E4440A

J4902-3, Plot 002, ERP MID CHANNEL

Trace A



1 Trace A
914.985777 MHz
90.4137 dBuV

Start: 914.500000 MHz

Stop: 915.500000 MHz

Res BW: 120 kHz

Vid BW: 360 kHz

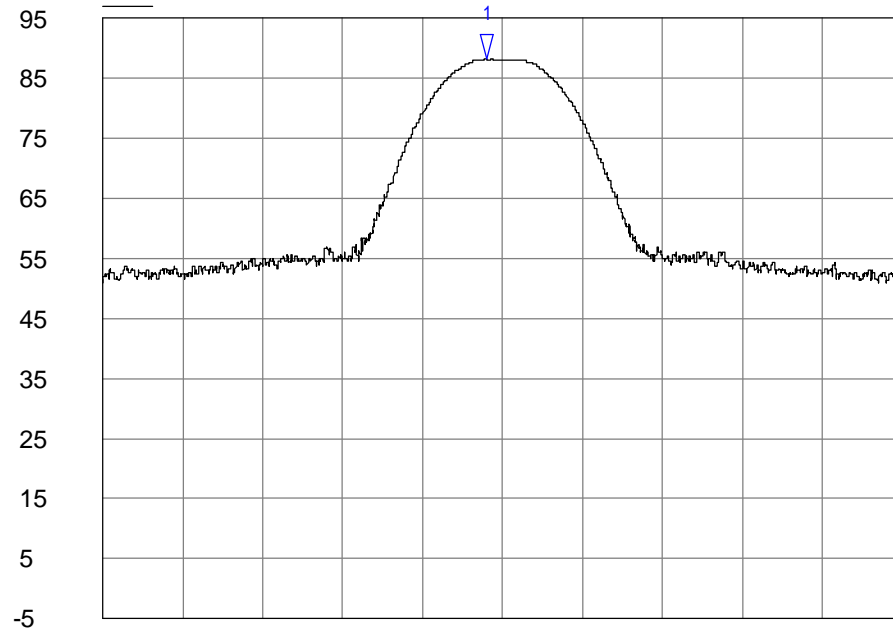
Sweep: 1.09 ms

25/11/2011 11:35:07

E4440A

J4902-3, Plot 003, ERP TOP CHANNEL

dBuV
Trace A



1 Trace A
927.479184 MHz
88.1777 dBuV

Start: 927.000000 MHz

Stop: 928.000000 MHz

Res BW: 120 kHz

Vid BW: 360 kHz

Sweep: 1.09 ms

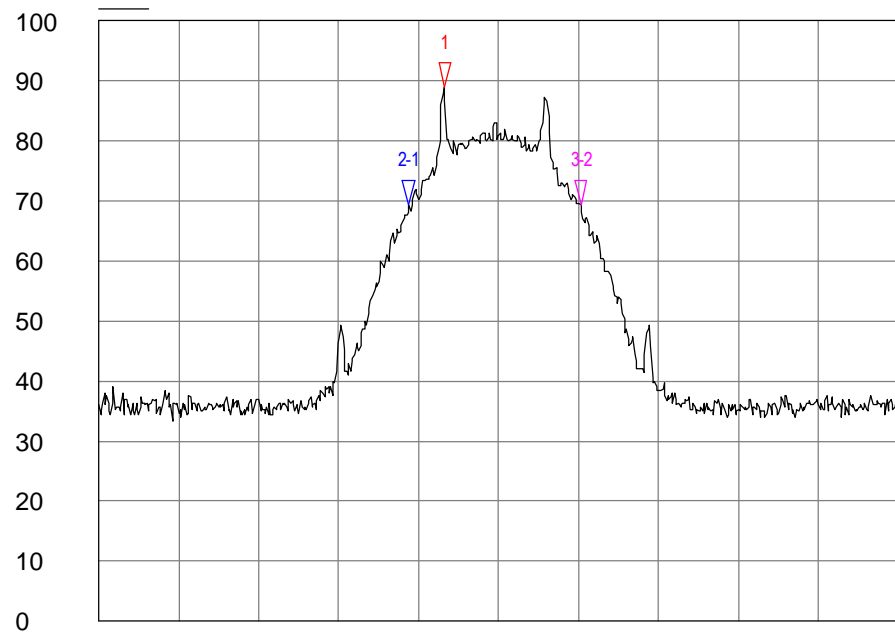
25/11/2011 11:58:01

E4440A

6.5 20dB Bandwidth

J4902-3, Bottom channel 20dB BW (Constant TX modulated)

Trace A

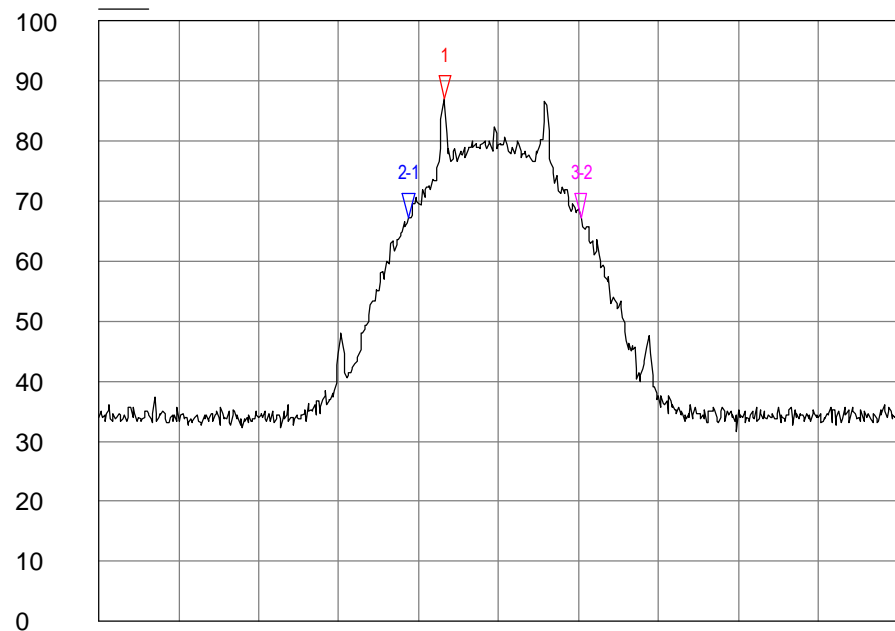


Start: 902.350000 MHz Atten: 10 dB Stop: 902.650000 MHz
Res BW: 1 kHz Vid BW: 3 kHz Sweep: 750.00 ms
29/11/2011 15:19:47 HP8563E

1 Trace A
902.479500 MHz
89.0000 dBuV
2-1 Trace A
-13.000000 kHz
-19.8300 dB
3-2 Trace A
64.000000 kHz
0.1700 dB

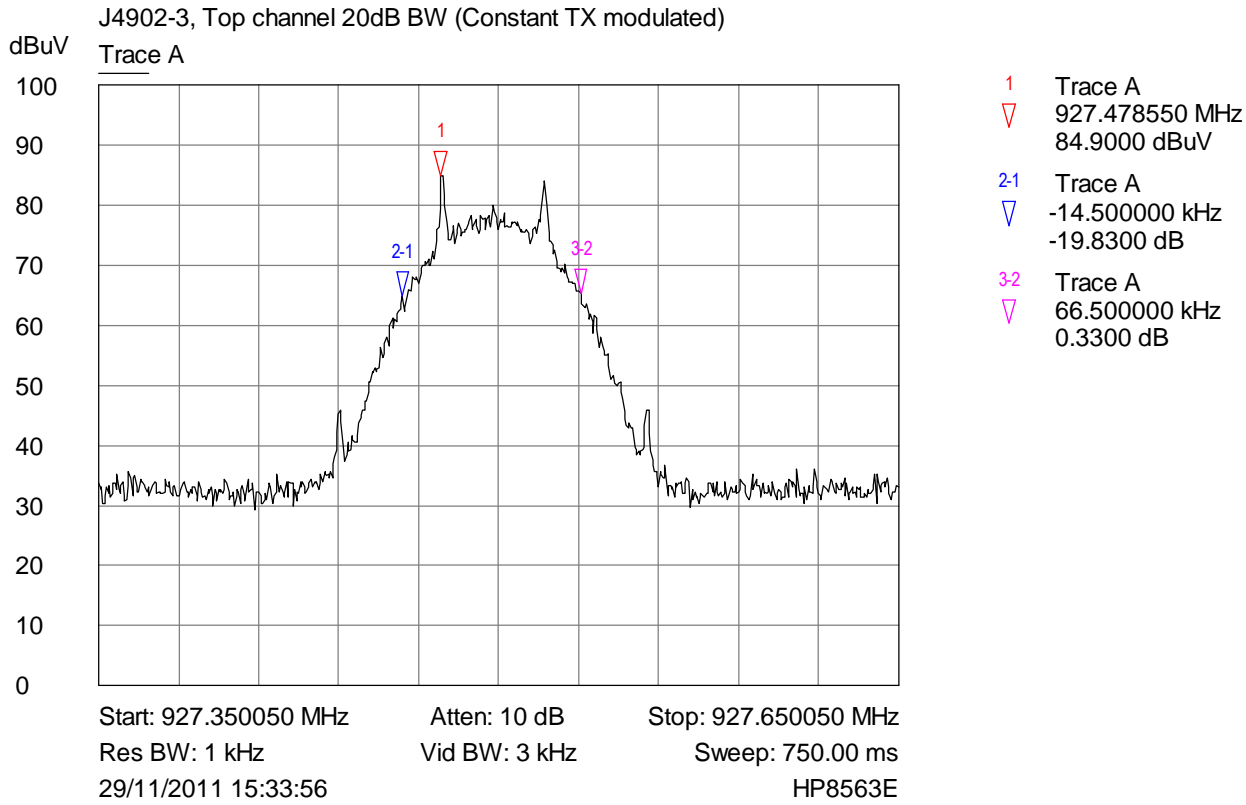
J4902-3, Middle channel 20dB BW (Constant TX modulated)

Trace A

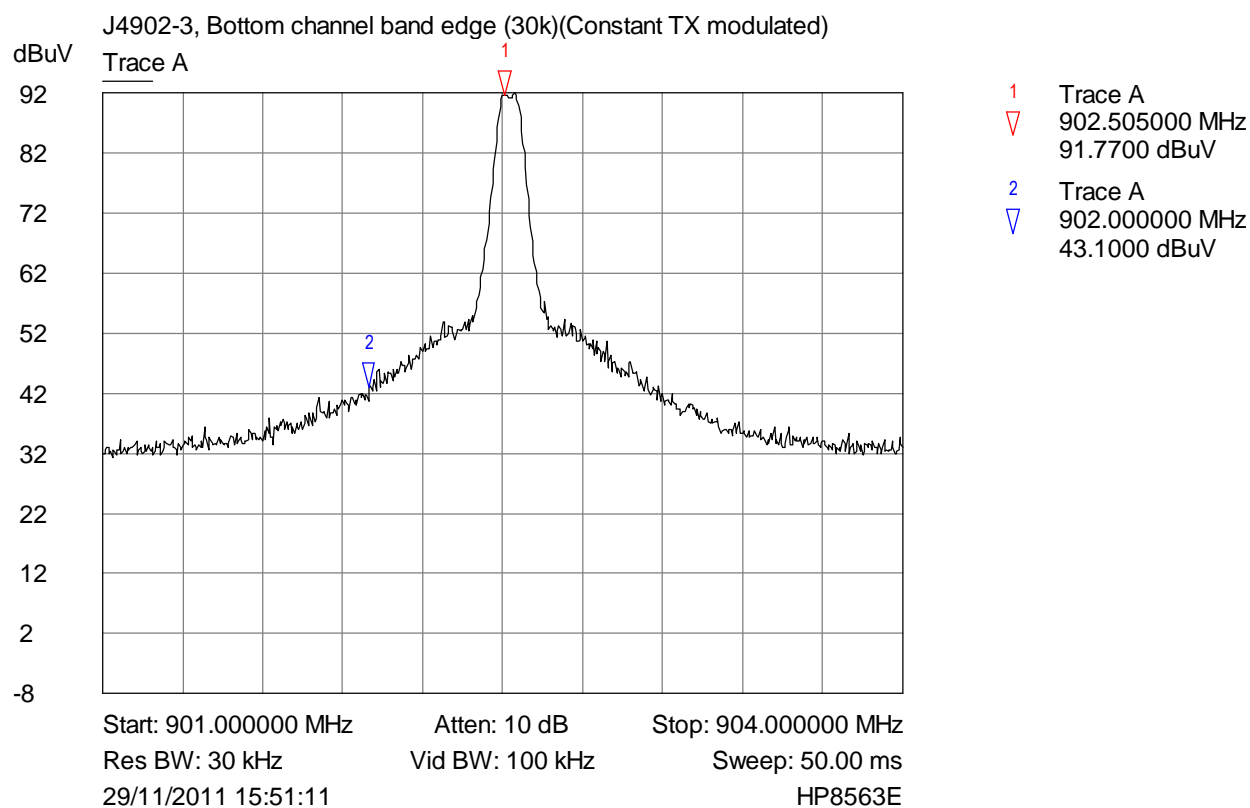
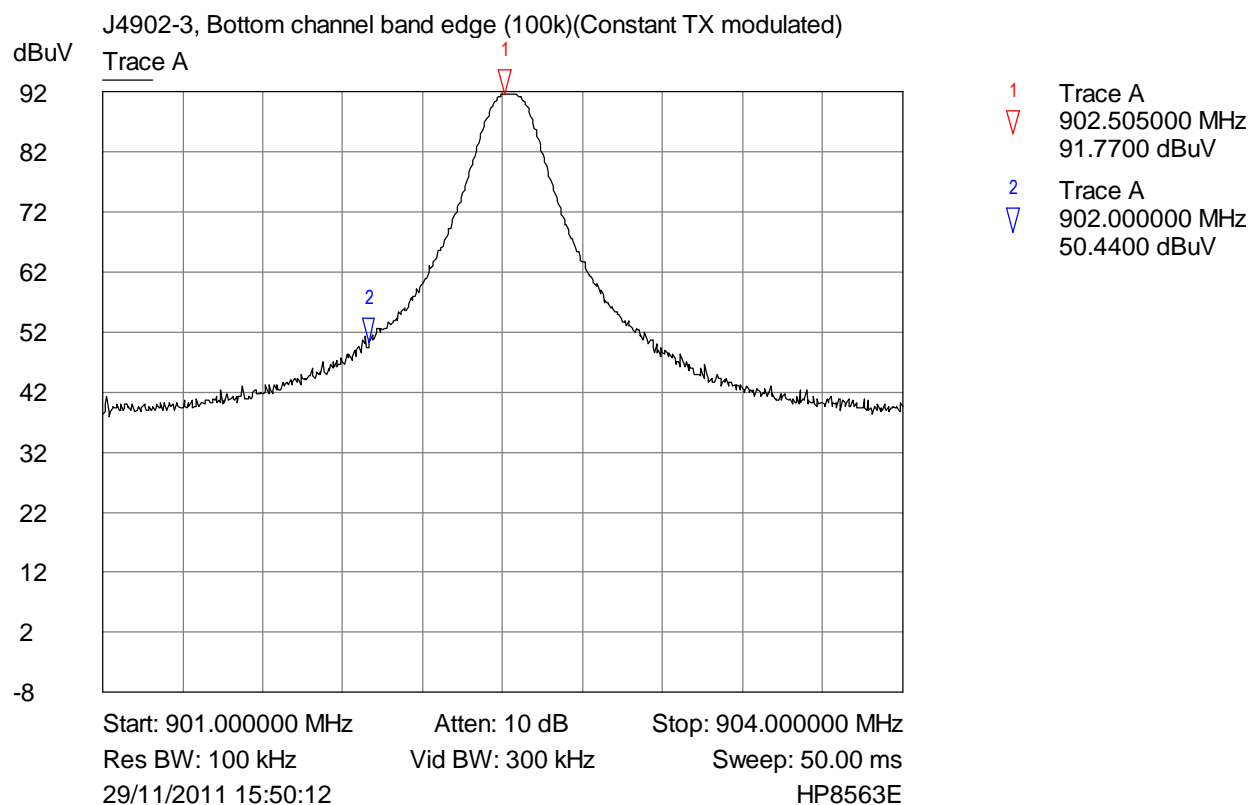


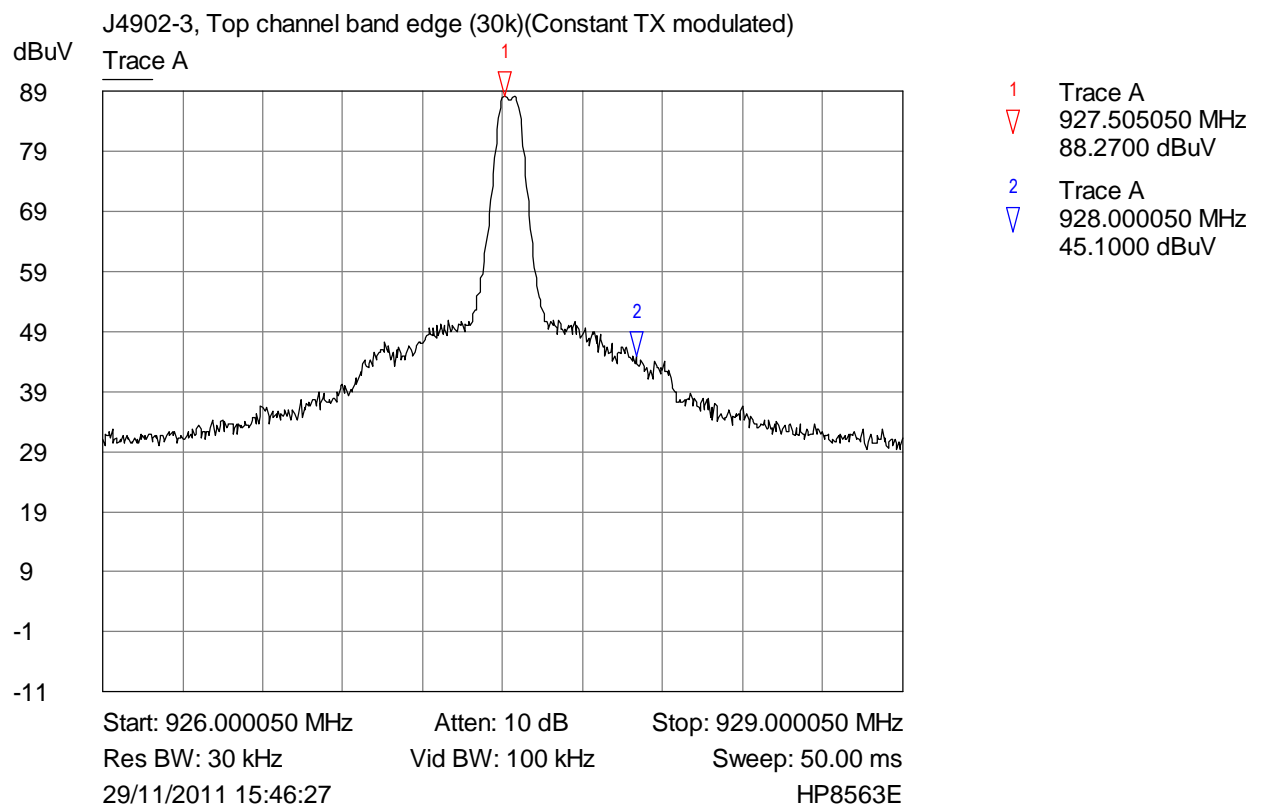
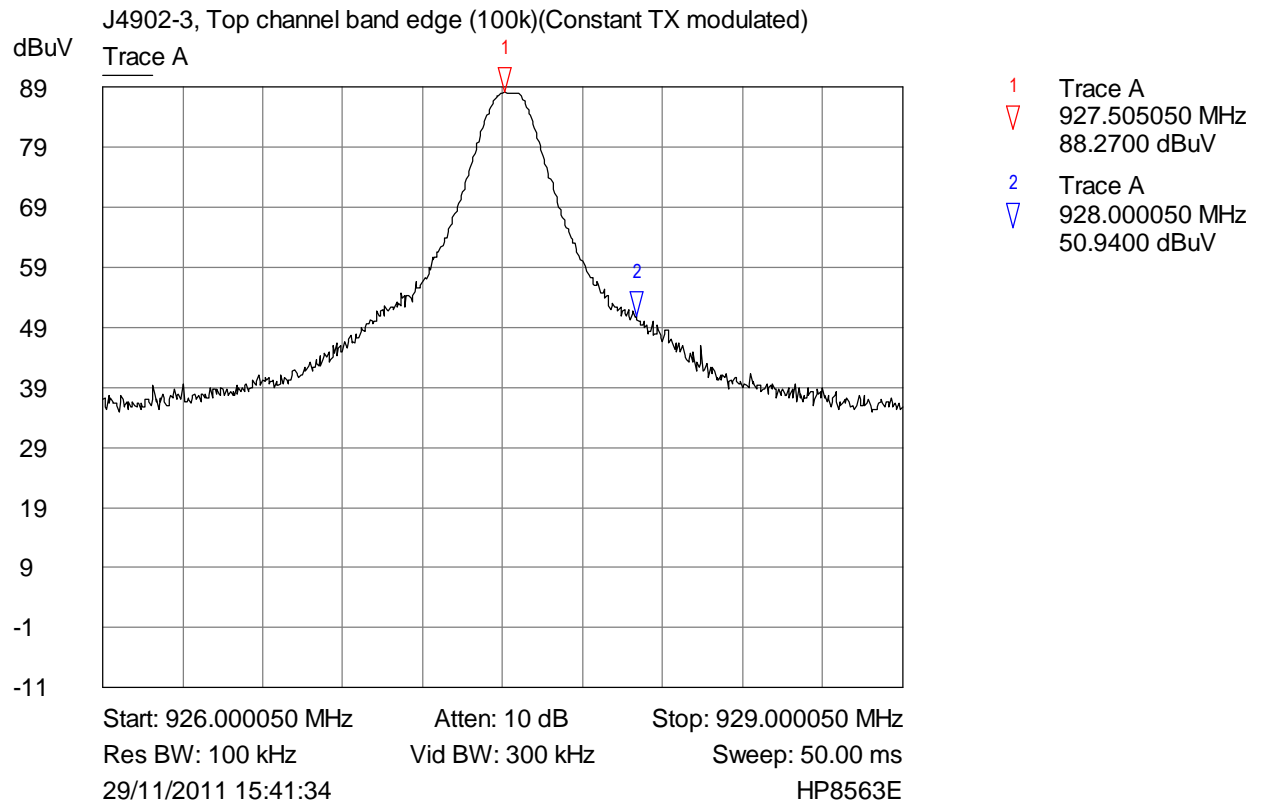
Start: 914.850000 MHz Atten: 10 dB Stop: 915.150000 MHz
Res BW: 1 kHz Vid BW: 3 kHz Sweep: 750.00 ms
29/11/2011 15:29:37 HP8563E

1 Trace A
914.979500 MHz
87.1400 dBuV
2-1 Trace A
-13.500000 kHz
-19.6700 dB
3-2 Trace A
65.000000 kHz
0 dB



6.6 Band Edge Compliance





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 (dB μ V)	PK Delta L 1 (dB)	Avg (dB μ V)	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 (dB μ V), (can also be labelled, in the case of Quasi Peak, Peak dB μ V/m) is the Level that was received at peak amount in dB above 1 μ V.

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 (dB μ V), (can also be labelled, in the case of Quasi Peak, QP dB μ V/m) when undertaking a Quasi peak test, This is the Average or Quasi peak calculation results given in dB μ V or dB μ V/m above 1 μ V.

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 μ V/m at a specified distance), whereas the measured values are expressed as peak, quasi peak or average values in dB μ V/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 μ V/m equates to $20.\log(500) = 54$ dB μ V/m.
- (b) limit of 300 μ V/m at 10m equates to $20.\log(300 \cdot 10/3) = 60$ dB μ V/m at 3m
- (c) limit of 30 μ V/m at 30m, but below 30MHz, equates to $20.\log(30) + 40.\log(30/3) = 69.5$ dB μ V/m at 3m, as extrapolation factor below 30MHz is 40dB/decade per 15.31(f)(2).

8. Photographs



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

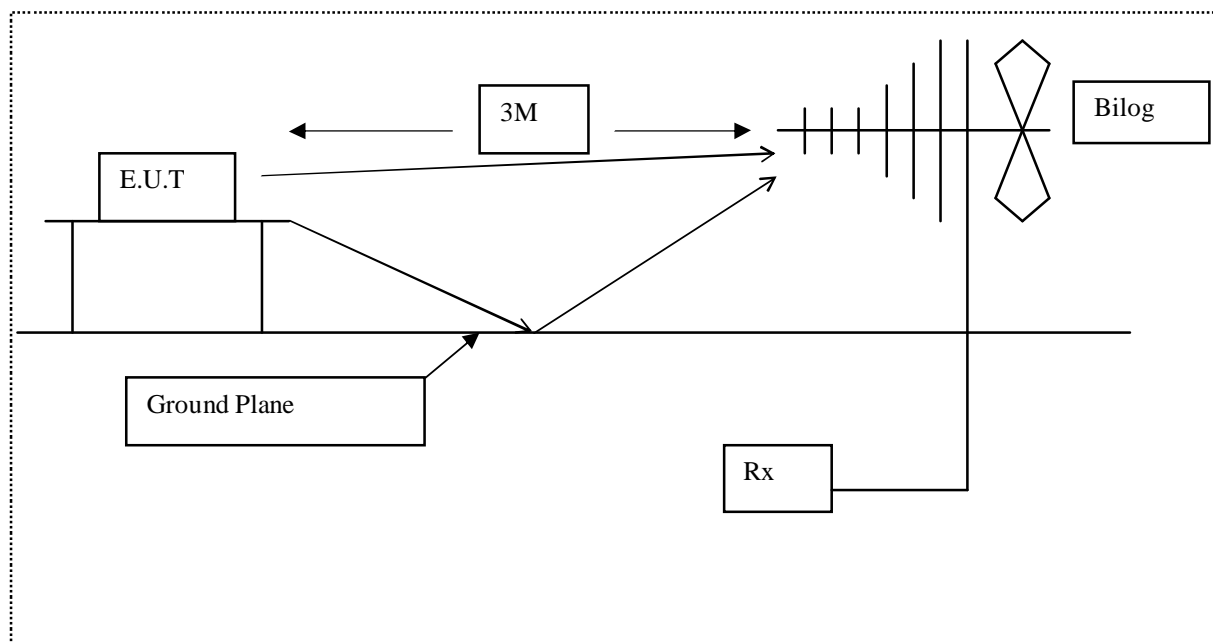
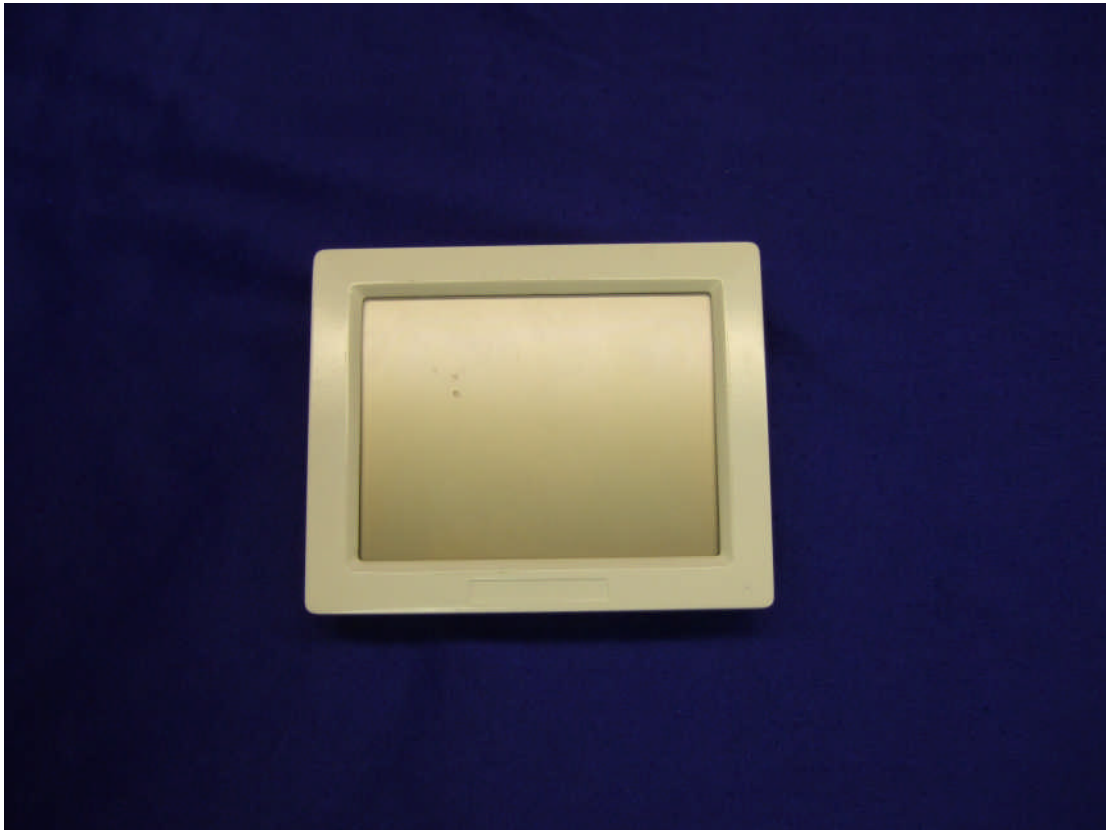


Diagram of the radiated emissions test setup.



Identifying Photograph of the EUT

9. Signal Leads

The EUT had no ports of any type.

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
E289	8449B-H40	Pre-amplifier / Down-converter	HP/Agilent	20-Dec-10	12
E342	HP8563E	Spectrum Analyzer 26.5GHz	HP	29-Mar-11	24
E410	N5181A	3 GHz MXG Signal Generator	Agilent Technologies	26-Oct-11	12
E411	N9039A	9 kHz - 1 GHz RF Filter Section	Agilent Technologies	26-Oct-11	12
E412	E4440A	3 Hz - 26.5 GHz PSA	Agilent Technologies	26-Oct-11	12
E428	HF906	1-18 GHz Horn Antenna	Rhode & Schwarz	14-Apr-11	36
E429	-	5 Switch Filter Box 0.91 GHz - 16.3 GHz	RN Electronics	10-Nov-11	12
E434	G3RUH	10MHz GPS source	James Miller	N/A	N/A
TMS81	6502	Active Loop Antenna	EMCO	13-Apr-10	24
TMS933	CBL6141A	Bilog Antenna 30MHz - 2GHz	York EMC	09-Sep-10	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
Toshiba	Laptop PC & power supply	Satellite Pro	-
ZBD Displays Ltd	Bounce Communicator	2	ZR000024

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 supplied 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.

12.1 Modifications before test

There were no modifications made by R.N. Electronics Ltd before testing commenced.

12.2 Modifications during test

There were no modifications made by R.N. Electronics Ltd during testing.

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:

This EUT is subject to the Certification procedure and, therefore, does not require a Declaration of Conformity.

14 Description of Test Sites

Site A	Radio / Calibration Laboratory and anechoic chamber
Site B	Semi-anechoic chamber
Site B1	Control Room for Site B
Site C	Transient Laboratory
Site D	Screened Room (Conducted Immunity)
Site E	Screened Room (Control Room for Site D)
Site F	Screened Room (Conducted Emissions) VCCI Registration No. C-2823
Site K	Screened Room (Control Room for Site M)
Site M	3m Semi-anechoic chamber (indoor OATS) FCC Registration No. 293246
Site Q	Fully-anechoic chamber
Site OATS	3m and 10m Open Area Test Site FCC Registration No. 293246 IC Registration No. 5612A-1 VCCI Registration No. R-2580

15 Abbreviations and Units

%	Percent	LO	Local Oscillator
µA/m	microAmps per metre	mA	milliAmps
µV	microVolts	max	maximum
µW	microWatts	mbar	milliBars
AC	Alternating Current	Mbit/s	MegaBits per second
ALSE	Absorber Lined Screened Enclosure	MHz	MegaHertz
AM	Amplitude Modulation	mic	Microphone
Amb	Ambient	min	minimum
ATPC	Automatic Transmit Power Control	mm	milliMetres
BER	Bit Error Rate	ms	milliSeconds
°C	Degrees Celsius	mW	milliWatts
C/I	Carrier / Interferer	NA	Not Applicable
CEPT	European Conference of Postal and Telecommunications Administrations	nom	Nominal
COFDM	Coherent OFDM	nW	nanoWatt
CS	Channel Spacing	OATS	Open Area Test Site
CW	Continuous Wave	OFDM	Orthogonal Frequency Division Multiplexing
dB	decibels	ppm	Parts per million
dBµA/m	decibels relative to 1µA/m	PRBS	Pseudo Random Bit Sequence
dBµV	decibels relative to 1µV	QAM	Quadrature Amplitude Modulation
dBc	decibels relative to Carrier	QPSK	Quadrature Phase Shift Keying
dBm	decibels relative to 1mW	R&TTE	Radio and Telecommunication Terminal Equipment
DC	Direct Current	Ref	Reference
DTA	Digital Transmission Analyser	RF	Radio Frequency
EIRP	Equivalent Isotropic Radiated Power	RFC	Remote Frequency Control
ERP	Effective Radiated Power	RSL	Received Signal Level
EU	European Union	RTP	Room Temperature and Pressure
EUT	Equipment Under Test	RTPC	Remote Transmit Power Control
FM	Frequency Modulation	Rx	Receiver
FSK	Frequency Shift Keying	s	Seconds
g	Grams	SINAD	Signal to Noise And Distortion
GHz	GigaHertz	Tx	Transmitter
Hz	Hertz	V	Volts
IF	Intermediate Frequency		
kHz	kiloHertz		
LBT	Listen Before Talk		



Certificate of Test 4902/3A

The equipment noted below has been tested by **R.N. Electronics Limited** and conforms with the relevant subpart of FCC 47CFR part 15, subject to deviations as detailed in this report.

This certificate relates to the unit, 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:	epop500c
Model Number(s):	epop500c
Unique Serial Number(s):	ES00000008
Manufacturer:	ZBD Displays Ltd Building 3 Kingswood Kings Ride Ascot Berkshire SL5 8AD
Customer Purchase Order Number:	6160 & 6262
R.N. Electronics Limited Report Number:	11-518/4902/3A/11
Test Standards:	FCC 47CFR Part 15C: effective date October 1st 2011 , Class DXT Intentional Radiator
Date:	21st to 29th November 2011
For and on behalf of R.N. Electronics Limited	
Signature:	

QMF21 – 8: FCC PART 15 ISSUE 01: - AUG 04

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