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Radio measurements on WCDMA 850 MHz Transceiver unit with FCC ID: TA8AKRC11822-4 and IC: 287AB-AW118224 (9 appendices)

Test object

Radio Unit KRC 118 22/4 rev R1A

Appendix 1 provides information about the test object and the test set-up.
Appendix 9 provides external photos of the test object.

Summary

Standard	Compliant	Appendix
FCC CFR 47 / IC RSS-132		
2.1046 / RSS-132 4.4 RF power output	Yes	2
2.1049 / RSS-Gen 4.6.1 Occupied bandwidth	Yes	3
2.1051 / RSS-132 4.5 Band edge	Yes	4
2.1051 / RSS-132 4.5 Spurious emission at antenna terminals	Yes	5
2.1053 / RSS-132 4.5 Field strength of spurious radiation	Yes	6
2.1055 / RSS-132 4.3 Frequency stability	Yes	7
FCC CFR 47 / Industry Canada RSS-132		
15.111 / RSS-132 4.6 Receiver spurious emissions	Yes	8

Note: Above RSS-132 items are given as cross-reference only. Measurements were performed according to ANSI procedures referenced by FCC and covered by SP's accreditation.

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FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

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Appendix 1

Description – Test object

Equipment: WCDMA Transceiver unit (RU) 850 MHz, single and multi carrier

Tx Frequency range: 871.4 – 891.6 MHz

Modulations: QPSK and 16QAM

Maximum output power: Single carrier: 1x46 dBm (1x40W)
Multi carrier: 2x43 dBm (2x20W)

Nominal power voltage: -48 VDC

Tested channels

UARFCN	Frequency
4357	871.4 MHz
4407	881.4 MHz
4408	881.6 MHz
4458	891.6 MHz

Operation mode during measurements**Test models**

All measurements were performed with the test object configured with the test models 1 and 5 as defined in 3GPP TS 25.141. Test model 1 uses the QPSK modulation only, and test model 5 includes the 16QAM modulation.

Conducted measurements

All RF conducted measurements were performed with the test object installed in a RBS 3206 cabinet powered with -48 VDC. All measurements were done at the output connector (Ant A) of the Filter Unit (FU) KRC 118 21/1. The measurements were performed at maximum output power with both modulations.

The settings below were found to be representative for all traffic scenarios when several settings were tested to find the setting for worst case.

Single carrier

Test model 1: 64 DPCHs at 30 ksps (SF=128)

Test model 5: 30 DHCPs at 30 ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF=16)

Multi carrier

Test model 1: 32 DPCHs at 30 ksps (SF=128)

Test model 5: 30 DHCPs at 30 ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF=16)

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Appendix 1

Radiated measurements

All radiated measurements were performed with the test object installed in a wooden rack without EMC shielding. This configuration represents worst case for radiated spurious emission measurements. The test object was powered with -48 VDC.

The RU unit were activated as Single Carrier 1x1 (1x46 dBm) and Multi Carrier 2x1 (2x43 dBm). The RF output power port were terminated with 50 ohm loads.

The RU unit were allocated to the following UARFCN:

Cell	1	1	1	1	1	1
Downlink	4357 (871,4 MHz)	4357 (871,4 MHz)	4407 (881,4 MHz)	4407 (881,4 MHz)	4458 (891.6 MHz)	4458 (891.6 MHz)
Uplink	4132 (826,4 MHz)	4132 (826,4 MHz)	4182 (836,4 MHz)	4182 (836,4 MHz)	4233 (846.6 MHz)	4233 (846.6 MHz)
Test model	1	5	1	5	1	5

Test model 1: 64 DPCs at 30 ksps (SF=128)

Test model 5: 30 DHCPs at 30 ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF=16)

Multi Carrier:

Cell	1	2
Downlink	4357 (871,4 MHz)	4407 (881,4 MHz)
Uplink	4132 (826,4 MHz)	4182 (836,4 MHz)
Test model	1	5

Test model 1: 32 DPCs at 30 ksps (SF=128)

Test model 5: 30 DHCPs at 30 ksps (SF=128) and 8 HS-PDSCHs at 240 ksps (SF=16)

Purpose of test

The purpose of the tests is to verify compliance to the performance characteristics specified in FCC CFR 47 and Industry Canada RSS-132.

References

Measurements were done according to relevant parts of the following standards:

ANSI 63.4-2003

ANSI/TIA/EIA-603-B-2002

3GPP TS 25.141

Reservation

The test results in this report apply only to the particular test object as declared in the report.

Delivery of test object

The test object was delivered: 2007-10-26

REPORT

Date
2007-11-15

Reference
F720609-F22

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3 (5)

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Appendix 1

Manufacturer's representative

Larry Lindström, Ericsson AB

Test engineers

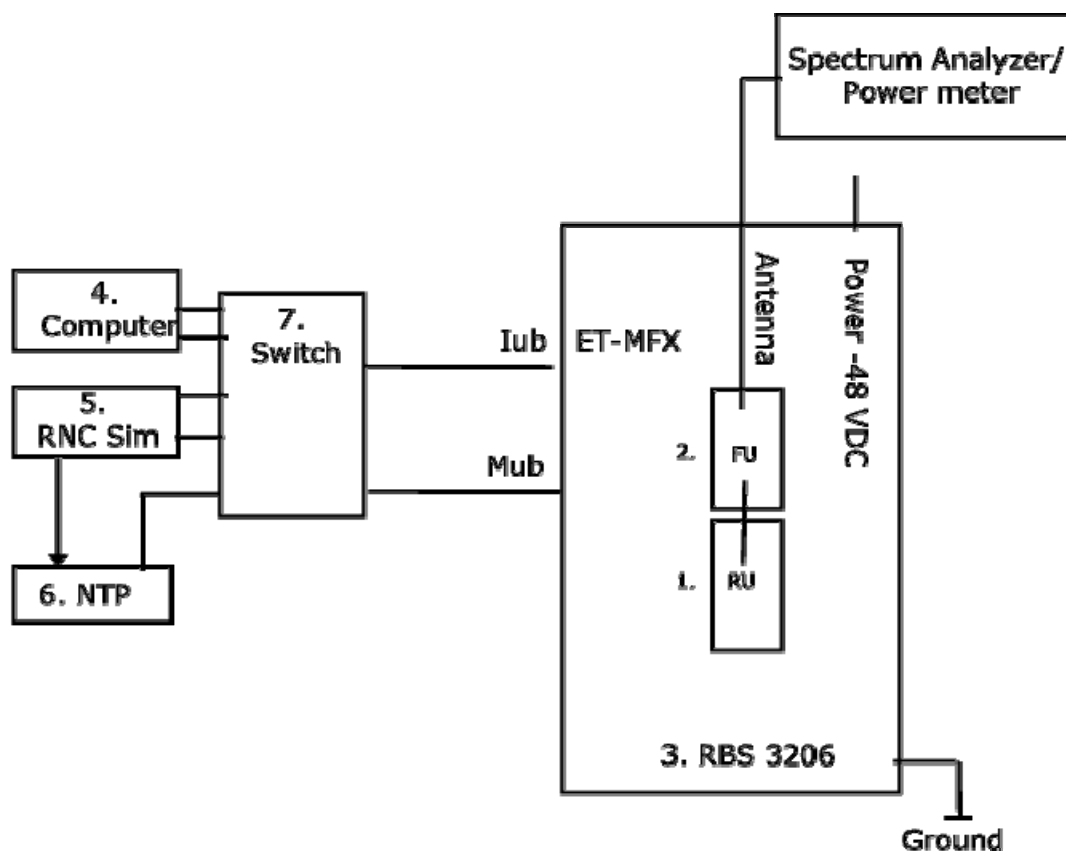
Jonas Bremholt and Jörgen Wassholm

Test witnesses

Larry Lindström and Christer Gustavsson, Ericsson AB

FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 1

Test set-up, conducted measurements

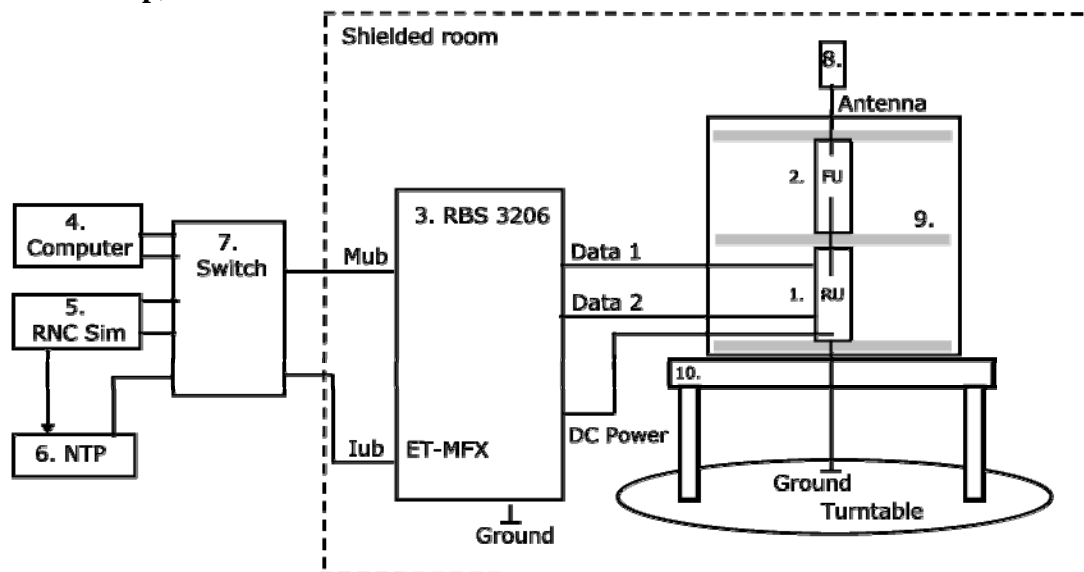
1. Test object, RU KRC 118 22/4 Rev. R1A, Serial No: AE55467842 (FCC ID: TA8AKRC11822-4 and IC: 287AB-AW118224)
2. FU KRC 118 21/1 Rev. R1E, Serial No: TU8F196324

Functional test equipment

3. RBS 3206 Product number: 2/BFE 401 1012 R1K, Serial No: AB20241014 with software CXP 901 2073-R5M06
4. Computer: SunBlade 2500 S/N 42520484 P/N 380-0986-02
5. RNC: Mini-sim #51 4780 DA S/N 0205 REV BAA (10 MHz ref out)
6. NTP Server: Network Time Server S250i S/N PR0721Q23680 (10 MHz ref. in)
7. Switch: HP ProCurve Networking HP innovation S/N CN629XI3T2

FCC ID: TA8AKRC11822-4
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Appendix 1

Test set-up, radiated measurements**Test object**

1. Test object, RU KRC 118 22/4 Rev. R1A, Serial No: AE55467842 (FCC ID: TA8AKRC11822-4 and IC: 287AB-AW118224)
2. FU KRC 118 21/1 Rev. R1E, Serial No: TU8F196324

Functional test equipment

3. RBS 3206 Product number: 2/BFE 401 1012 R1K, Serial No: AB20241014 with software CXP 901 2073-R5M06
4. Computer: SunBlade 2500 S/N 42520484 P/N 380-0986-02
5. RNC: Mini-sim #51 4780 DA S/N 0205 REV BAA (10 MHz ref out)
6. NTP Server: Network Time Server S250i S/N PR0721Q23680 (10 MHz ref. in)
7. Switch: HP ProCurve Networking HP innovation S/N CN629XI3T2
8. Terminator (50 ohn)
9. Wooden rack
10. Non conductive table

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Appendix 2

RF power output measurements according to 47 CFR 2.1046/ RSS-132 4.4

Date 2007-11-05 to 2007-11-07	Temperature 22-24 °C ± 3 °C	Humidity 24-32 % ± 5 %
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Test set-up and procedure

The output was connected to a Peak power analyzer. The transmitter was set up according to Test model 1 and Test model 5 during the measurements.

Measurement equipment	Calibration Due	SP number
Boonton RF Peak power meter/analyzer	2008-12	503 144
Boonton Power sensor 56518-S/4	2009-06	503 145
Multimeter Fluke 87	2007-12	502 190
Testo 610, Temperature and humidity meter	2009-04	502 658

Measurement uncertainty: 0.5 dB**Results****Single carrier**

Maximum rated output power level after FU unit: 1x46 dBm

Test conditions T_{nom} 22 °C/ V_{nom} -48 V DC	Transmitter power (dBm) RMS		
	Frequency 871.4	Frequency 881.4	Frequency 891.6
QPSK	46.0	46.0	46.0
16QAM	46.0	46.0	46.0

Multi carrier

Maximum rated output power level after FU unit: 2x43 dBm

Test conditions T_{nom} 23 °C/ V_{nom} -48 V DC	Transmitter combined power (dBm) RMS	
	Frequencies 871.4 + 881.4 MHz	Frequencies 881.6 + 891.6MHz
QPSK	46.0	45.9
16QAM	45.9	45.9

Limit

According to CFR § 22 there are no conducted limits at the antenna connector.

CFR § 22.913/ SRSP-503 5.1: The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts (57 dBm).

Complies?	Yes
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Appendix 3

Occupied bandwidth measurements according to 47 CFR 2.1049/ RSS-Gen 4.6.1

Date 2007-11-05	Temperature 24 °C ± 3 °C	Humidity 24 % ± 5 %
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Test set-up and procedure

The measurements were made per definition in §2.1049. The output was connected to a spectrum analyzer. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements. The transmitter was set up according to Test model 1 and Test model 5 during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSIQ	2008-10	503 738
Testo 610, Temperature and humidity meter	2009-04	502 658

Measurement uncertainty: 3.7 dB**Results**

The results are shown in appendix 3.1

QPSK

	Frequency	OBW
Diagram 1:	871.4 MHz	4.2 MHz
Diagram 2:	881.4 MHz	4.2 MHz
Diagram 3:	891.6 MHz	4.2 MHz

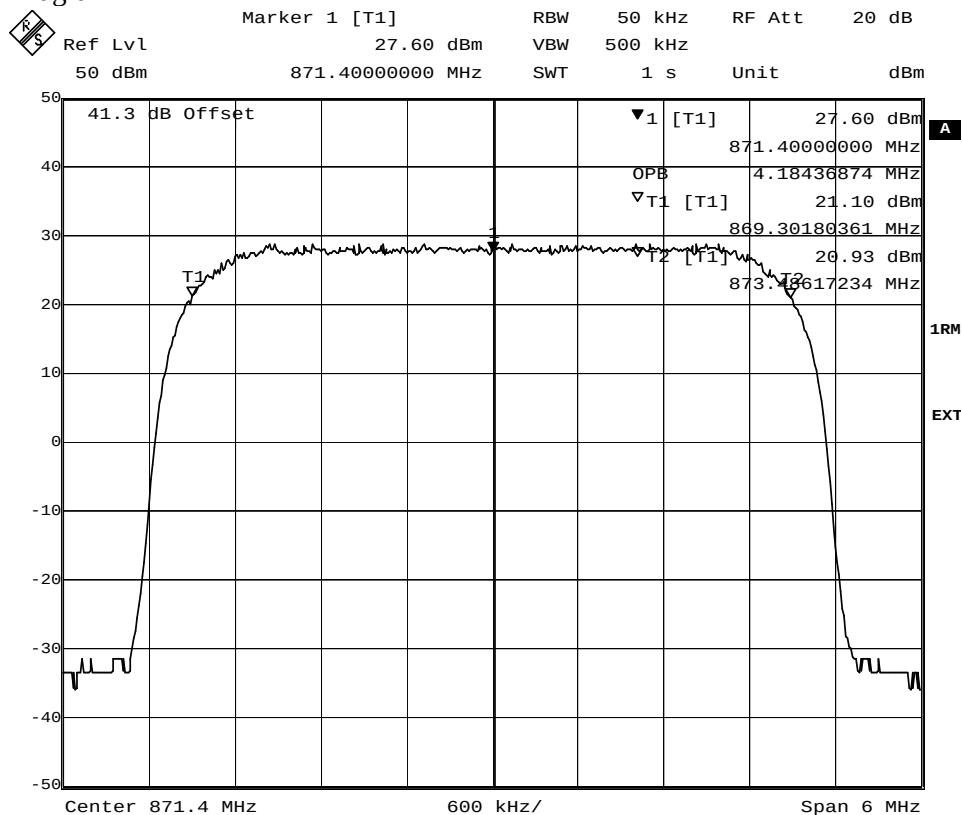
16QAM

	Frequency	OBW
Diagram 4:	871.4 MHz	4.2 MHz
Diagram 5:	881.4 MHz	4.2 MHz
Diagram 6:	891.6 MHz	4.2 MHz

FCC ID: TA8AKRC11822-4
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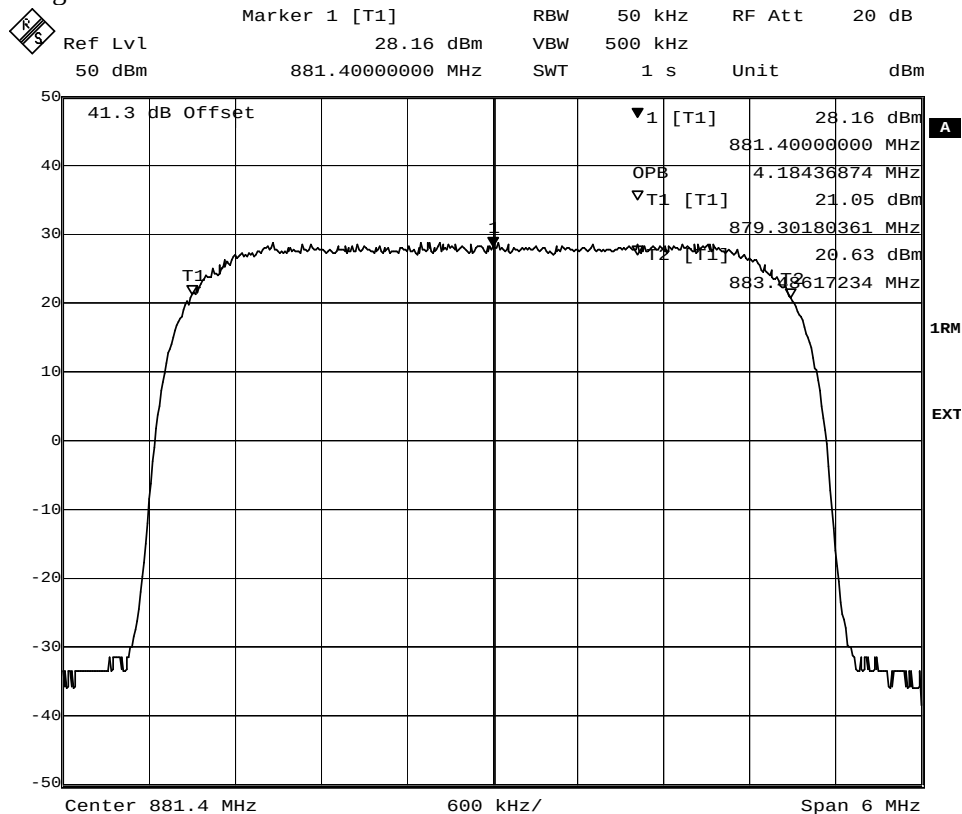
Appendix 3.1

Diagram 1



Date: 5.NOV.2007 13:09:42

Diagram 2

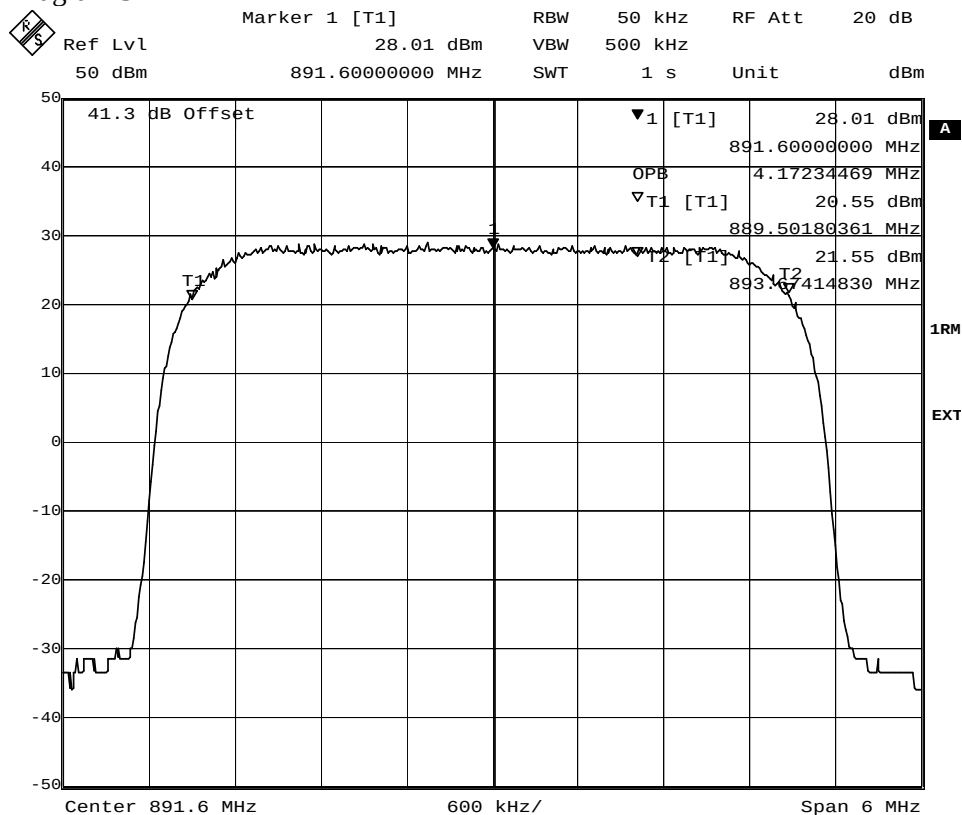


Date: 5.NOV.2007 11:39:58

FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

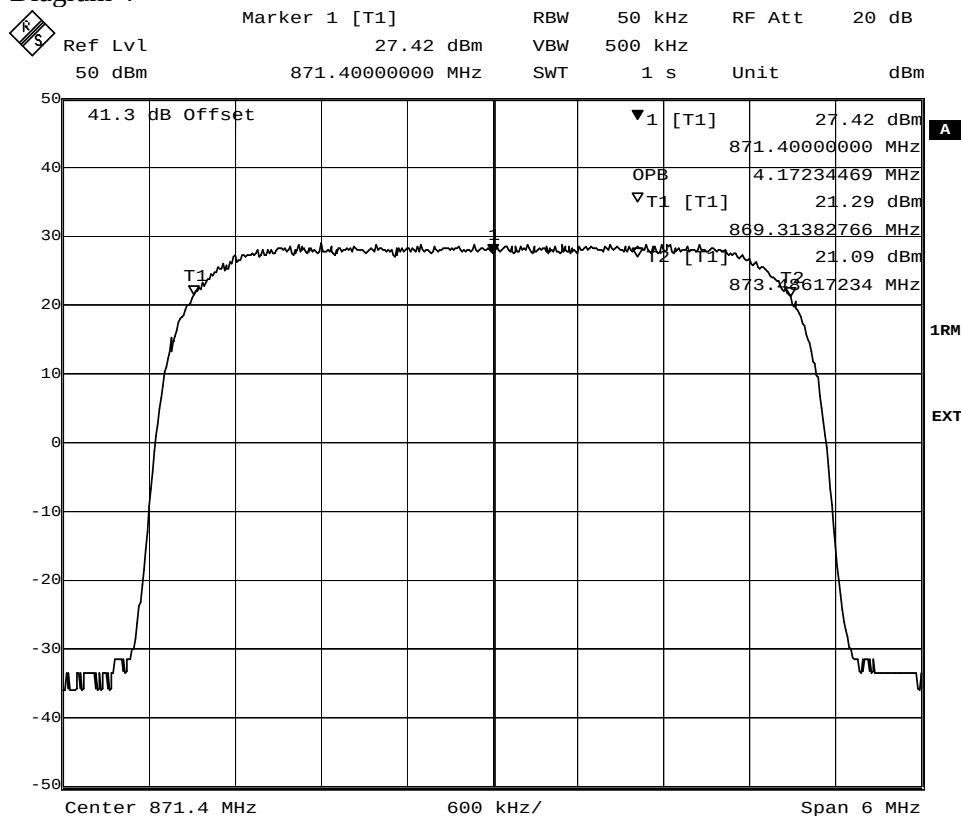
Appendix 3.1

Diagram 3



Date: 5.NOV.2007 14:53:19

Diagram 4

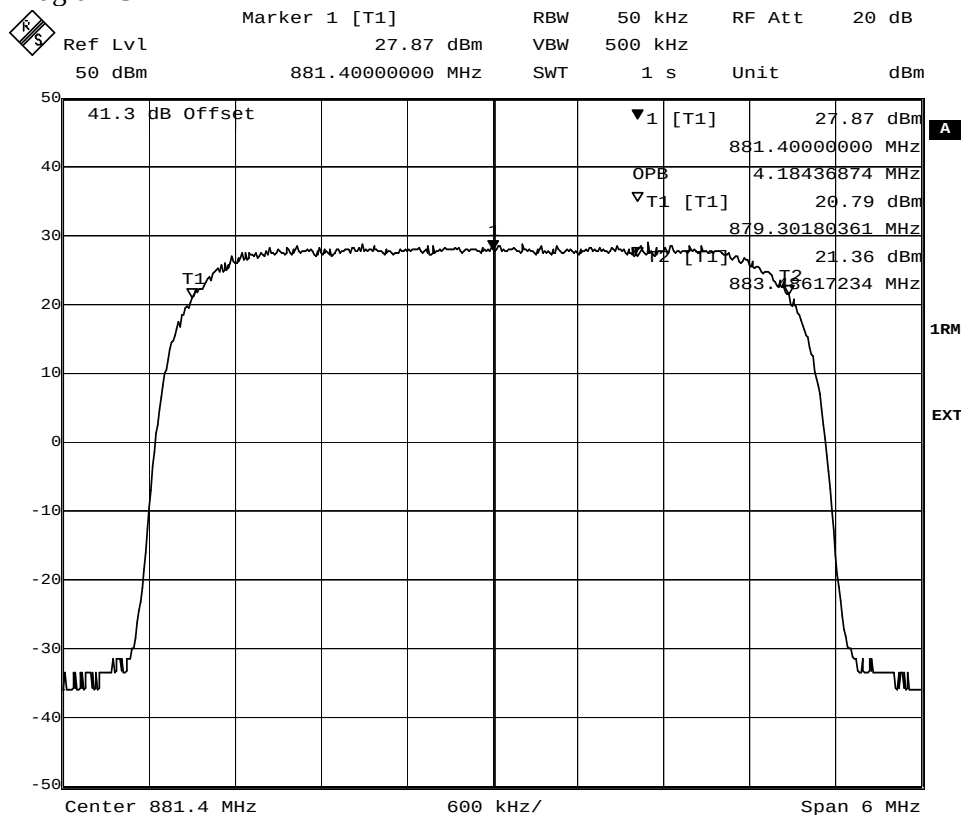


Date: 5.NOV.2007 13:56:34

FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

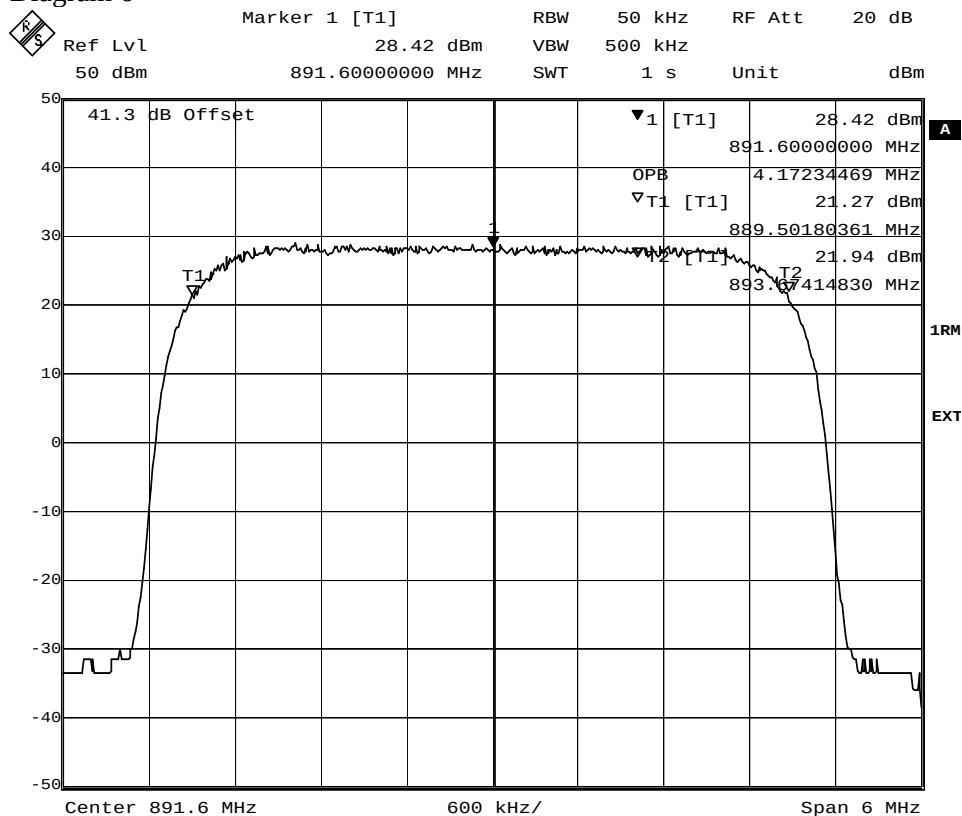
Appendix 3.1

Diagram 5



Date: 5.NOV.2007 11:48:27

Diagram 6



Date: 6.NOV.2007 10:56:24

FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4

Band edge measurements according to 47 CFR 2.1051/ RSS-132 4.5

Date 2007-11-05 to 2007-11-07	Temperature 22-24 °C ± 3 °C	Humidity 24-32 % ± 5 %
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Test set-up and procedure

The measurements were made per definition in §22.917. The output was connected to a spectrum analyzer with the RMS detector activated. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements. A resolution bandwidth of 30 kHz was used up to 3.25 MHz away from the band edges. 30 kHz is <1% of the Emission BW(4.25 MHz between the 26 dB points). To compensate for the reduced measurement band width, the limit was adjusted with 1.5 dB to -14.5 dBm up to 1 MHz away from the band edges and with 15.2 dB to -28.2 dBm between 1 MHz to 3.25 MHz away from the band edges. The transmitter was set up according to Test model 1 and Test model 5 during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSIQ	2008-10	503 738
Testo 610, Temperature and humidity meter	2009-04	502 658

Measurement uncertainty: 3.7 dB**Results**

The results are shown in appendix 4.1

Single carrier**QPSK**Diagram 1: 871.4 MHz
Diagram 2: 891.6 MHz**16QAM**Diagram 3: 871.4 MHz
Diagram 4: 891.6 MHz**Multi carrier****QPSK**Diagram 5: 871.4+881.4 MHz
Diagram 6: 881.6+891.6 MHz**16QAM**Diagram 7: 871.4+881.4 MHz
Diagram 8: 881.6+891.6 MHz**Limits**

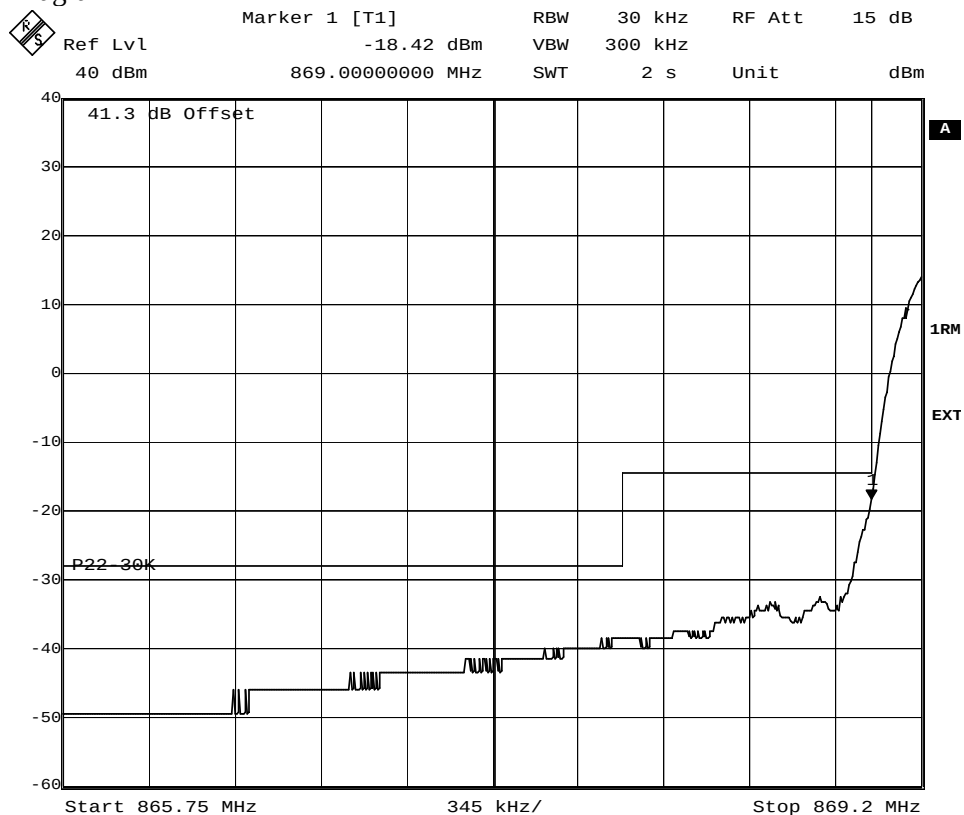
The power of any emission outside the frequency band shall be attenuated below the transmitter power (P) by at least $43 + 10 \log P$ dB.

Complies?	Yes
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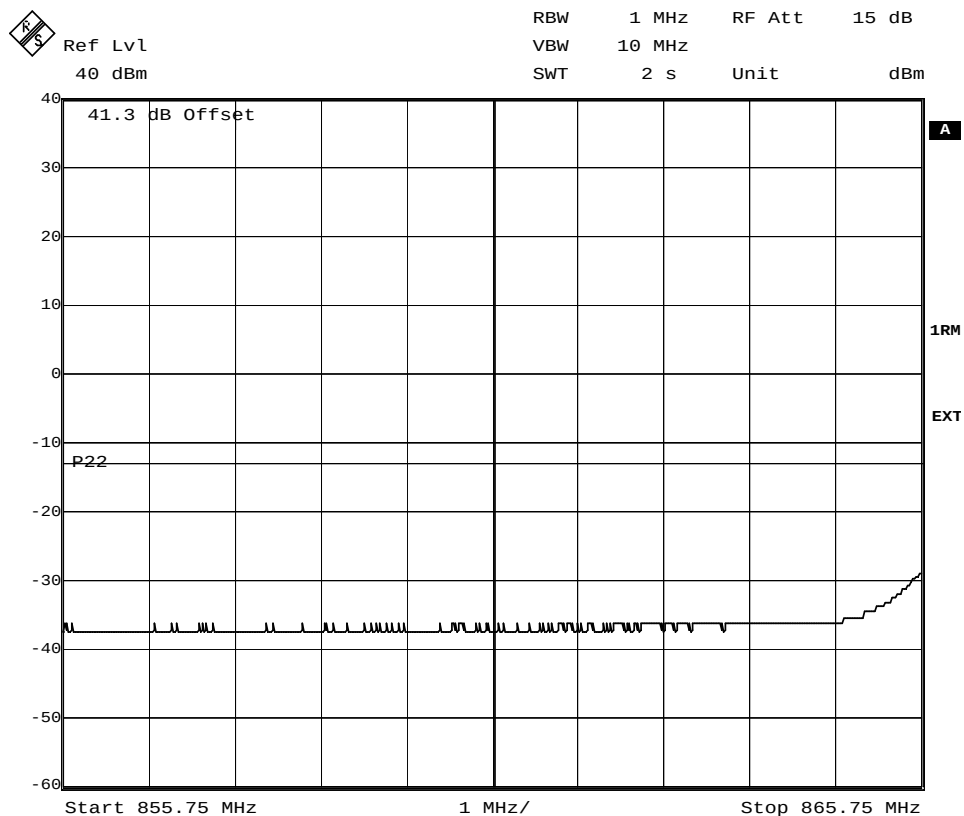
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 1



Date: 5.NOV.2007 13:06:53

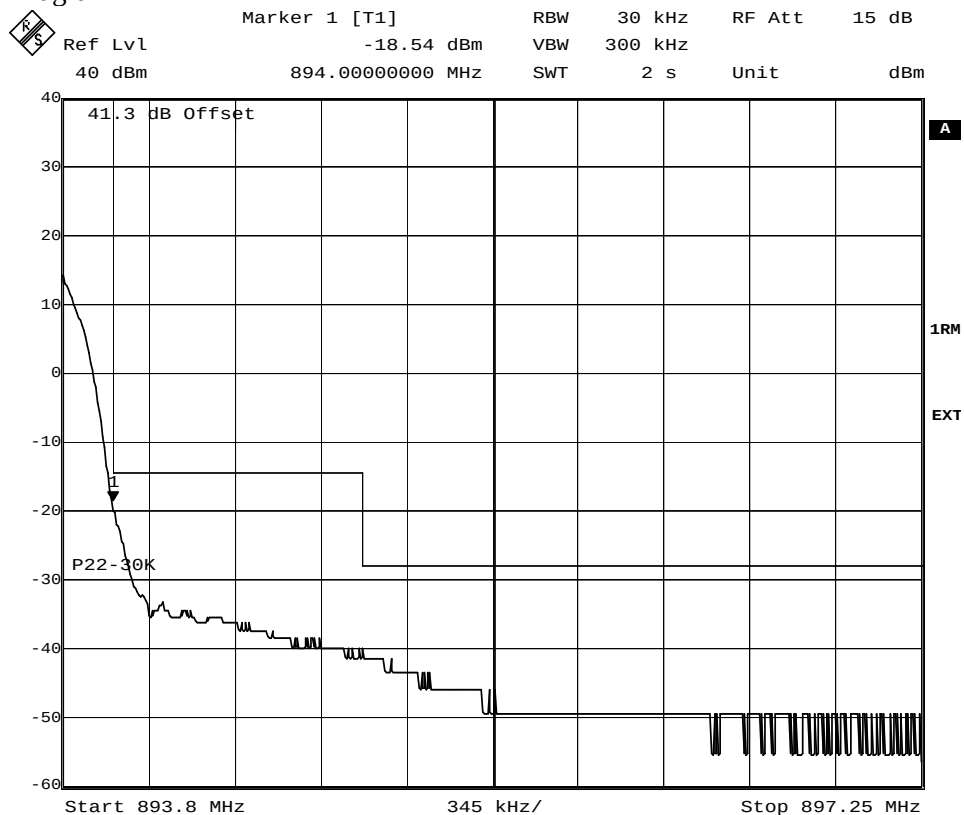


Date: 5.NOV.2007 13:08:49

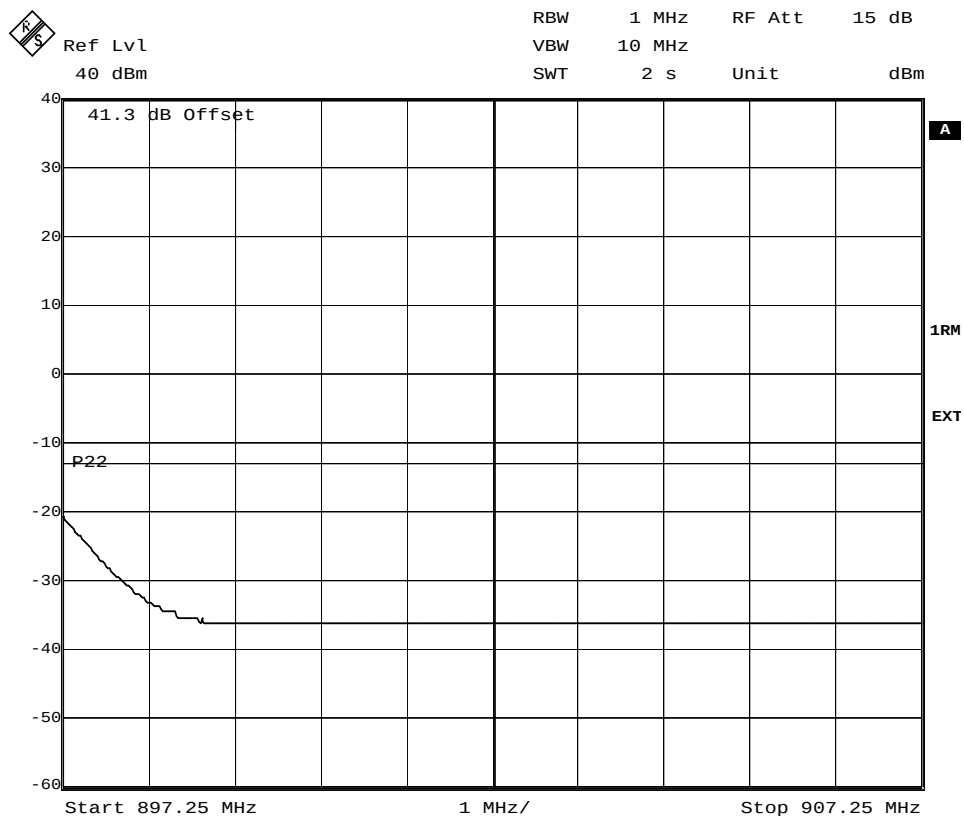
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 2



Date: 5.NOV.2007 14:51:06

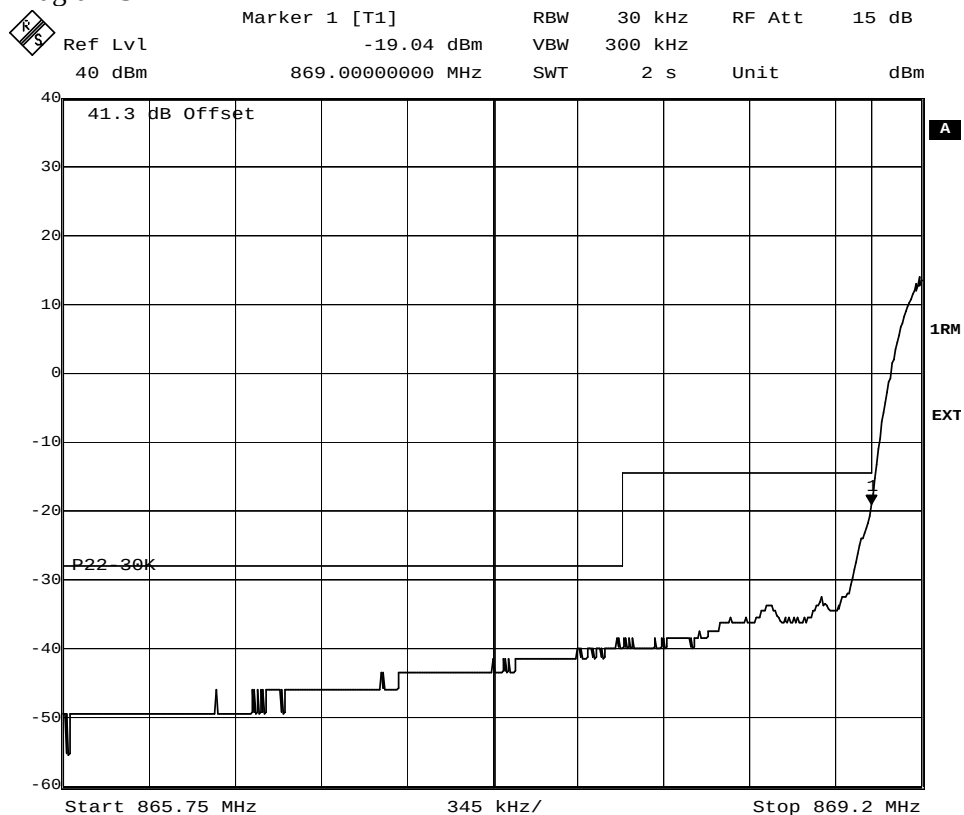


Date: 5.NOV.2007 14:50:46

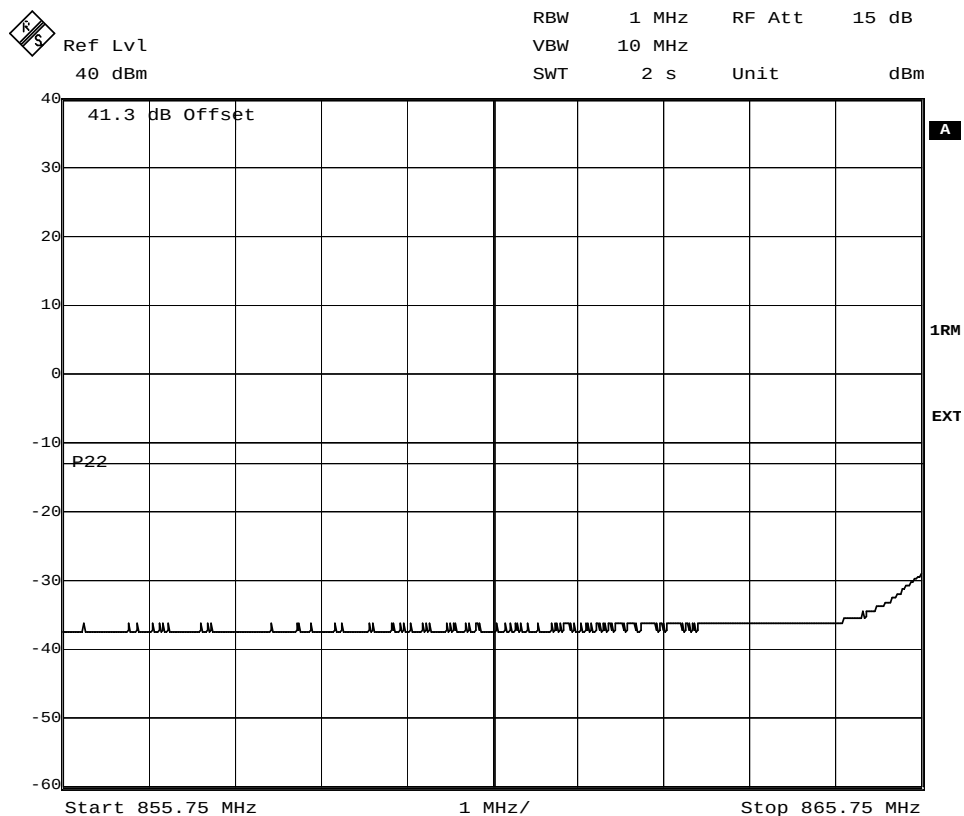
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 3



Date: 5.NOV.2007 13:59:22

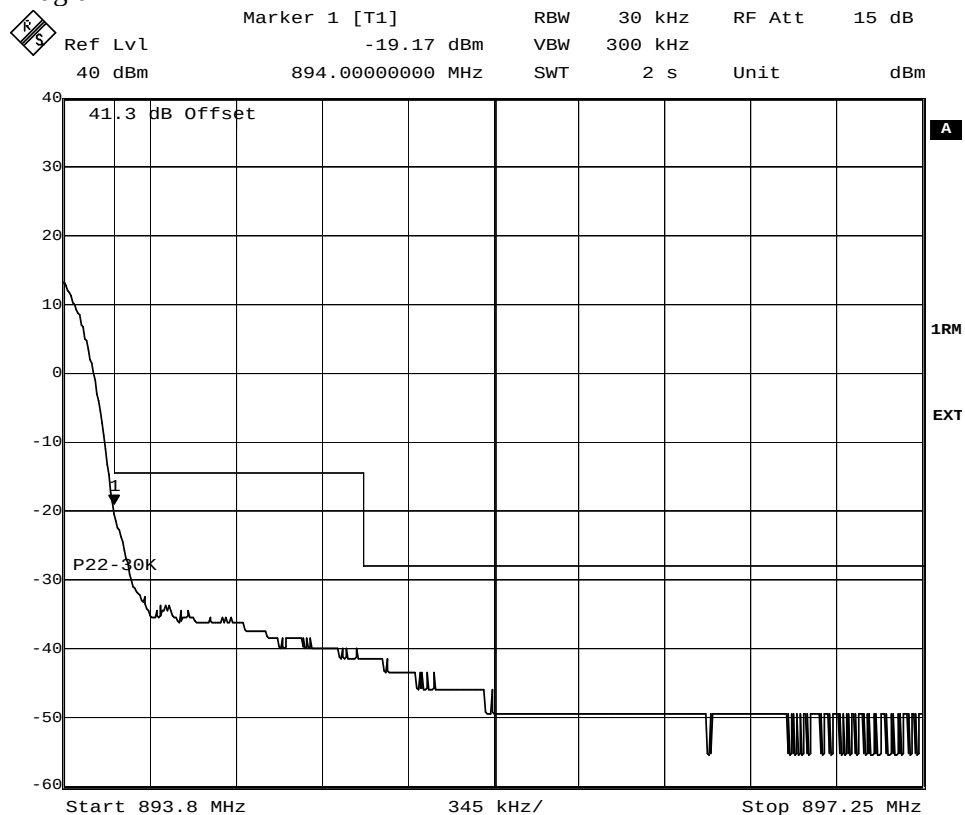


Date: 5.NOV.2007 13:59:02

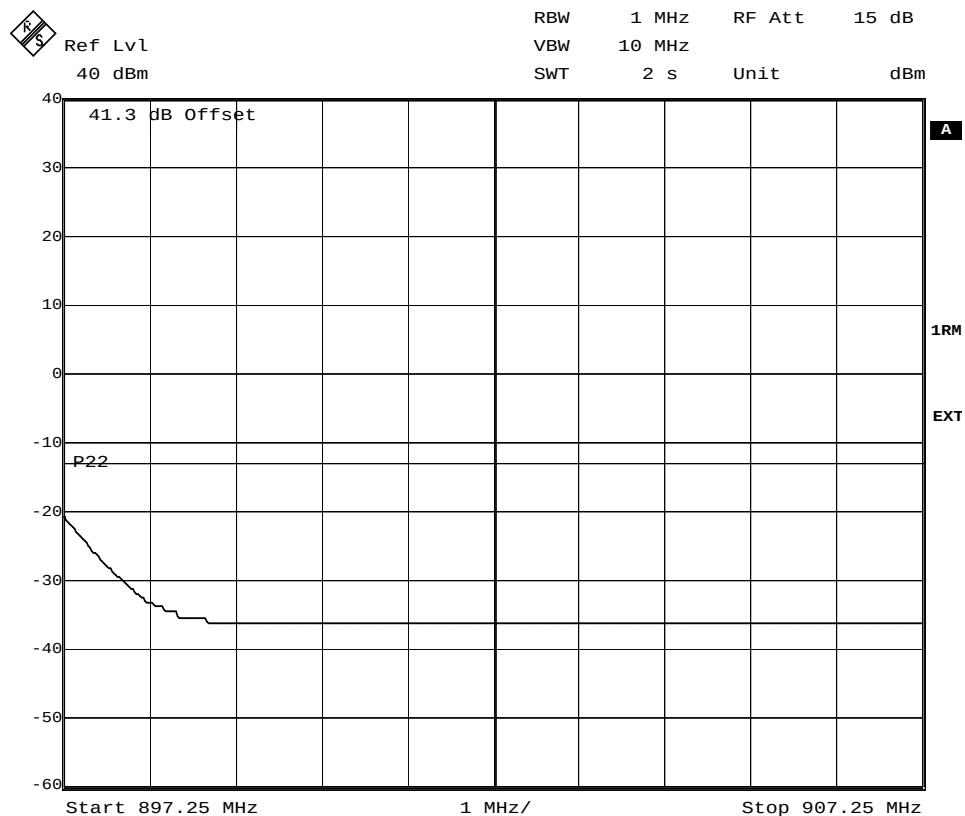
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 4



Date: 6.NOV.2007 10:51:42

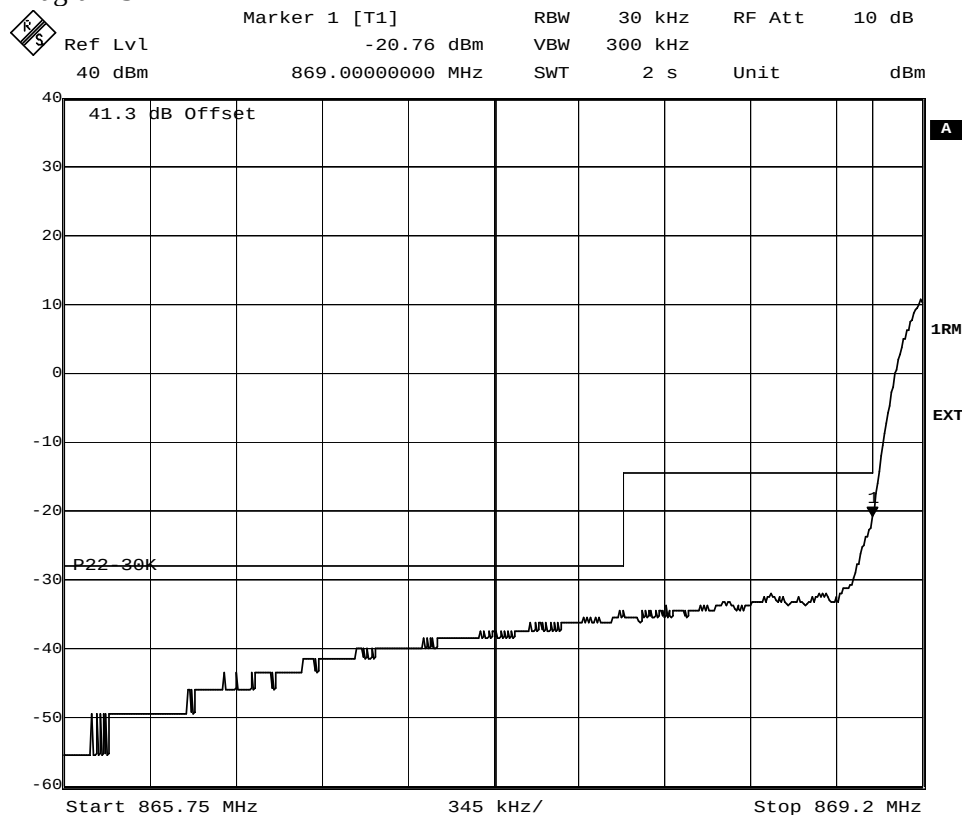


Date: 6.NOV.2007 10:51:58

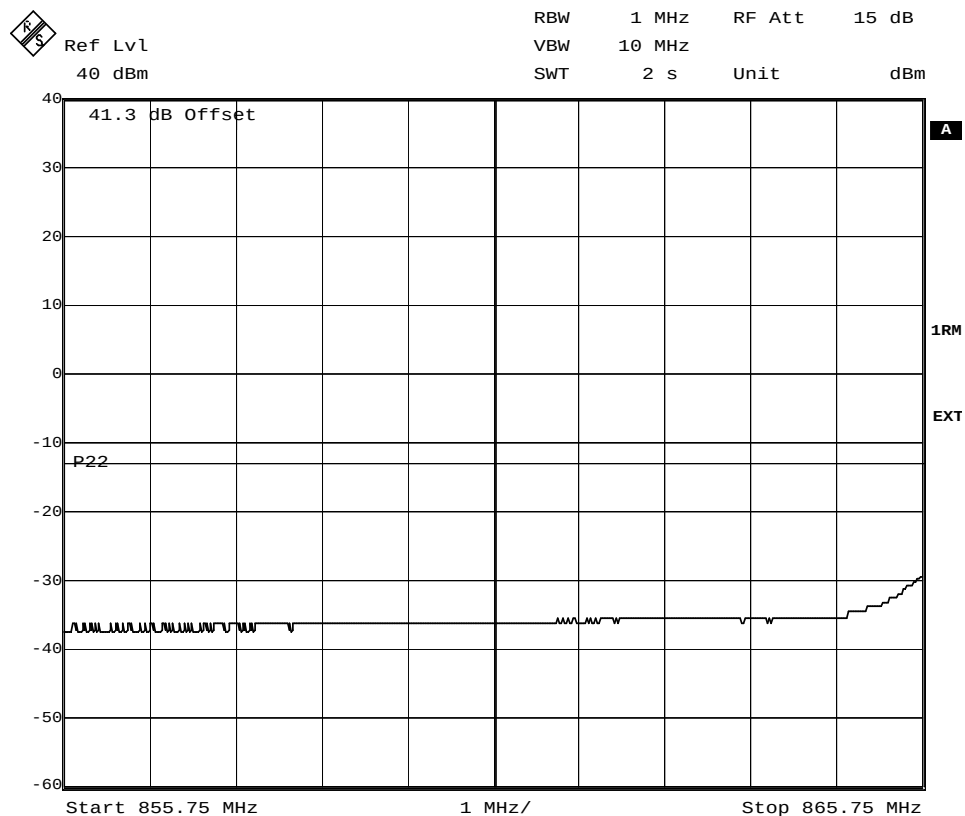
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 5



Date: 5.NOV.2007 15:45:33

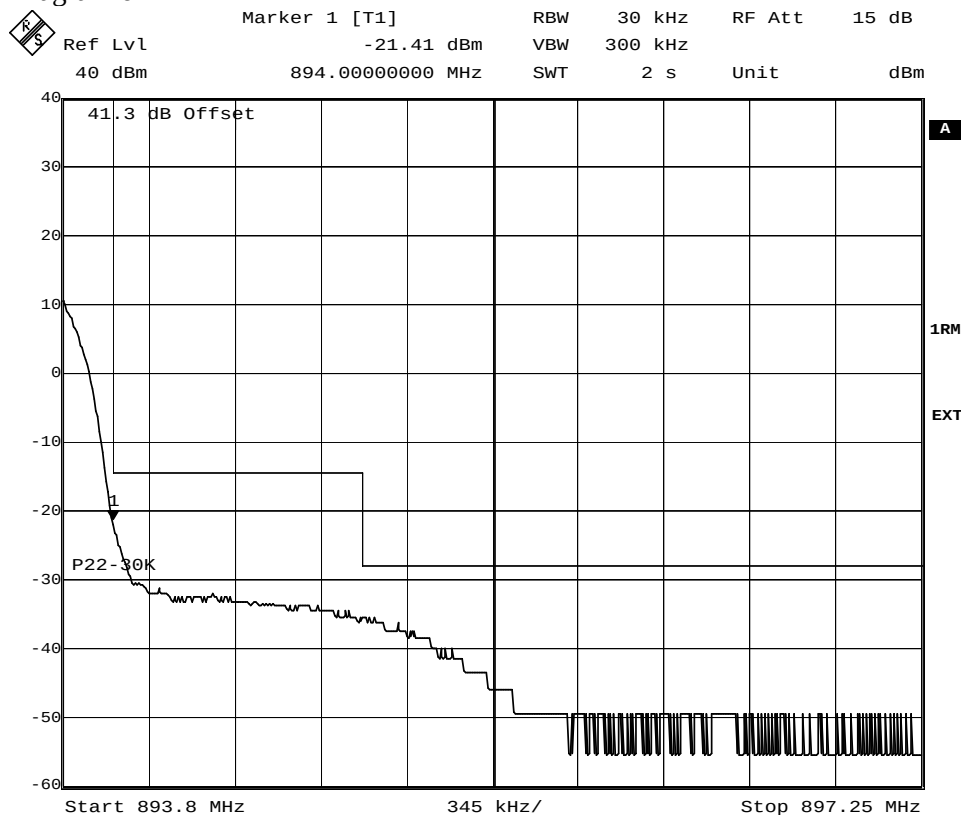


Date: 5.NOV.2007 15:48:16

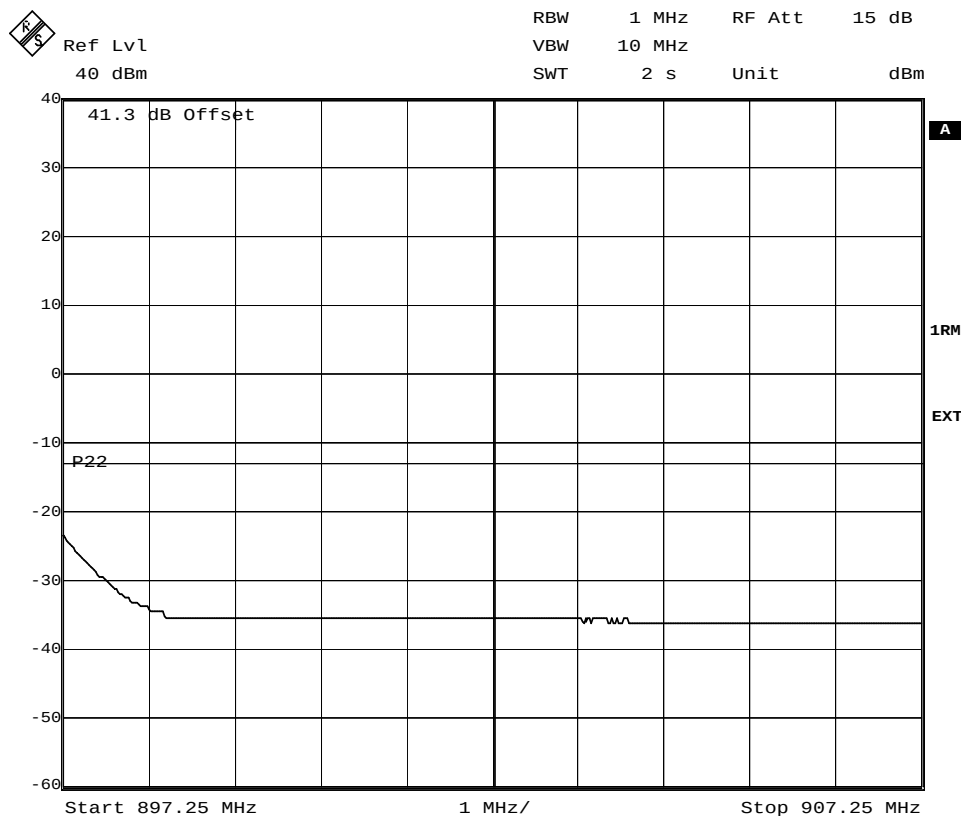
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 6



Date: 6.NOV.2007 12:54:21

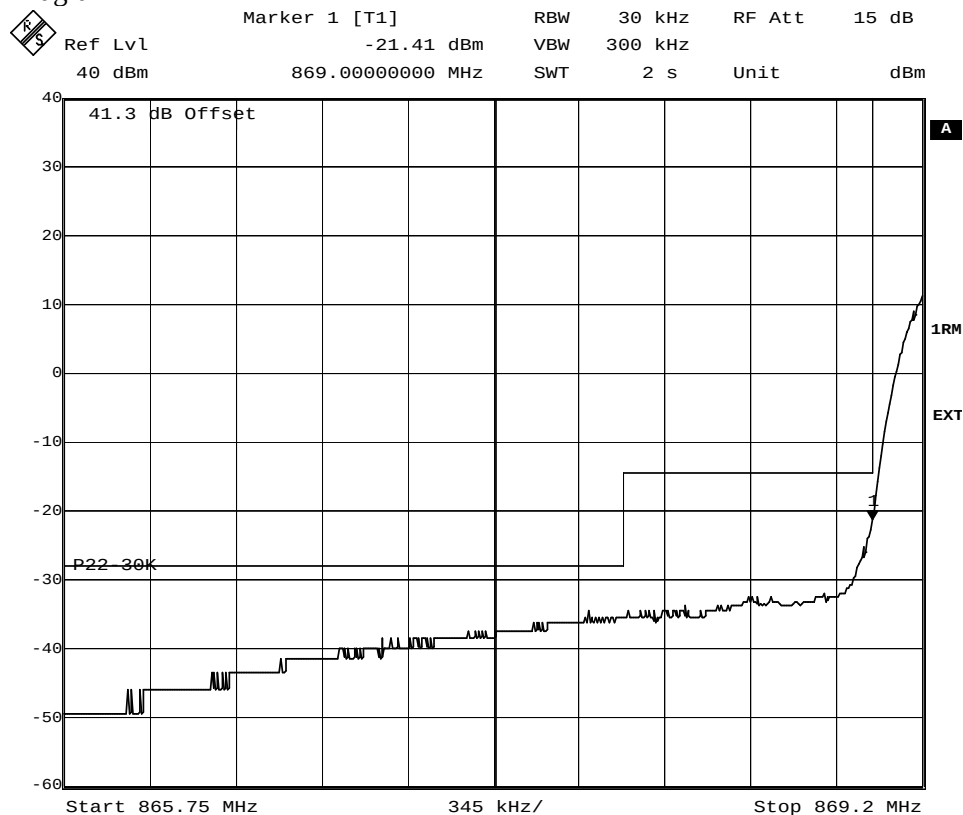


Date: 6.NOV.2007 12:54:38

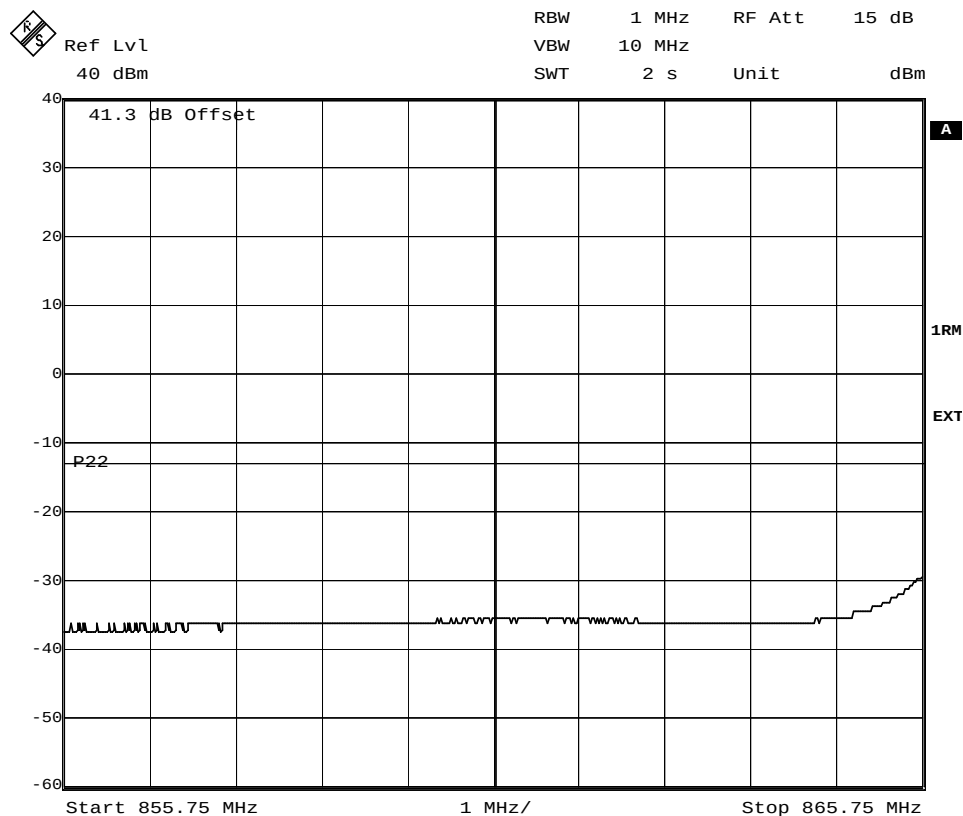
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 7



Date: 7.NOV.2007 20:47:31

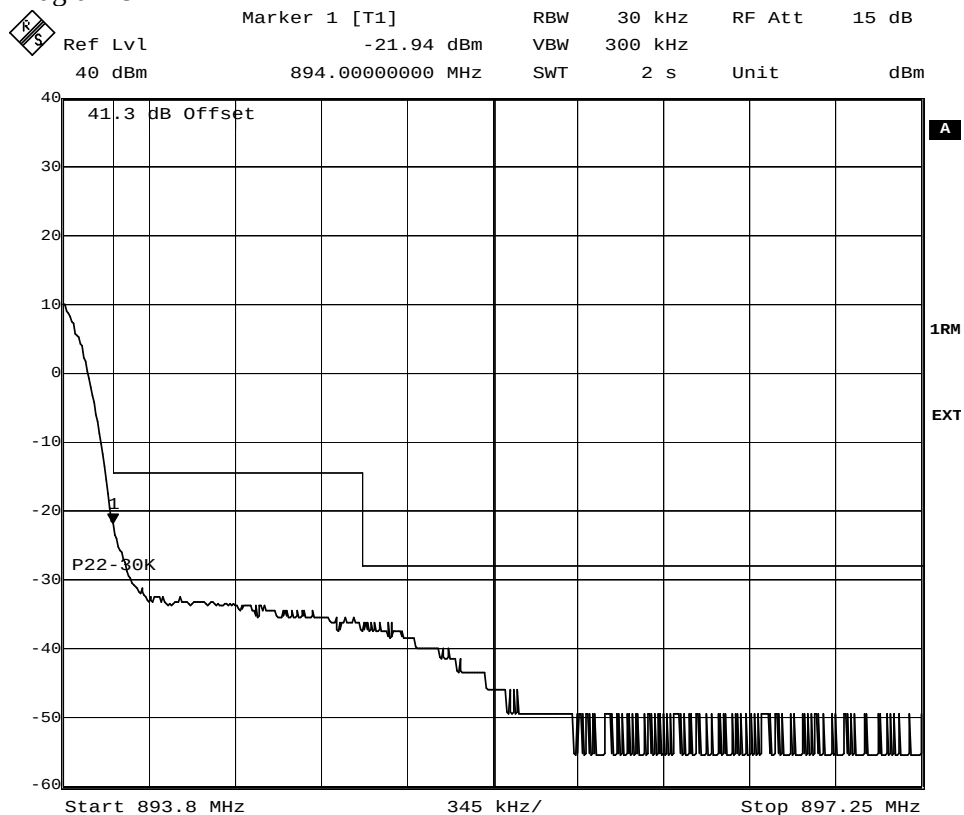


Date: 7.NOV.2007 20:46:18

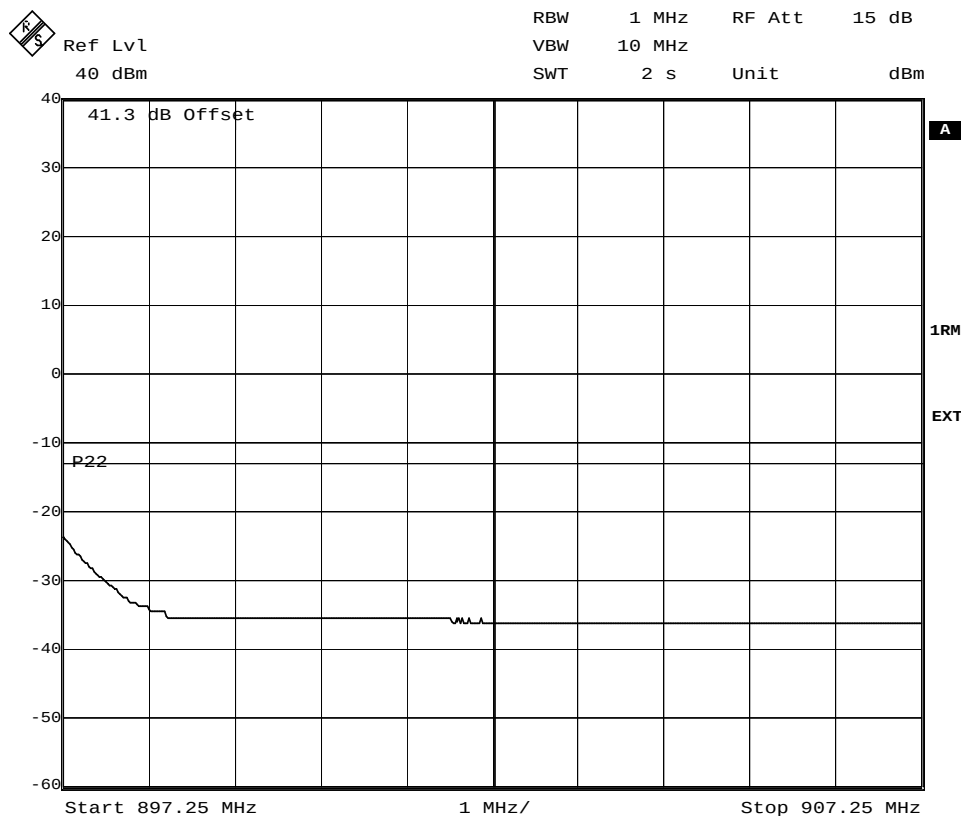
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 4.1

Diagram 8



Date: 7.NOV.2007 21:42:02



Date: 7.NOV.2007 21:42:51

FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5

**Conducted spurious emission measurements according to 47 CFR 2.1051/
RSS-132 4.5**

Date 2007-11-05 to 2007-11-07	Temperature 22-24 °C ± 3 °C	Humidity 24-32 % ± 5 %
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Test set-up and procedure

The measurements were made per definition in §22.917, with a RBW of 1 MHz. The output was connected to a spectrum analyzer. A pre-measurement was performed with the PEAK detector activated. Emission above the limit with the PEAK detector is re-measured with the RMS detector activated. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements. The transmitter was set up according to Test model 1 and Test model 5 during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSIQ	2008-10	503 738
Testo 610, Temperature and humidity meter	2009-04	502 658

Measurement uncertainty: 3.7 dB**Results**

The results are shown in appendix 5.1

Single carrier

QPSK		16QAM	
Diagram 1:	871.4 MHz	Diagram 4:	871.4 MHz
Diagram 2:	881.4 MHz	Diagram 5:	881.4 MHz
Diagram 3:	891.6 MHz	Diagram 6:	891.6 MHz

Multi carrier

QPSK		16QAM	
Diagram 7:	871.4+881.4 MHz	Diagram 9:	871.4+881.4 MHz
Diagram 8:	881.6+891.6 MHz	Diagram 10:	881.6+891.6 MHz

Remark

The emission at 9 kHz on the plots was not generated by the test object. A complementary measurement with a smaller RBW showed that it was related to the LO feedthrough.

Limits

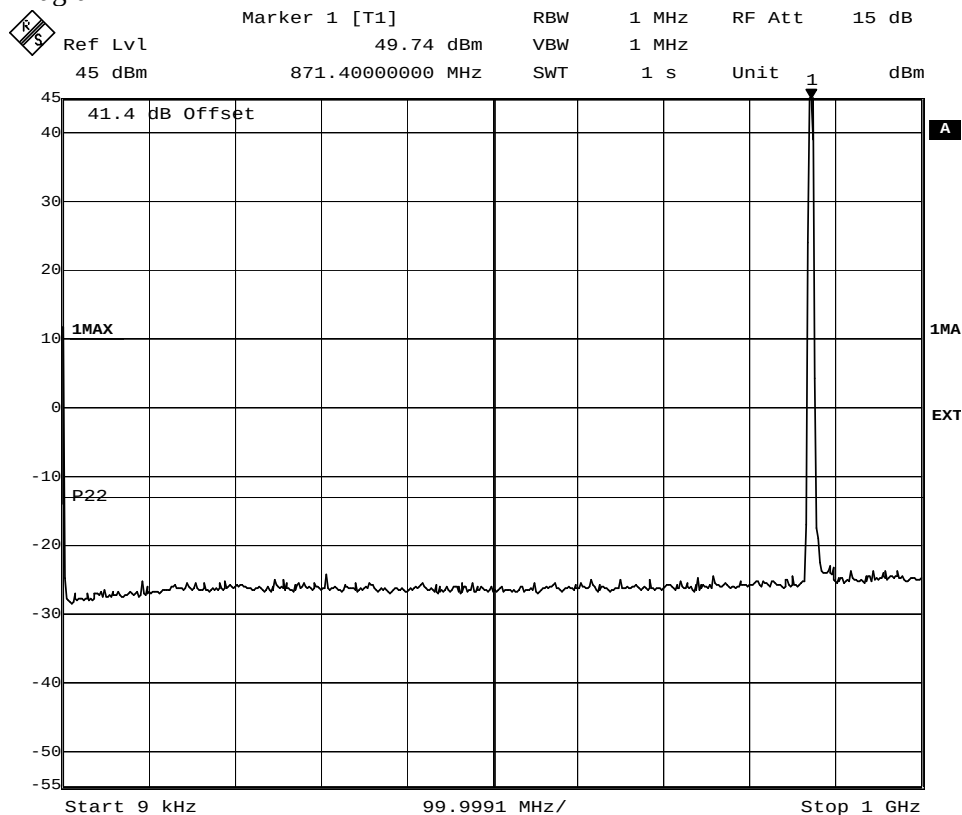
The power of any emission outside the frequency band shall be attenuated below the transmitter power (P) by at least $43 + 10 \log P$ dB.

Complies?	Yes
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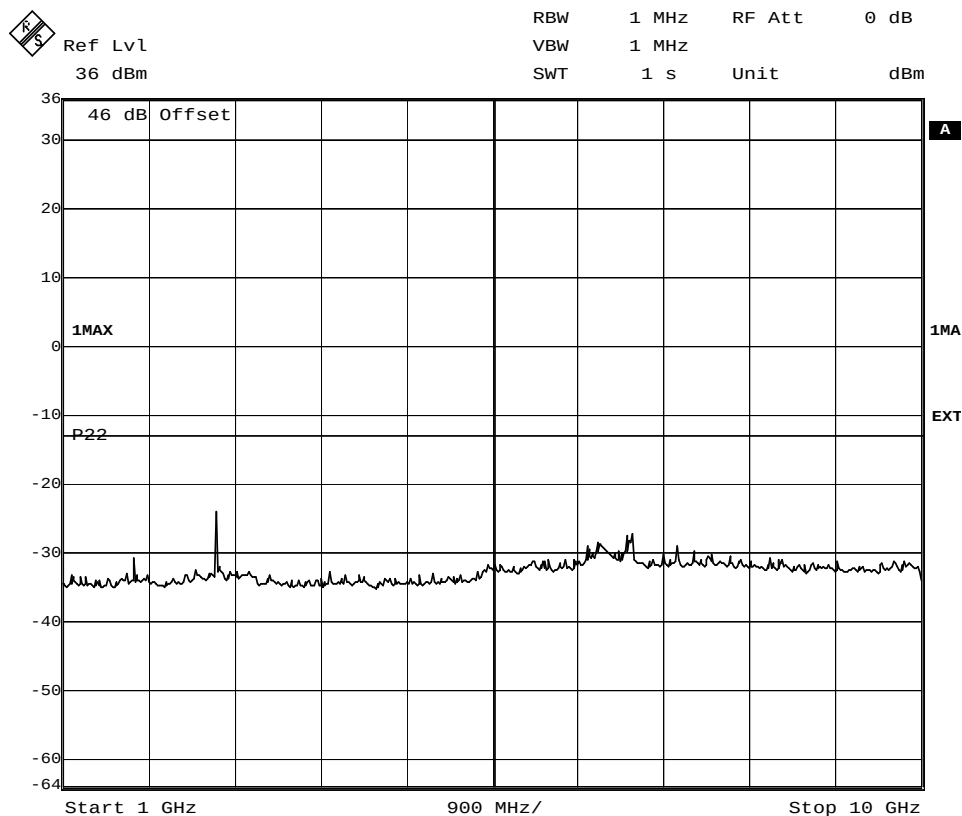
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 1



Date: 5.NOV.2007 13:04:05

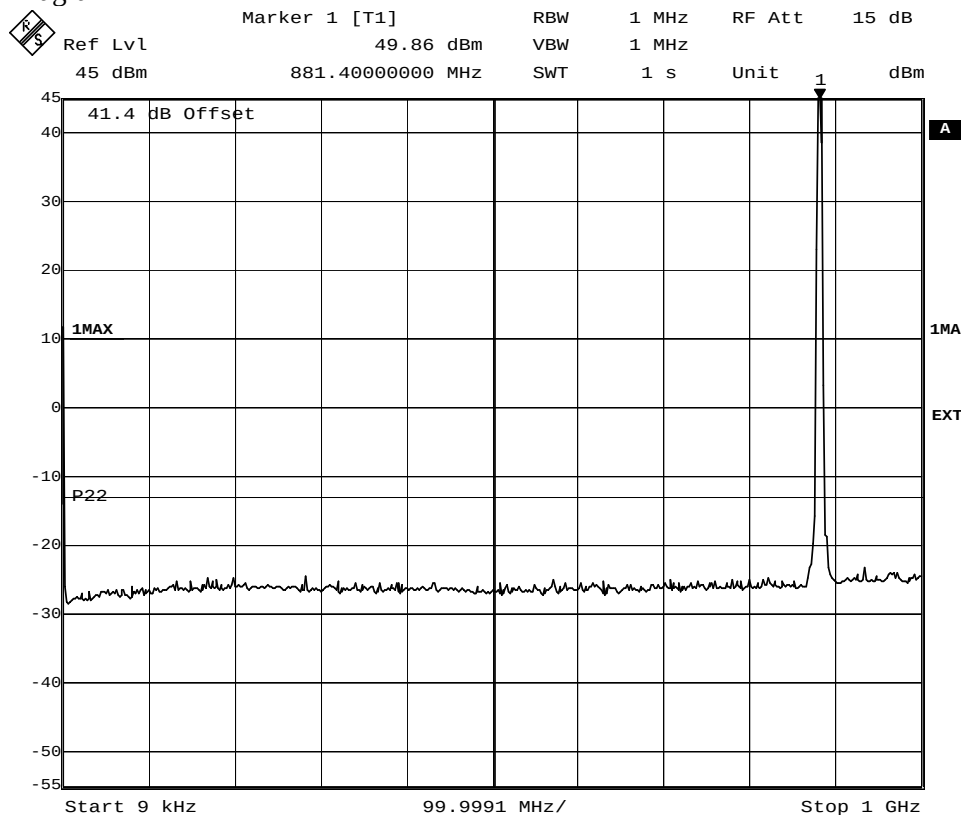


Date: 5.NOV.2007 13:03:03

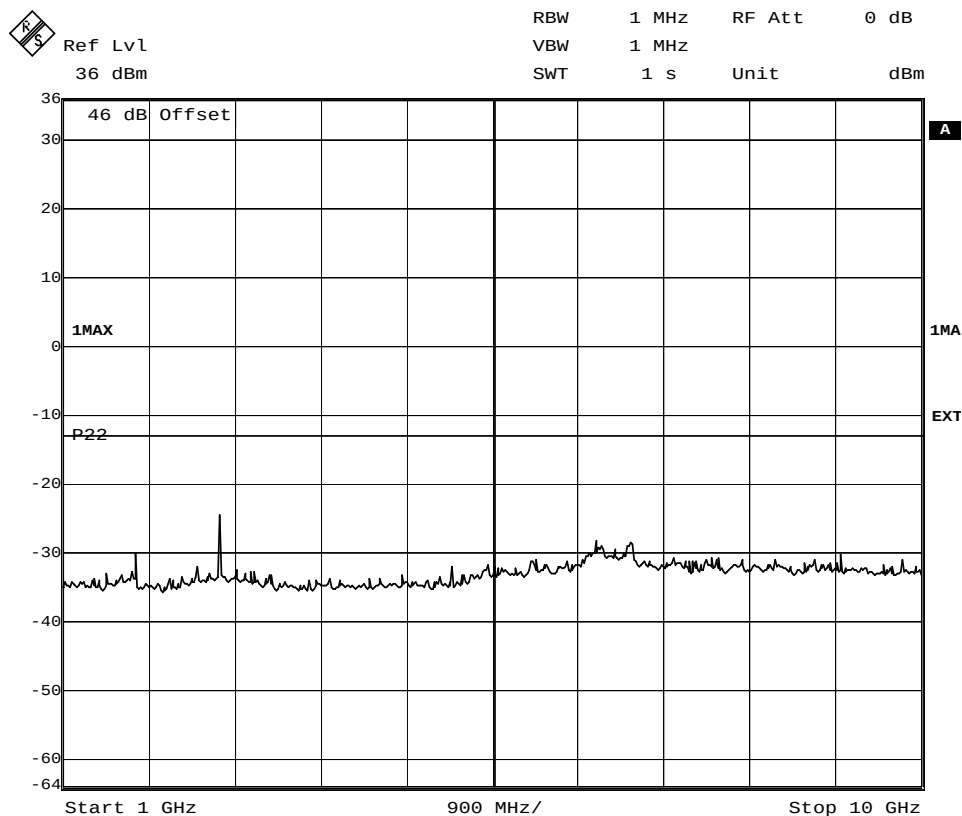
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 2



Date: 5.NOV.2007 11:39:06

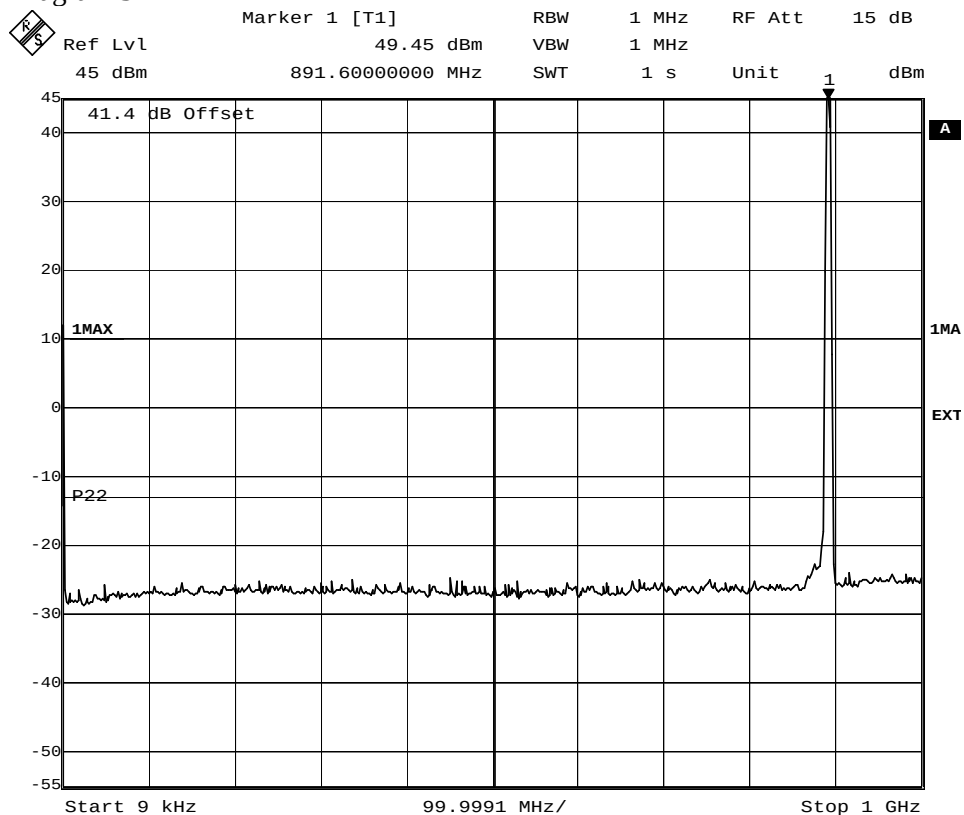


Date: 5.NOV.2007 11:38:07

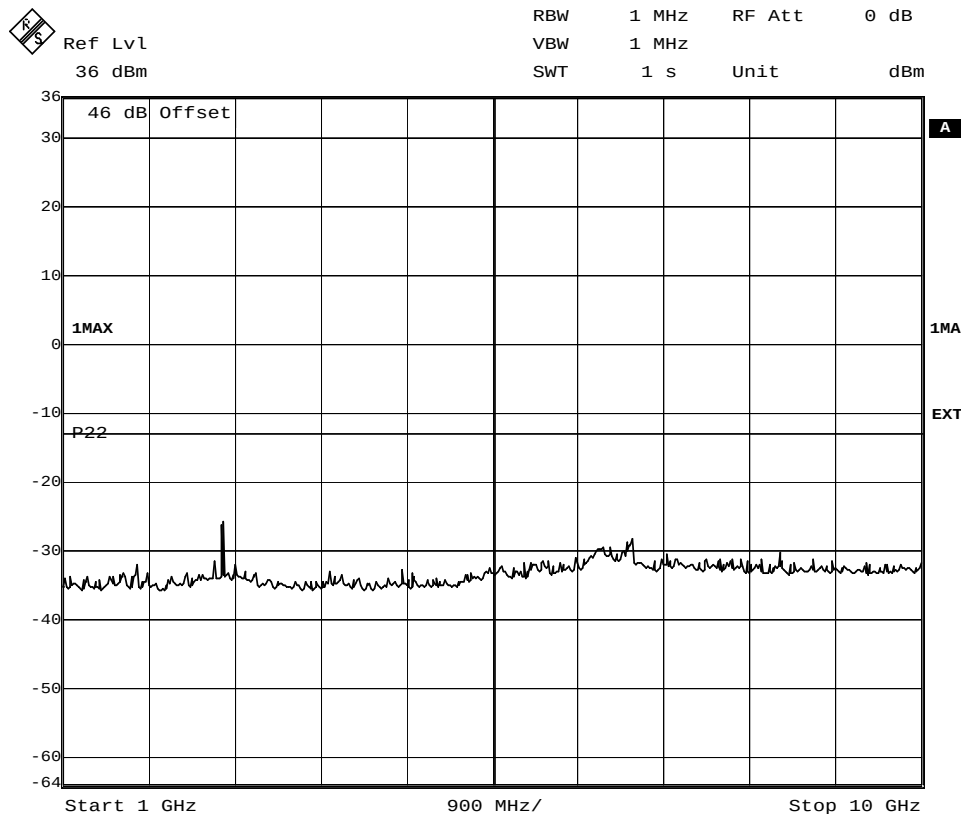
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 3



Date: 5.NOV.2007 14:52:42

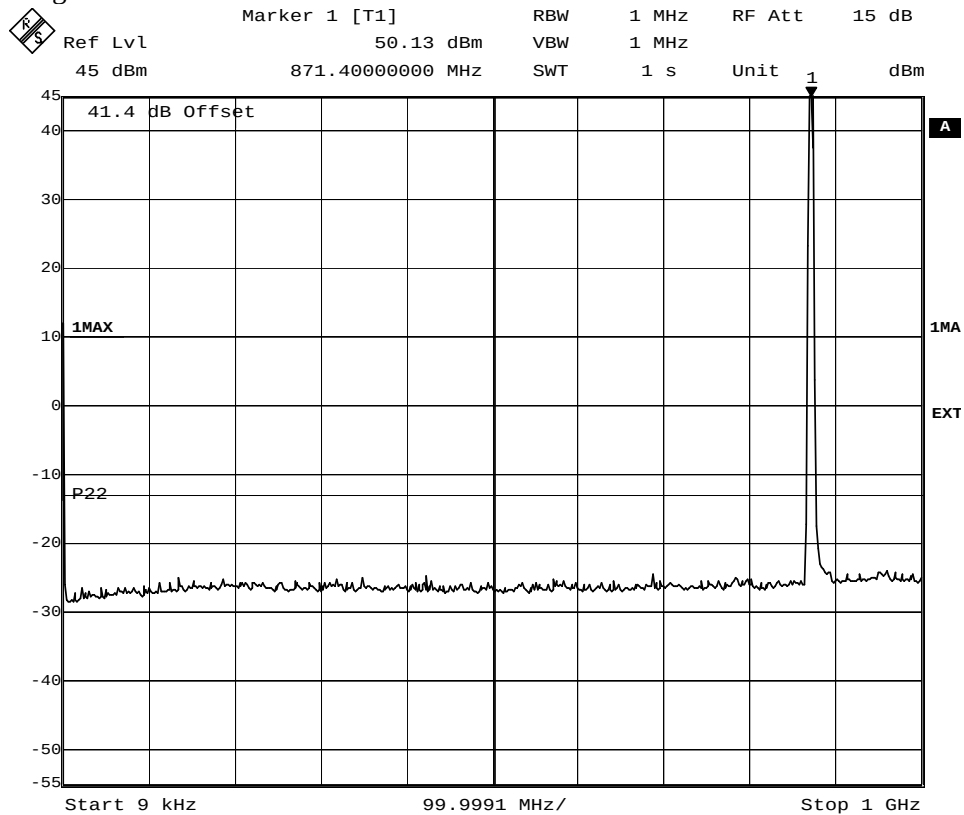


Date: 5.NOV.2007 14:57:07

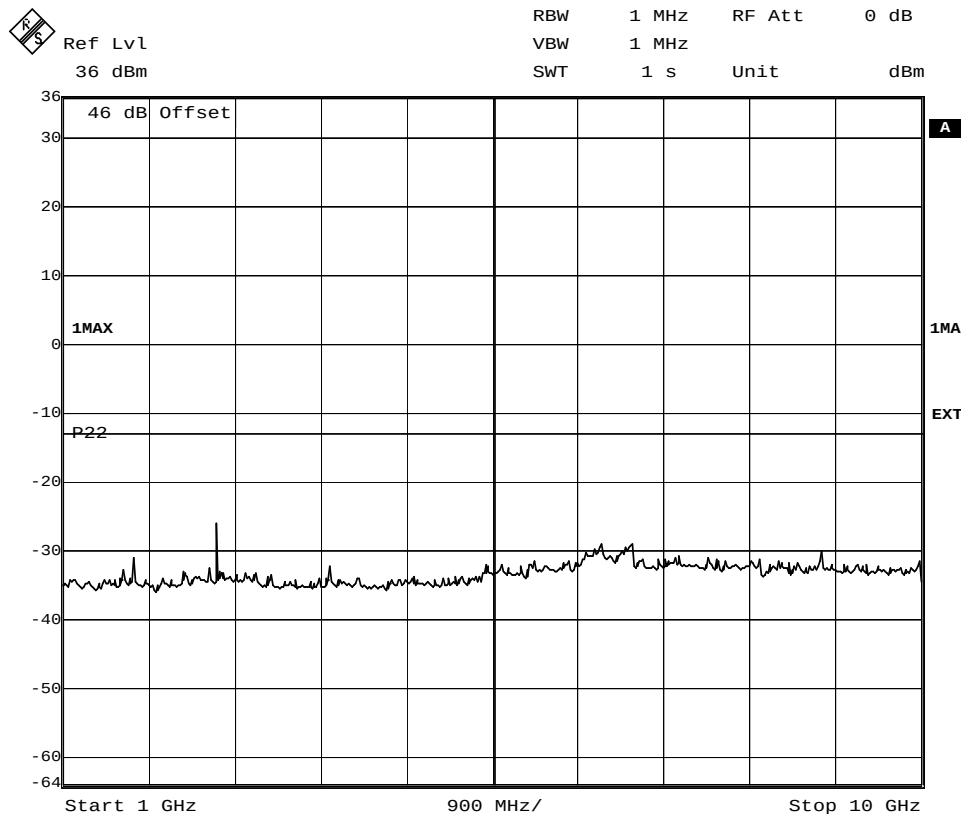
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 4



Date: 5.NOV.2007 14:00:54

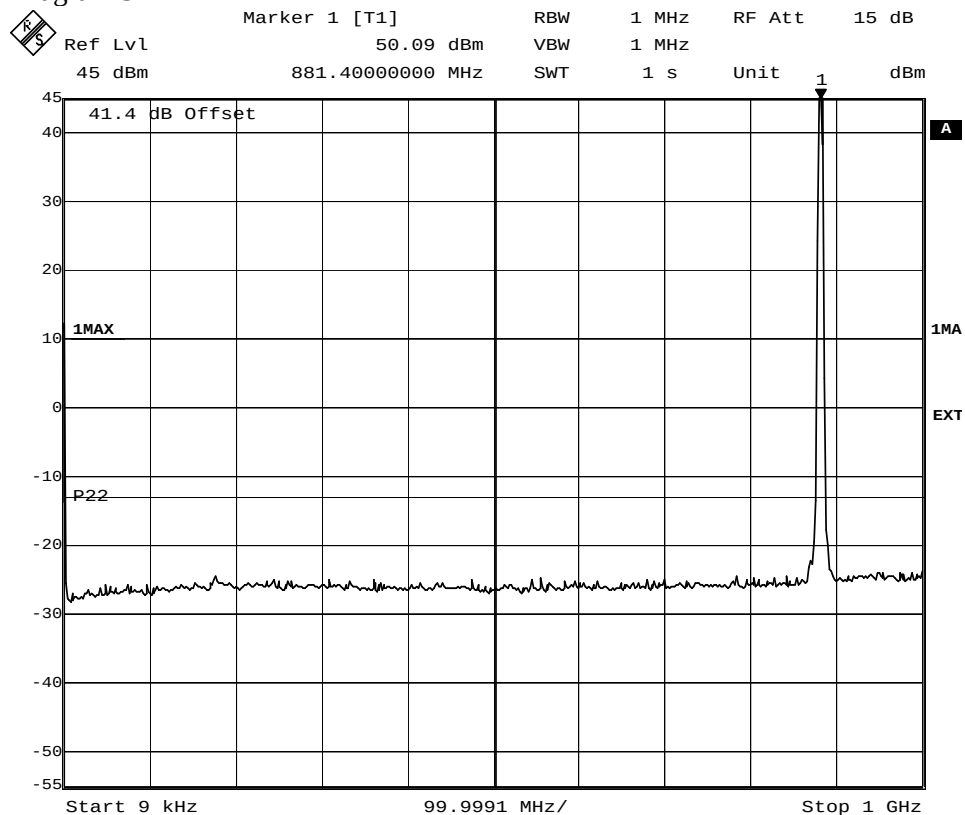


Date: 5.NOV.2007 14:01:47

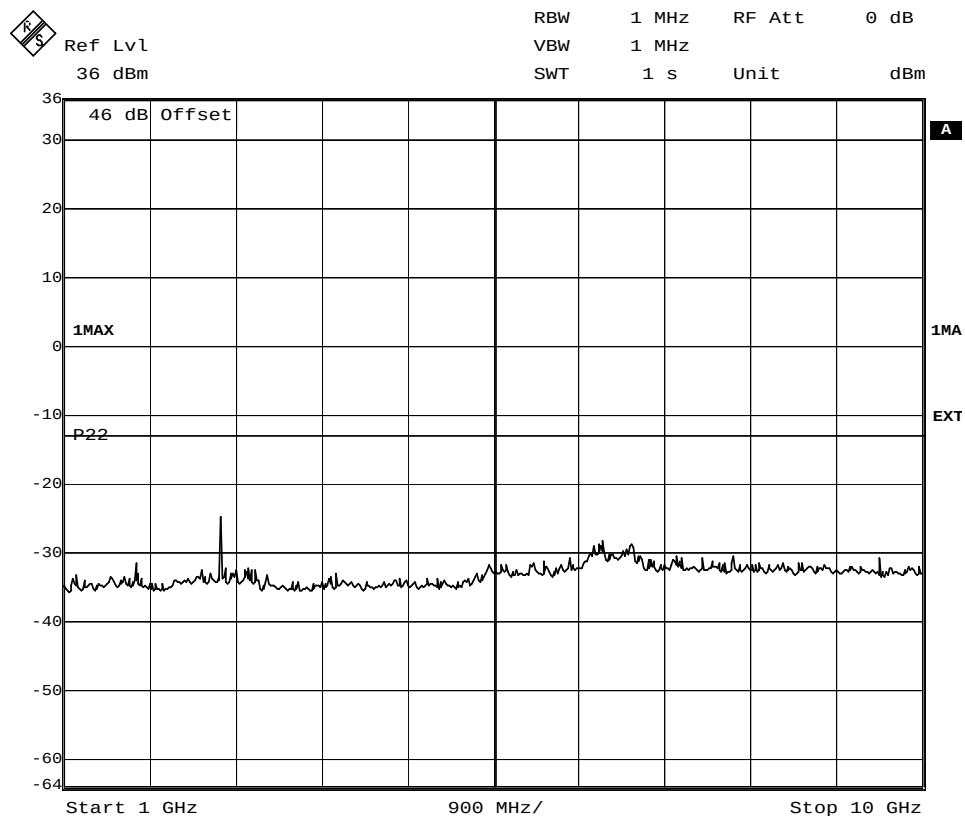
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 5



Date: 5.NOV.2007 11:50:36

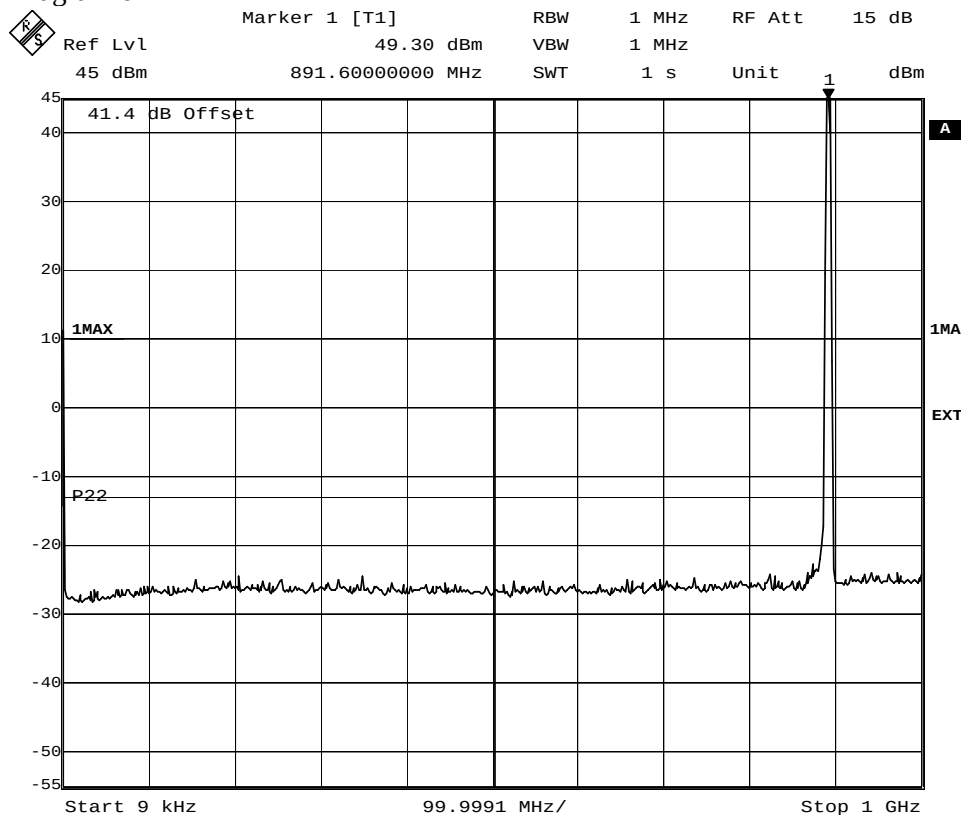


Date: 5.NOV.2007 14:09:55

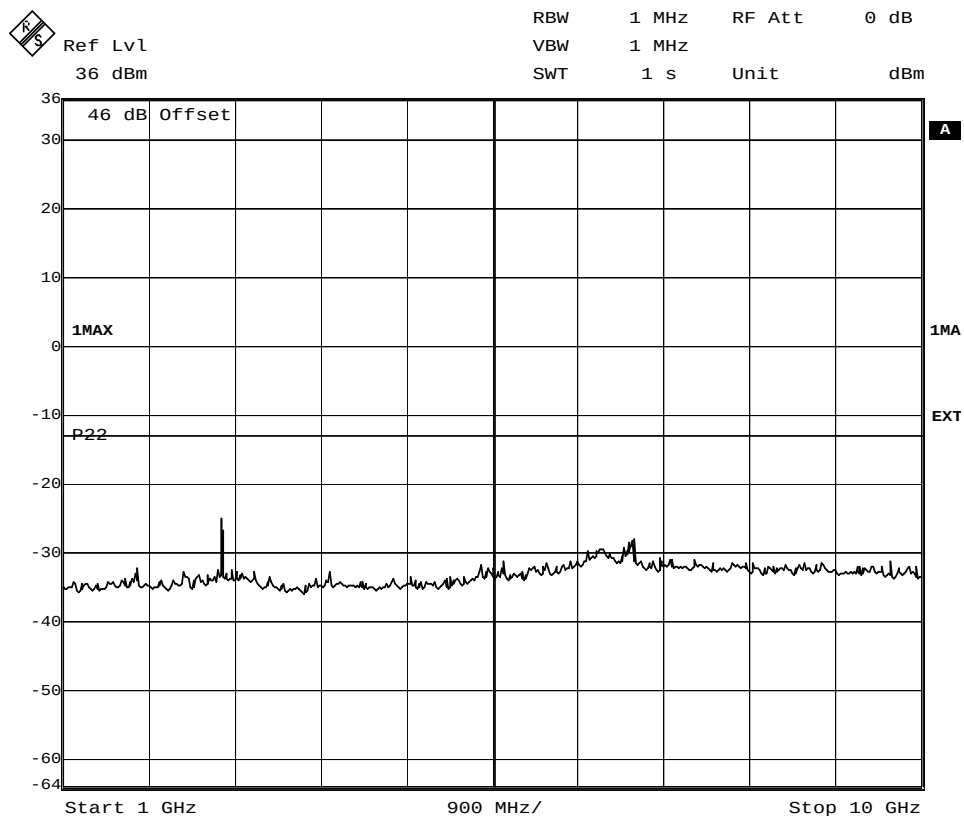
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 6



Date: 6.NOV.2007 10:37:19

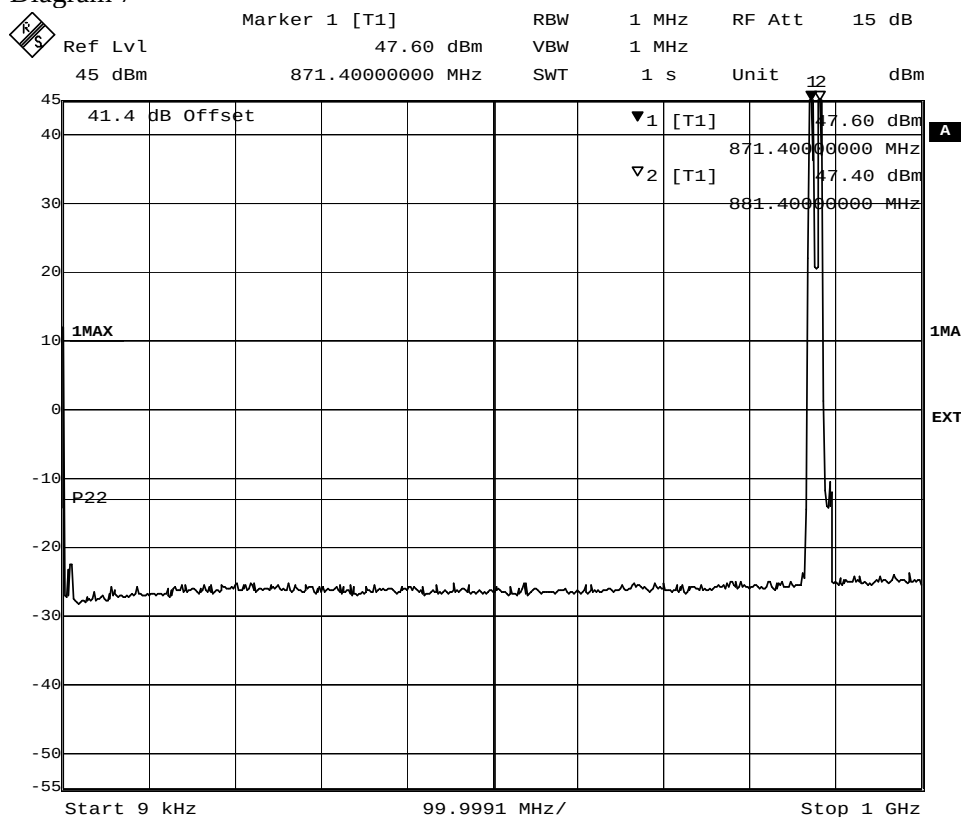


Date: 6.NOV.2007 10:53:53

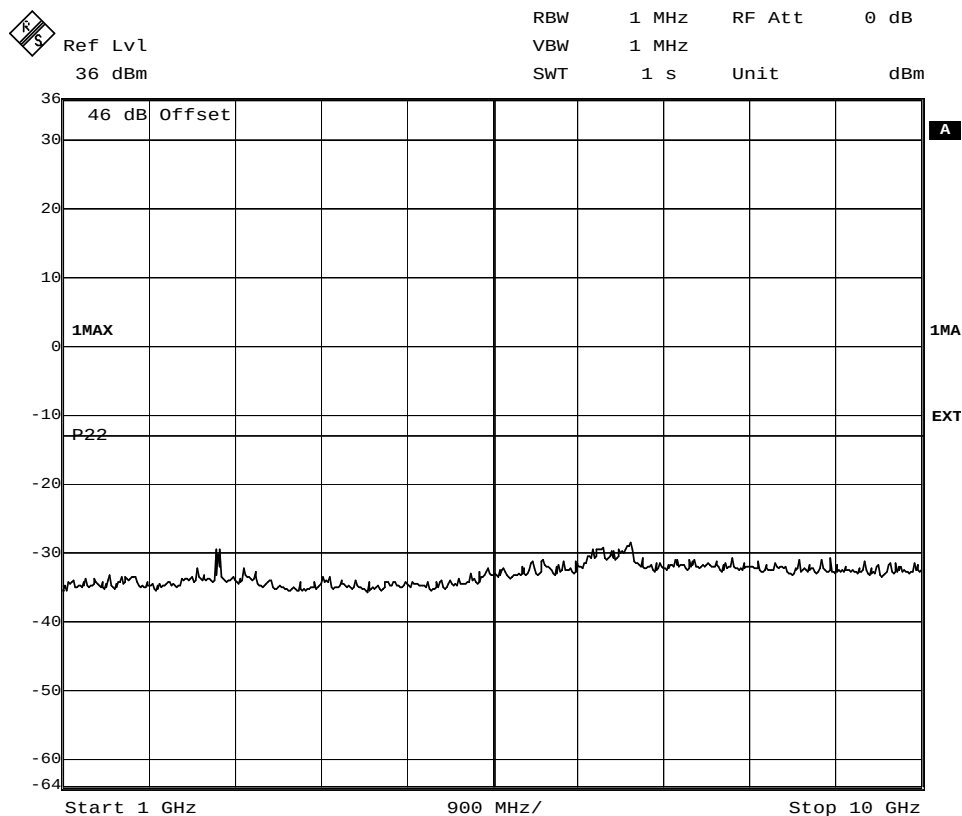
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 7



Date: 5.NOV.2007 15:50:57

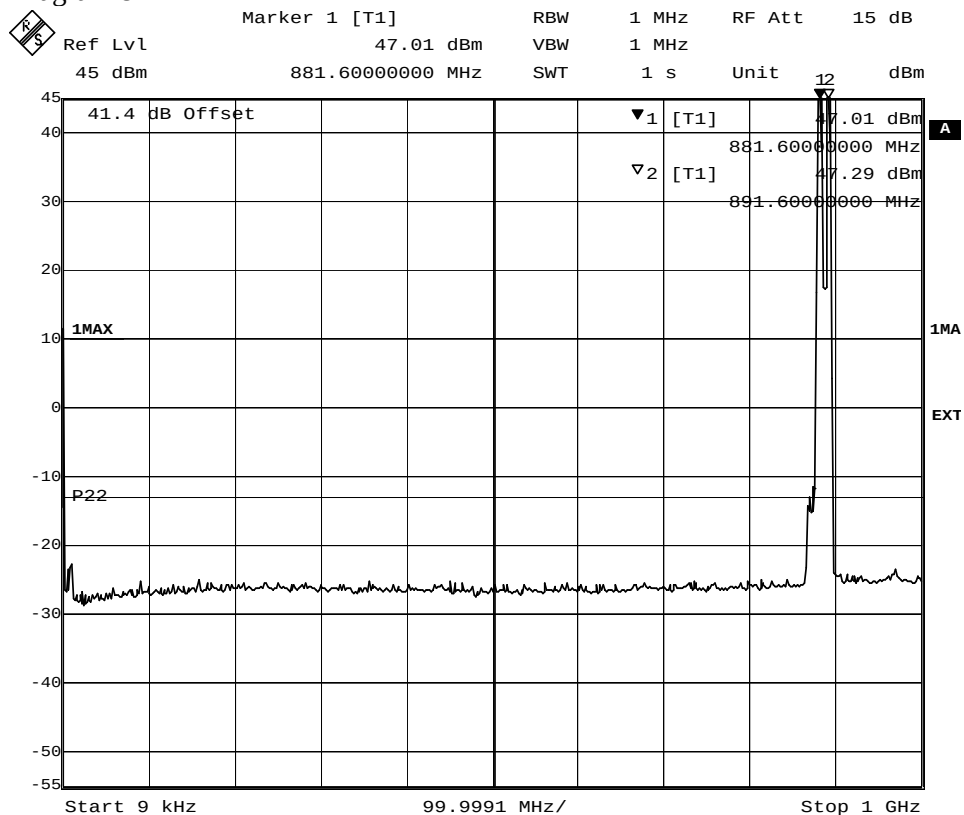


Date: 5.NOV.2007 15:59:10

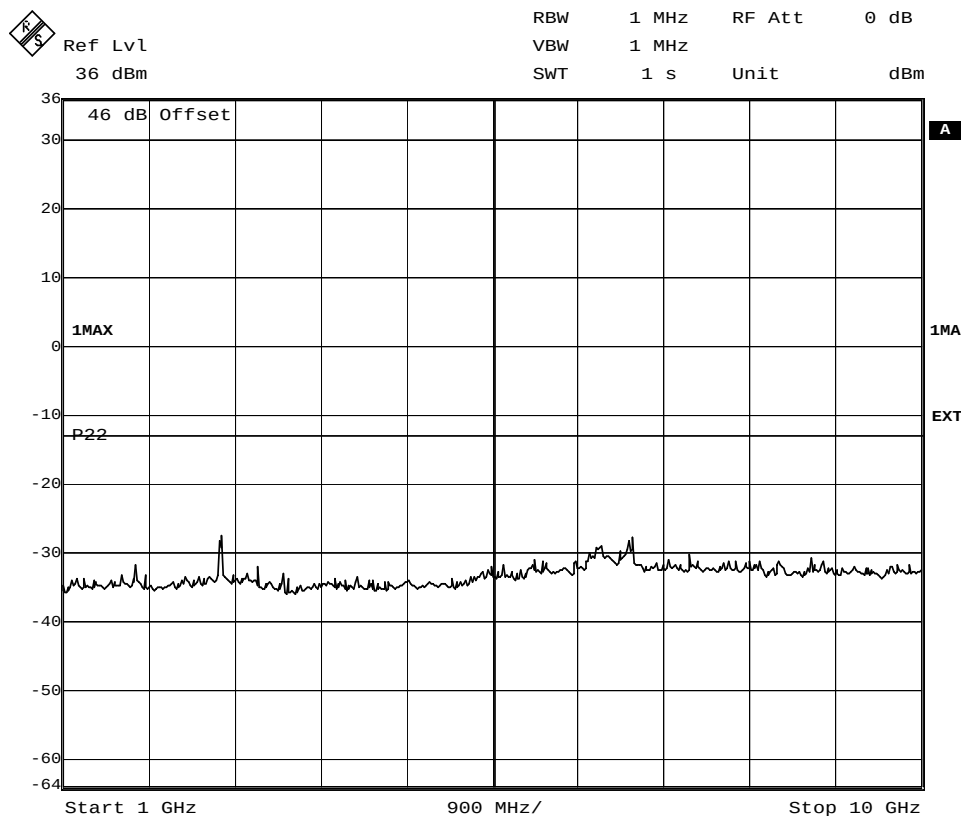
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 8



Date: 6.NOV.2007 12:43:12

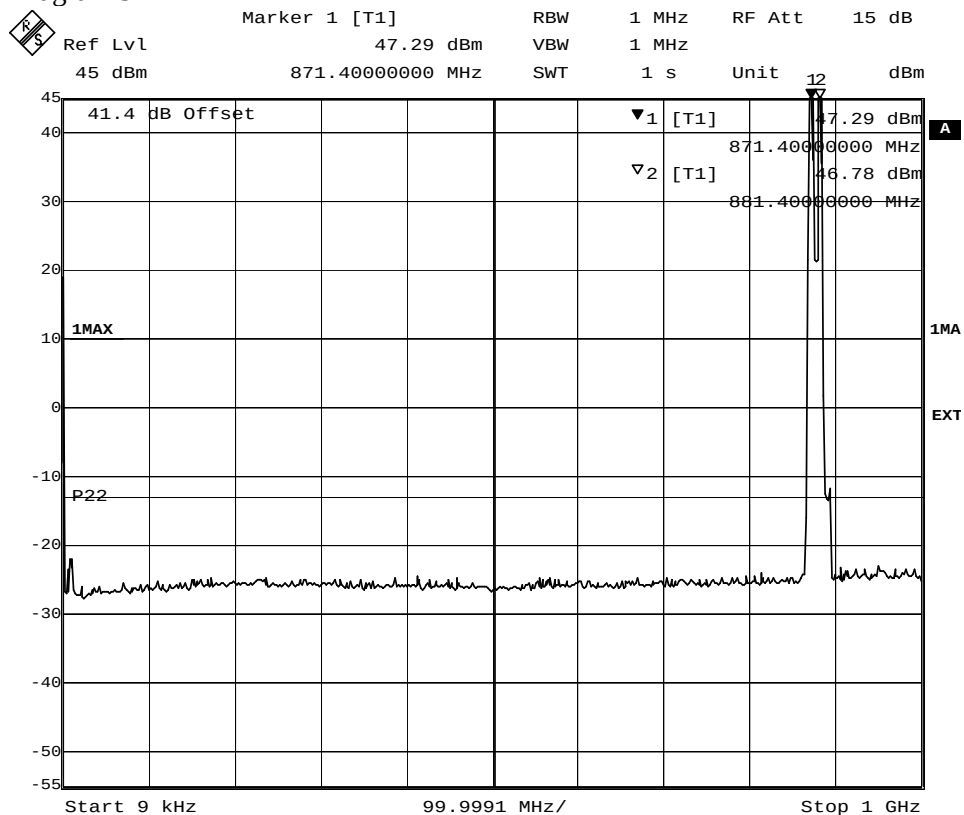


Date: 6.NOV.2007 12:41:19

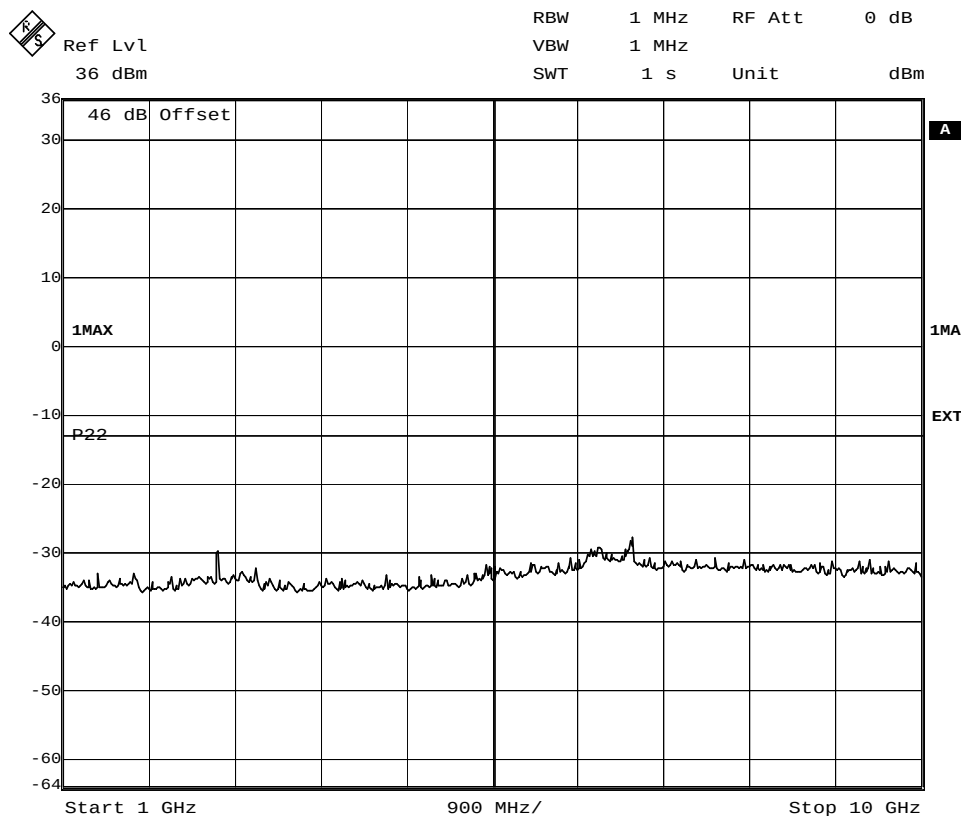
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 9



Date: 7.NOV.2007 20:50:15

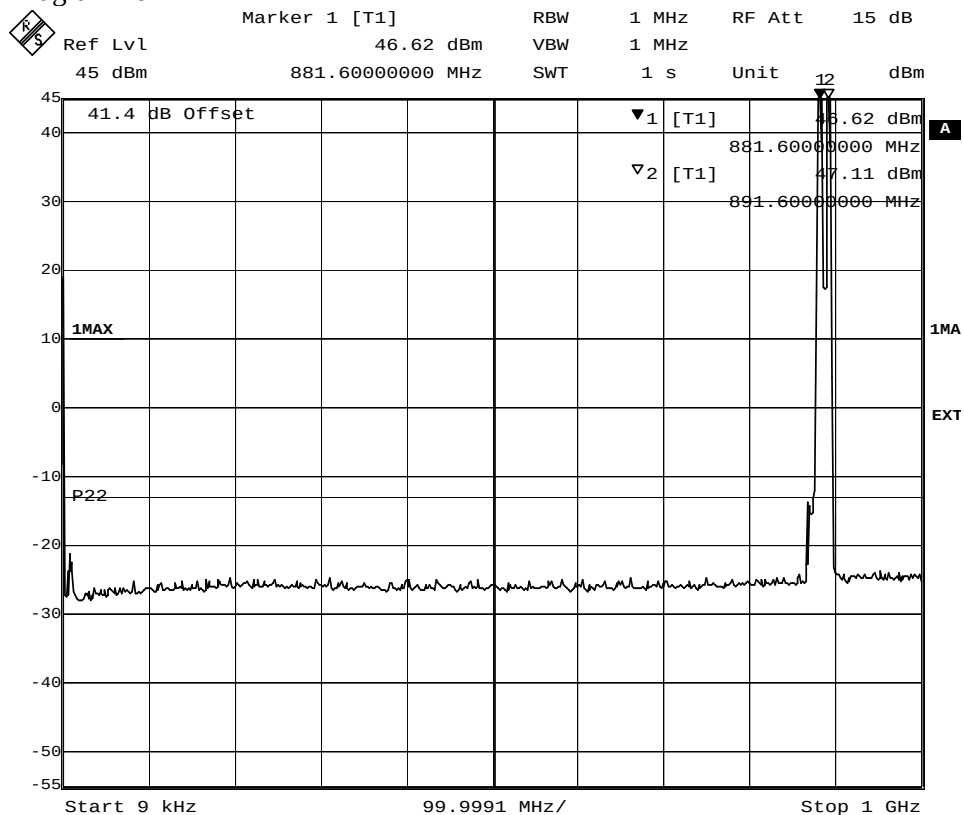


Date: 7.NOV.2007 21:00:18

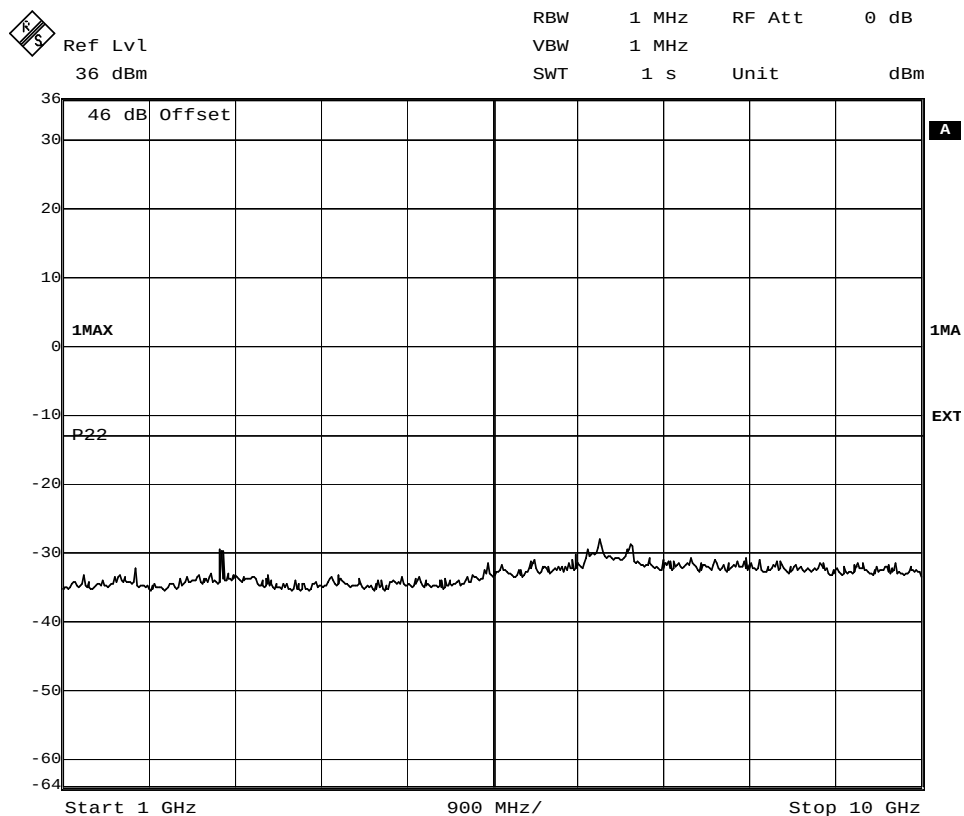
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 5.1

Diagram 10



Date: 7.NOV.2007 21:33:58



Date: 7.NOV.2007 21:31:39

FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 6

**Field strength of spurious radiation measurements according to 47 CFR 2.1053/
RSS-132 4.5**

Date 2007-11-07 to 2007-11-08	Temperature 21-22 °C ± 3 °C	Humidity 25-33 % ± 5 %
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Test set-up and procedure

The test site is listed at FCC, Columbia with registration number: 93866. The test site also complies with RSS-Gen, Industry Canada file no.:IC 3482.

The transmitter was set up according to Test model 1 and Test model 5 during the measurements. The antenna ports were terminated with 50 ohm loads.

The measurements were performed with both horizontal and vertical polarisation of the antenna. The antenna distance was 3 m..

A pre-measurement was first performed:

In the frequency range 30 MHz-10 GHz the measurement was performed in power with a RBW of 1 MHz. A propagation loss in free space was calculated. The used formula was,

$\gamma = 20 \log \left(\frac{4\pi D}{\lambda} \right)$, is the propagation loss and D is the antenna distance.

The measurement procedure was as the following:

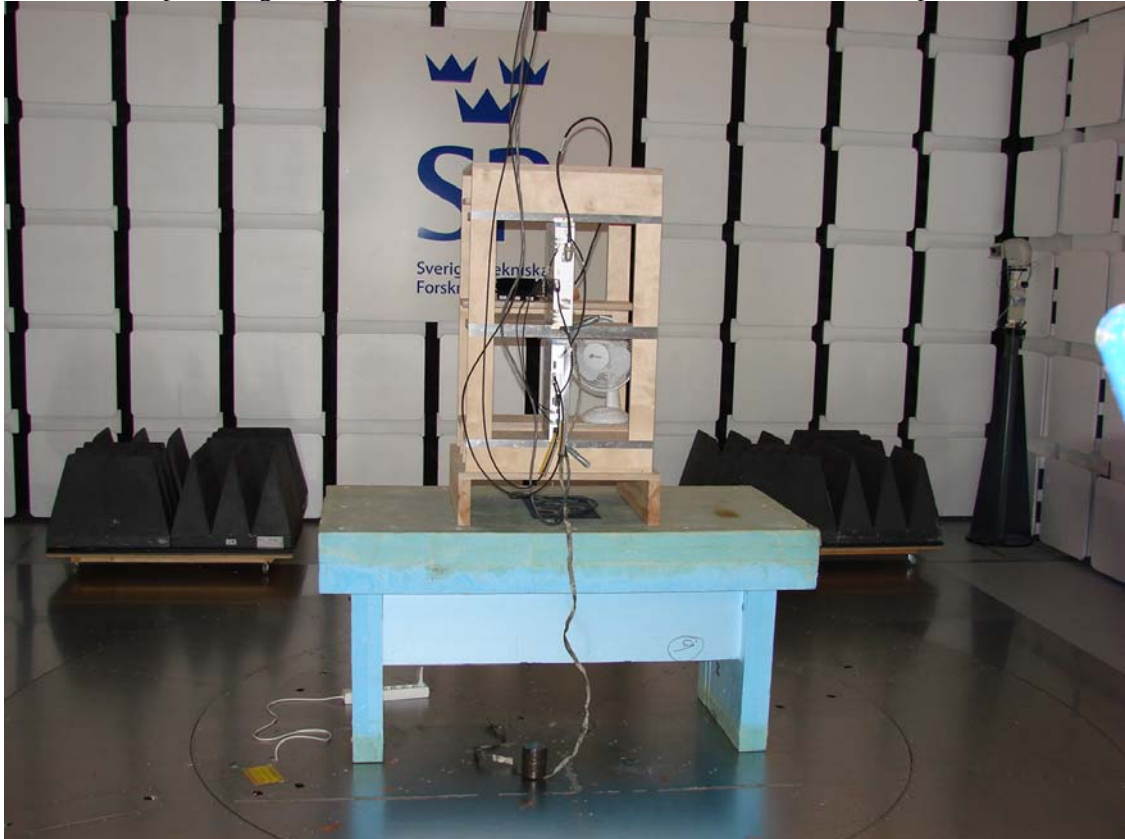
1. The pre-measurement was first performed with peak detector. The EUT was measured in eight directions and with the antenna at three heights, 1.0 m, 1.5 m and 2.0 m.
2. Spurious radiation on frequencies closer than 20 dB to the limit is scanned 0-360 degrees and the antenna is scanned 1-4 m for maximum response. The emission is then measured with the RMS detector and the RMS value is reported, frequencies closer than 10 dB to the limit measured with the RMS detector were measured with the substitution method according to the standard

Measurement equipment	Calibration Due	SP number
Test site	2008-11	503 881
R&S ESI 26	2008-07	503 292
Control computer	-	503 479
Software: R&S ES-K1, ver. 1.60	-	-
Chase Bilog antenna CBL 6111A	2008-11	503 182
EMCO Horn Antenna 3115	2007-11	502 175
MITEQ Low Noise Amplifier	2007-08	503 285
Testo 610, Temperature and humidity meter	2009-04	502 658

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Appendix 6

The test set-ups during the spurious radiation measurements are shown in the picture below.



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IC: 287AB-AW118224

Appendix 6

Results

Single carrier

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical	Horizontal
30-10 000	All emission > 20 dB below limit	All emission > 20 dB below limit
Measurement uncertainty 4.7 dB		

Multi carrier

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical	Horizontal
30-10 000	All emission > 20 dB below limit	All emission > 20 dB below limit
Measurement uncertainty 4.7 dB		

Limits

The power of any emission outside the frequency band shall be attenuated below the transmitter power (P) by at least $43 + 10 \log P$ dB.

Complies?	Yes
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Appendix 7

Frequency stability measurements according to 47 CFR 2.1055/ RSS-132 4.3

Date 2007-10-29 to 2007-11-01	Temperature (test equipment) 21-23 °C ± 3 °C	Humidity (test equipment) 28-40 % ± 5 %
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Test set-up and procedure

The measurement was made per 3GPP TS 25.141. The output was connected to a spectrum analyzer. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements. The transmitter was set up according to Test model 1 and Test model 5 during the measurements.

Measurement equipment	Calibration Due	SP number
Climate chamber	2009-05	503 546
R&S FSIQ	2008-10	503 738
Multimeter Fluke 87	2008-04	502 190
Testo 610, Temperature and humidity meter	2008-04	502 658

Results

Nominal Voltage -48 V DC
43 dBm output power at 881.4 MHz

Test conditions		Frequency error (Hz)	
Supply voltage DC (V)	T (°C)	QPSK	16QAM
-48.0	+20	-7	+10
-55.2	+20	-8	-10
-40.8	+20	+9	-9
-48.0	+30	-13	-14
-48.0	+40	-13	-8
-48.0	+50	+8	-6
-48.0	+10	+11	+9
-48.0	0	+11	+8
Maximum freq. error (Hz)		14	
Measurement uncertainty		$< \pm 1 \times 10^{-7}$	

Note: At -10°C it was not possible to enable the transmitter, due to a temperature alarm.

Limits (according to 3GPP TS 25.141)

The frequency error shall be within ± 0.05 PPM ± 12 Hz (± 56.07 Hz).

Complies?	Yes
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IC: 287AB-AW118224

Appendix 8

Receiver spurious emissions measurements according to 47 CFR 15.111/ RSS-132 4.6

Date 2007-11-05	Temperature 23 °C ± 3 °C	Humidity 24 % ± 5 %
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Test set-up and procedure

The measurements were performed according to ANSI C63.4-2003.

The measurements were performed on the receiver antenna terminal (Ant 2). The measurement is first performed with peak detector. Emission on frequencies close to or above the limit is re-measured with quasi-peak detector (average detector above 1000 MHz).

Measurement equipment	Calibration Due	SP number
R&S FSIQ 40	2008-10	503 738
Testo 610, Temperature and humidity meter	2009-04	502 658

Result

The results are shown in appendix 8.1:

Rx frequency
Diagram 1 826.4 MHz
Diagram 2 836.4 MHz
Diagram 3 846.6 MHz

Note: During the measurement on the RX port Ant 2 the combined TX/RX port Ant1 was terminated with 50 ohm, the TX was active at maximum power 46 dBm in single carrier mode with Test model 1.

Limit

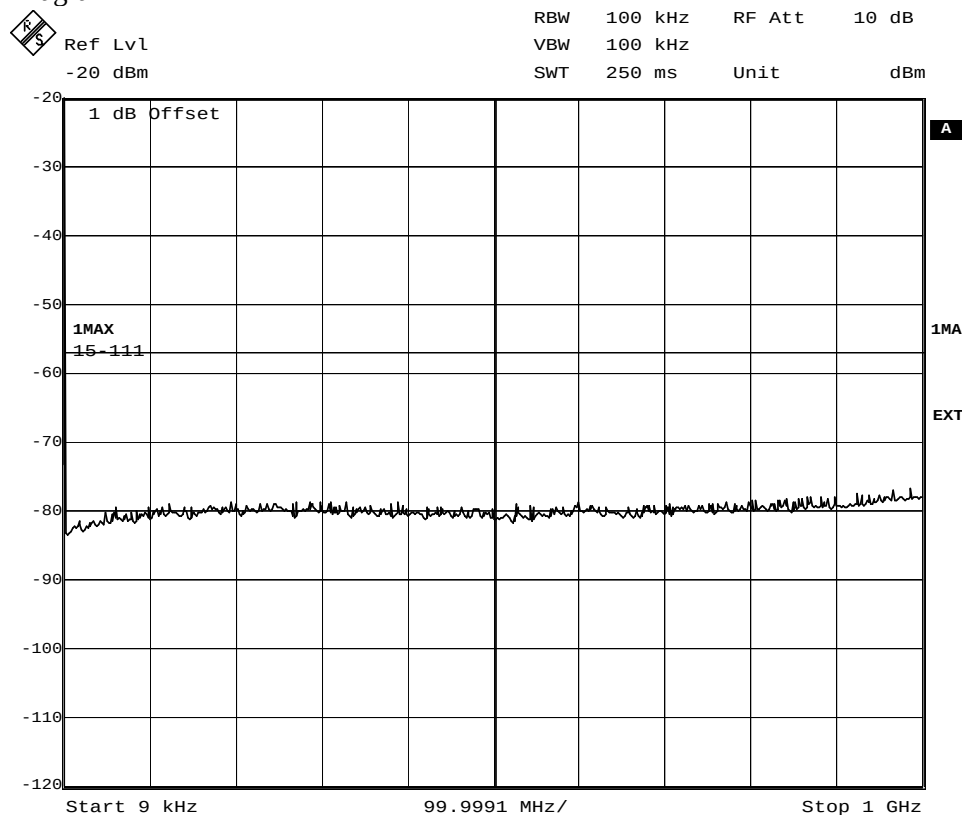
The power of any spurious output signals appearing at the antenna terminals must not exceed -57 dBm (2 nanowatts).

Emission below limit?	Yes
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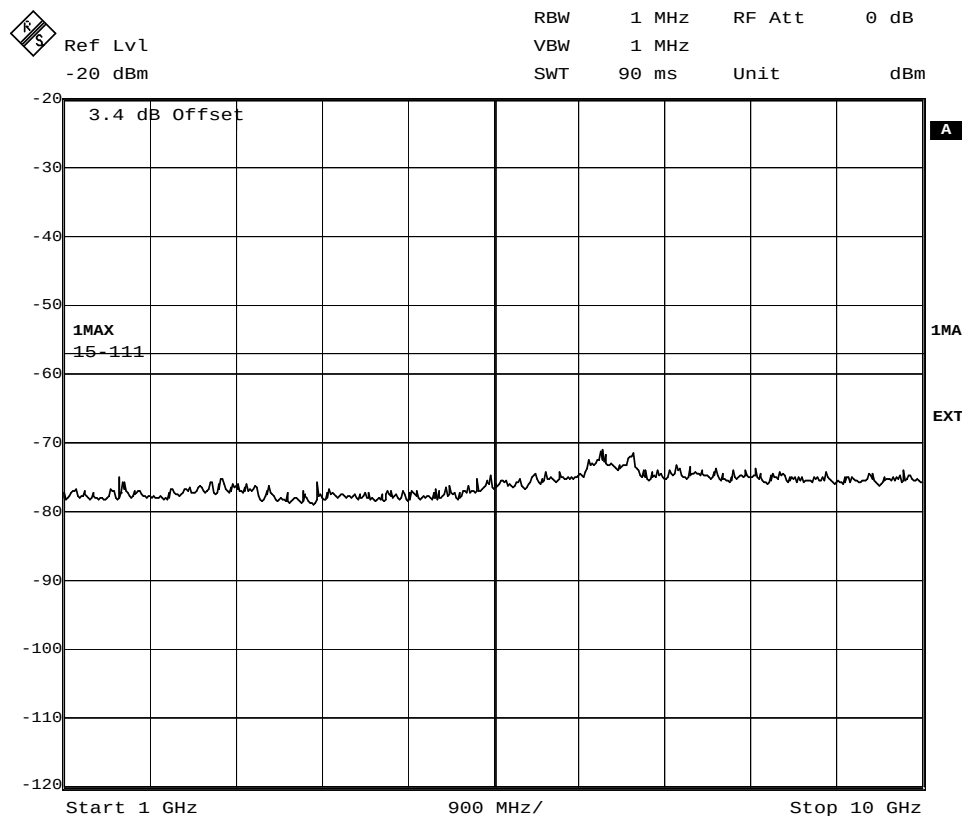
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 8.1

Diagram 1



Date: 5.NOV.2007 12:47:11

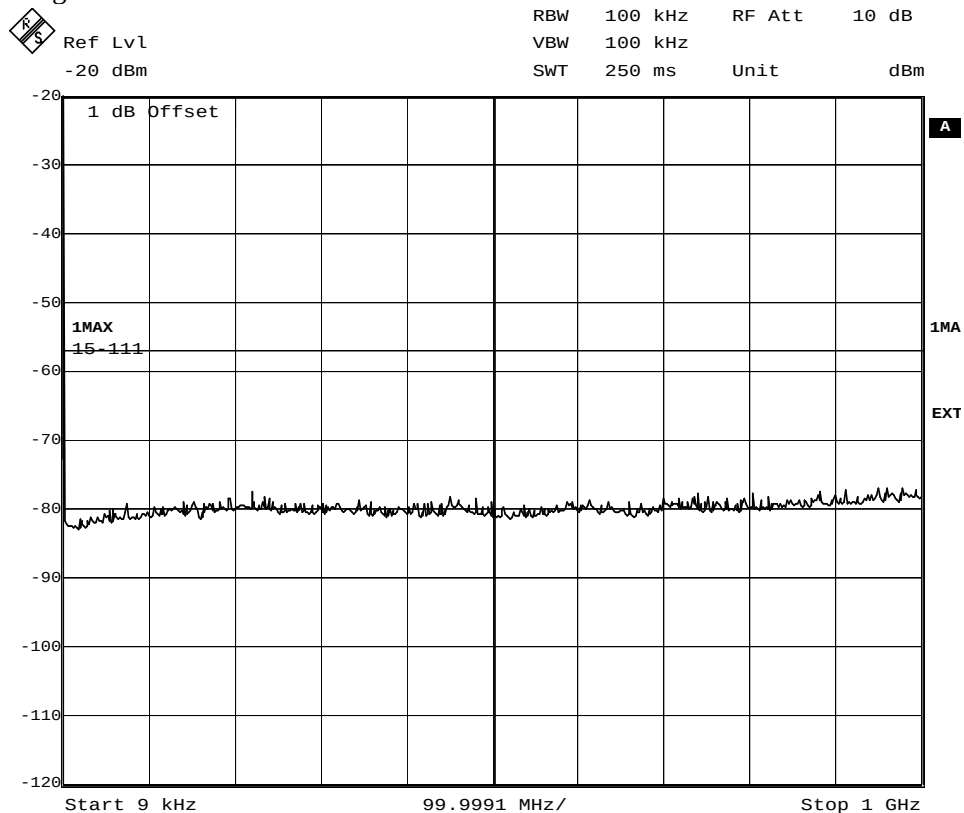


Date: 5.NOV.2007 12:46:26

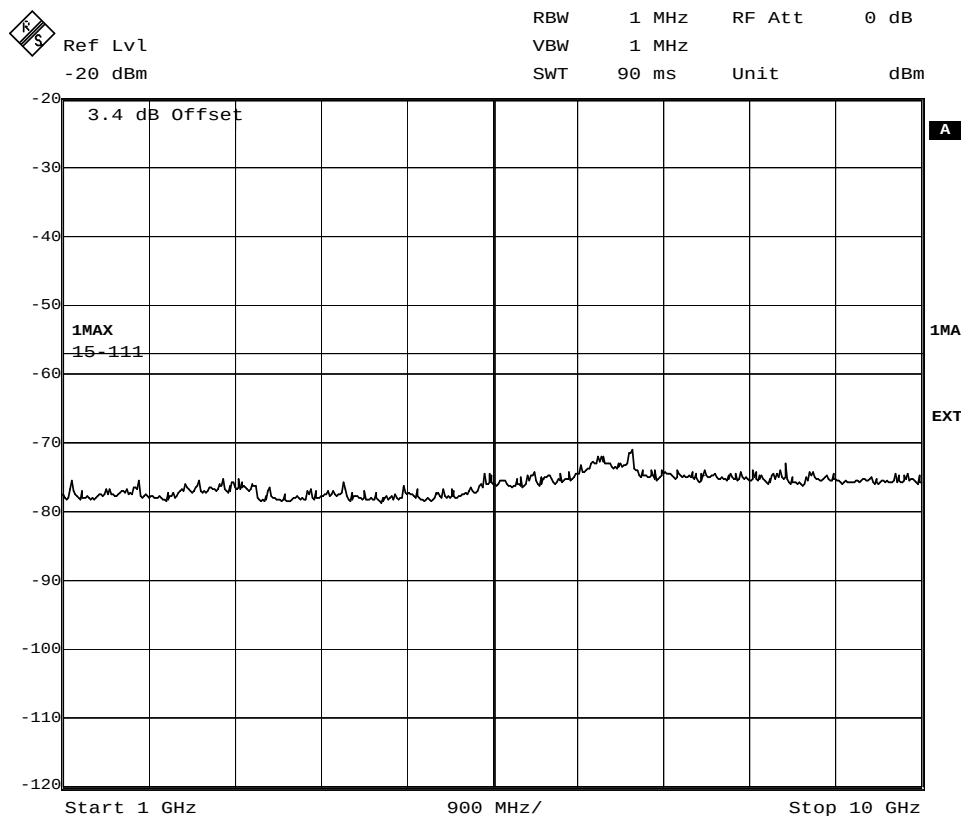
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 8.1

Diagram 2



Date: 5.NOV.2007 12:36:58

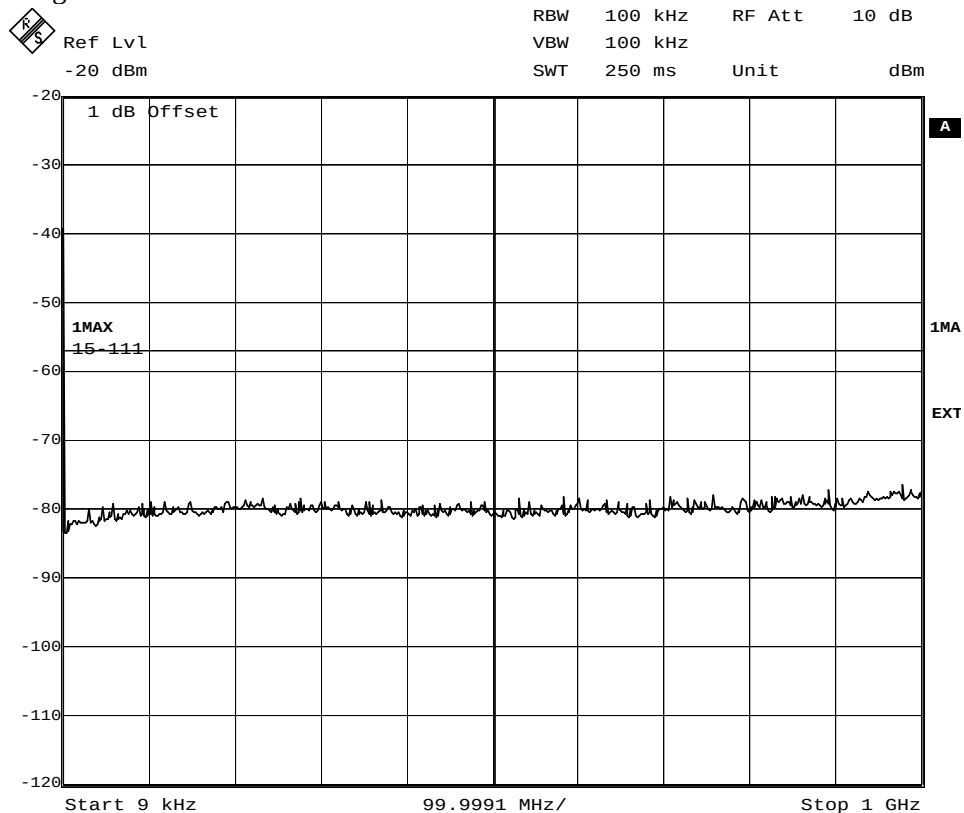


Date: 5.NOV.2007 12:35:48

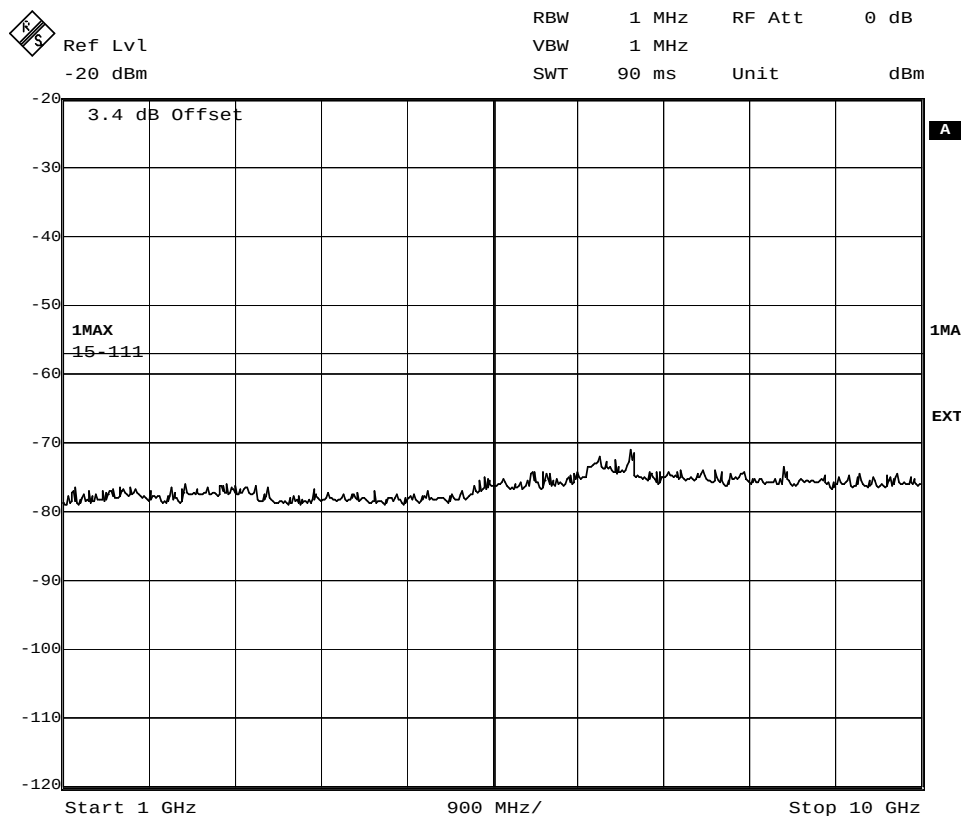
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 8.1

Diagram 3



Date: 5.NOV.2007 15:29:51



Date: 5.NOV.2007 15:30:13

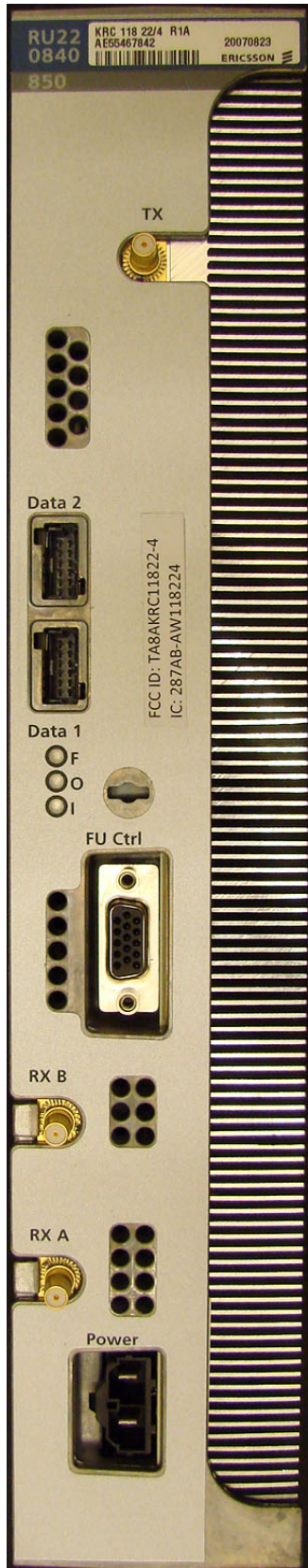
FCC ID: TA8AKRC11822-4
IC: 287AB-AW118224

Appendix 9

Photos

Radio Unit KRC 118 22/4

Front side



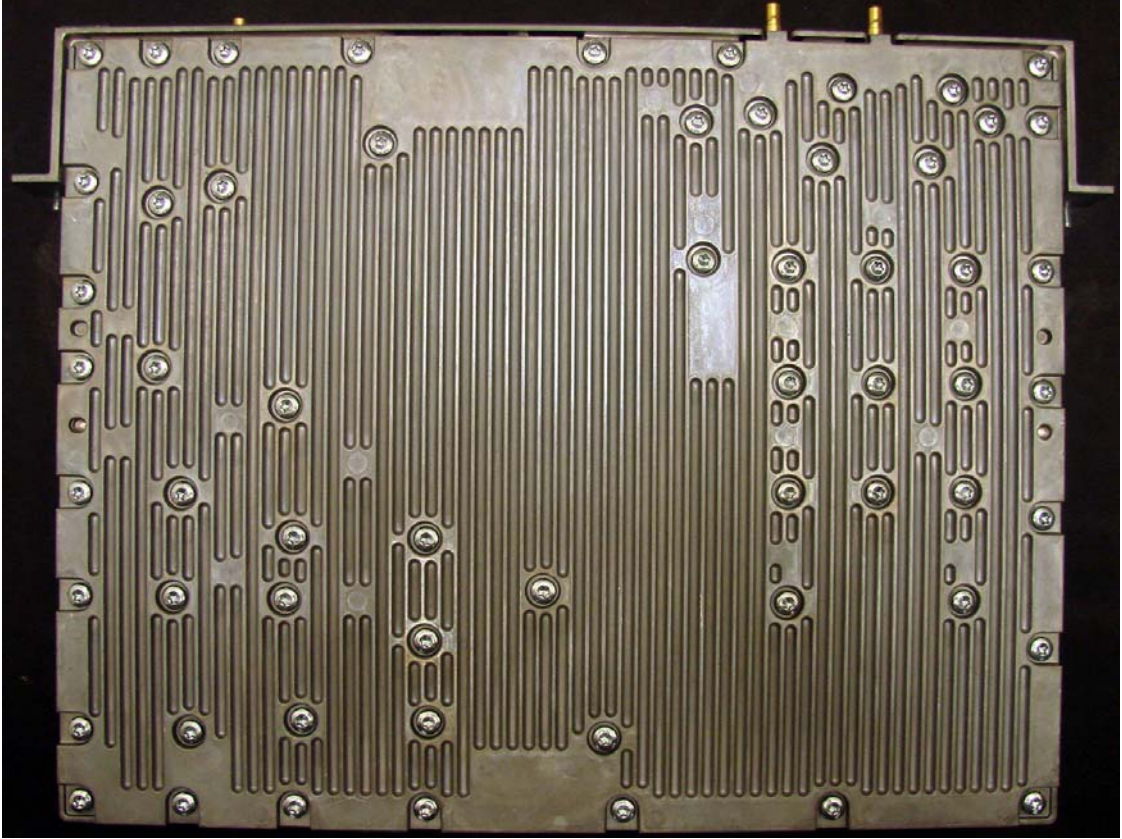
Rear side



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Appendix 9

Left side



Right side

