REPORT

issued by an FCC listed Laboratory Reg. no. 93866.
The test site complies with RSS-Gen, IC file no: 3482A

1002
ISO/IEC 17025

Date	Reference	Page
2011-03-22	FX100776-F24W	1 (2)

Handled by, department
Jonas Bremholt
Electronics
+46 (0)10 516 5438, jonas.bremholt@sp.se

Ericsson AB
Anders Johansson
PDU Radio Base Station
164 80 Stockholm

Radio measurements on RUS 01 B2 1900 MHz radio equipment withFCC ID: TA8BKRC11866-1 and IC: 287AB-BS118661

(9 appendices)

Test object

RUS 01 B2, KRC 118 66/1 Rev. R2F

Summary

Standard		Compliant	Appendix
FCC CFR 47 / IC RSS-133			
2.1046 / RSS-133 6.4	RF power output	Yes	2
2.1049 / RSS-Gen 4.6.1	Occupied bandwidth	Yes	3
2.1051 / RSS-133 6.5	Band edge	Yes	4
2.1051 / RSS-133 6.5	Spurious emission at antenna terminals	Yes	5
2.1053 / RSS-133 6.5	Field strength of spurious radiation	Yes	6
2.1055 / RSS-133 6.3	Frequency stability	Yes	7
Industry Canada RSS-133			
RSS-133 6.6	Receiver spurious emissions	Yes	8

Note: Above RSS-133 items are given as cross-reference only. Measurements were performed according to ANSI procedures referenced by FCC and covered by SP's accreditation.

SP Technical Research Institute of Sweden
Electronics - EMC

Jonas Bremholt
Technical Officer

Christer Karlsson
Technical Manager

FCC ID: TA8BKRC11866-1
IC: 287AB-BS118661

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Description – Test object

Equipment:	Radio equipment RUS 01 B2 running in WCDMA mode supporting single and multi carrier.
Antenna ports:	1 TX/RX port and 1 RX port
Frequency bands:	TX: 1930 – 1990 MHz RX: 1850 – 1910 MHz
Modulations:	QPSK, 16QAM and 64QAM
Nominal output power: (Maximum)	Single carrier: 1x 47.8 dBm (1x 60W) Multi carrier: 2x 44.8 dBm (2x 30W) 4x 41.8 dBm (4x 15W)
Channel bandwidth:	4.2 to 5 MHz (configurable in steps of 100/200 kHz)
Channel spacing:	4.4 to 5 MHz (configurable in steps of 100/200 kHz)
Nominal power voltage:	-48 VDC

Tested channels

	Downlink		Uplink	
Channel	Frequency*	UARFCN	Frequency*	UARFCN
B	1932.4	9662	1852.4	9262
B+5	1937.4	9687	1857.4	9287
B+10	1942.4	9712	1862.4	9312
B+15	1947.4	9737	1867.4	9337
M	1957.6	9788	1877.6	9388
T-15	1972.6	9863	1892.6	9463
T-10	1977.6	9888	1897.6	9488
T-5	1982.6	9913	1902.6	9513
T	1987.6	9938	1907.6	9538

* Frequency in MHz

Operation mode during measurements

Measurements were performed with the test object transmitting the Test models which are defined in 3GPP TS 25.141. Test model 1 (TM1) uses the QPSK modulation only, Test model 5 (TM5) includes the 16QAM modulation and Test model 6 (TM6) includes the 64QAM modulation.

The settings below were found to be representative for all traffic scenarios when several settings with the different modulations, channel bandwidths and the number of carriers were tested to find the worst case setting. These settings were used for all measurements if not otherwise noted.

Single carrier
TM1: 64 DPCH:s at 30 ksps (SF=128)
Multi carrier
TM1: 32 DPCH:s at 30 ksps (SF=128) in each carrier (Two carriers activated)

Channel bandwidth 5 MHz

Conducted measurements

The test object was powered with -48 VDC. All RF conducted measurements were performed with the test object configured for maximum transmit power. All TX measurements were done at the RF A connector and the RX measurements were done on the RF B connector.

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Radiated measurements

The test object was powered with -48 VDC. All measurements were performed with the test object configured for maximum transmit power. The configuration represents worst case for radiated spurious emission measurements.

The RF output power port was via a RF attenuator connected to functional test equipment for supervision.

The RUS unit was allocated to the following UARFCN:

Single Carrier: (One carrier configuration)

Cell	1	1	1
Channel	B	M	T

Multi Carrier: (Two carrier configuration)

Cell	1	2
Channel	B	B+10
Channel	T-10	T

Multi Carrier: (Four carrier configuration)

Cell	1	2	3	4
Channel	B	B+5	B+10	B+15
Channel	T	T-5	T-10	T-15

Purpose of test

The purpose of the tests is to verify compliance to the performance characteristics specified in applicable items of FCC CFR 47 and Industry Canada RSS-133.

References

Measurements were done according to relevant parts of the following standards:
ANSI 63.4-2003
ANSI/TIA/EIA-603-C-2004
CFR 47 part 2, October 1st , 2010
CFR 47 part 24, October 1st, 2010
3GPP TS 25.141, version 8.9.0
RSS-Gen Issue 3
RSS-133 Issue 5

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Measurement equipment

Measurement equipment	Calibration Due	SP number
Test site Tesla	2012-10	503 881
R&S FSIQ 40	2011-07	503 738
R&S FSQ 40	2011-07	504 143
R&S ESI 26	2011-08	503 292
High pass filter	2011-07	504 199
High pass filter	2011-07	503 739
High pass filter	2011-07	503 740
RF attenuator	2011-07	504 159
RF attenuator	2011-08	900 233
RF step attenuator	2012-07	503 096
Boonton RF Peak power meter/analyzer	2011-10	503 144
Boonton Power sensor 56518-S/4	2012-10	503 145
Chase Bilog Antenna CBL 6111A	2011-10	503 182
EMCO Horn Antenna 3115	2014-01	502 175
Std.gain horn FLANN model 16240-25	-	503 939
Std.gain horn FLANN model 20240-20	-	503 674
µComp Nordic, Low Noise Amplifier	2011-07	504 160
MITEQ Low Noise Amplifier	2011-06	503 285
Temperature chamber 2	2013-11	501 031
Multimeter Fluke 87	2011-04	502 190
Testo 625, Temperature and humidity meter	2011-08	504 188
Testo 635 Temperature and humidity meter	2011-04	504 203

Uncertainties

Measurement and test instrument uncertainties are described in the quality assurance documentation ”SP-QD 10885”. The measurement uncertainties can be found in the table below. The uncertainties are calculated with a coverage factor k=2 (95% level of confidence).

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 2011-02-25.

Manufacturer’s representative

Christer Gustavsson, Ericsson AB

Test engineers

Andreas Johnson, Tomas Lennhager, Jörgen Wassholm, Reinhold Reul and Jonas Bremholt

Test participant(-s)

Samir Catic, Ericsson AB (Partly present)

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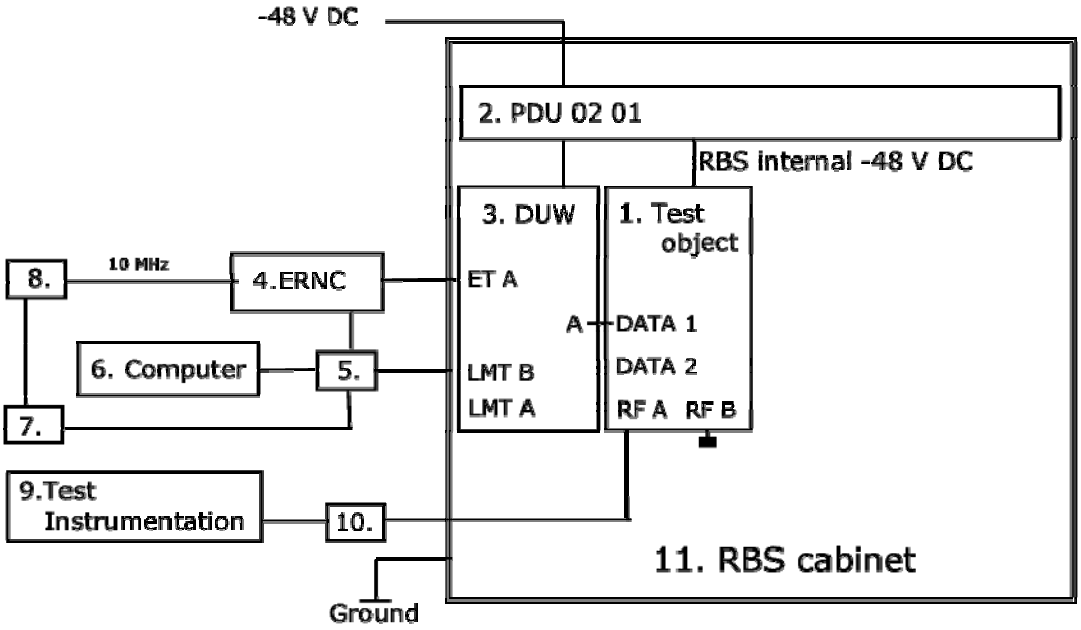
Test set-up conducted measurements TX



Test object

1. RUS 01 B2, KRC 118 66/1, revision R2F, S/N: CB4G545187
   (FCC ID: TA8BKRC11866-1 / IC: 287AB-BS118661)

Functional test equipment

2. PDU 02 01, BMG 980336/4, R2A, (S)BJ31528316
3. DU units:
   Configuration single carrier (1x1) and multi carrier (1x2)
   DU: DUW 30 01 KDU 127 161/3 Rev R2B, S/N: C823486753
   Configuration multi carrier (1x4)
   DU 1: DUW 30 01 KDU 127 161/3 Rev R2B, S/N: C823423230 and
   DU 2: DUW 30 01 KDU 127 161/3 Rev R2B, S/N: C823474492
4. ERNC SIM 127, BAMS – 1000660988
5. Fast Ethernet switch, Netgear FS726T
6. Computer, Sunblade 2500, BAMS – 0000015233
7. NTP server, Symmetricom SyncServer, BAMS – 1000714181
8. 10 MHz reference, Symmetricom model 8040, BAMS – 1000714186
9. SP test instrument according measurement equipment list
10. Attenuator
11. RBS 6201 cabinet, BAMS 1000778792

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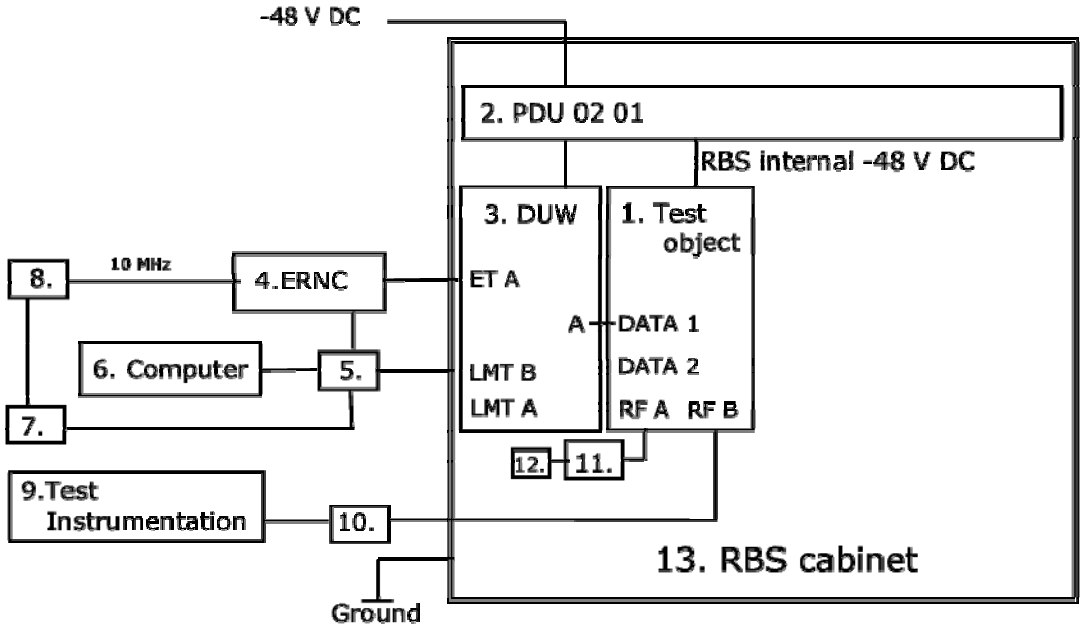
Test set-up conducted measurements RX



Test object

1 RUS 01 B2, KRC 118 66/1, revision R2F, S/N: CB4G545187
(FCC ID: TA8BKRC11866-1 / IC: 287AB-BS118661)

Functional test equipment

2. PDU 02 01, BMG 980336/4, R2A, BJ31528316
3. DU unit: DUW 30 01 KDU 127 161/3 Rev R2B, S/N: C823486753
4. ERNC SIM 127, BAMS – 1000660988
5. Fast Ethernet switch, Netgear FS726T
6. Computer, Sunblade 2500, BAMS – 0000015233
7. NTP server, Symmetricom SyncServer, BAMS – 1000714181
8. 10 MHz reference, Symmetricom model 8040, BAMS – 1000714186
9. SP test instrument according measurement equipment list
10. DC block
11. Attenuator
12 Terminator
13 RBS 6201 cabinet, BAMS 1000778792

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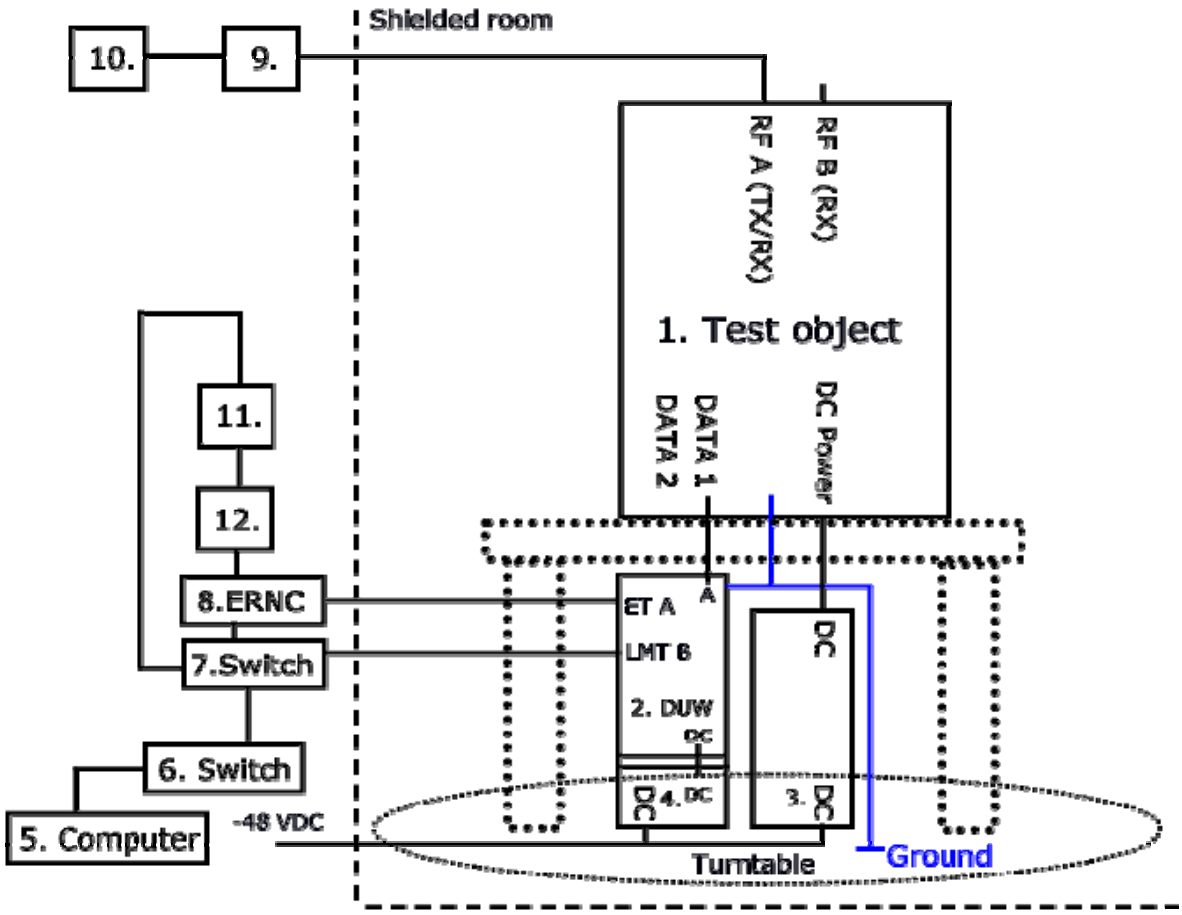
Test set-up radiated measurements



Test object

1. RUS 01 B2, KRC 118 66/1, revision R2F, S/N: CB4G545190
   (FCC ID: TA8BKRC11866-1 / IC: 287AB-BS118661)

Functional test equipment

2. DU units
   Configuration single carrier (1x1) and multi carrier (1x2)
   DU: DUW 30 01 KDU 127 161/3 Rev R2B, S/N: C823486753
   Configuration multi carrier (1x4)
   DU 1: DUW 30 01 KDU 127 161/3 Rev R2B, S/N: C823423230 and
   DU 2: DUW 30 01 KDU 127 161/3 Rev R2B, S/N: C823474492
3. Power subrack, individual components are listed below
4. SUP 6601 1/BFL 901 009/1 Rev R1B, S/N. BR80867188
5. Computer, Sunblade 2500, BAMS – 0000015233
6. Switch D-Link DES-3526
7. Fast Ethernet switch, Netgear FS726T
8. ERNC SIM 127, BAMS – 1000660988
9. Attenuator
10. Spectrum analyzer, R&S FSIQ 40, SP 503 738, for supervision purposes
11. NTP server, Symmetricom SyncServer, BAMS – 1000714181
12. 10 MHz reference, Symmetricom model 8040, BAMS – 1000714186

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Test object interfaces	**Type of port:**
Power configuration: -48 VDC	DC Power
Ground via RBS frame during conducted measurements, Ground via ground strap during radiated stand-alone measurements	Ground
Antenna port RF A, combined TX/RX, female 7/16 connector	Antenna
Antenna port RF B, RX only, female 7/16 connector	Antenna
Cross connect RX A, not supported, omitted in set-up drawings above	-
Cross connect RX B, not supported, omitted in set-up drawings above	-
RXA CO-site, not supported, omitted in set-up drawings above	-
Data 1, connected to DUW port RI A	Signal
Data 2, not supported	-

Hardware of power subrack used during stand-alone radiated tests

Position	Product name	Product number	R-state	Serial number
	Power subrack	SXK 109 8115/1	R2A	
1	PDU 01 01	BMG 980 336/2	R4F	BJ31532384
2	PDU 01 01	BMG 980 336/2	R4F	BJ31532382
3	SHU 01 01	BGK 901 18/1	R3C	BJ31446269
4	DUMMY	SXK 109 8257/1	R1D	-
5	DUMMY	SXK 109 8257/1	R1D	-
6	PFU 01 01	KFE 101 1162/1	R1B	BR80910495
7	DUMMY	SXK 109 8257/1	R1D	-
8	DUMMY	SXK 109 8257/1	R1D	-
9	PCF 02 01	KFE 101 1157/1	R1C	BW95301450

RBS software

Software	Revision
Basic package: CXP 901 6868/3	R3AF12
Upgrade package: CXP 901 6867/3	R1J02

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RF power output measurements according to CFR 47 §24.232 / IC RSS-133 6.4

Date	Temperature	Humidity
2011-03-01	22 °C ± 3 °C	16 % ± 5 %
2011-03-02	24 °C ± 3 °C	15 % ± 5 %
2011-03-03	22 °C ± 3 °C	19 % ± 5 %

Test set-up and procedure

The test object was connected to a power analyzer measuring peak and RMS output power in CDF mode.

Measurement equipment	SP number
Boonton RF Peak power meter/analyzer	503 144
Boonton Power sensor 56518-S/4	503 146
RF attenuator	504 159
Testo 635, temperature and humidity meter	504 203

Measurement uncertainty: 0.7 dB

Results

Single carrier: Rated output power level at RF A connector (maximum): 1x 47.8 dBm

Transmitter power (dBm / dB) RMS / PAR		
B	M	T
47.6/ 6.8	47.6/ 6.9	47.5/ 6.8

Multi carrier: Rated output power level at RF A connector (maximum): 2x 44.8 dBm/ carrier

Transmitter power (dBm / dB) RMS / PAR		
B	M	T
44.5/ 9.6	44.5/ 9.6	44.5/ 9.7

Multi carrier: Rated output power level at RF A connector (maximum): 4x 41.8 dBm/ carrier

Transmitter power (dBm / dB) RMS / PAR		
B	M	T
41.8/ 10.4	41.8/ 10.3	41.5/ 10.6

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Limits

§24.232 Federal Register / Vol. 73, No. 86
The maximum output power may not exceed 1640 W (EIRP).
The Peak to Average Ratio (PAR) may not exceed 13 dB.

RSS-133: The average equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Moreover, base station transmitters operating in the band 1930-1995 MHz shall not have output power exceeding 100 watts.
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

Complies?	Yes

FCC ID: TA8BKRC11866-1 Appendix 3
IC: 287AB-BS118661

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

Date	Temperature	Humidity
2011-03-01	22 °C ± 3 °C	16 % ± 5 %
2011-03-02	24 °C ± 3 °C	15 % ± 5 %

Test set-up and procedure

The measurements were made per definition in §2.1049. The output was connected to a signal analyzer with the RMS detector activated. The signal analyzer was connected to an external 10 MHz reference standard during the measurements.

Measurement equipment	SP number
Rohde & Schwarz signal analyzer FSQ40	504 143
RF attenuator	504 159
Testo 615 temperature and humidity meter	503 498

Measurement uncertainty: 3.7 dB

Results

The results are shown in appendix 3.1

Channel Bandwidth 5.0 MHz

	Channel	OBW
Diagram 1	B	4.18 MHz
Diagram 2	M	4.17 MHz
Diagram 3	T	4.18 MHz

Channel Bandwidth 4.2 MHz

	Channel	OBW
Diagram 4	B	3.85 MHz
Diagram 5	M	3.85 MHz
Diagram 6	T	3.85 MHz

FCC ID: TA8BKRC11866-1 Appendix 3.1
IC: 287AB-BS118661

Diagram 1

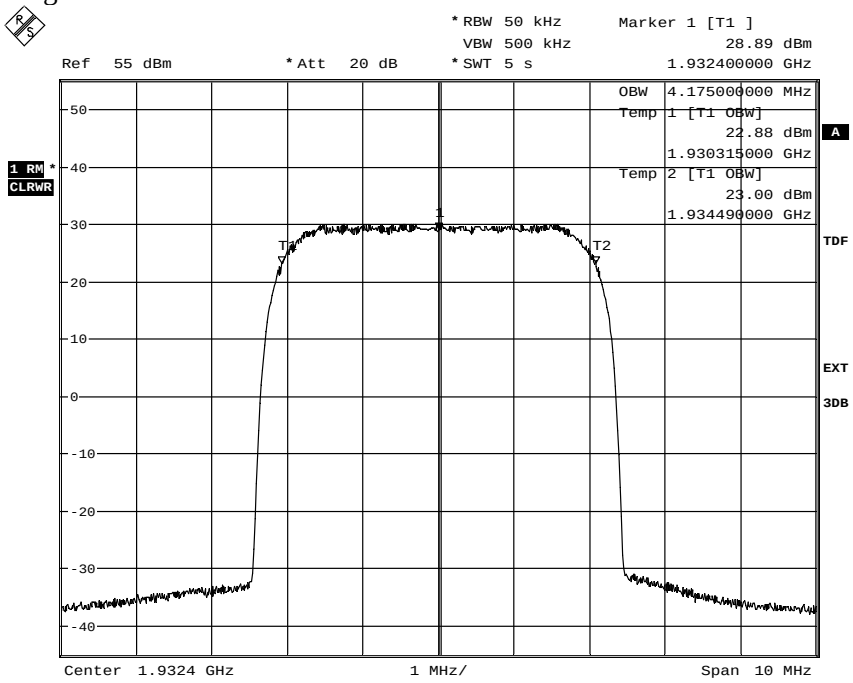

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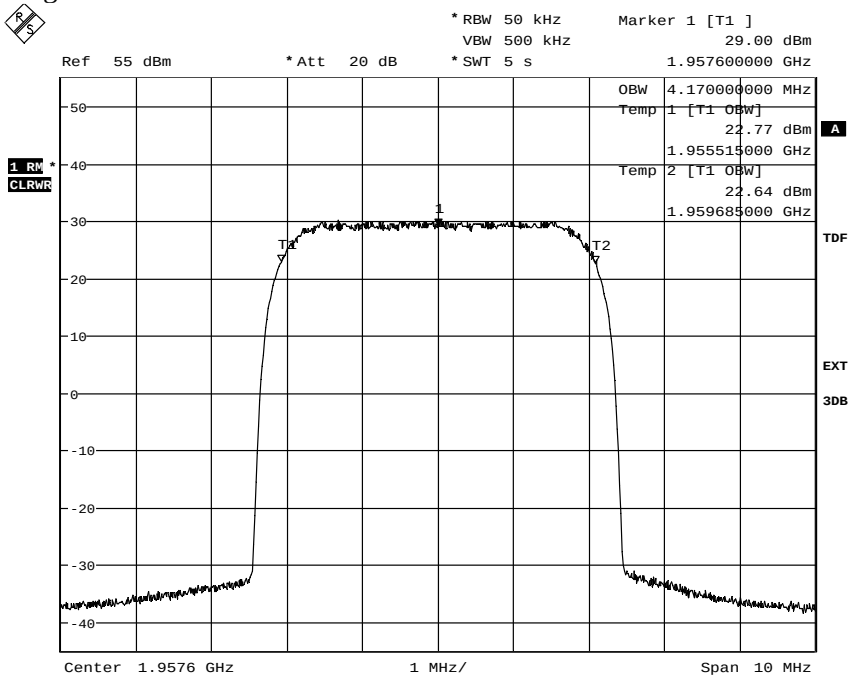
Diagram 2



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FCC ID: TA8BKRC11866-1 Appendix 3.1
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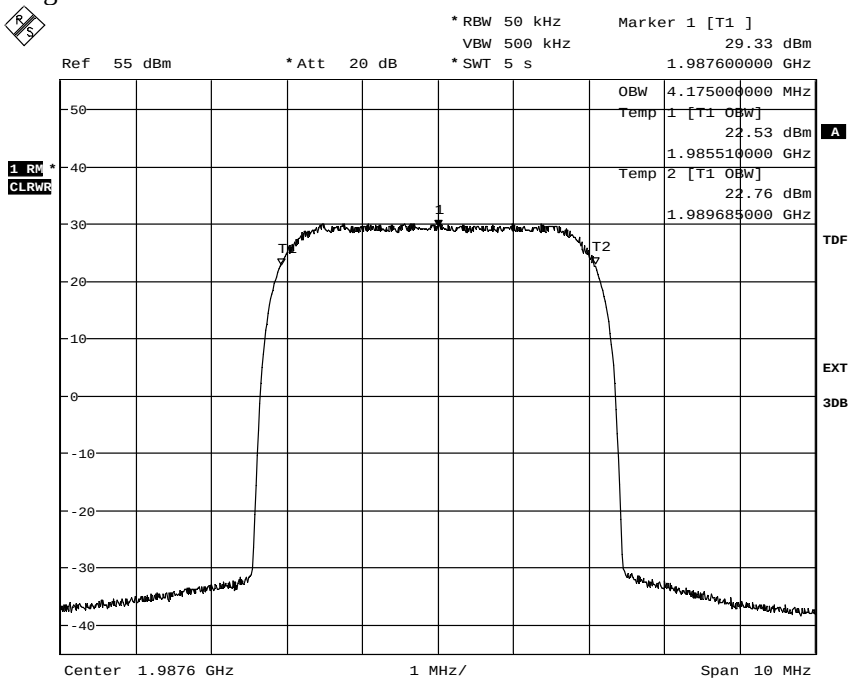
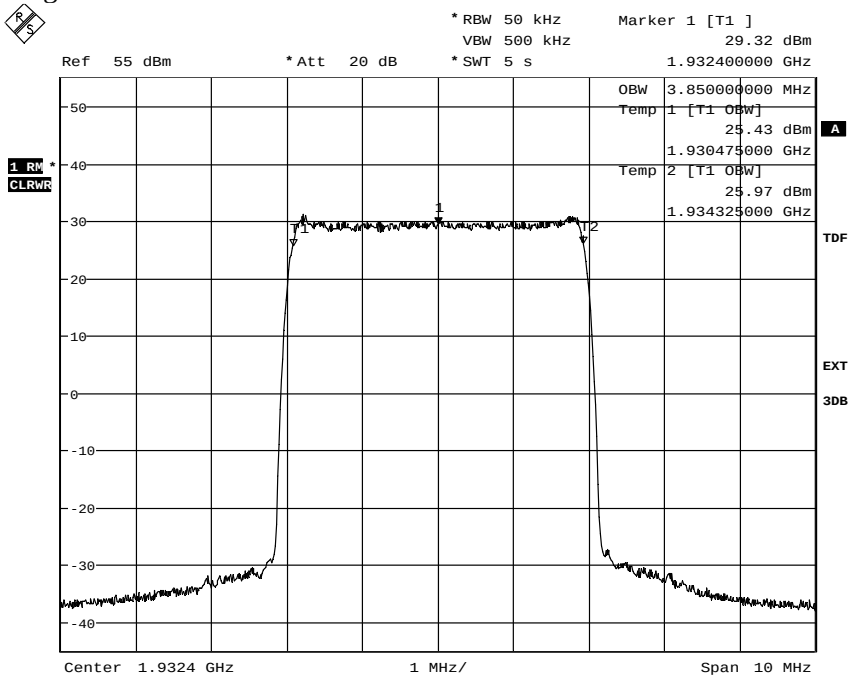
Diagram 3



Date: 1.MAR.2011 13:17:07

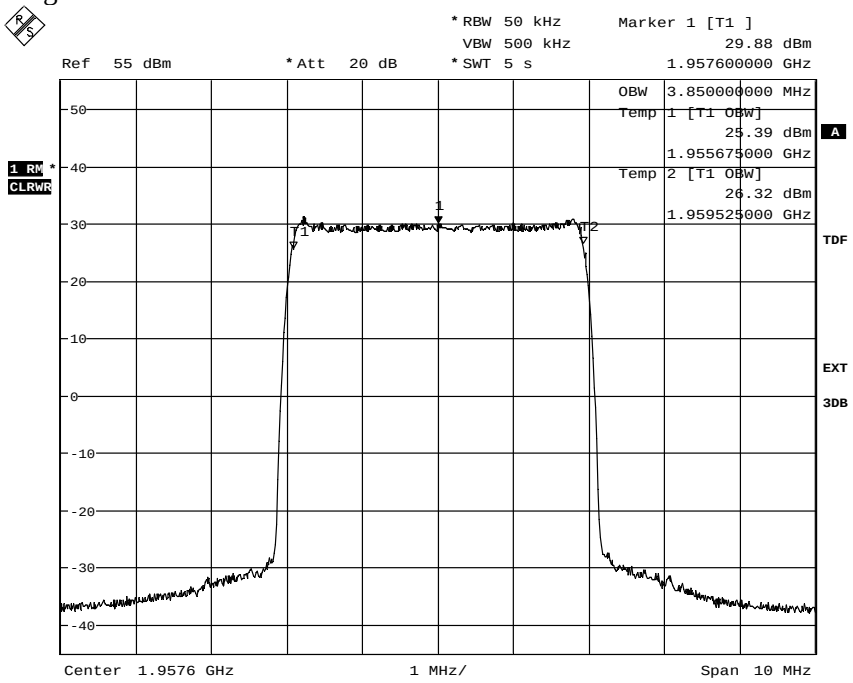
Diagram 4



Date: 2.MAR.2011 10:17:30

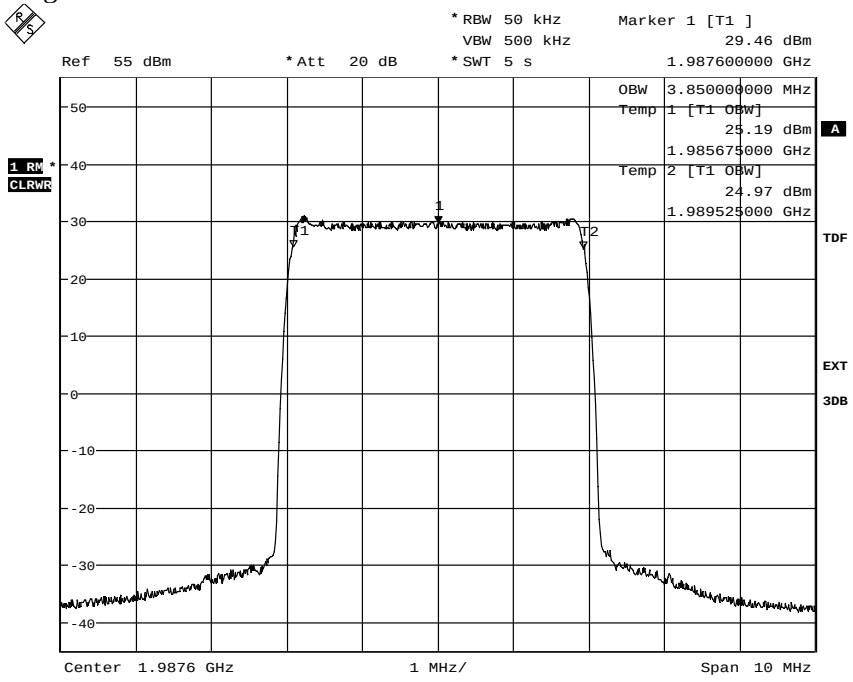
FCC ID: TA8BKRC11866-1 Appendix 3.1
IC: 287AB-BS118661

Diagram 5



Date: 2.MAR.2011 09:44:06

Diagram 6



Date: 2.MAR.2011 10:07:03

FCC ID: TA8BKRC11866-1 Appendix 4
IC: 287AB-BS118661

Band edge measurements according to CFR 47 §24.238 / IC RSS-133 6.5

Date	Temperature	Humidity
2011-03-01	22 °C ± 3 °C	16 % ± 5 %
2011-03-02	24 °C ± 3 °C	15 % ± 5 %
2011-03-03	24 °C ± 3 °C	18 % ± 5 %

Test set-up and procedure

The measurements were made per definition in §24.238. 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 for 5 MHz nominal BW setting). To compensate for the reduced measurement bandwidth, 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 from 1 MHz to 5 MHz away from the band edges.

Measurement equipment	SP number
R&S FSQ	504 143
RF attenuator	504 159
Testo 635, temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

Results

The results are shown in appendix 4.1

Single carrier:
Diagram 1: B
Diagram 2: T

Multi carrier:
Diagram 3: B+(B+5)
Diagram 4: T+(T-5)

Limits

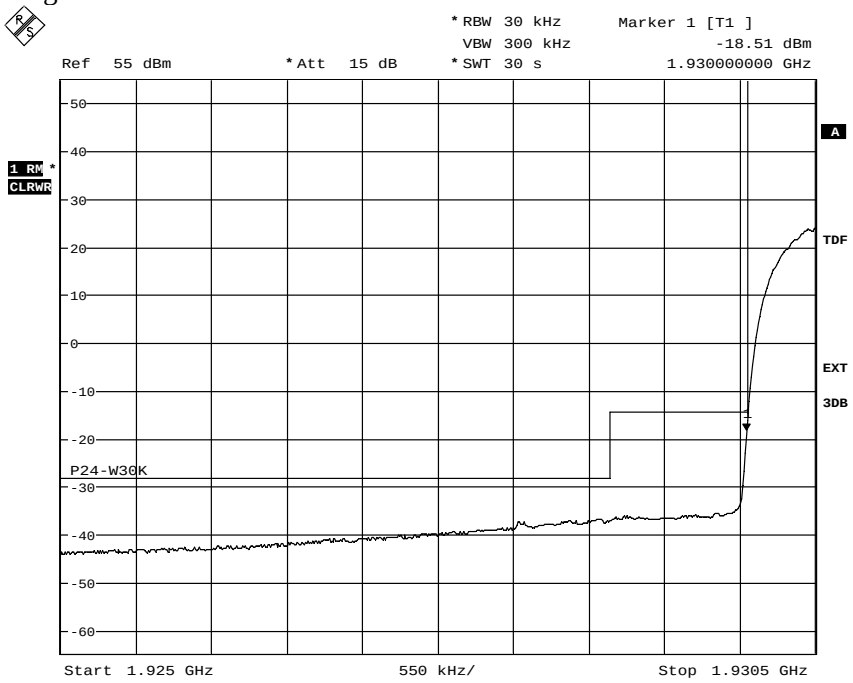
CFR 47 §24.238 and RSS-133 6.5

Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm.

Complies?	Yes

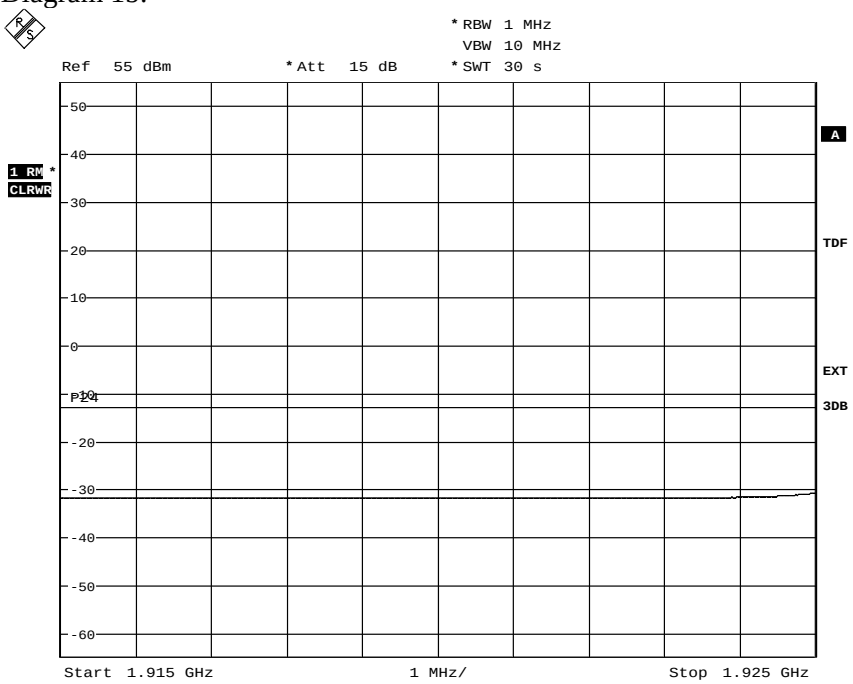
FCC ID: TA8BKRC11866-1 Appendix 4.1
IC: 287AB-BS118661

Diagram 1a:



Date: 1.MAR.2011 12:45:37

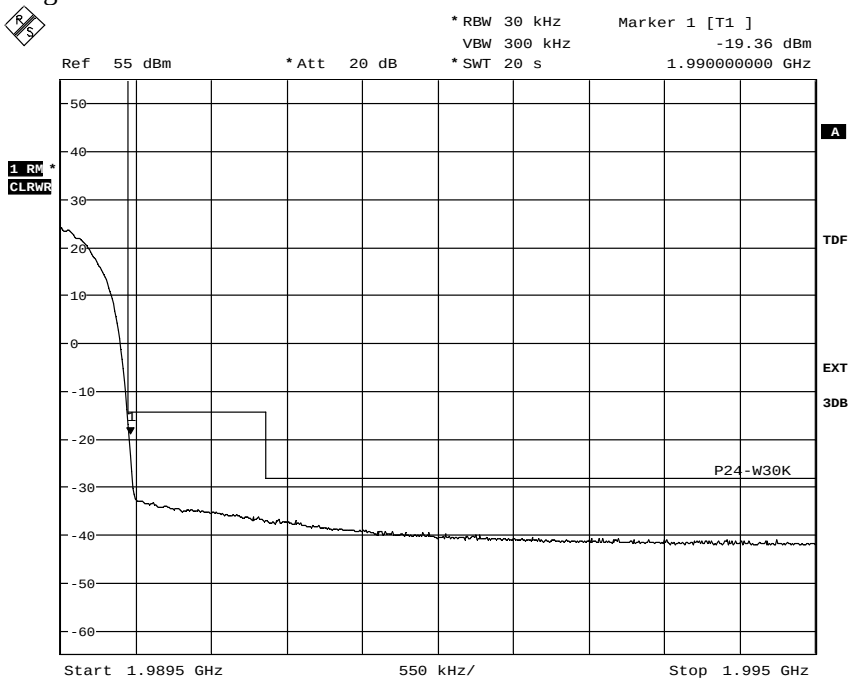
Diagram 1b:



Date: 1.MAR.2011 12:47:42

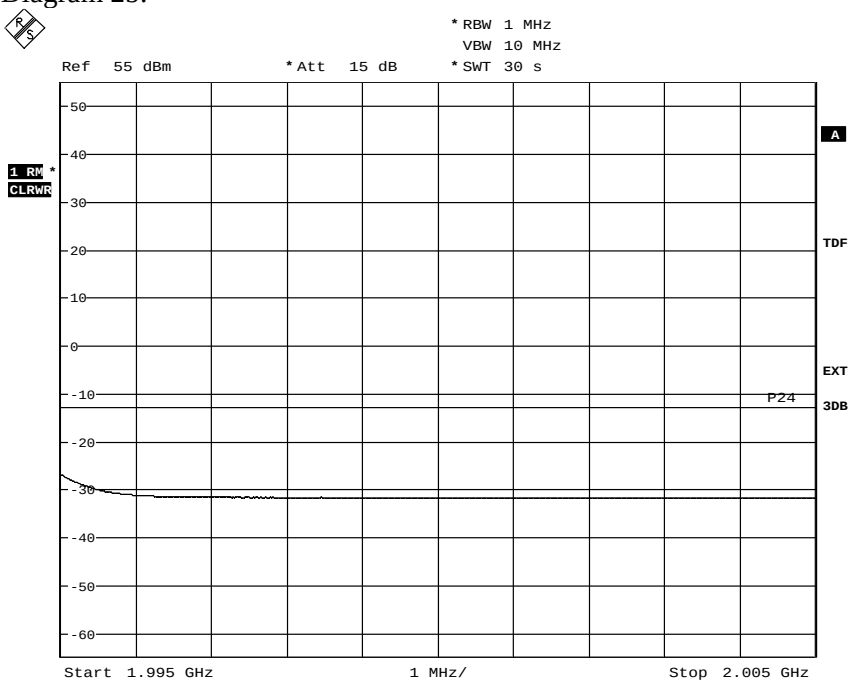
FCC ID: TA8BKRC11866-1 Appendix 4.1
IC: 287AB-BS118661

Diagram 2a:



Date: 1.MAR.2011 13:19:33

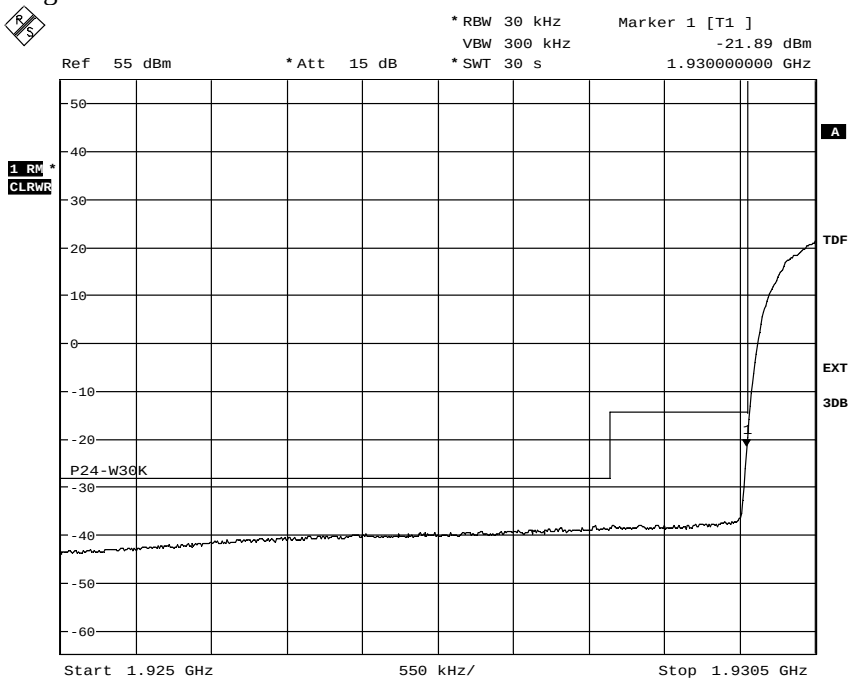
Diagram 2b:



Date: 1.MAR.2011 13:22:07

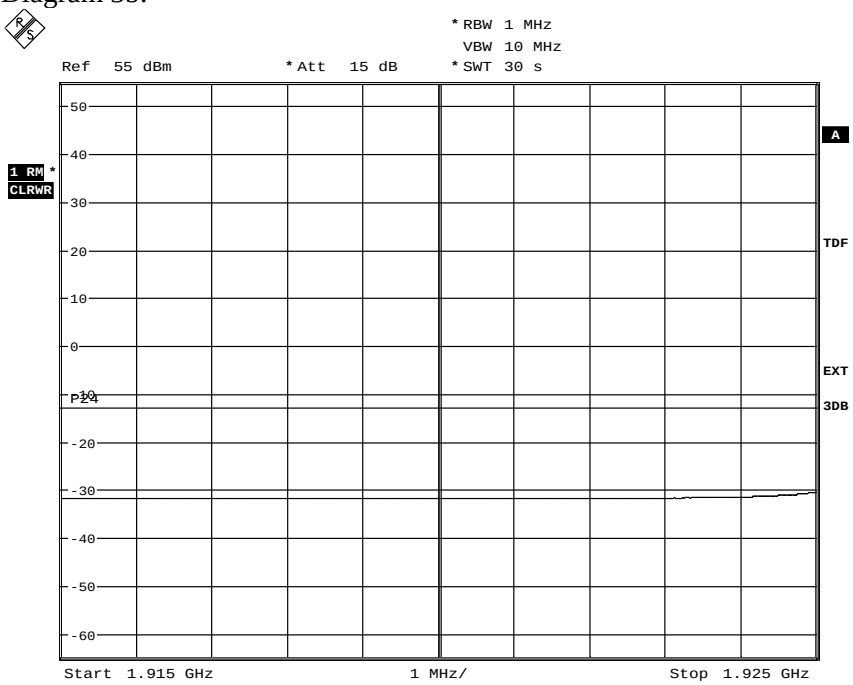
FCC ID: TA8BKRC11866-1 Appendix 4.1
IC: 287AB-BS118661

Diagram 3a:



Date: 2.MAR.2011 10:57:22

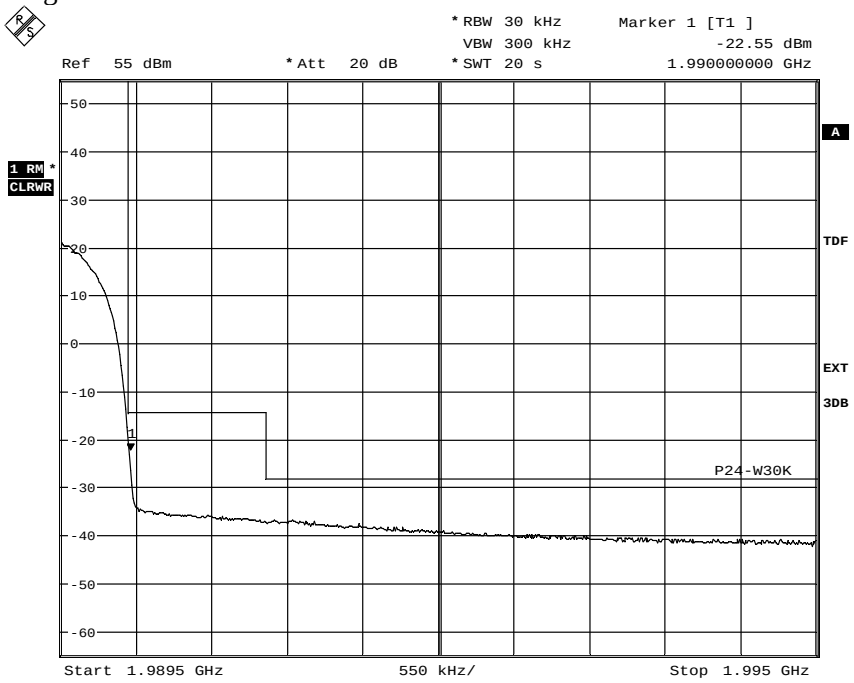
Diagram 3b:



Date: 2.MAR.2011 10:59:13

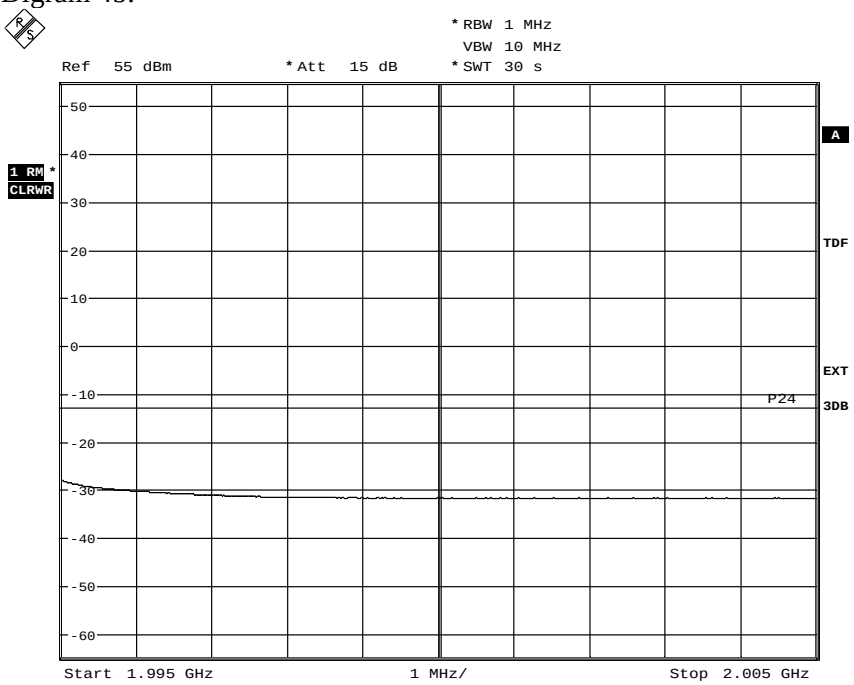
FCC ID: TA8BKRC11866-1 Appendix 4.1
IC: 287AB-BS118661

Diagram 4a:



Date: 2.MAR.2011 14:29:59

Digram 4b:



Date: 2.MAR.2011 14:32:24

FCC ID: TA8BKRC11866-1 Appendix 5
IC: 287AB-BS118661

Conducted spurious emission measurements according to CFR 47 §24.238 / IC RSS-133 6.5

Date	Temperature	Humidity
2011-03-01	22 °C ± 3 °C	16 % ± 5 %
2011-03-02	24 °C ± 3 °C	15 % ± 5 %
2011-03-03	24 °C ± 3 °C	18 % ± 5 %

Test set-up and procedure

The measurements were made per definition in §24.238. The output was connected to a spectrum analyzer. The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements. A pre-measurement was performed with the PEAK detector activated. Emission close to or above the limit with the PEAK detector is measured with the RMS detector activated and the level of the emission is determined with the substitution method.

Measurement equipment	SP number
R&S FSQ	504 143
RF attenuator	504 159
High pass filter	504 200
RF attenuator	900 229
High pass filter	503 740
Testo 635 temperature and humidity meter	504 203

Measurement uncertainty: 3.7 dB

Results

The results are shown in appendix 5.1

Single carrier:
Diagram 1: B
Diagram 2: M
Diagram 3: T

Multi carrier:
Diagram 4: B+(B+10)
Diagram 5: T+(T-10)

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 feed-through.

The highest internal frequency as declared by the client was 2.4576 GHz, thus the choice of the upper frequency boundary was set to 10x2.5 GHz = 25 GHz for emission measurements.

The 2.4576 GHz frequency was identified as not used in the RF chain and is not affected by the power setting of the carrier frequency, the transmitter was activated for 40 W output power during the measurements in the frequency range 18 to 25 GHz. In the frequency range 9 kHz to 18 GHz the transmitter was activated for maximum output power.

Limits

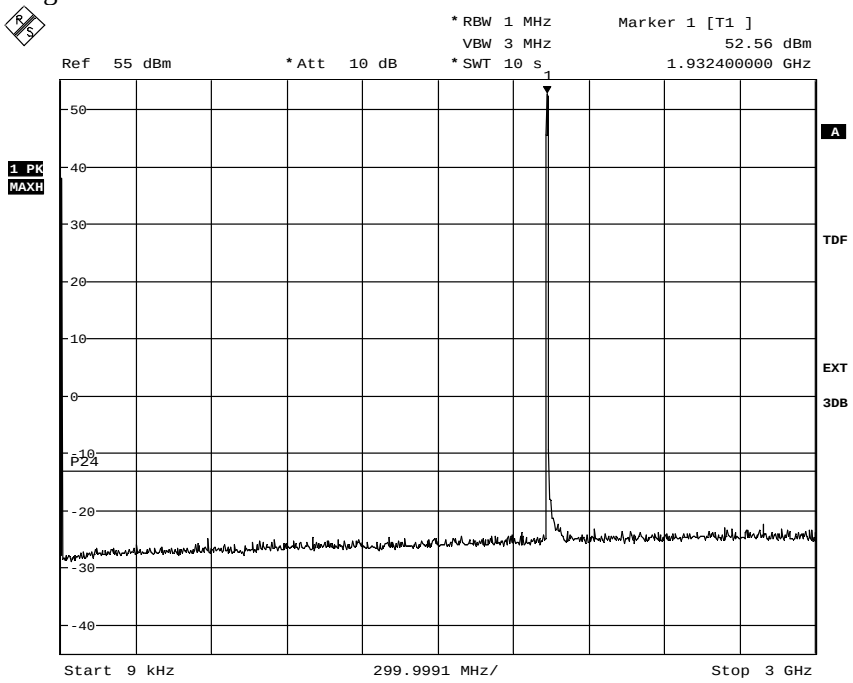
§24.238 and RSS-133 6.5

Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm per 1 MHz RBW.

Complies?	Yes

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

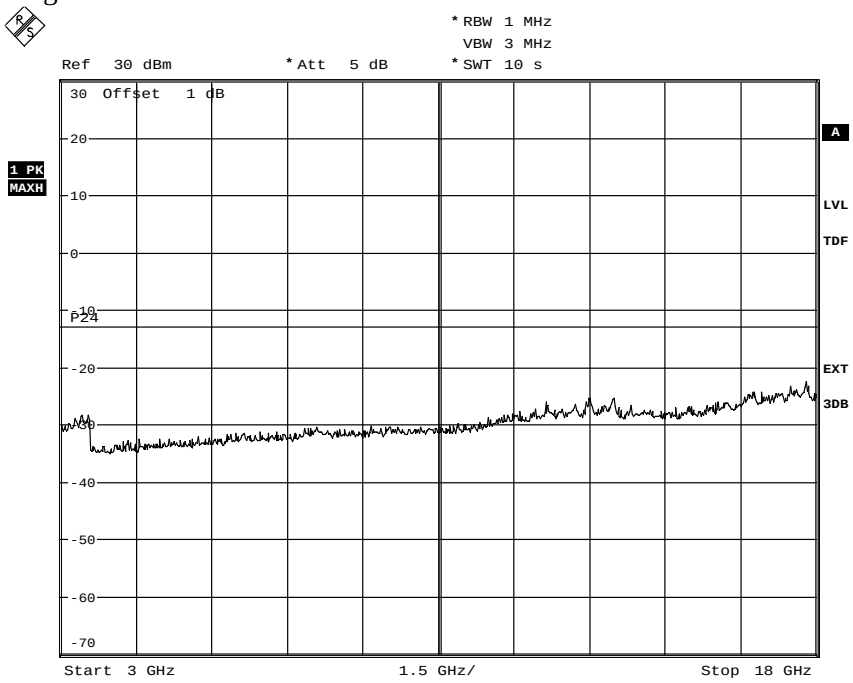
Diagram 1a



Date: 1.MAR.2011 12:43:27

The emissions around the carrier are within the operating frequency band

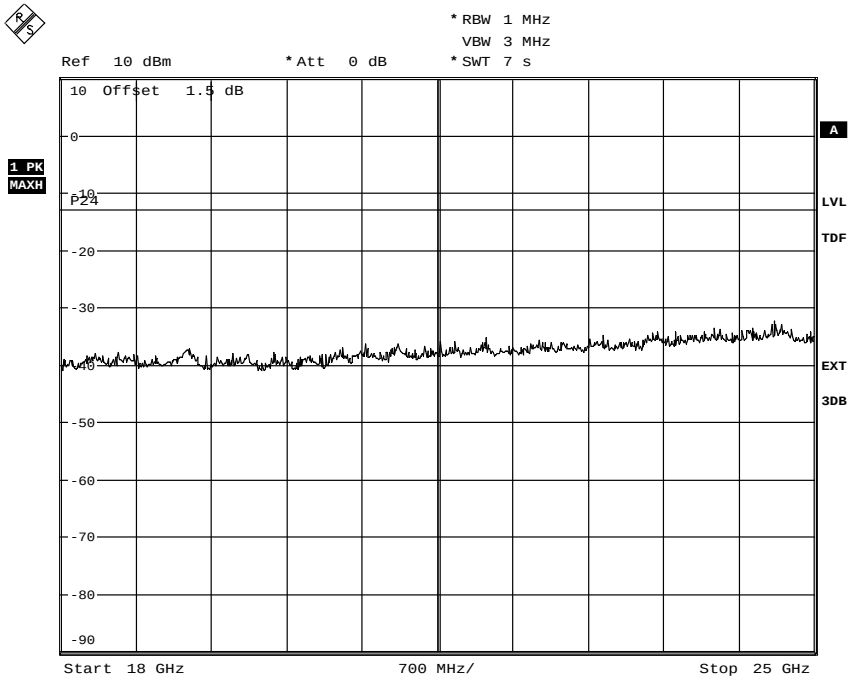
Diagram 1b



Date: 1.MAR.2011 12:41:03

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

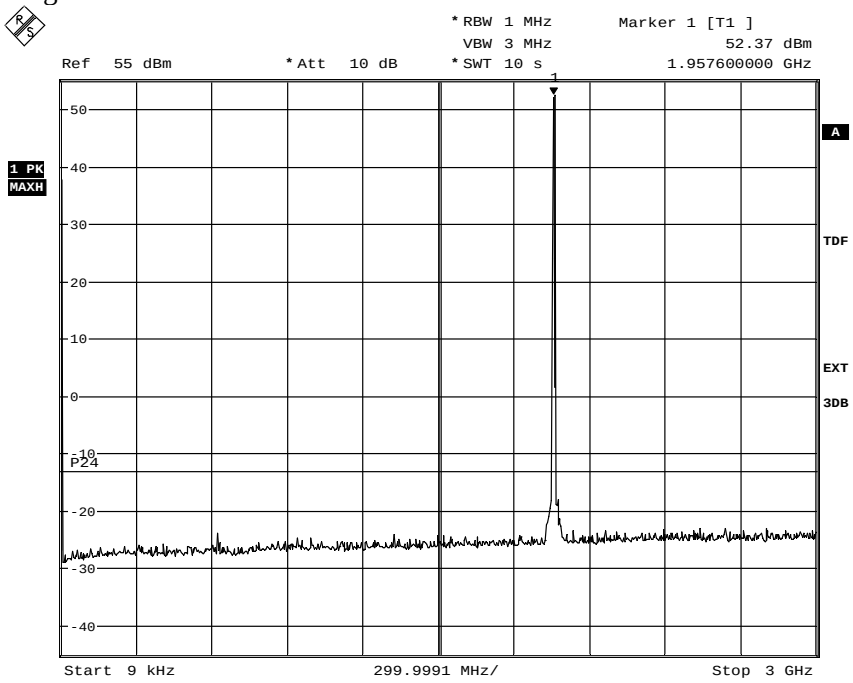
Diagram 1c



Date: 3.MAR.2011 10:20:25

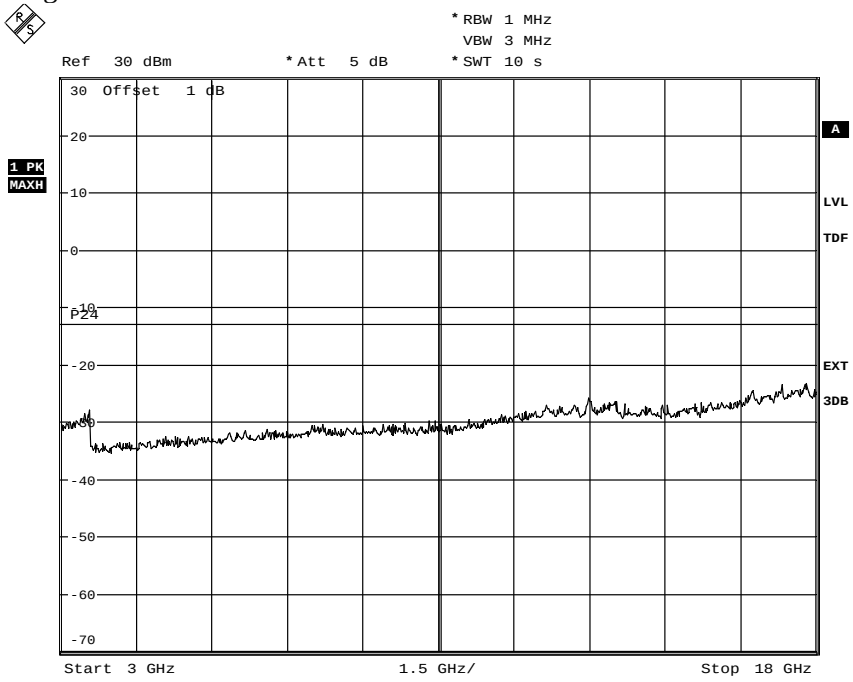
FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

Diagram 2a



Date: 1.MAR.2011 10:58:37

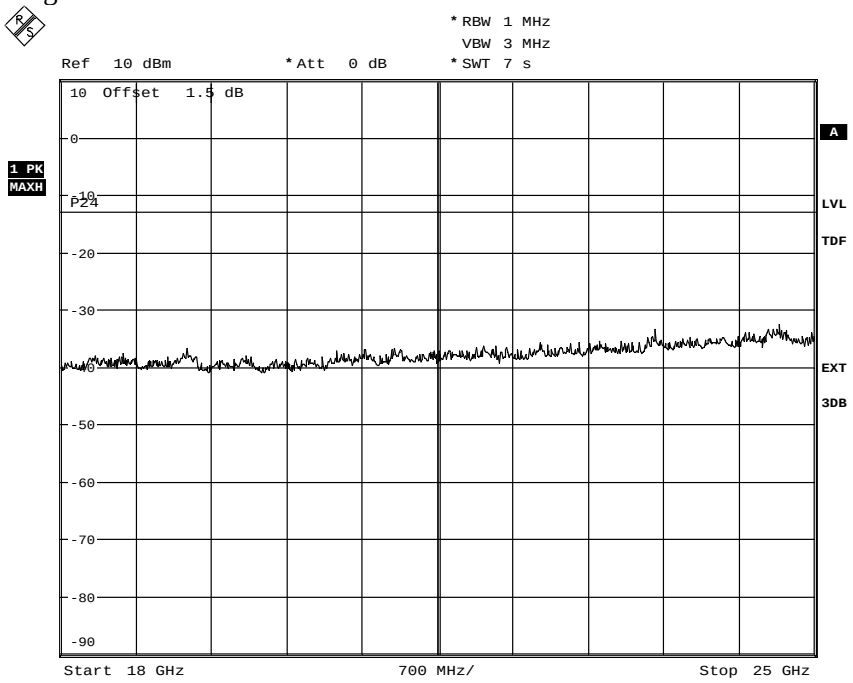
Diagram 2b



Date: 1.MAR.2011 11:06:09

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

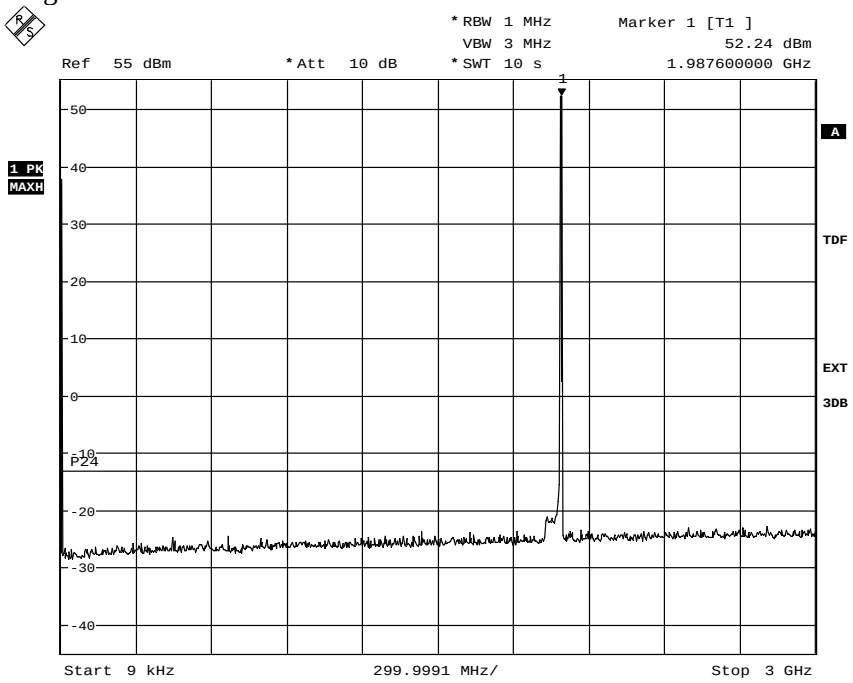
Diagram 2c



Date: 3.MAR.2011 10:40:58

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

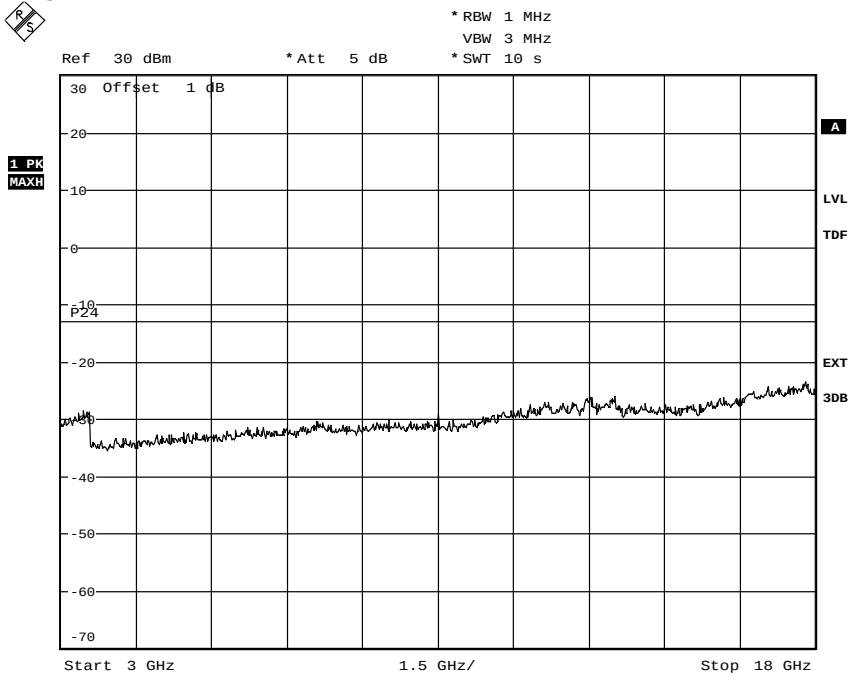
Diagram 3a



Date: 1.MAR.2011 13:28:40

The emissions around the carrier are within the operating frequency band

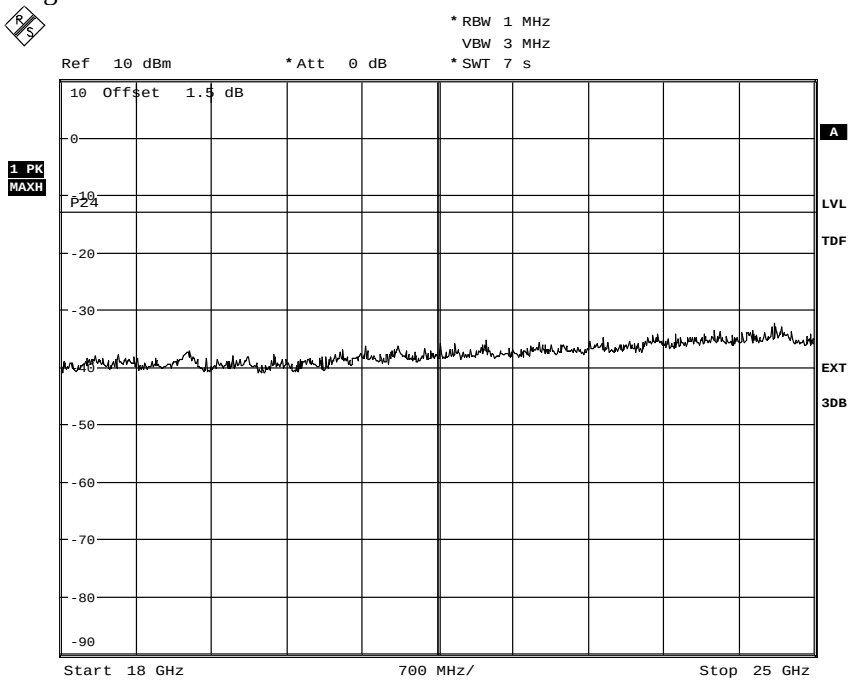
Diagram 3b



Date: 1.MAR.2011 13:36:52

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

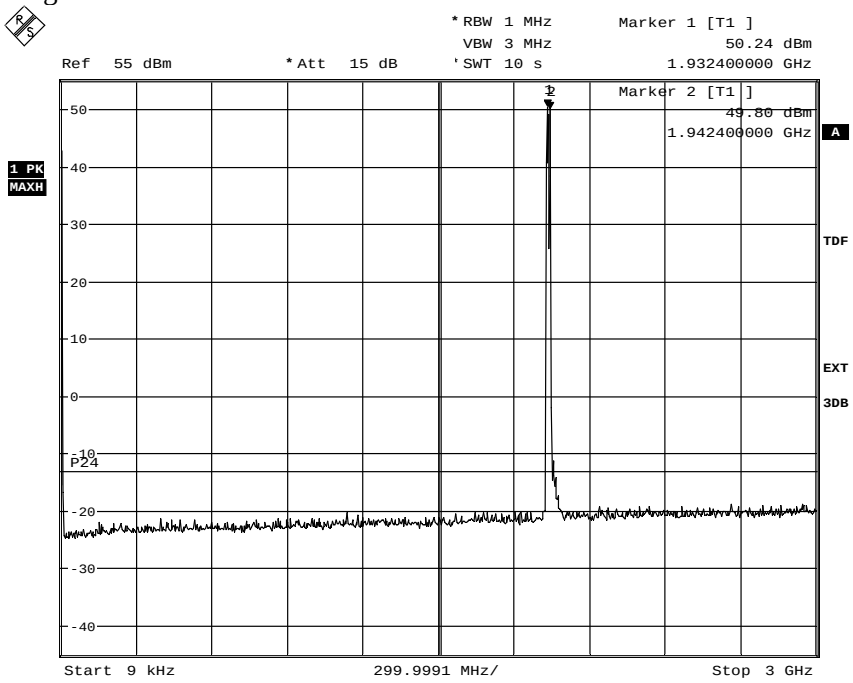
Diagram 3c



Date: 3.MAR.2011 10:20:25

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

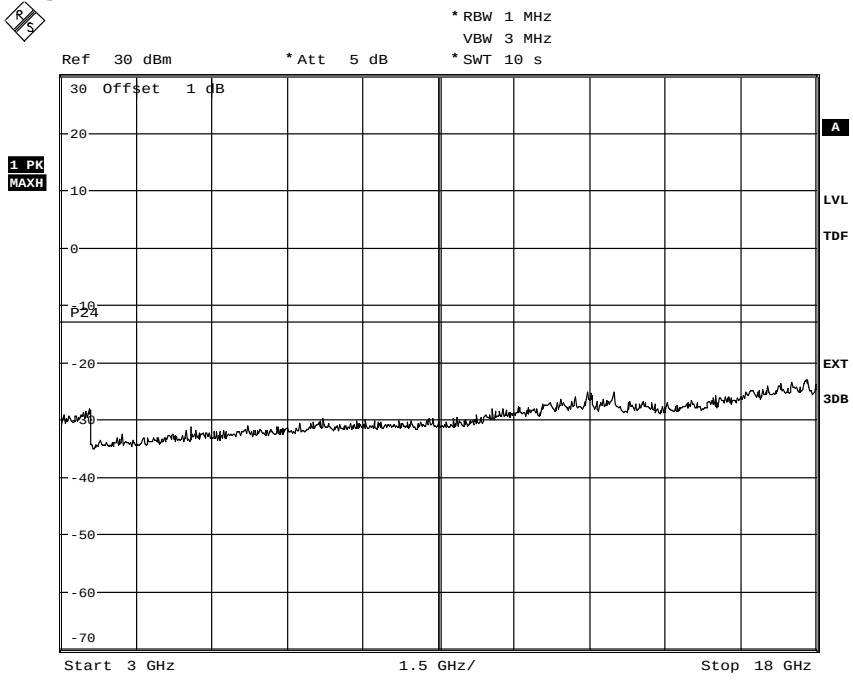
Diagram 4a



Date: 2.MAR.2011 12:27:30

The emissions around the carriers are within the operating frequency band

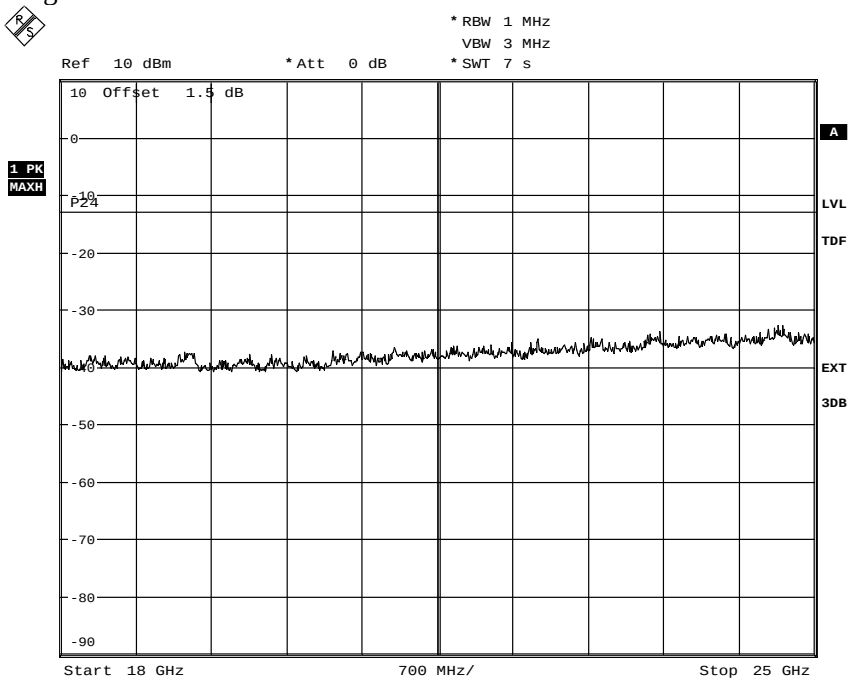
Diagram 4b



Date: 2.MAR.2011 12:41:25

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

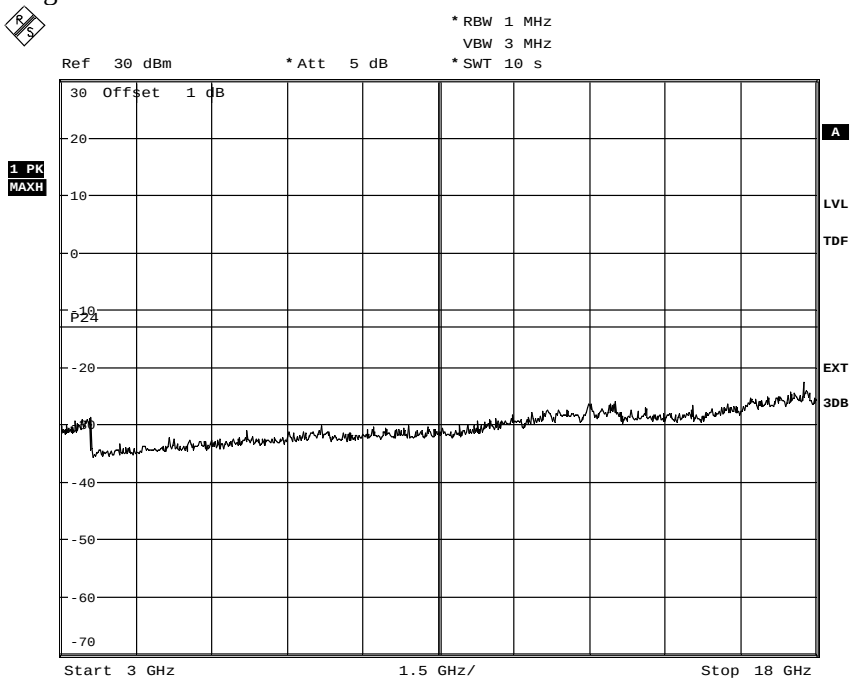
Diagram 4c



Date: 3.MAR.2011 10:09:55

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

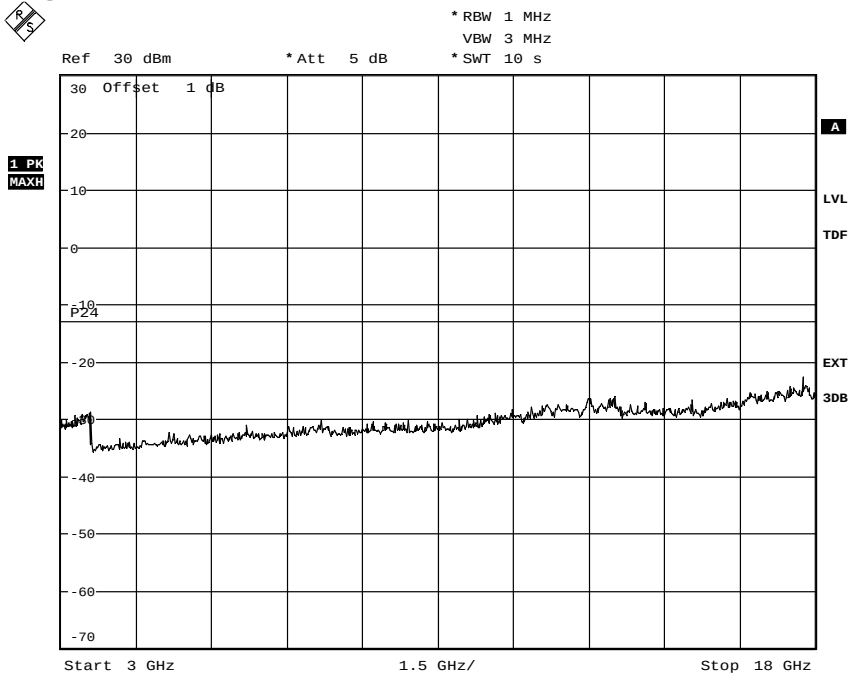
Diagram 5a



Date: 2.MAR.2011 14:06:05

The emissions around the carriers are within the operating frequency band

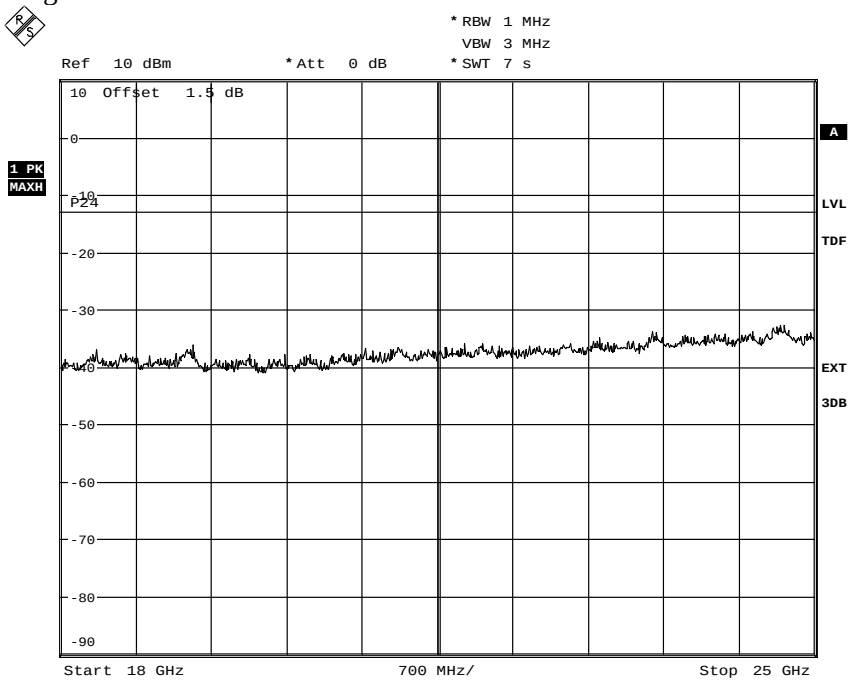
Diagram 5b



Date: 2.MAR.2011 14:06:05

FCC ID: TA8BKRC11866-1 Appendix 5.1
IC: 287AB-BS118661

Diagram 5c



Date: 3.MAR.2011 09:59:18

FCC ID: TA8BKRC11866-1
IC: 287AB-BS118661

Appendix 6

Field strength of spurious radiation measurements according to CFR 47 §24.238 / IC RSS-133 6.5

Date	Temperature	Humidity
2011-03-03 to 2011-03-09	23 °C ± 3 °C	17% to 19 % ± 5 %

Test set-up and procedure

The test sites are listed at FCC, Columbia with registration number: 93866. The test site complies with RSS-Gen, Industry Canada file no. 3482A-1.

The measurements were performed with both horizontal and vertical polarization of the antenna. The antenna distance was 3 m in the frequency range 30 MHz – 18 GHz and 1m in the frequency range 18 - 25 GHz.

In the frequency range 30 MHz - 25 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 $\gamma = 20\log\left(\frac{4\pi D}{\lambda}\right)$, γ is the propagation loss and D is the antenna distance.

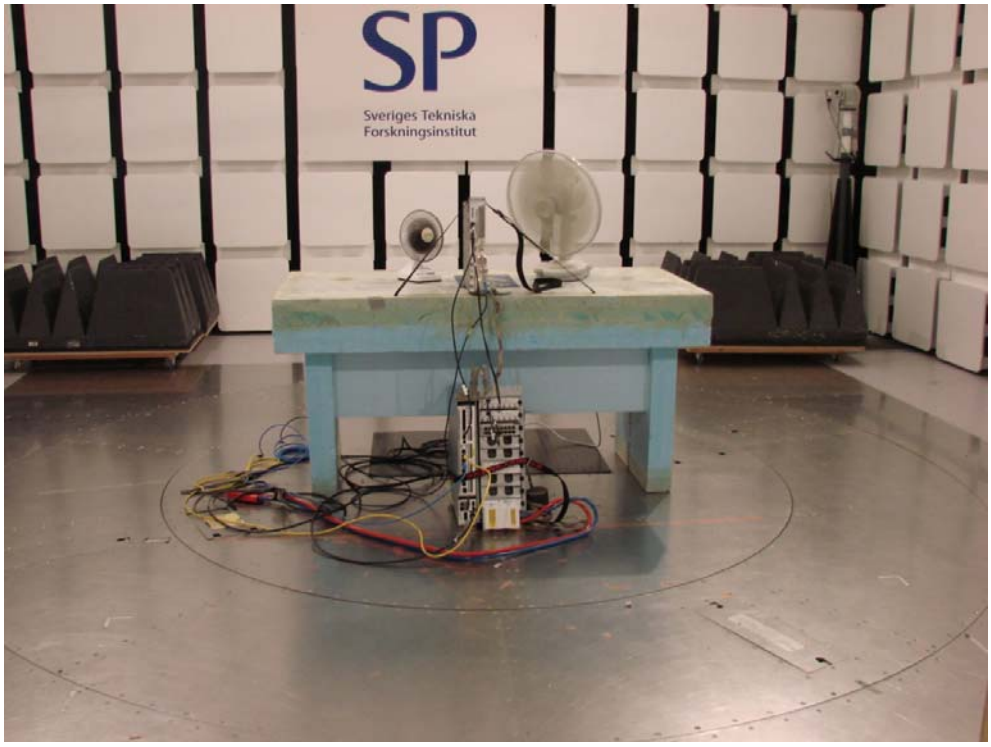
The measurement procedure was as the following:

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 in the pre-measurement 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 when measured with the RMS detector were measured with the substitution method according to the standard.

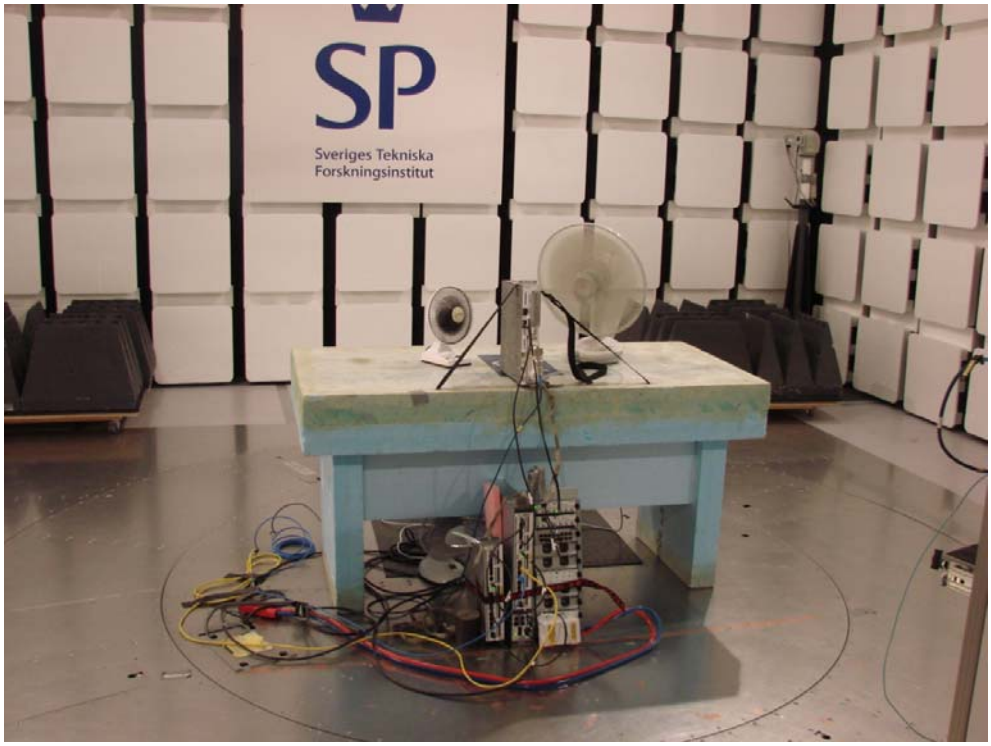
FCC ID: TA8BKRC11866-1
IC: 287AB-BS118661

Appendix 6

The test set-up during the spurious radiation measurements for single carrier (1x1) and multi carrier (1x2) is shown in the picture below:



The test set-up during the spurious radiation measurements for multi carrier (1x4) is shown in the picture below:



FCC ID: TA8BKRC11866-1 Appendix 6
IC: 287AB-BS118661

Measurement equipment

Measurement equipment	SP number
Test site Tesla	503 881
R&S ESI 26	503 292
Control computer	503 479
Software: R&S EMC32, ver. 8.20.1	503 745
Chase Bilog antenna CBL 6111A	503 182
µCorp Nordic, Low Noise Amplifier	504 160
Miteq, Low Noise Amplifier	503 285
EMCO Horn Antenna 3115	502 175
Standard gain antenna 20240-20	503 674
High pass filter, Wainright	504 200
High pass filter, RLC Electronics	503 739
Testo 625 temperature and humidity meter	504 188

Results

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical	Horizontal
30-25 000	All emission > 20 dB below limit	All emission > 20 dB below limit

Measurement uncertainty:

3.2 dB up to 18 GHz, 3.6 dB above 18 GHz

Limits

§24.238 and RSS-133 6.5

Outside a licensee's frequency band(s) of operation the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB, resulting in a limit of -13 dBm per 1 MHz RBW.

Complies?	Yes

FCC ID: TA8BKRC11866-1
IC: 287AB-BS118661

Appendix 7

Frequency stability measurements according to CFR 47 §24.235 / IC RSS 133 6.3

Date	Temperature (test equipment)	Humidity (test equipment)
2011-03-10 to 2011-03-14	22-24°C ± 3 °C	19-29% ± 5 %

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.

Measurement equipment	SP number
Climate chamber 2	501 031
Rohde & Schwarz signal analyzer FSQ40	504 143
RF attenuator	504 159
Testo 635, Temperature and humidity meter	504 203
Rotronic temperature and humidity meter	502 946
Multimeter Fluke 87	502 190

Results

Nominal Voltage -48 V DC
Maximum output power at mid channel (M)

Test conditions		Frequency error (Hz)
Supply voltage DC (V)	T (°C)	
-48.0	+20	-15
-55.2	+20	-16
-40.8	+20	+19
-48.0	+30	-24
-48.0	+40	-10
-48.0	+50	+19
-48.0	+10	+22
-48.0	0	N/A, Note 1
Maximum freq. error (Hz)		24
Measurement uncertainty		$< \pm 1 \times 10^{-7}$

Note 1: It was not possible to activate the transmitter at this temperature.

Limits (according to 3GPP TS 25.141)

The frequency error shall be within ± 0.05 PPM ± 12 Hz (109.9 Hz).

Complies?	Yes

FCC ID: TA8BKRC11866-1 Appendix 8
IC: 287AB-BS118661

Receiver spurious emissions measurements according to IC RSS-133 6.6

Date	Temperature	Humidity
2011-03-03	24 °C ± 3 °C	18 % ± 5 %

Test set-up and procedure

The measurements were performed according to ANSI C63.4.

Measurements were performed on the receiver antenna terminal (RF B). 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	SP number
R&S FSQ40	504 143
RF attenuator (RF A)	900 229
Testo 635, Temperature and humidity meter	504 203

Result

The results are shown in appendix 8.1:

	Channel
Diagram 1	M

Note: During the measurement on the RX port RF B the combined TX/RX port RF A was terminated into 50 ohm, the TX was active in single carrier mode transmitting TM1.

Remark

The highest internal frequency as declared by the client was 2.4576 GHz, thus the choice of the upper frequency boundary was set to 5x2.5 GHz = 12.5 GHz for emission measurements.

Limit

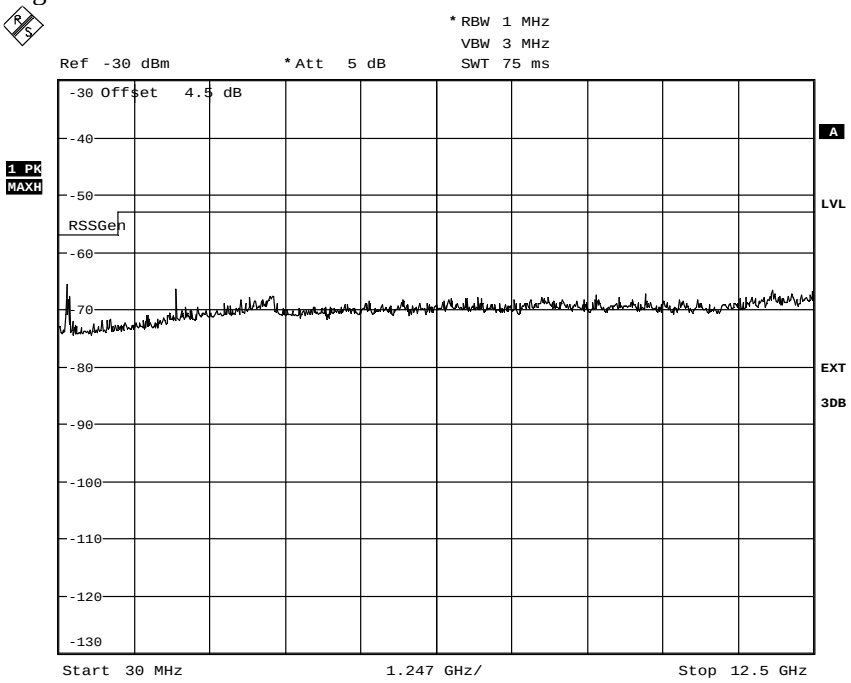
RSS-Gen 6.2 Antenna Conducted limits

Receiver spurious emissions at any discrete frequency shall not exceed 2 nanowatts (-57 dBm) in the band 30-1000 MHz, and 5 nanowatts (-53 dBm) above 1000 MHz.

Emission below limit?	Yes

FCC ID: TA8BKRC11866-1 Appendix 8.1
IC: 287AB-BS118661

Diagram 1



Date: 3.MAR.2011 13:00:40

FCC ID: TA8BKRC11866-1
IC: 287AB-BS118661

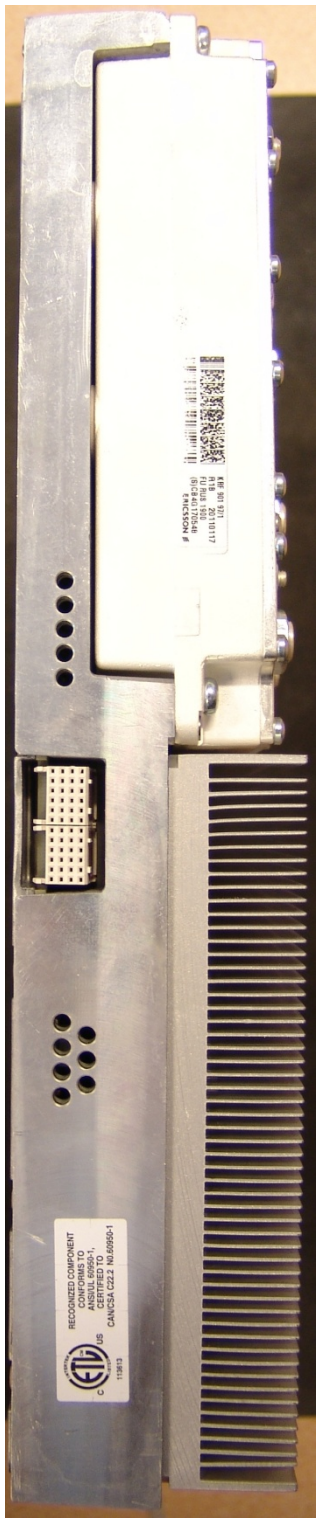
Appendix 9

External photos

Photos show the sample used for conducted measurements

Front side

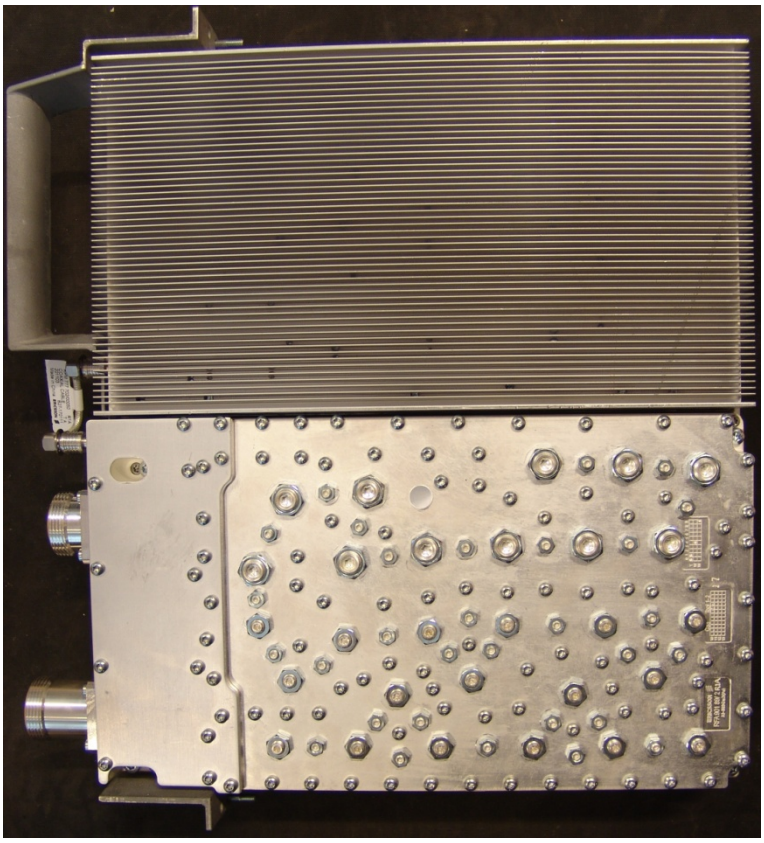
Rear side



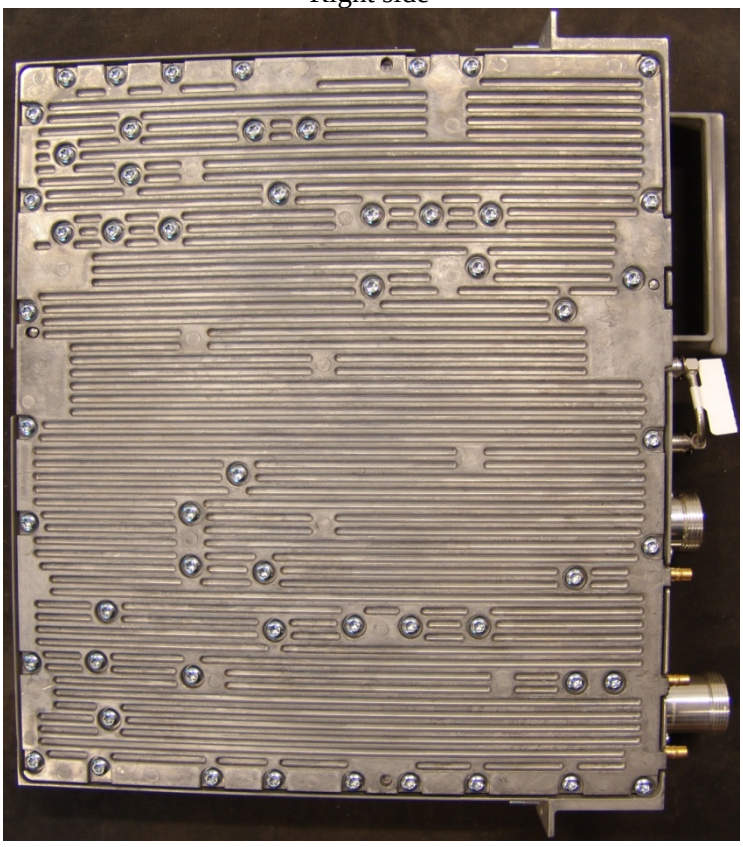
FCC ID: TA8BKRC11866-1
IC: 287AB-BS118661

Appendix 9

Left side



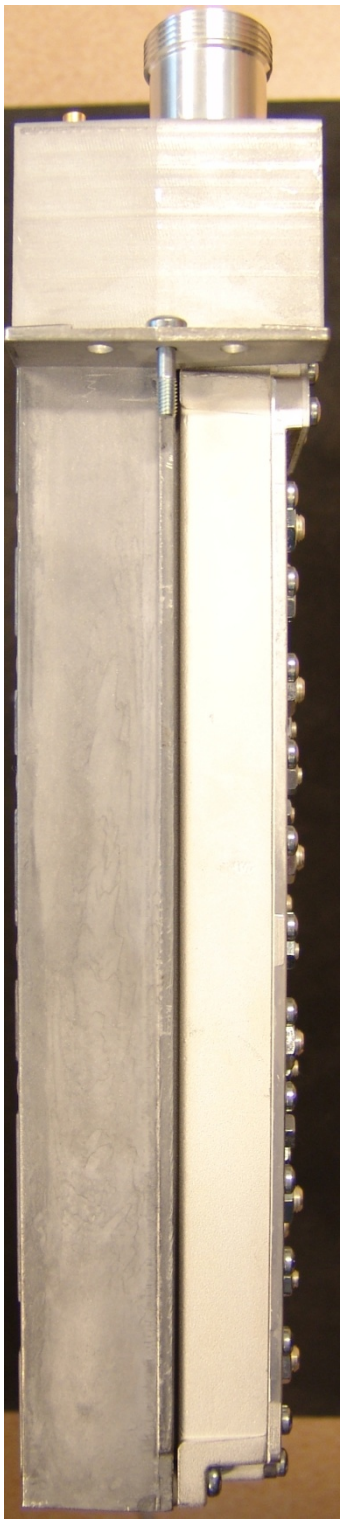
Right side



FCC ID: TA8BKRC11866-1
IC: 287AB-BS118661

Appendix 9

Bottom side



Top side