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REPORT

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Date	Reference	Page
2006-03-13	F602313-F24	1 (1)

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Equipment Authorization measurements on GSM Base station Transceiver unit with FCC ID: B5KDKRC1311004-2

(9 appendices)

Test object

Transceiver Unit dTRU 19 Edge, KRC 131 1004/2, R3A

Summary

Standard	Compliant	Appendix	Remarks
FCC CFR 47			
2.1046 RF Power output	Yes	2	
2.1049 Occupied bandwidth	Yes	3	
2.1049 Band Edge	Yes	4	Note 1
2.1051 Spurious emission at antenna	Yes	5	
2.1053 Field strength of spurious radiation	Yes	6	
2.1055 Frequency stability	Yes	7	

Note 1: The maximum output power that can be used on the channels adjacent to the frequency band edges (channel 512 and 810) are 39.9 dBm (GMSK) and 40.8 dBm (8-PSK) in order to comply with CDU-G.
The maximum output power that can be used on channel 512 is 37.2 dBm (GMSK) and 38.6 dBm (8-PSK) in order to comply with CDU-F.

SP Swedish National Testing and Research Institute
Electronics - EMC

Jan Welinder
Technical Manager

Jonas Bremholt
Technical Officer

FCC ID: B5KDKRC1311004-2 Appendix 1

Description - Equipment Under Test (EUT)

Equipment: GSM Base station transceiver 1900 MHz

Tx Frequency range: 1930.2-1989.8 MHz

Modulations: GMSK and 8-PSK

Nominal power voltage: 24 V DC

Tested Channels

Radiated measurements:
CDU-F
All six dTRUs were activated at maximum output power with the following settings:

dTRU	TRX	Modulation	ARFCN	RF config.
1	0	GMSK	512	Uncombined
	1	8-PSK	542	Uncombined
2	2	GMSK	572	Uncombined
	3	8-PSK	602	Uncombined
3	4	GMSK	631	Uncombined
	5	8-PSK	661	Uncombined
4	6	GMSK	685	Uncombined
	7	8-PSK	710	Uncombined
5	8	GMSK	735	Uncombined
	9	8-PSK	760	Uncombined
6	10	GMSK	785	Uncombined
	11	8-PSK	810	Uncombined

CDU-G
5 dTRUs were activated at maximum output power with the following settings:

dTRU	TRX	Modulation	ARFCN	RF config
1	0	8-PSK	512	Uncombined
	1	GMSK	537	Uncombined
2	2	-	-	-
	3	-	-	-
3	4	8-PSK	652	Combined
	5	GMSK	587	
4	6	GMSK/ 8-PSK	661	Combined+TCC
	7	-	-	-
5	8	8-PSK	735	Combined
	9	GMSK	760	Combined
6	10	8-PSK	785	Combined
	11	GMSK	810	Combined

The radiated spurious emission measurements were done with the three RF configurations listed above at the same time to simulate worst case.

The radiated measurements were performed with the EUT installed in a RBS 2206 which was used as a worst case configuration.

Conducted measurements:

ARFCN	Frequency
512	1930.2
513	1930.4
537	1935.2
562	1940.2
661	1960.0
760	1979.8
785	1984.8
809	1989.6
810	1989.8

All RF conducted measurements were performed with the EUT installed in a RBS 2206 powered with DC power (the list of the RBS hardware is shown in appendix 8). The measurements were done at the output connector of CDU-G (BFL 119 438/1 rev. R5F) with serial number A40003K3WX. The dTRU with serial number AE52476772 was used for the measurements. The CDU-F (BFL 119 156/1 rev. R1C) with serial number A400206745 were used for the measurements with CDU-F. The dTRUs with serial number AE52476772, AE52476765, and AE52476744 were used for the measurements with CDU-F. The measurement was performed with configurations that represents worst case scenario.

Manufacturer's representative

Per Helmersson, Ericsson AB

Purpose of test

The purpose of the tests is to verify compliance to the performance characteristics specified in FCC CFR47.

References

Measurements were done according to relevant parts of the following standards:
ANSI/TIA/EIA-603-C-2004
J-STD007A Vol 1
ANSI/TIA/EIA 136-280-D-2002

Reservation

The test results in this report apply only to the particular Equipment Under Test (EUT) as declared in the report.

Delivery of test object

The test object was delivered: 2006-02-10

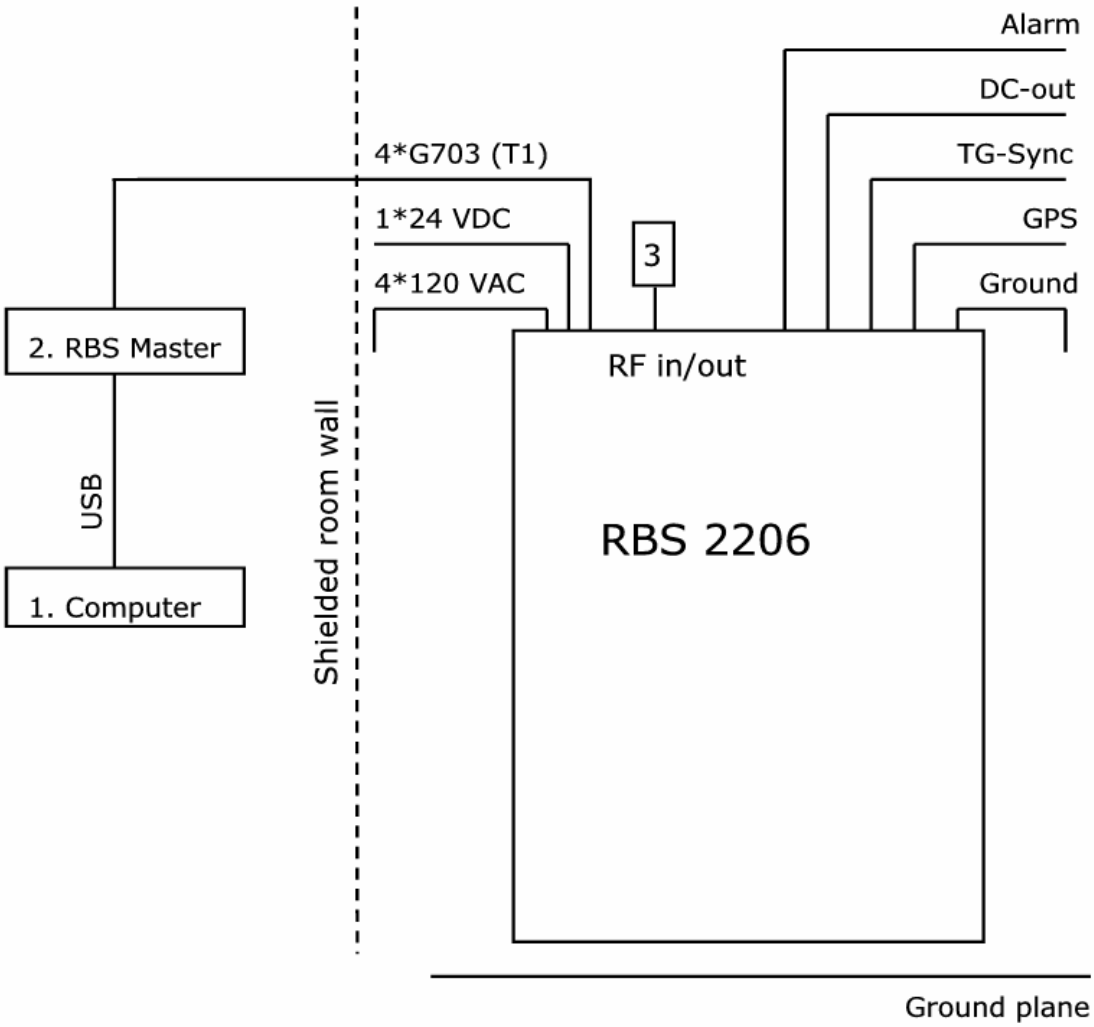
Test engineers

Jörgen Wassholm and Jonas Bremholt

Test witnesses

Dan Westberg and Mikael Ohlsson, Ericsson AB

Test set-up



1. Computer with software RBSMMI ver. R9D04
2. Ericsson RBS Master 2 LPY 107 1007/1 R1H/A
3. Dummy loads (50 ohm)

Interfaces:	**Type of port:**
24 VDC	DC power
120 VAC, 60 Hz	AC mains
Antenna: Coaxial cable (50 ohm)	Antenna
G703: T1, shielded multi-wire (120 ohm)	Telecom
TG-sync: Shielded multi-wire	Signal
Alarm: Unshielded multi-wire	Signal
GPS: Shielded multiwire	Signal
DC-out	DC output power

RF Power output measurements according to 47CFR 2.1046

Date	Temperature	Humidity
2006-02-23	22 °C ± 3 °C	24 % ± 5 %
2006-03-08	22 °C ± 3 °C	13 % ± 5 %
2006-03-09	22 °C ± 3 °C	14 % ± 5 %

Test set-up and procedure

Measurements were made at CDU-G and CDU-F output connectors. The output was connected to a Peak power analyser via a 50 ohm attenuator. The transmitter was modulated with pseudorandom data and with maximum power in all the time slots during the measurements.

Measurement equipment	Calibration Due	SP number
Boonton RF Peak power meter/analyzer	2007-02	503 144
Boonton Power sensor 56518-S/4	2007-02	503 145
Multimeter Fluke 87	2006-11	502 190
Testo 610, Temperature and humidity meter	2006-12	502 658

Measurement uncertainty: 0.5 dB

Results

Modulation: **GMSK**

dTRU, output 1+2, with internal combiner plus TCC.
Rated output power level after CDU-G (maximum): 46 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	46.6/ 45.7	46.9/ 46.0	46.8/ 45.9

dTRU, output 1, without internal combiner:
Rated output power level after CDU-G (maximum): 44 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	44.1/ 43.4	44.6/ 43.9	44.5/ 43.8

dTRU, output 2, without internal combiner:
Rated output power level after CDU-G (maximum): 44 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	44.2/ 43.5	44.6/ 43.9	44.5/ 43.7

dTRU, output 1, with internal combiner:
Rated output power level after CDU-G (maximum): 40 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	40.7/ 39.9	40.9/ 40.2	40.9/ 40.2

dTRU, output 2, with internal combiner:
Rated output power level after CDU-G (maximum): 40 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	40.5/ 39.6	40.6/39.9	40.6/ 39.8

dTRU, output 1, without internal combiner:
Rated output power level after CDU-F 1x4 (maximum): 41 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	42.0/ 41.2	41.9/ 41.1	41.8/ 41.0

dTRU, output 2, without internal combiner:
Rated output power level after CDU-F 1x4 (maximum): 41 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	41.8/ 41.1	41.6/ 40.9	41.6/ 40.8

dTRU, output 1, without internal combiner:
Rated output power level after CDU-F 2x6 (maximum): 41 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	41.4/40.8	41.4/40.9	41.4/40.8

dTRU, output 2, without internal combiner:
Rated output power level after CDU-F 2x6 (maximum): 41 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	41.3/40.7	41.2/40.6	41.3/40.7

Modulation: **8-PSK**

dTRU, output 1+2, with internal combiner plus TCC:
Rated output power level after CDU-G (maximum): 43 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	46.7/ 42.7	46.9/ 43.0	46.9/ 42.9

dTRU, output 1, without internal combiner:
Rated output power level after CDU-G (maximum): 41 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	44.1/ 40.3	44.6/ 40.7	44.5/ 40.6

dTRU, output 2, without internal combiner:
Rated output power level after CDU-G (maximum): 41 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	44.3/ 40.4	44.7/ 40.8	44.6/ 40.6

dTRU, output 1, with internal combiner:
Rated output power level after CDU-G (maximum): 38 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	40.6/ 36.8	41.0/ 37.2	41.0/ 37.1

dTRU, output 2, with internal combiner:
Rated output power level after CDU-G (maximum): 38 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	40.3/ 36.5	40.6/ 36.8	40.5/ 36.7

dTRU, output 1, without internal combiner:
Rated output power level after CDU-F 1x4 (maximum): 38 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	42.0/ 38.6	42.0/ 38.4	41.8/ 38.2

dTRU, output 2, without internal combiner:
Rated output power level after CDU-F 1x4 (maximum): 38 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	41.8/ 38.4	41.9/ 38.2	41.7/ 38.1

dTRU, output 1, without internal combiner:
Rated output power level after CDU-F 2x6 (maximum): 38 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	41.4/37.8	41.4/37.8	41.4/37.8

dTRU, output 2, without internal combiner:
Rated output power level after CDU-F 2x6 (maximum): 38 dBm

Test conditions		Transmitter power (dBm) Peak/ Average		
		Channel 512	Channel 661	Channel 810
T_{nom} 22 °C	V_{nom} 24 V DC	41.3/37.8	41.2/37.6	41.3/37.6

Limit

§ 24.232: Maximum peak output power shall not exceed 100W (50dBm).

GMSK: The measured output power shall be within ± 2dB of the rated output power (J-STD007A Vol 1)
8-PSK: The measured output power shall be within +1 to -3 dB of the rated output power (ANSI/TIA/EIA 136-280-B)

Complies?	Yes

FCC ID: B5KDKRC1311004-2 Appendix 3

Occupied bandwidth measurements according to 47CFR 2.1049

Date	Temperature	Humidity
2006-02-17	23 °C ± 3 °C	18 % ± 5 %
2006-03-04	25 °C ± 3 °C	10 % ± 5 %

Test set-up and procedure

The measurements were made per definition in §24.238. Measurements were made at CDU-G and CDU-F output connectors. The output was connected to a spectrum analyser. The spectrum analyser was connected to an external 10 MHz reference standard during the measurements. The transmitter was activated at maximum output power and modulated with pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSIQ	2006-07	503 738
Testo 610, Temperature and humidity meter	2006-12	502 658

Measurement uncertainty: 3.7 dB

Results

The results with CDU-G are shown in appendix 3.1

Modulation: **GMSK**			Modulation: **8-PSK**		
TRX 1	**ARFCN**	**OBW**	**TRX 1**	**ARFCN**	**OBW**
Diagram 1:	Ch 512	240 kHz	Diagram 7:	Ch 512	242 kHz
Diagram 2:	Ch 661	238 kHz	Diagram 8:	Ch 661	239 kHz
Diagram 3:	Ch 810	242 kHz	Diagram 9:	Ch 810	244 kHz
TRX 2	**ARFCN**	**OBW**	**TRX 2**	**ARFCN**	**OBW**
Diagram 4:	Ch 512	240 kHz	Diagram 10:	Ch 512	238 kHz
Diagram 5:	Ch 661	240 kHz	Diagram 11:	Ch 661	236 kHz
Diagram 6:	Ch 810	240 kHz	Diagram 12:	Ch 810	236 kHz

The results with CDU-F are shown in appendix 3.2

Modulation: **GMSK**			Modulation: **8-PSK**		
TRX 1	**ARFCN**	**OBW**	**TRX 1**	**ARFCN**	**OBW**
Diagram 1:	Ch 512	242 kHz	Diagram 7:	Ch 512	246 kHz
Diagram 2:	Ch 661	238 kHz	Diagram 8:	Ch 661	236 kHz
Diagram 3:	Ch 810	240 kHz	Diagram 9:	Ch 810	236 kHz
TRX 2	**ARFCN**	**OBW**	**TRX 2**	**ARFCN**	**OBW**
Diagram 4:	Ch 512	240 kHz	Diagram 10:	Ch 512	244 kHz
Diagram 5:	Ch 661	236 kHz	Diagram 11:	Ch 661	240 kHz
Diagram 6:	Ch 810	242 kHz	Diagram 12:	Ch 810	234 kHz

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

FCC ID: B5KDKRC1311004-2 Appendix 3.1

Diagram 1

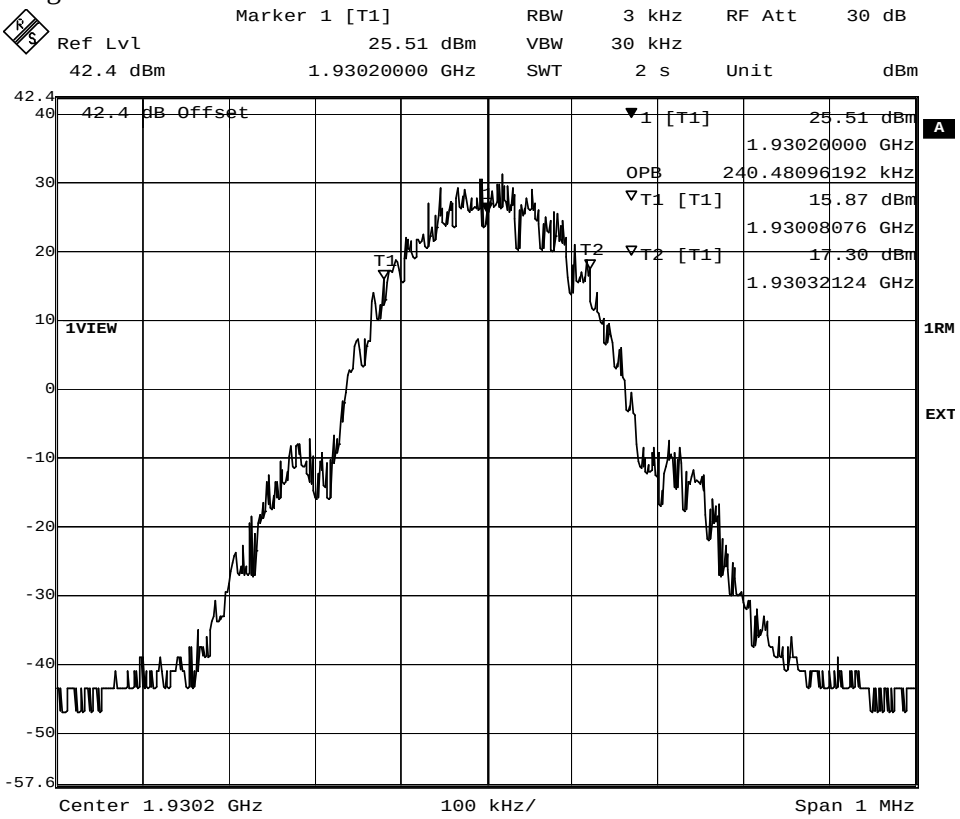


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Diagram 2

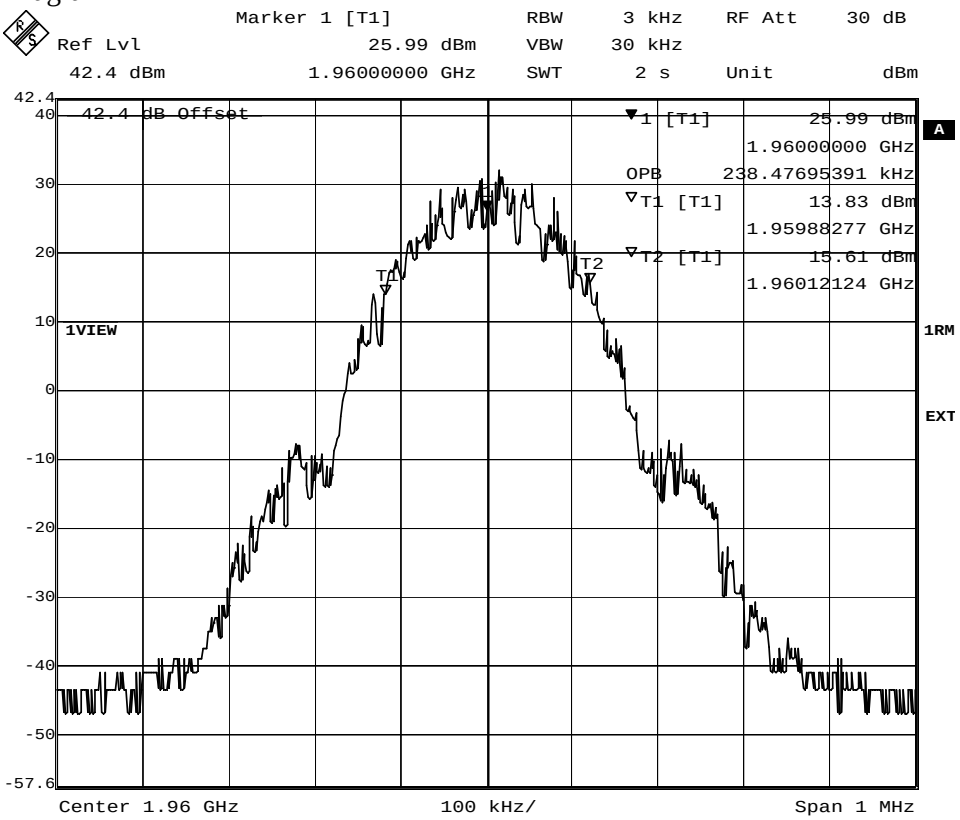

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Diagram 3

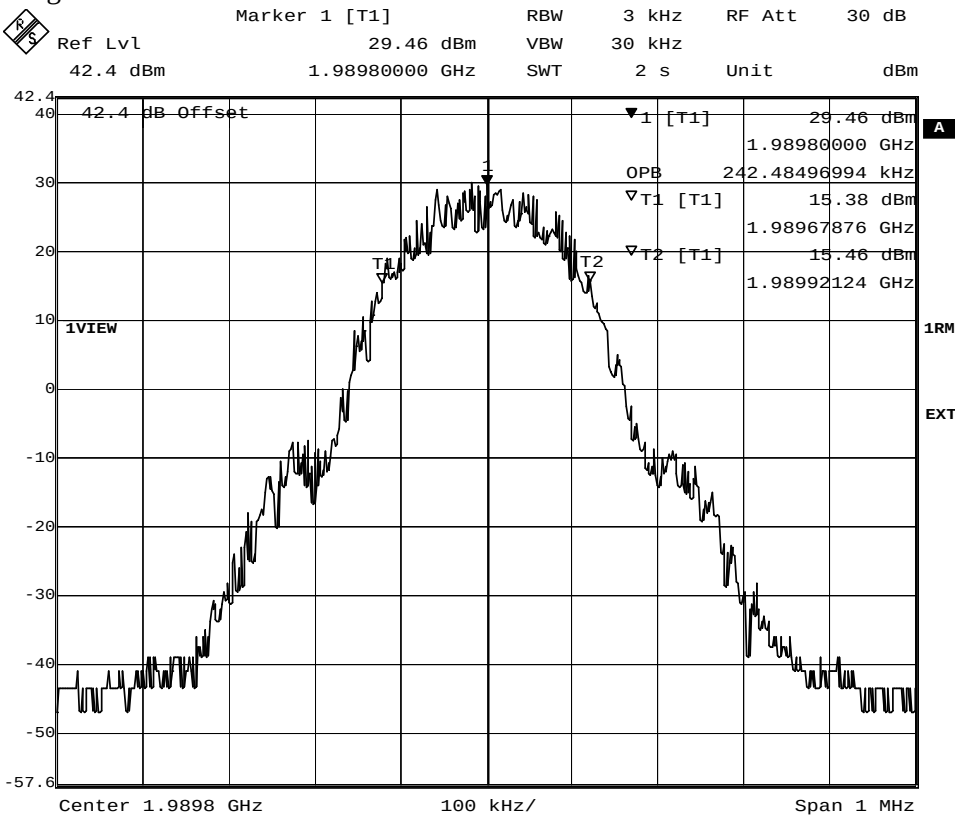

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Diagram 4

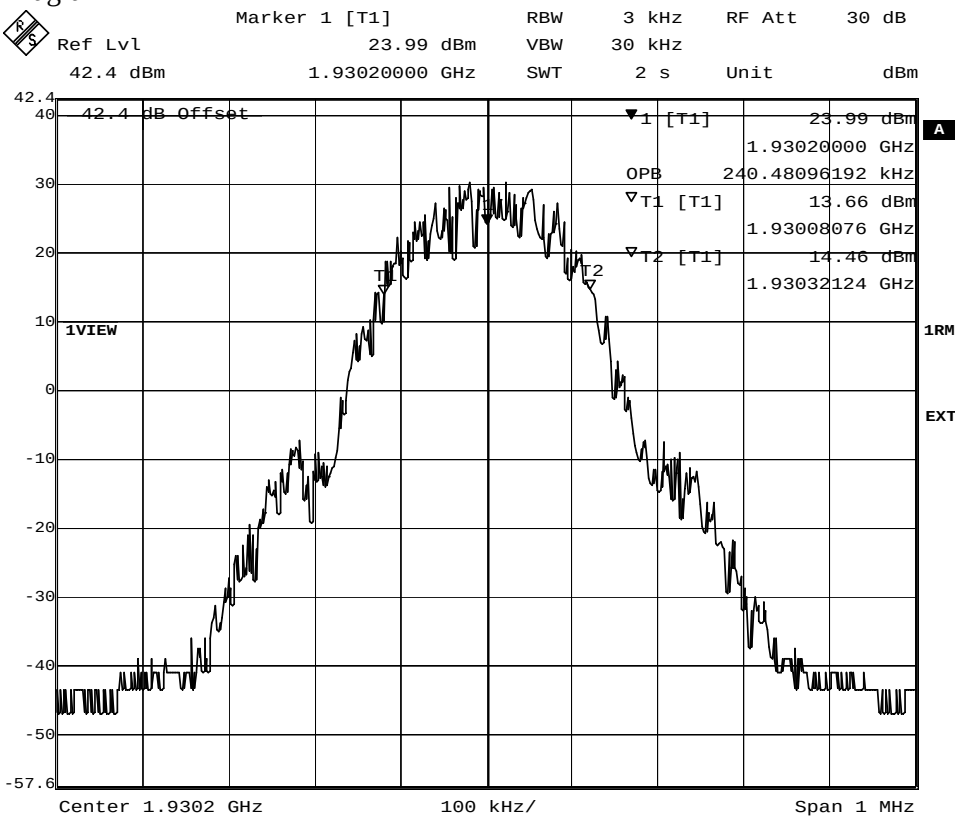

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Diagram 5

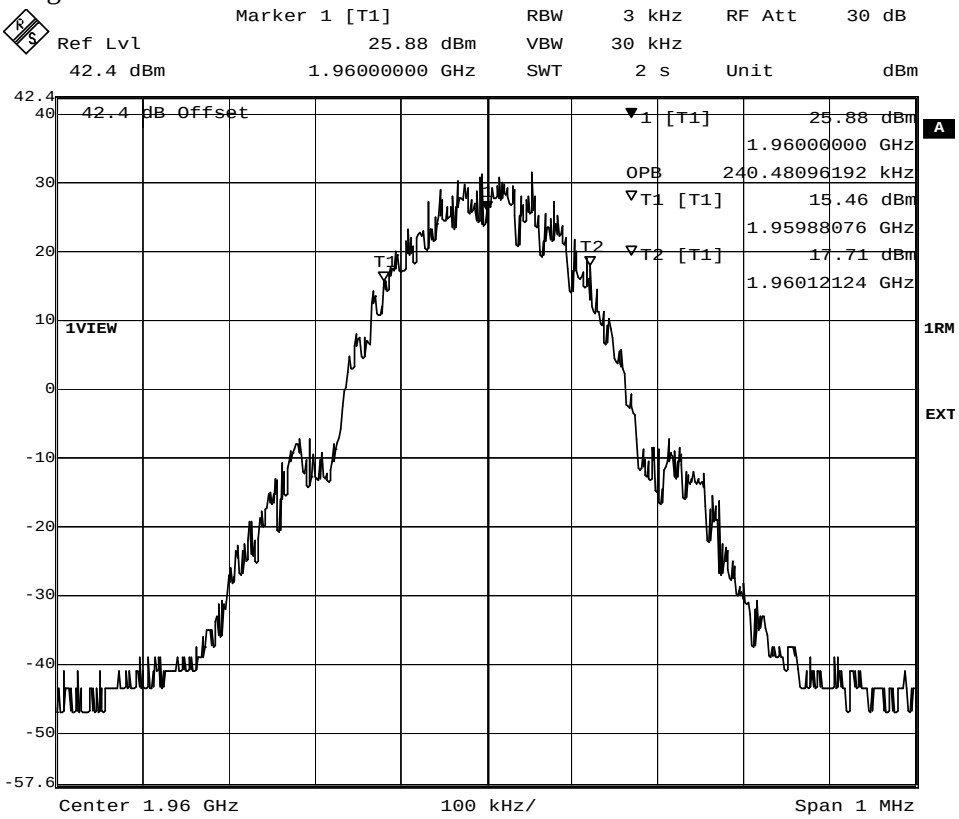

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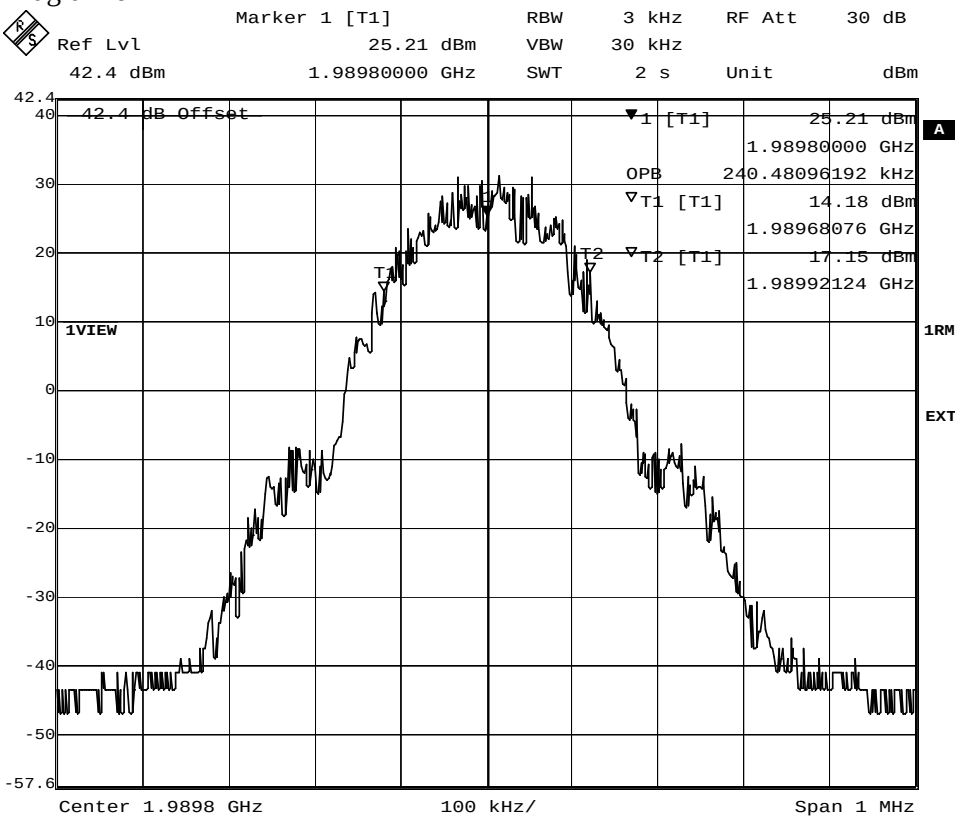
Diagram 6



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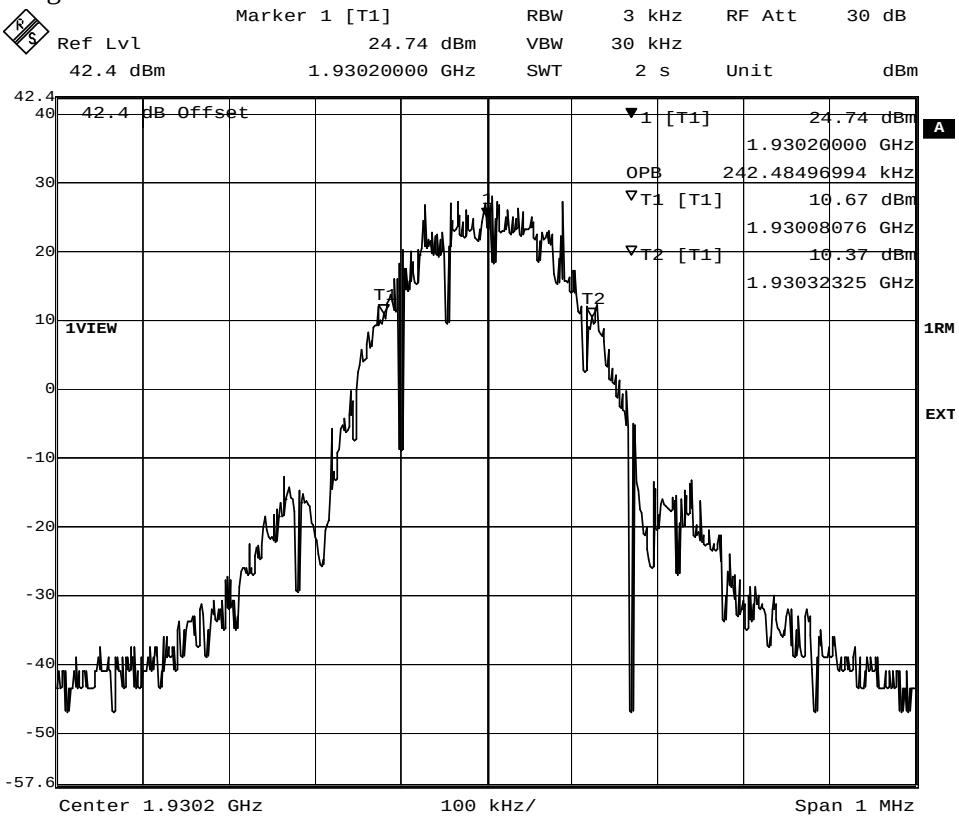

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Diagram 8

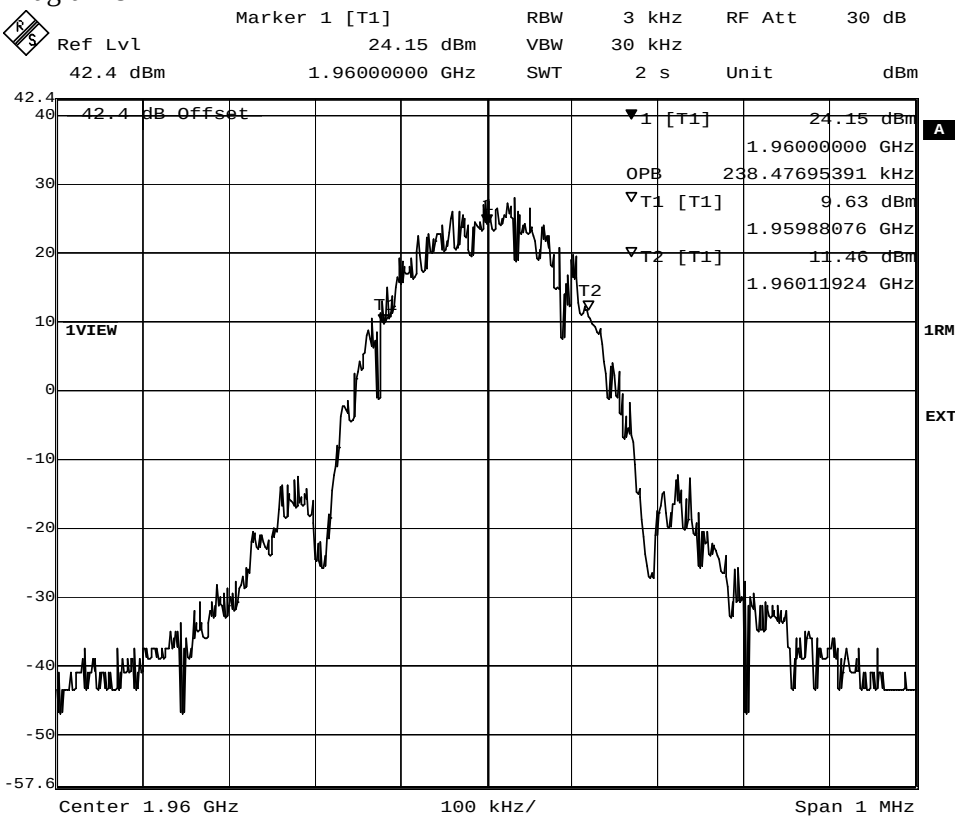

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Diagram 9

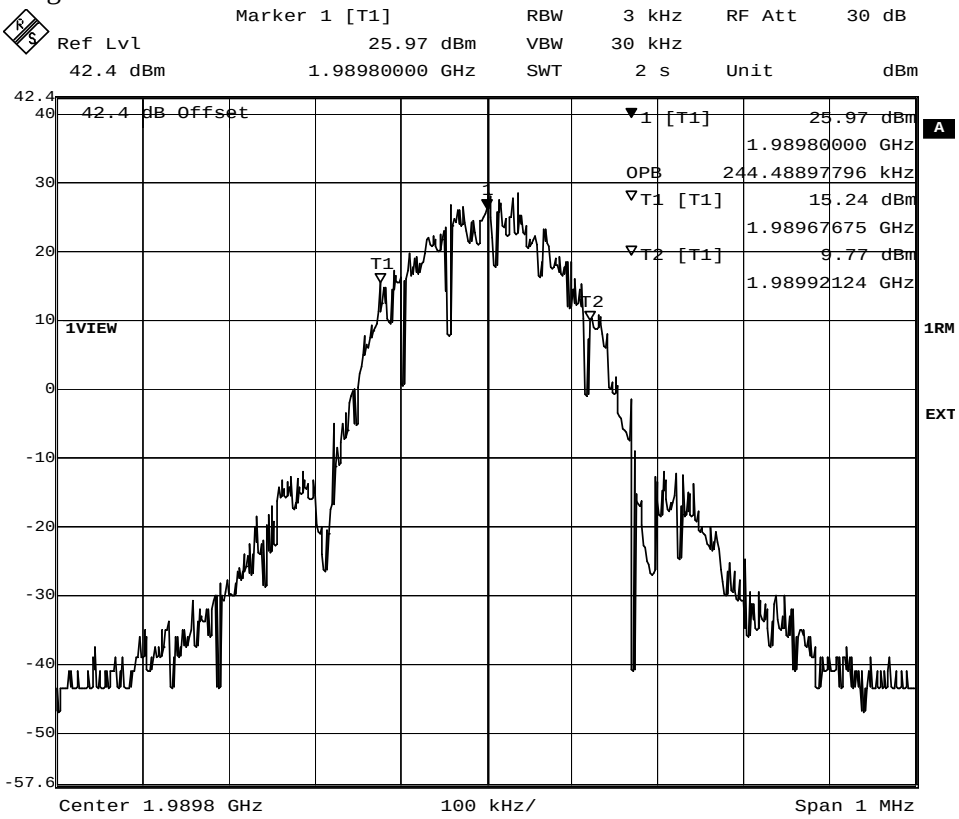

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Diagram 10

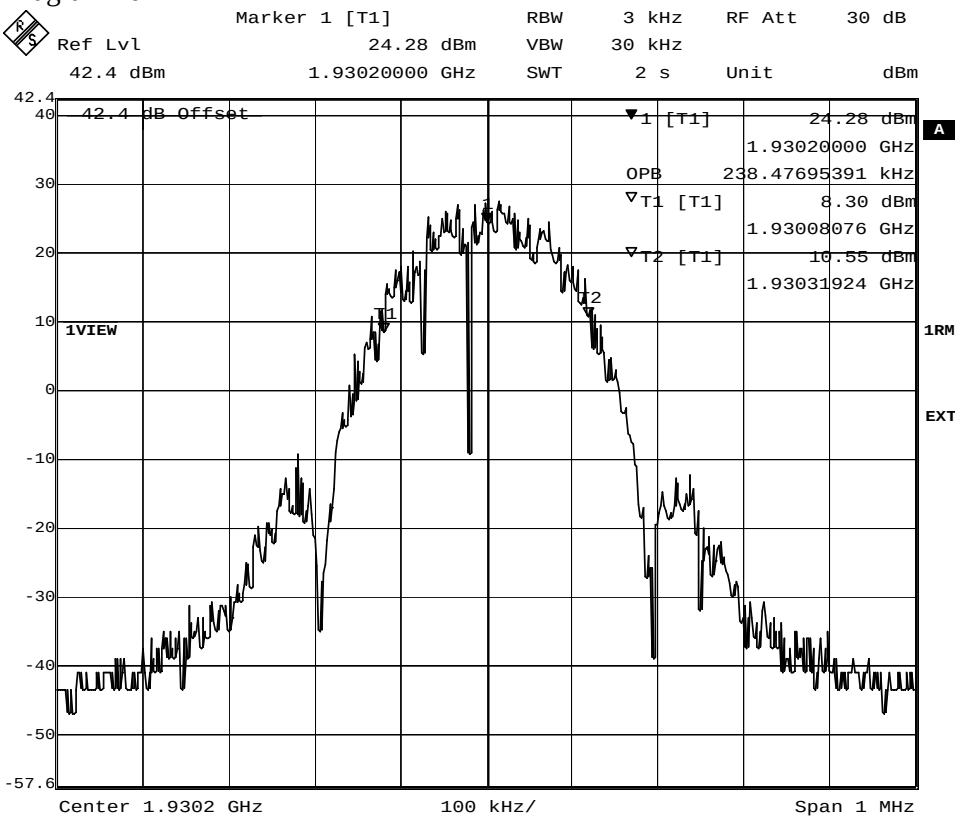

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Diagram 11

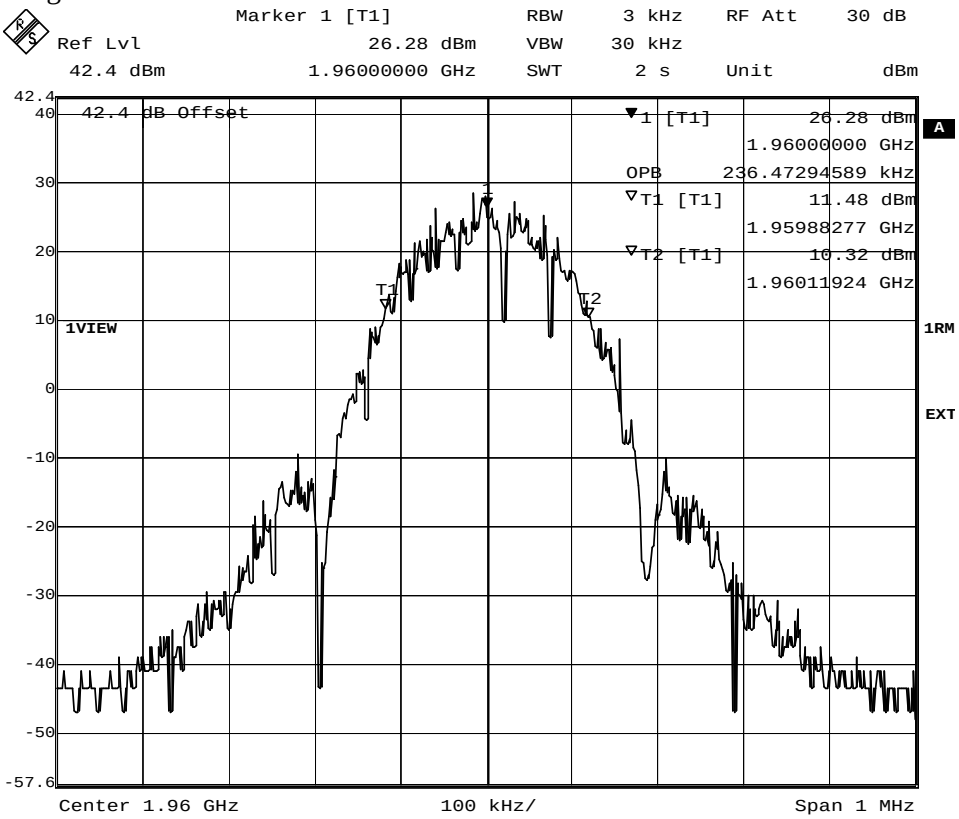

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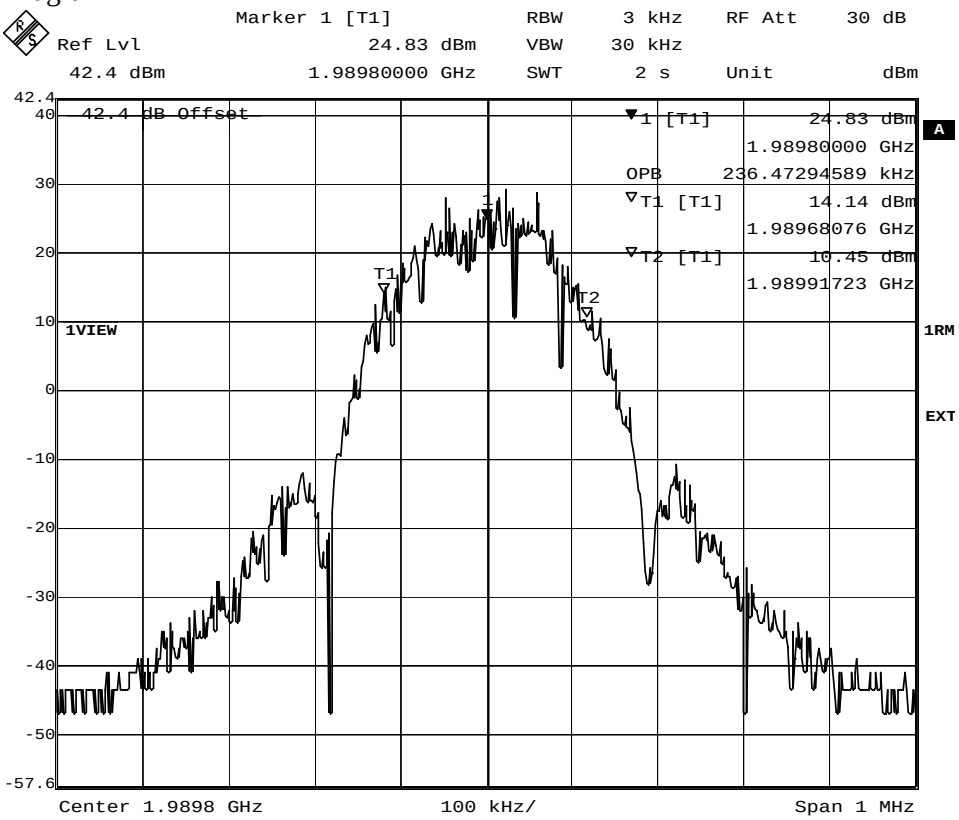
Diagram 12



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FCC ID: B5KDKRC1311004-2 Appendix 3.2

Diagram 1

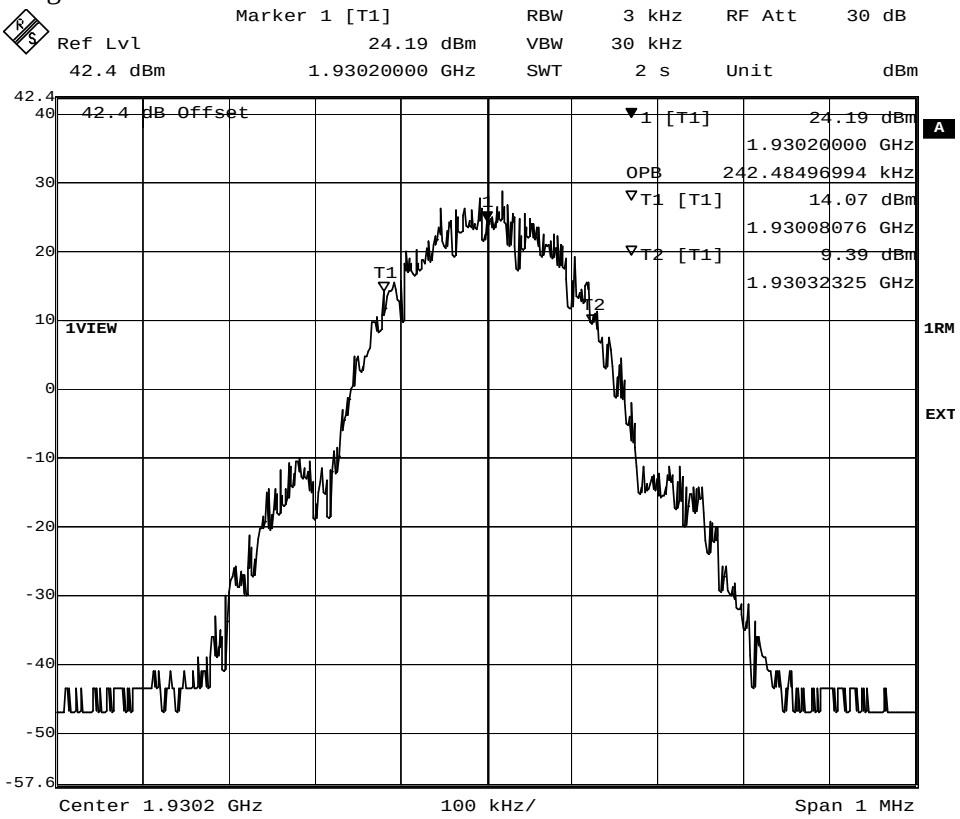

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Diagram 2

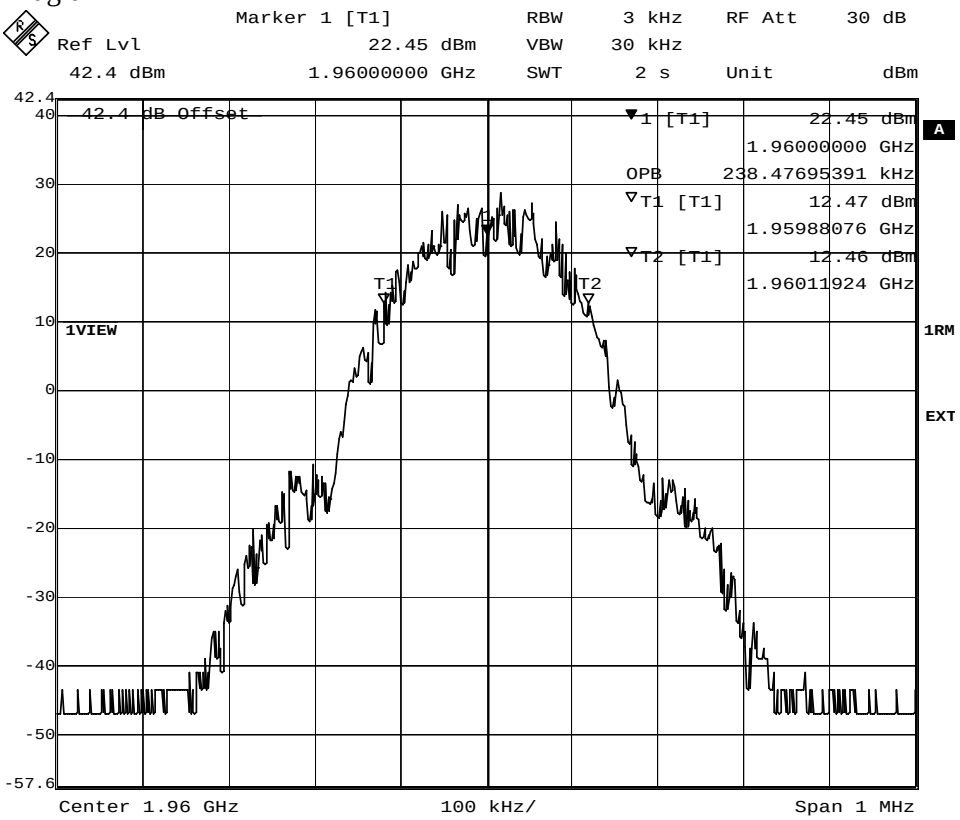

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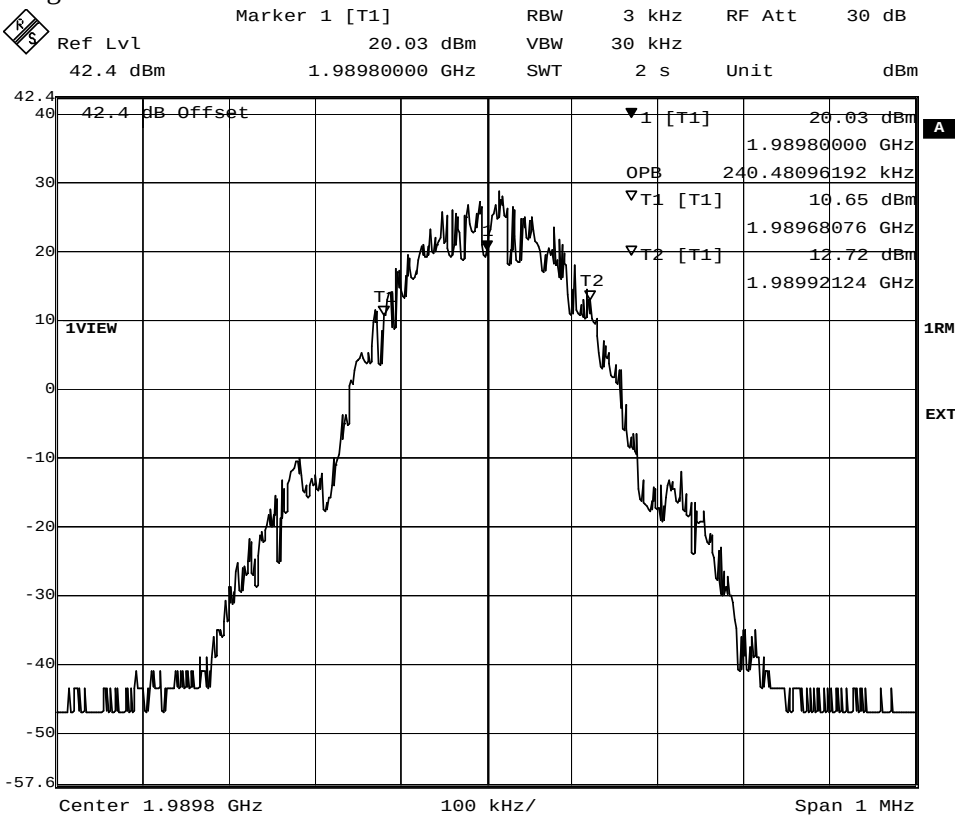
Diagram 3



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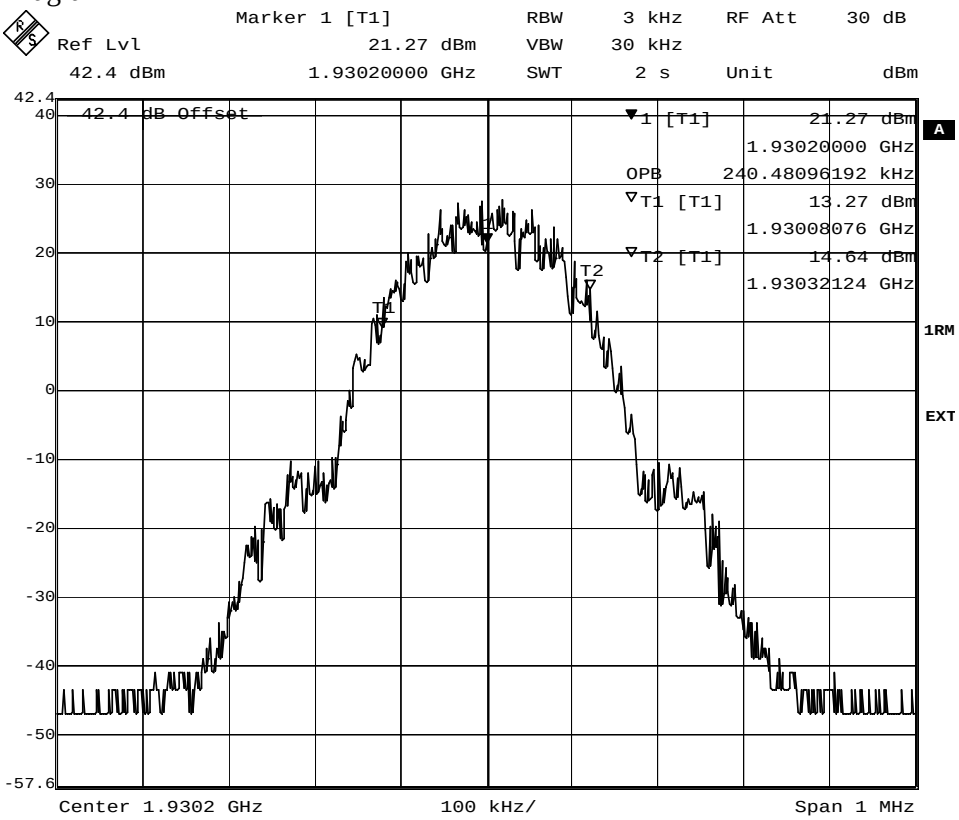

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FCC ID: B5KDKRC1311004-2 Appendix 3.2

Diagram 5

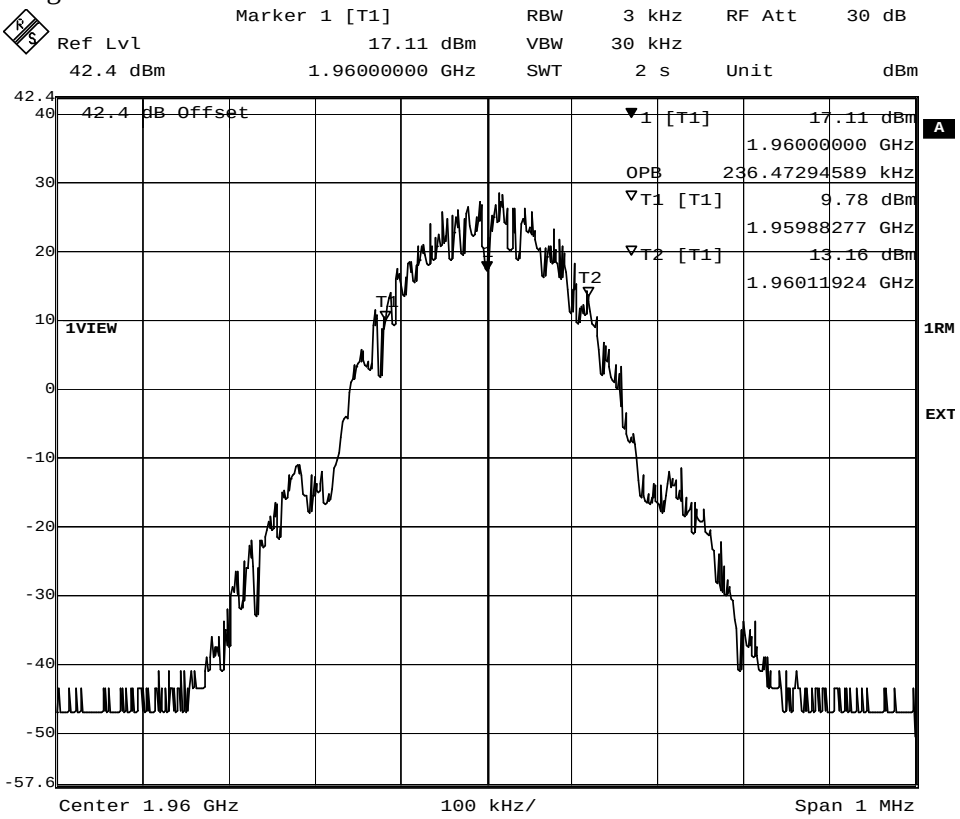

Diagram 6

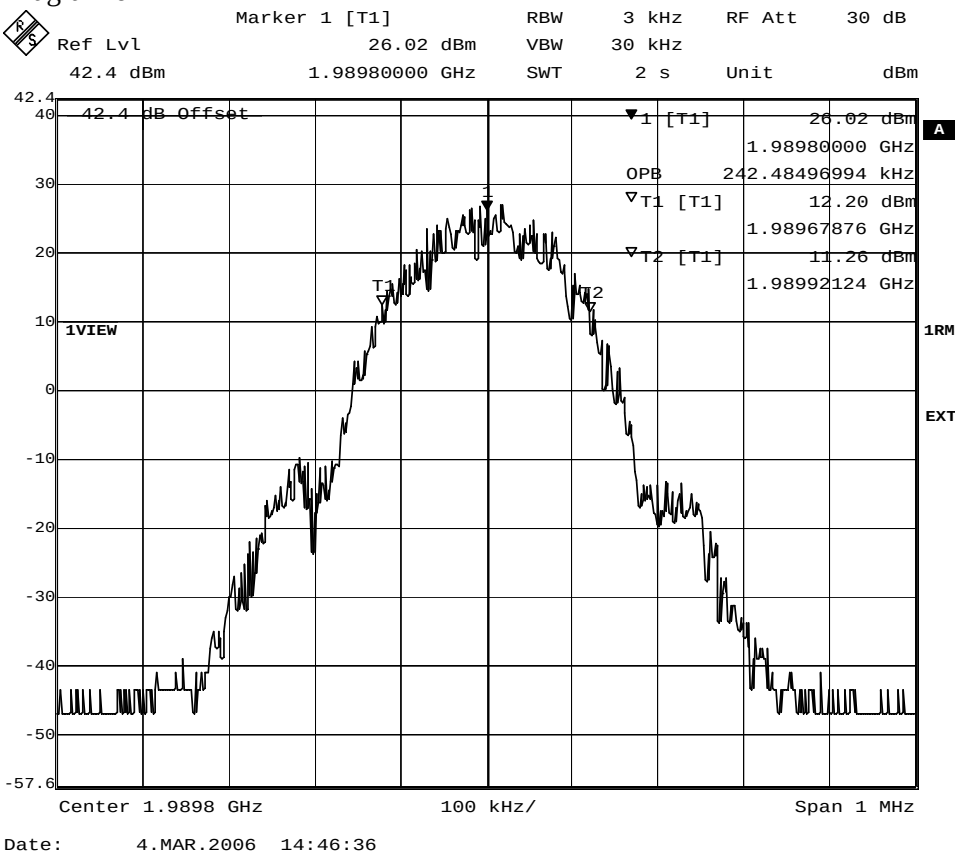

Diagram 7

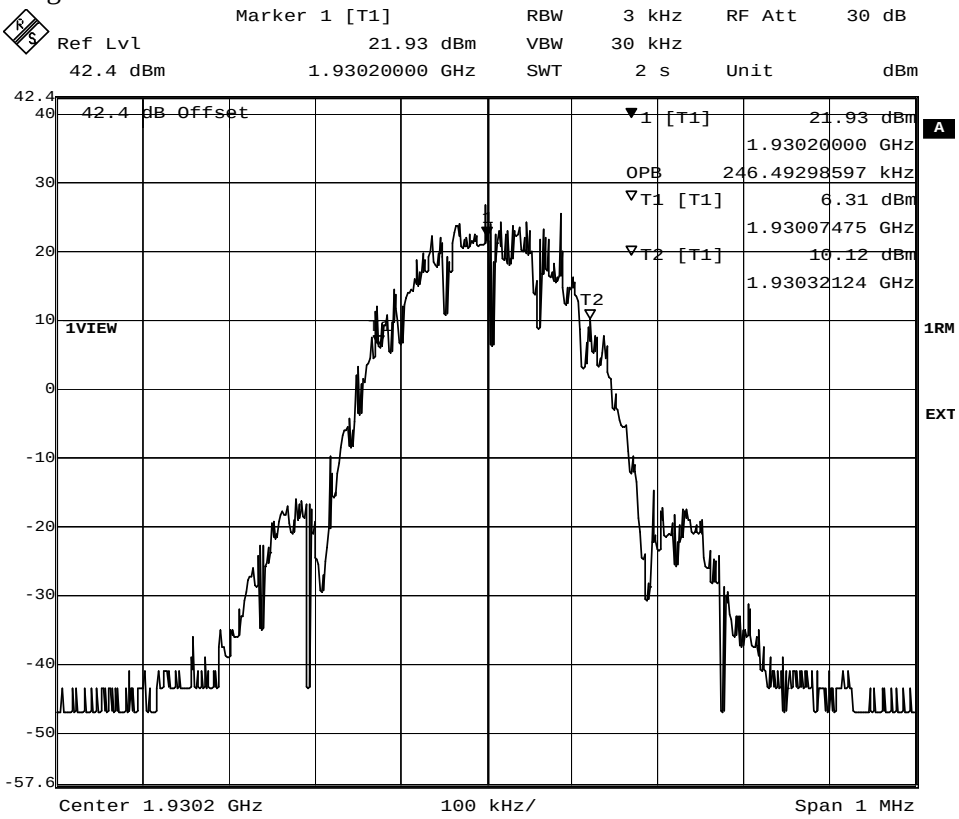

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Diagram 8

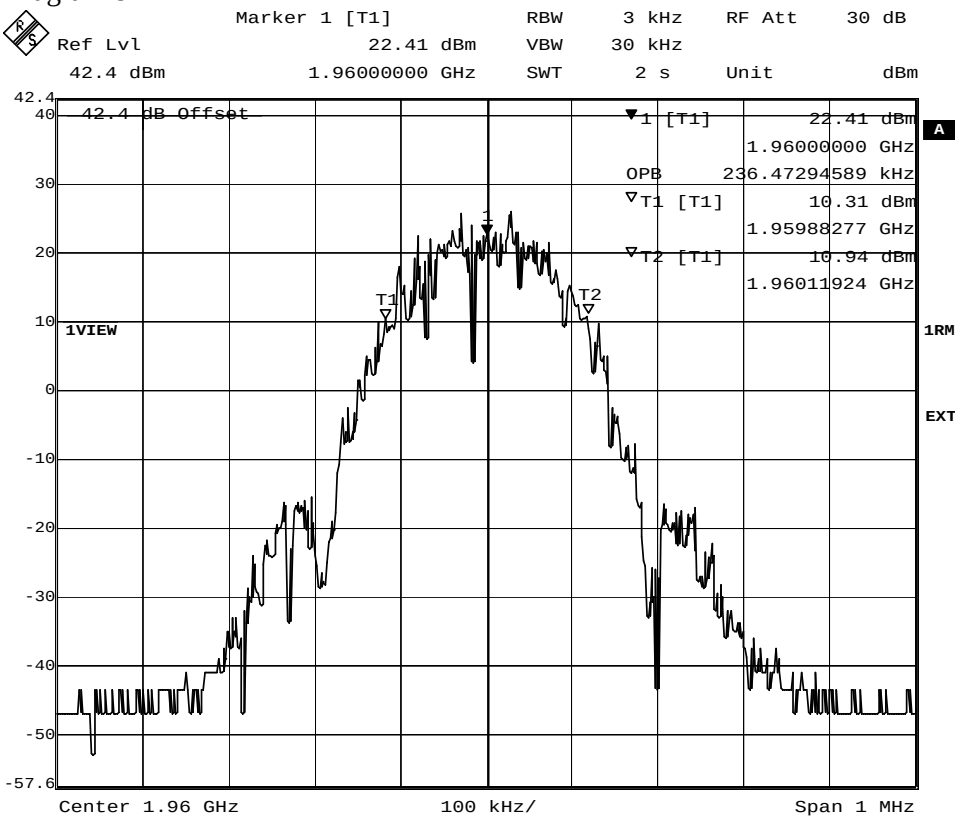

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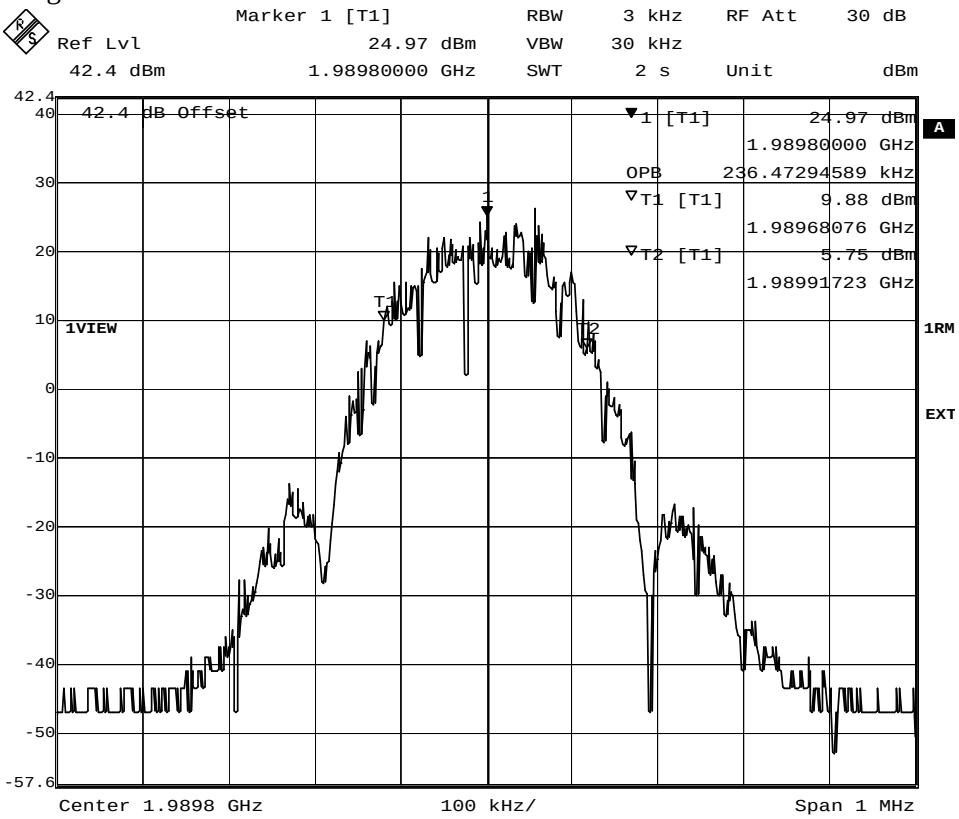
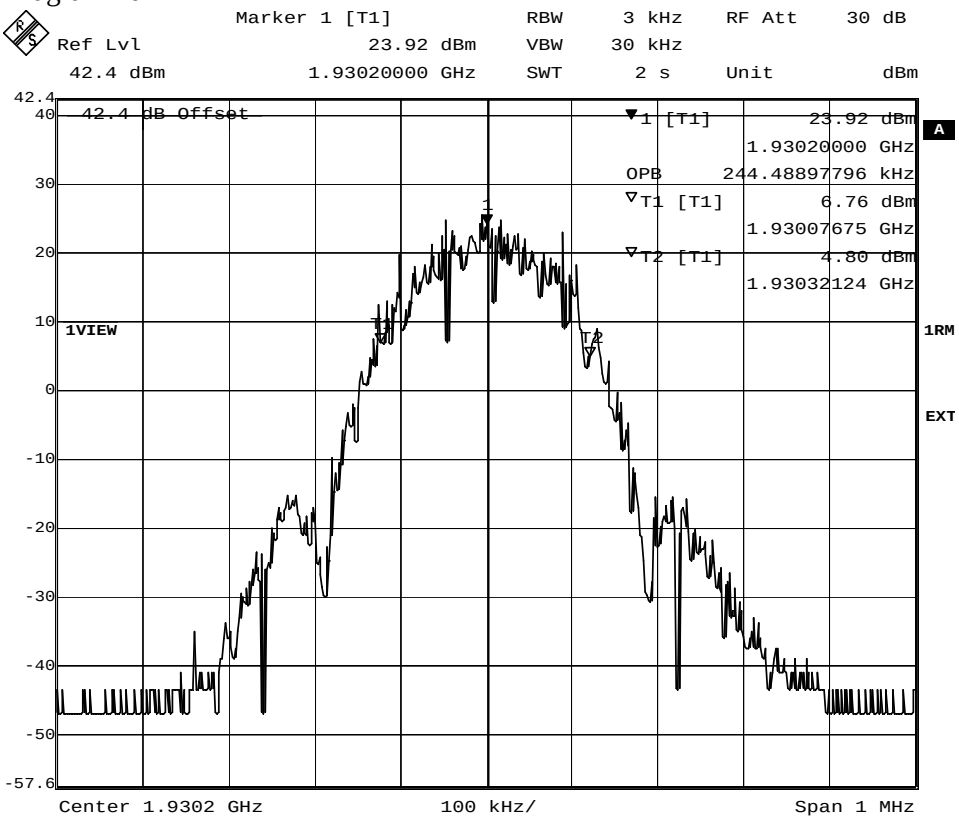
Diagram 9



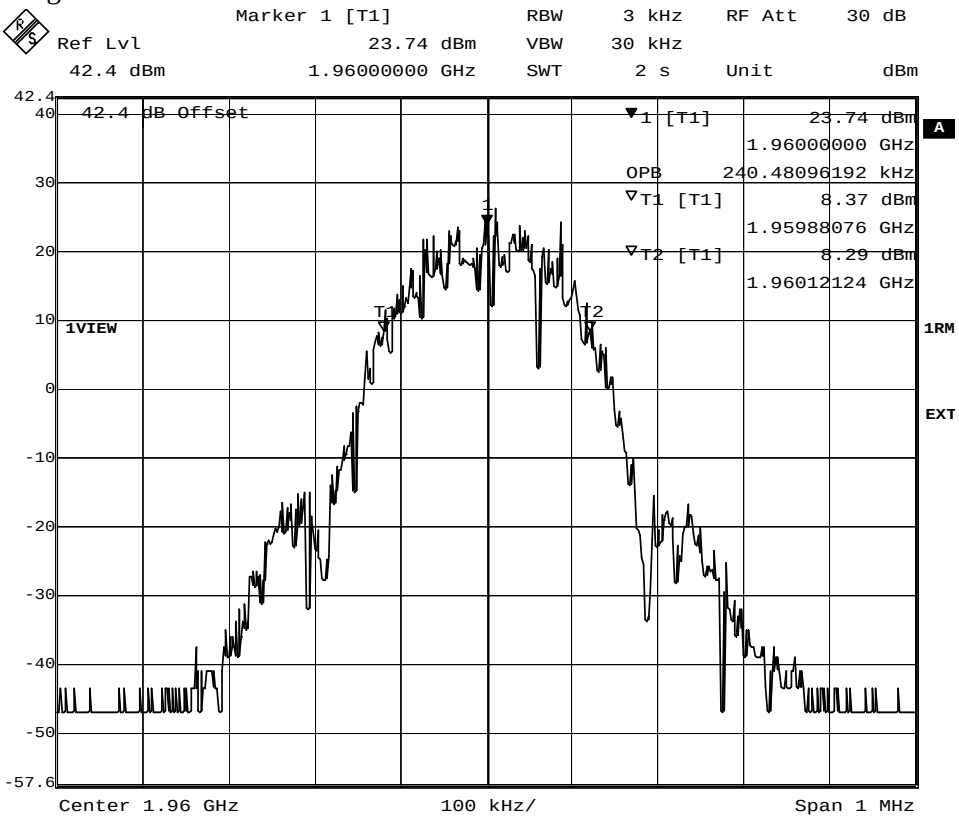
Date: 4.MAR.2006 14:45:38

Diagram 10



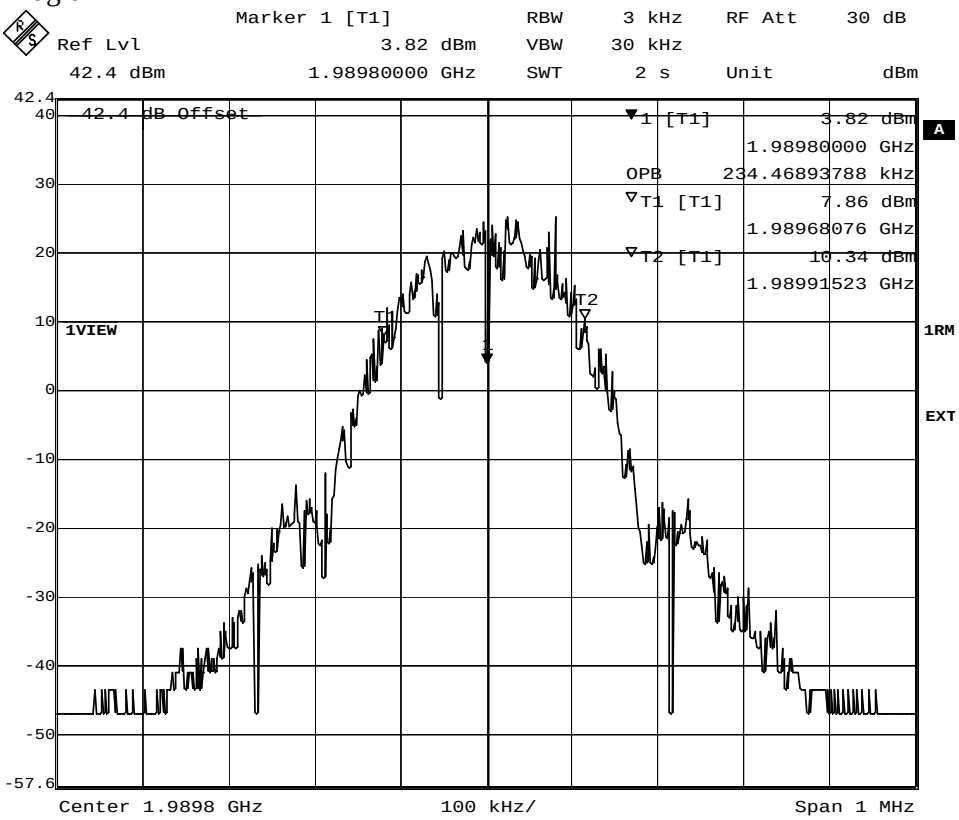
Date: 4.MAR.2006 14:38:12

Diagram 11



Date: 4.MAR.2006 14:40:02

Diagram 12



Date: 4.MAR.2006 14:47:31

Band edge measurements according to 47CFR 2.1049

Date	Temperature	Humidity
2006-02-23	22 °C ± 3 °C	24 % ± 5 %

Test set-up and procedure

The measurements were made per definition in 24.238. The measurements were made at CDU-G and CDU-F output connectors. The output was connected to a spectrum analyzer with the average detector activated. A resolution bandwidth of 3 kHz (1% of OBW) was used up to 5 MHz away from the band edges. As the FCC rules specify a RBW of 1 MHz for measurements of emissions >1 MHz away from the band edges, the limit was adjusted with 25.2 dB to –38.2 dBm to compensate for the reduced measurement bandwidth.
The spectrum analyzer was connected to an external 10 MHz reference standard during the measurements. The transmitter was modulated with pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSIQ	2006-07	503 738
Testo 610, Temperature and humidity meter	2006-12	502 658

Measurement uncertainty: 3.7 dB

Results

The results are shown in appendix 4.1

Modulation: **GMSK**

dTRU Output 1, without internal combiner (CDU-G):
Diagram 1 Ch 512 (1930.2 MHz) Band edge +40 dBm output power
Diagram 2 Ch 810 (1989.8 MHz) Band edge +40 dBm output power

dTRU Output 2, without internal combiner (CDU-G):
Diagram 3 Ch 512 (1930.2 MHz) Band edge +40 dBm output power
Diagram 4 Ch 810 (1989.8 MHz) Band edge +40 dBm output power

(TCC), dTRU Output 1+2 (TX1+TX2) (CDU-G):
Diagram 5 Ch 513 (1930.4 MHz) Band edge +46 dBm output power
Diagram 6 Ch 809 (1989.6 MHz) Band edge +46 dBm output power

dTRU Output 1, without internal combiner (CDU-F):
Diagram 7 Ch 512 (1930.2 MHz) Band edge +37 dBm output power
Diagram 8 Ch 513 (1930.4 MHz) Band edge +41 dBm output power
Diagram 9 Ch 810 (1989.8 MHz) Band edge +41 dBm output power

dTRU Output 2, without internal combiner (CDU-F):
Diagram 10 Ch 512 (1930.2 MHz) Band edge +37 dBm output power
Diagram 11 Ch 513 (1930.4 MHz) Band edge +41 dBm output power
Diagram 12 Ch 810 (1989.8 MHz) Band edge +41 dBm output power

Modulation: **8-PSK**

dTRU Output 1, without internal combiner (CDU-G):
Diagram 13 Ch 512 (1930.2 MHz) Band edge +41 dBm output power
Diagram 14 Ch 810 (1989.8 MHz) Band edge +41 dBm output power

dTRU Output 2, without internal combiner (CDU-G):
Diagram 15 Ch 512 (1930.2 MHz) Band edge +41 dBm output power
Diagram 16 Ch 810 (1989.8 MHz) Band edge +41 dBm output power

(TCC), dTRU Output 1+2 (TX1+TX2) (CDU-G):
Diagram 17 Ch 513 (1930.4 MHz) Band edge +43 dBm output power
Diagram 18 Ch 809 (1989.6 MHz) Band edge +43 dBm output power

dTRU Output 1, without internal combiner (CDU-F):
Diagram 19 Ch 512 (1930.2 MHz) Band edge +38 dBm output power
Diagram 20 Ch 810 (1989.8 MHz) Band edge +38 dBm output power

dTRU Output 2, without internal combiner (CDU-F):
Diagram 21 Ch 512 (1930.2 MHz) Band edge +38 dBm output power
Diagram 22 Ch 810 (1989.8 MHz) Band edge +38 dBm output power

Remarks

The maximum output power that can be used on the channels adjacent to the frequency band edges (channel 512 and 810) are 39.9 dBm (GMSK) and 40.8 dBm (8-PSK) in order to comply with CDU-G.
The maximum output power that can be used on channel 512 is 37.2 dBm (GMSK) and 38.6 dBm (8-PSK) in order to comply with CDU-F.

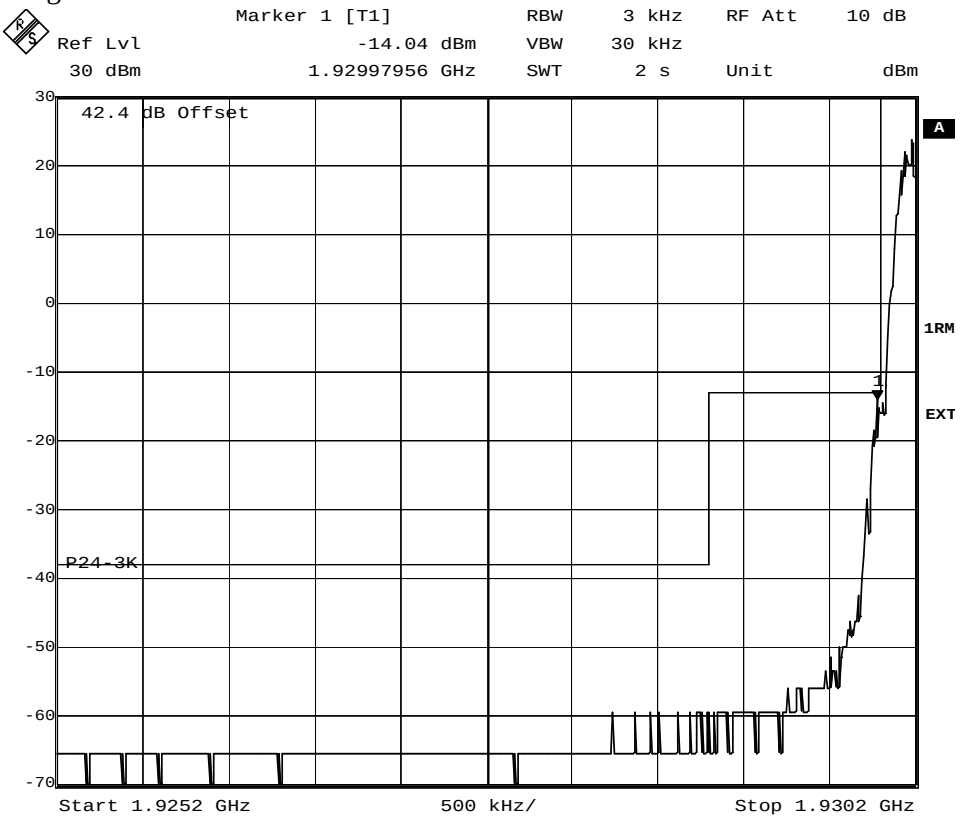
Limits

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

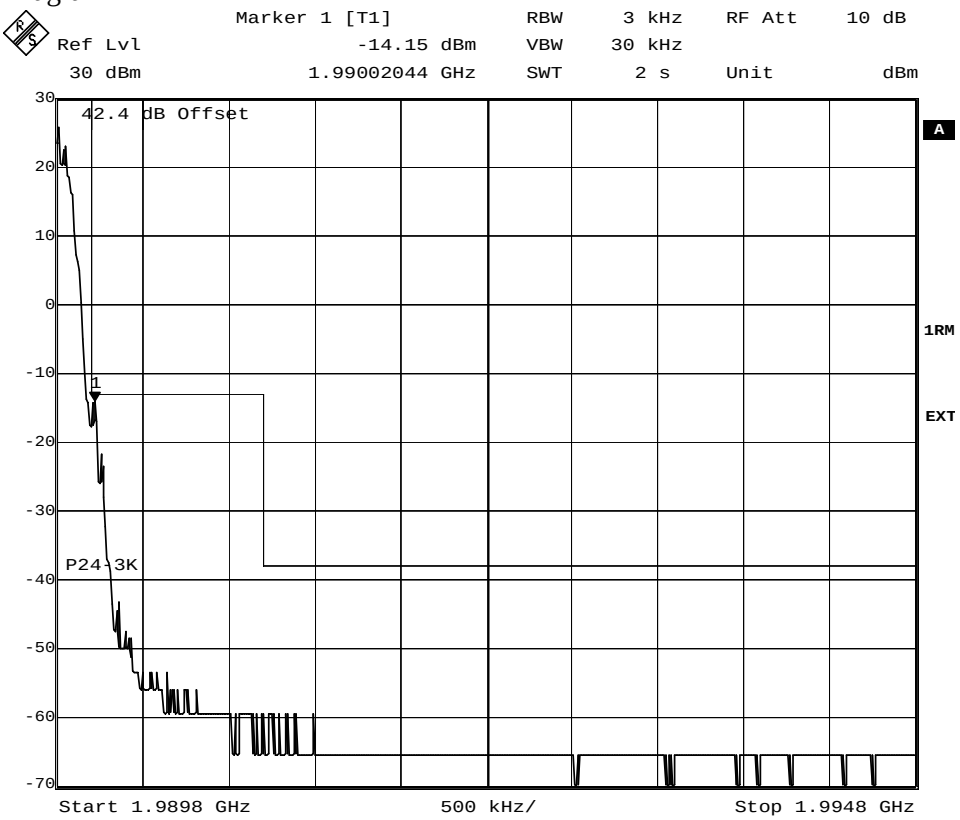
FCC ID: B5KDKRC1311004-2 Appendix 4.1

Diagram 1



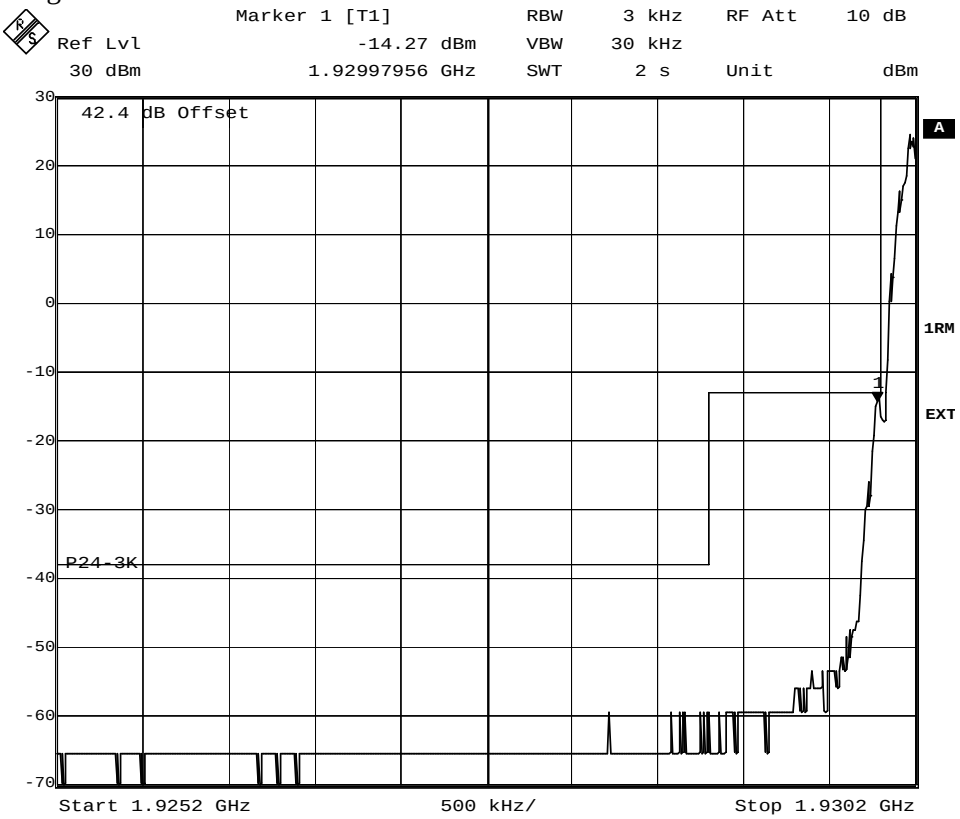
Date: 23.FEB.2006 15:26:00

Diagram 2



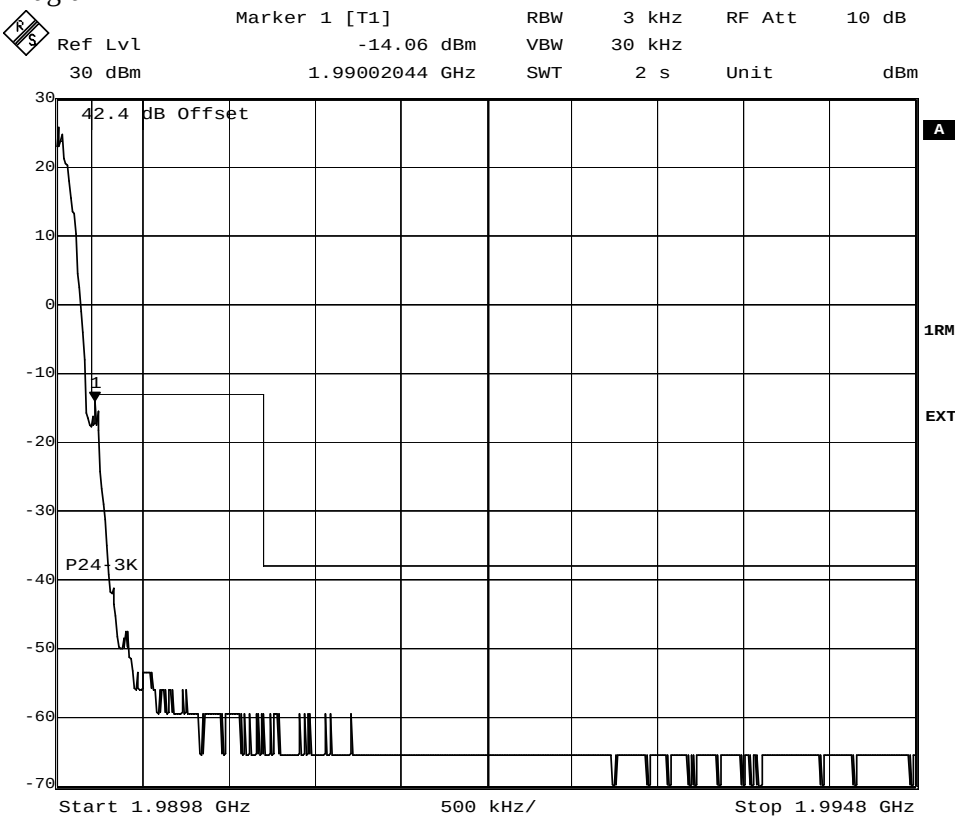
Date: 23.FEB.2006 14:31:17

Diagram 3



Date: 23.FEB.2006 15:15:59

Diagram 4



Date: 23.FEB.2006 15:08:51

Diagram 5

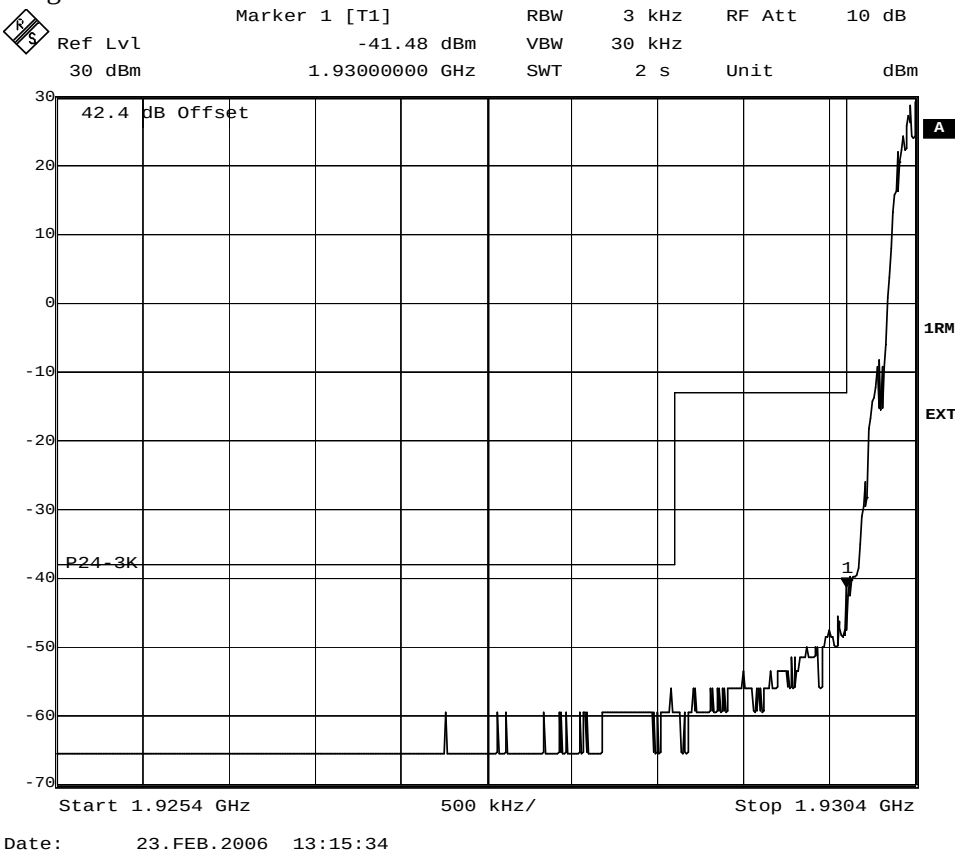


Diagram 6

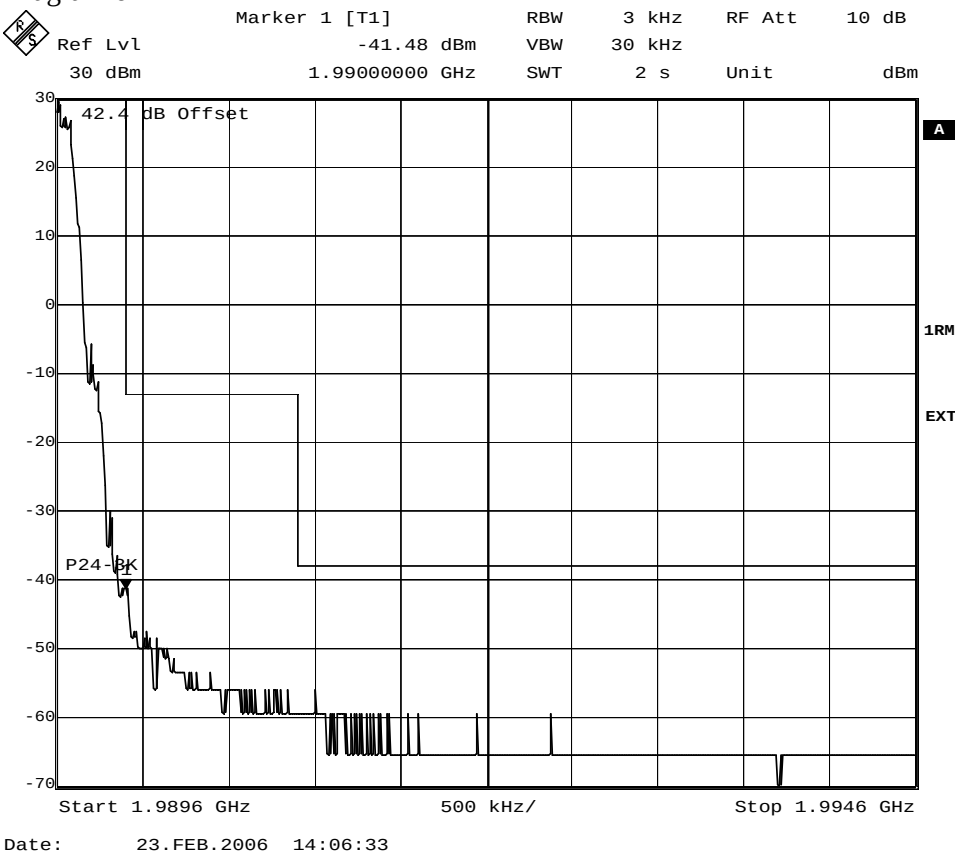
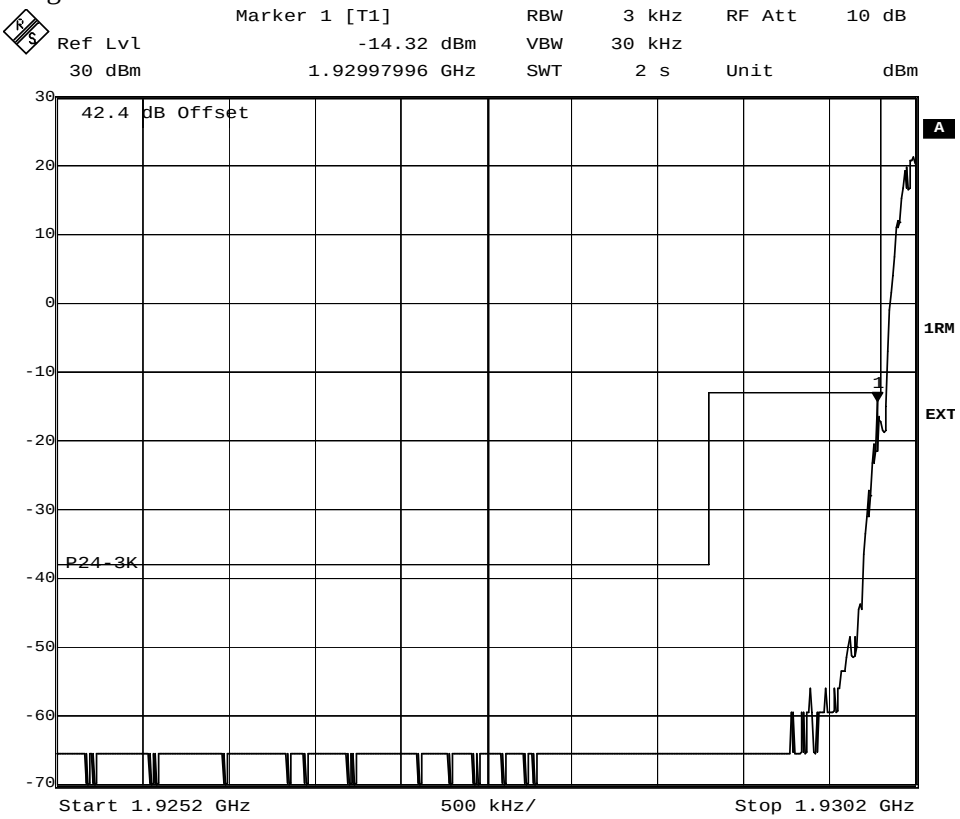
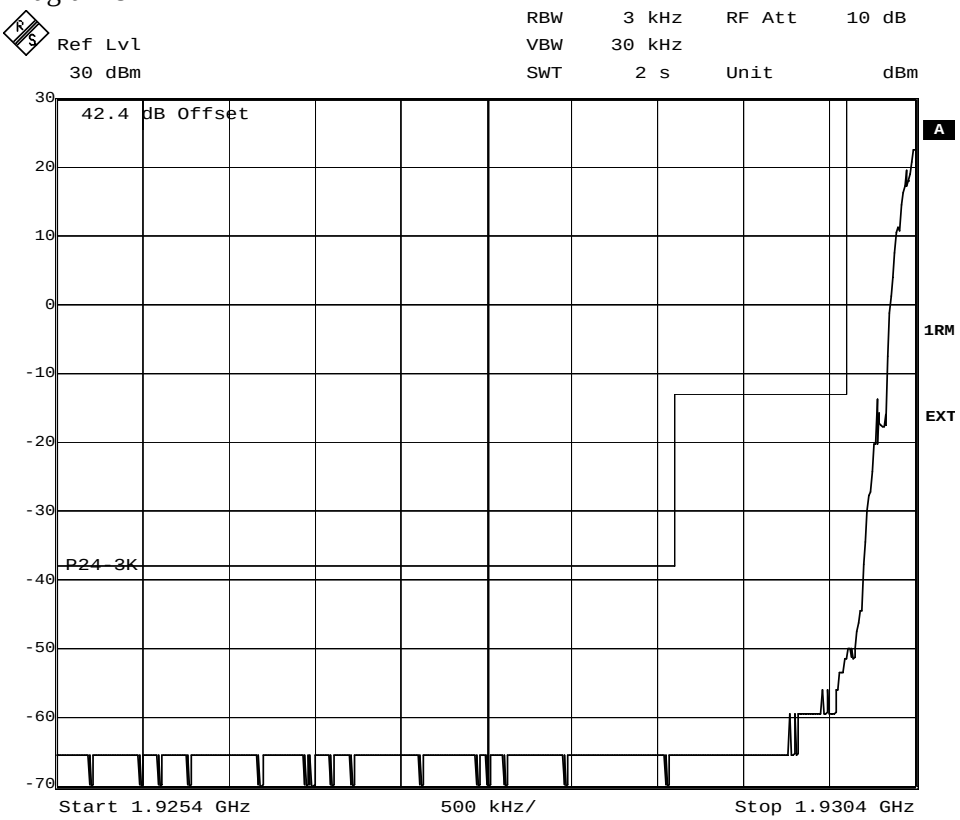


Diagram 7



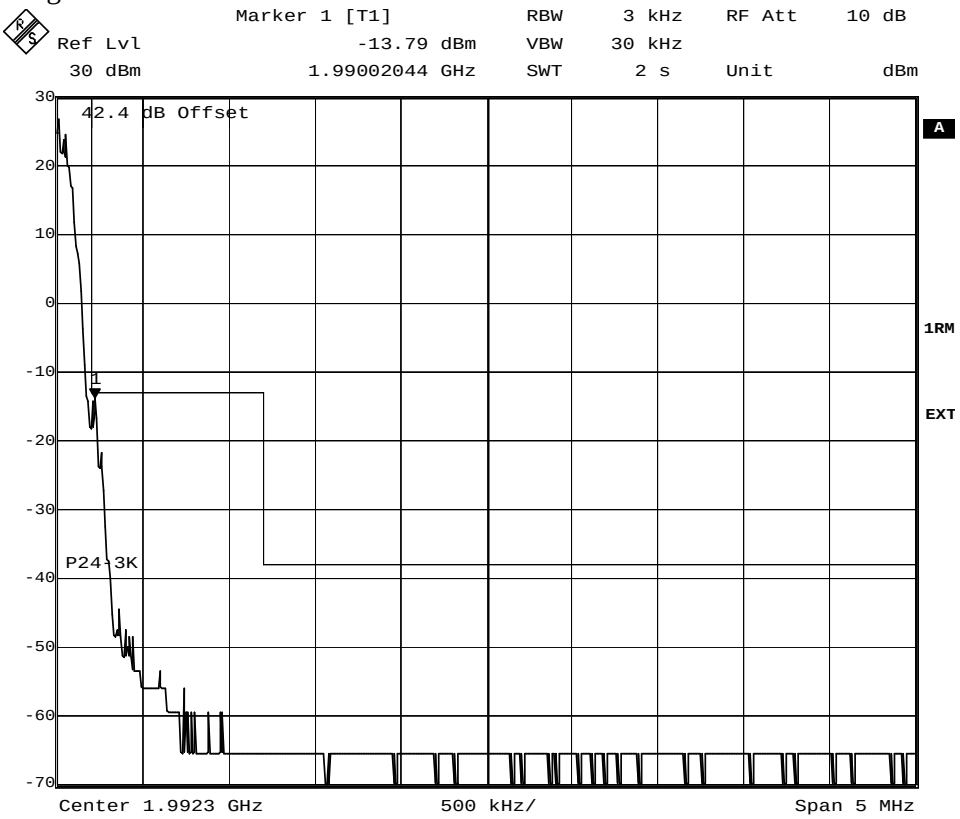
Date: 24.FEB.2006 16:42:08

Diagram 8



Date: 24.FEB.2006 16:43:55

Diagram 9



Date: 2.MAR.2006 09:26:59

Diagram 10

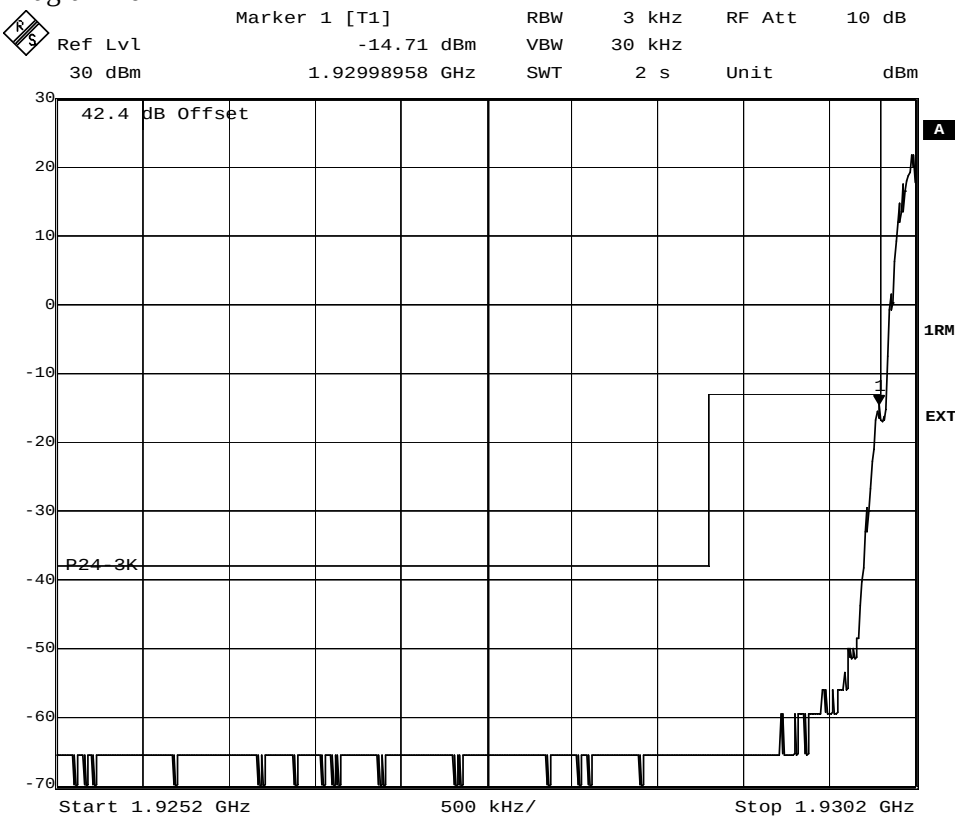


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Diagram 11

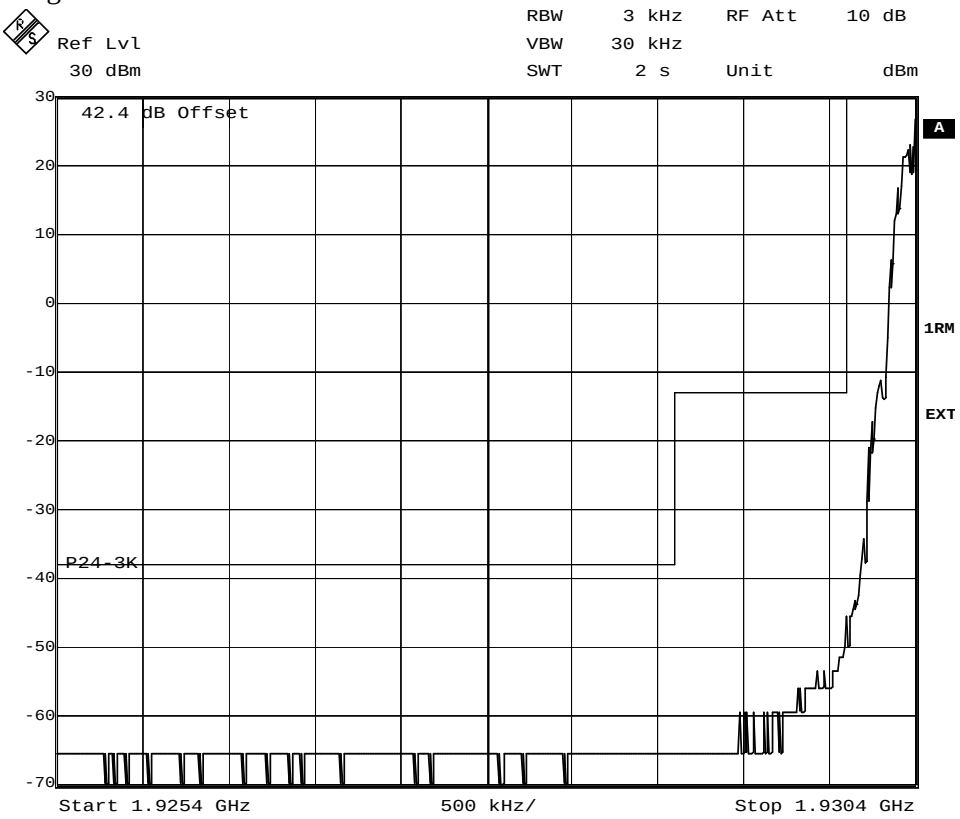

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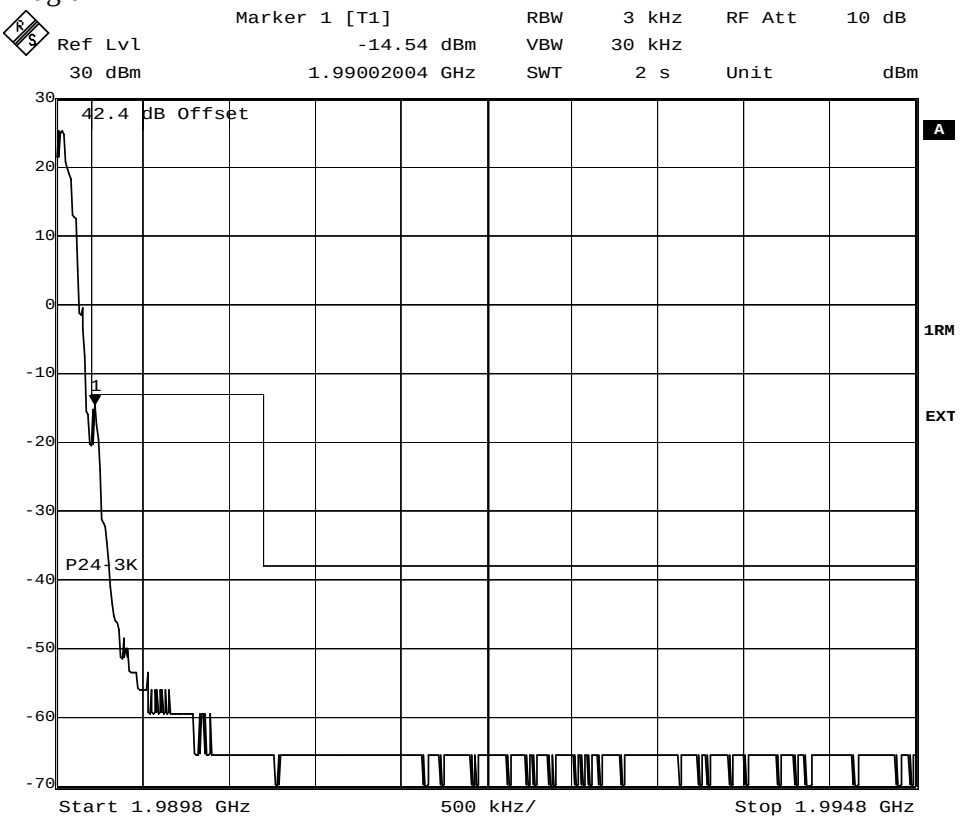
Diagram 12



Date: 27.FEB.2006 11:31:57

Diagram 13

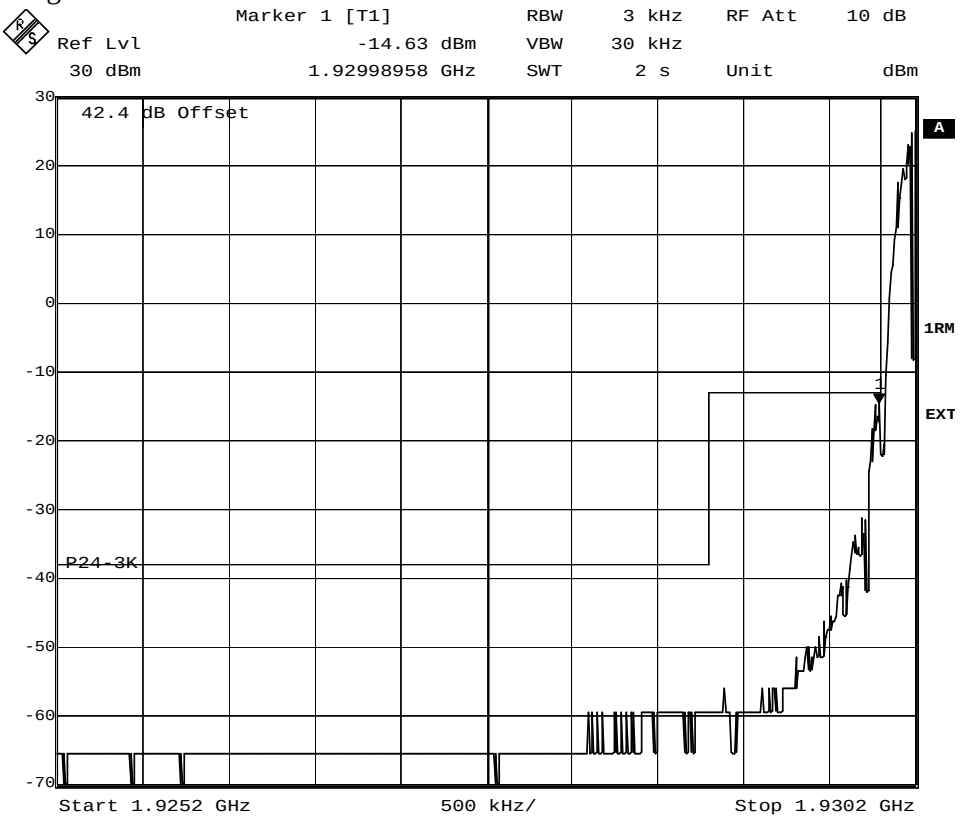


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Diagram 14

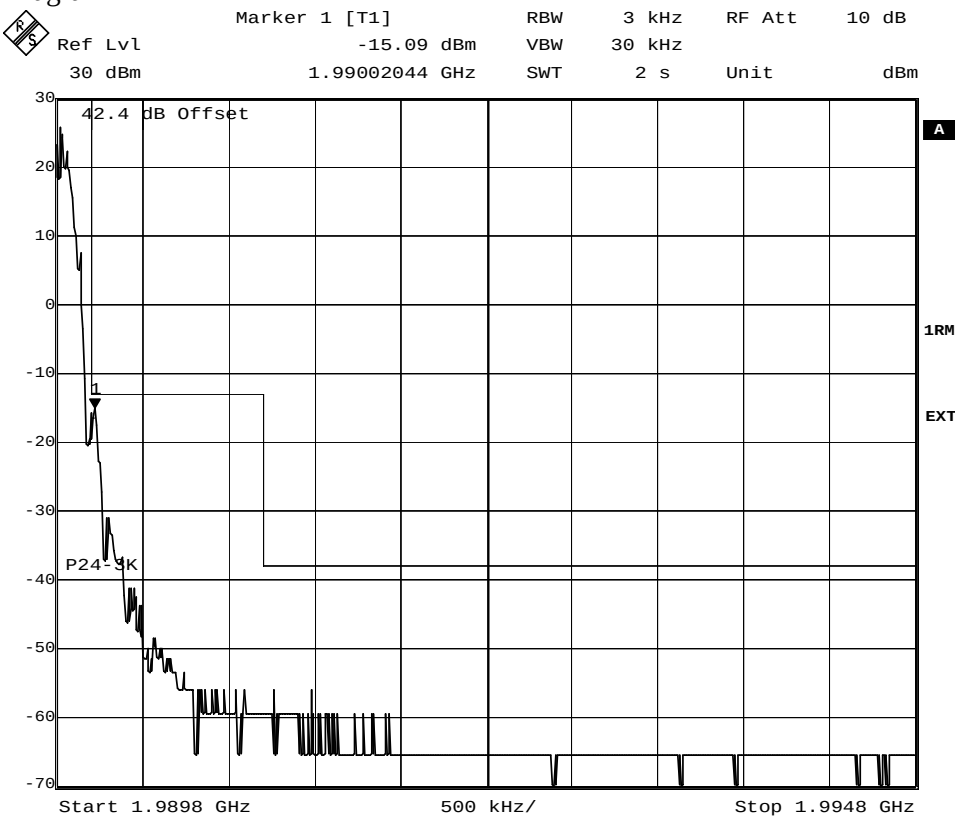

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Diagram 15

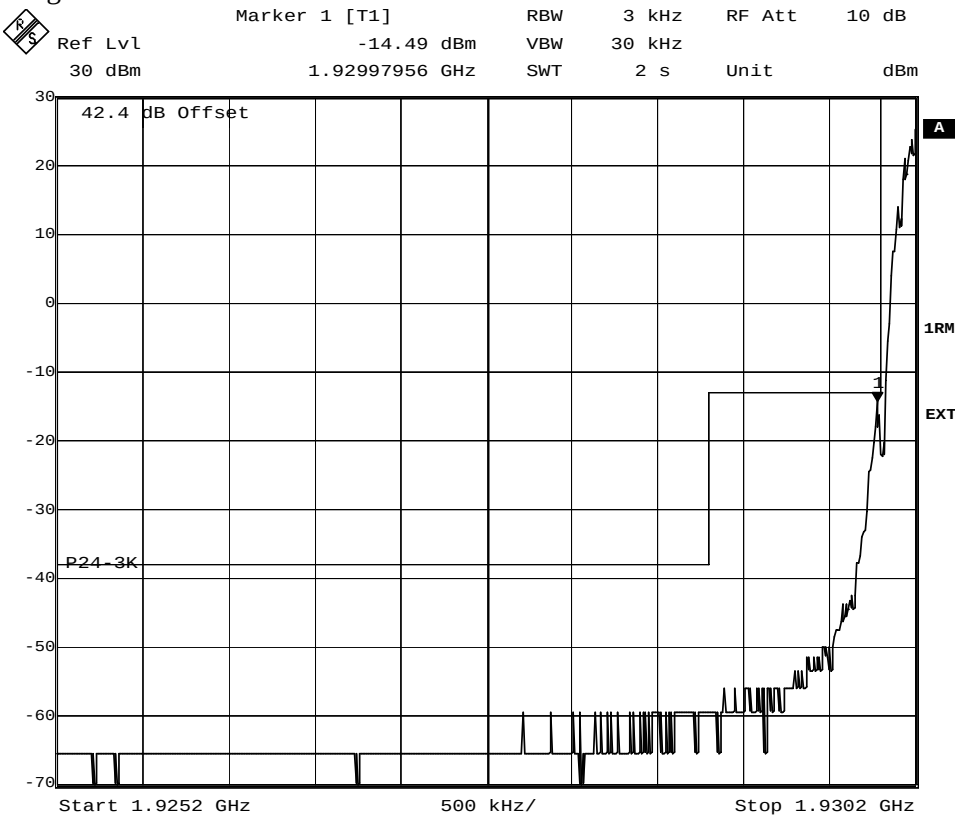


Diagram 16

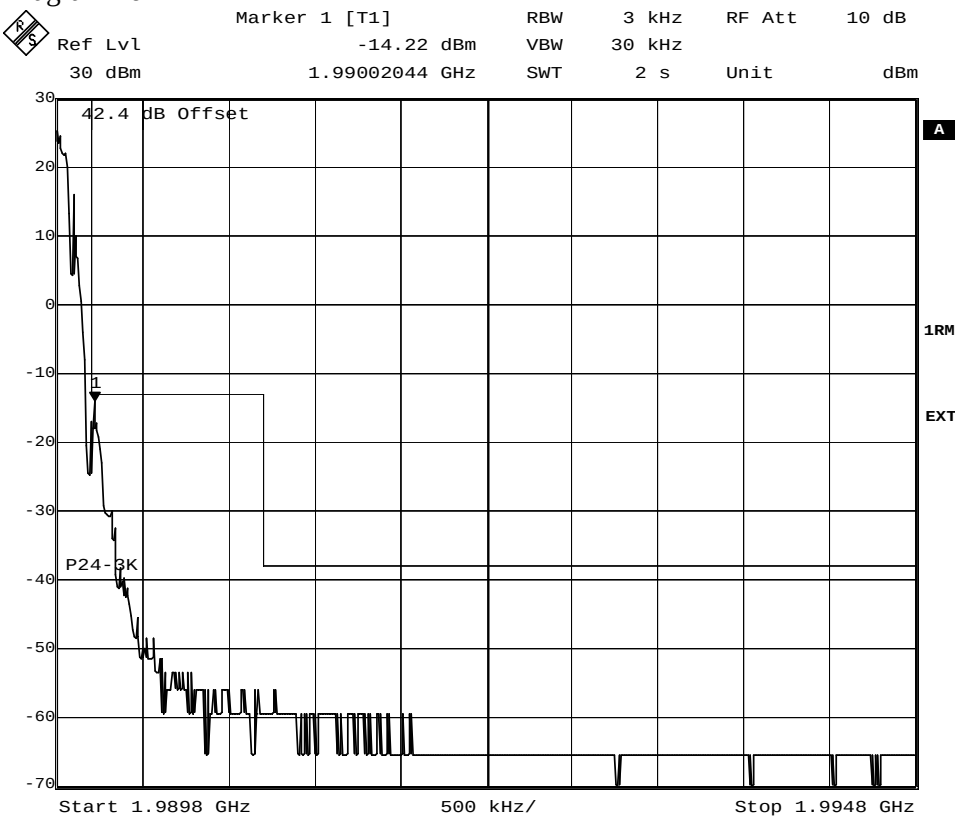


Diagram 17

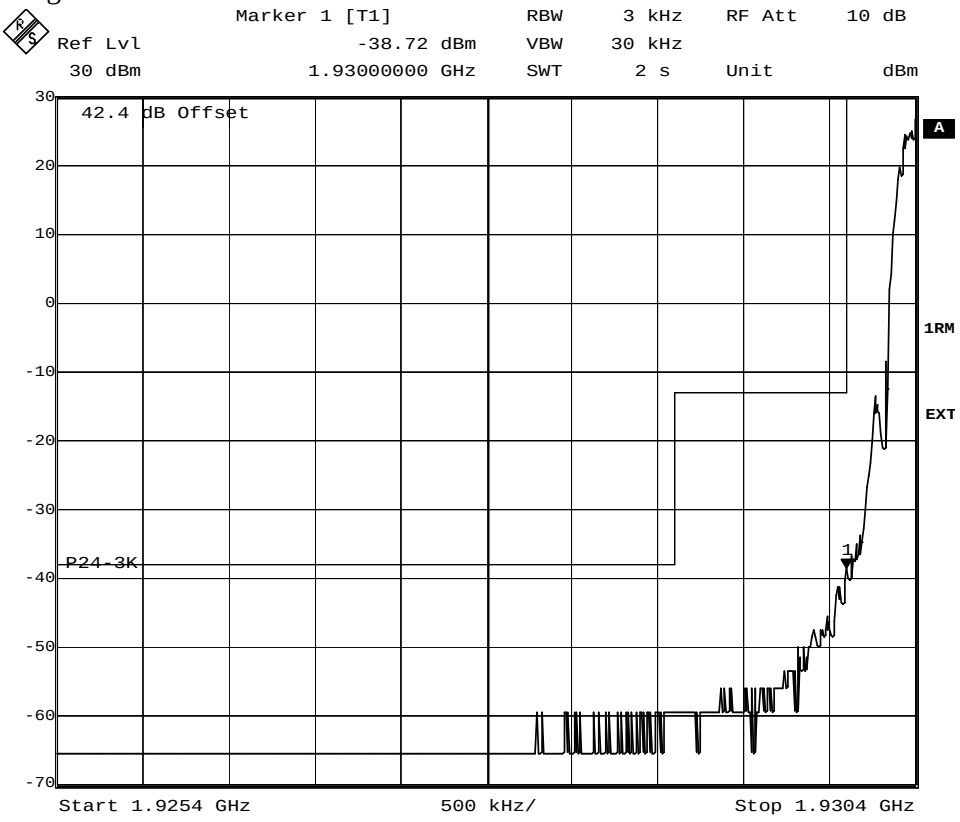


Diagram 18

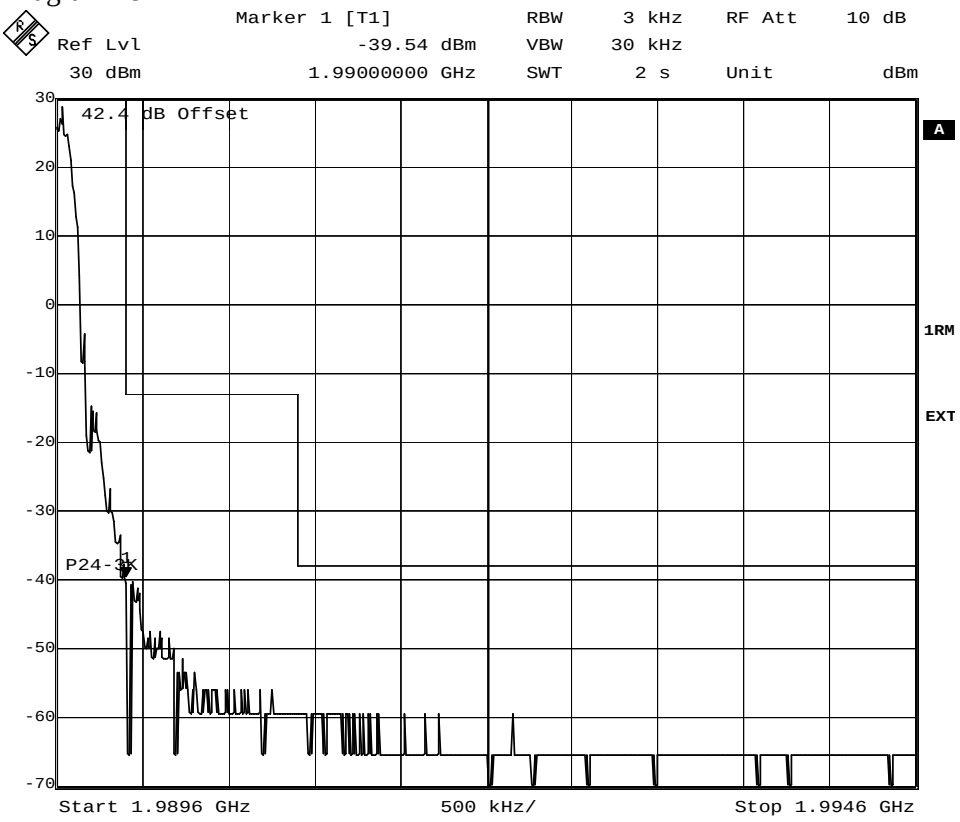
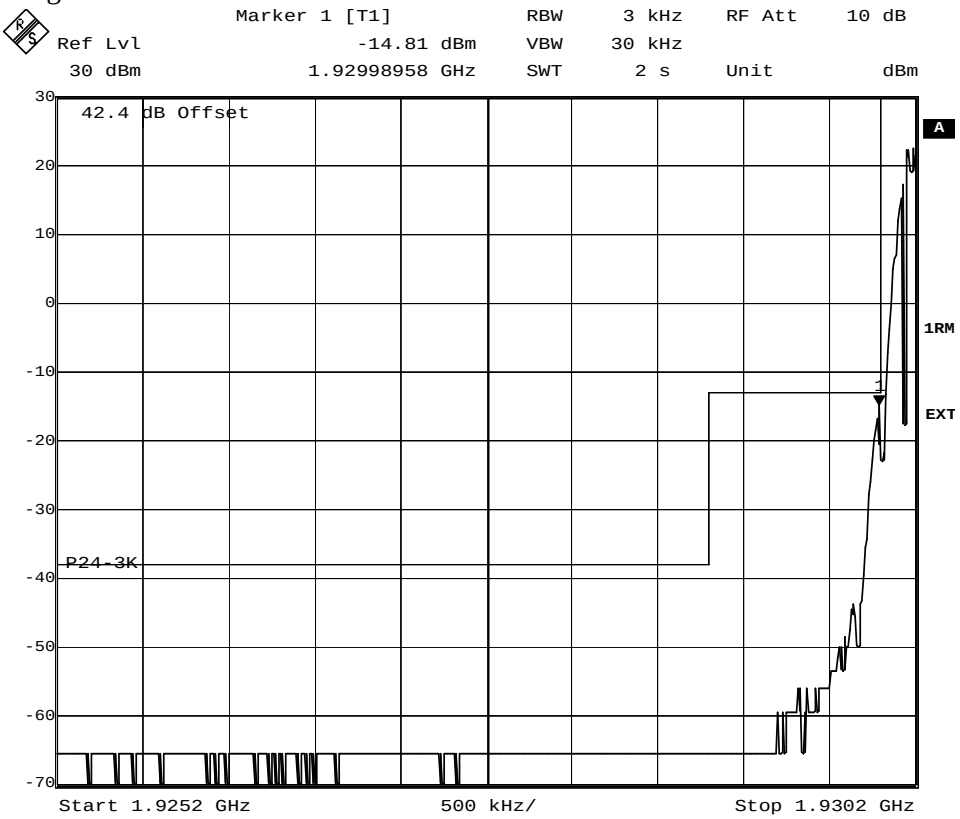


Diagram 19



Date: 24.FEB.2006 17:04:29

Diagram 20

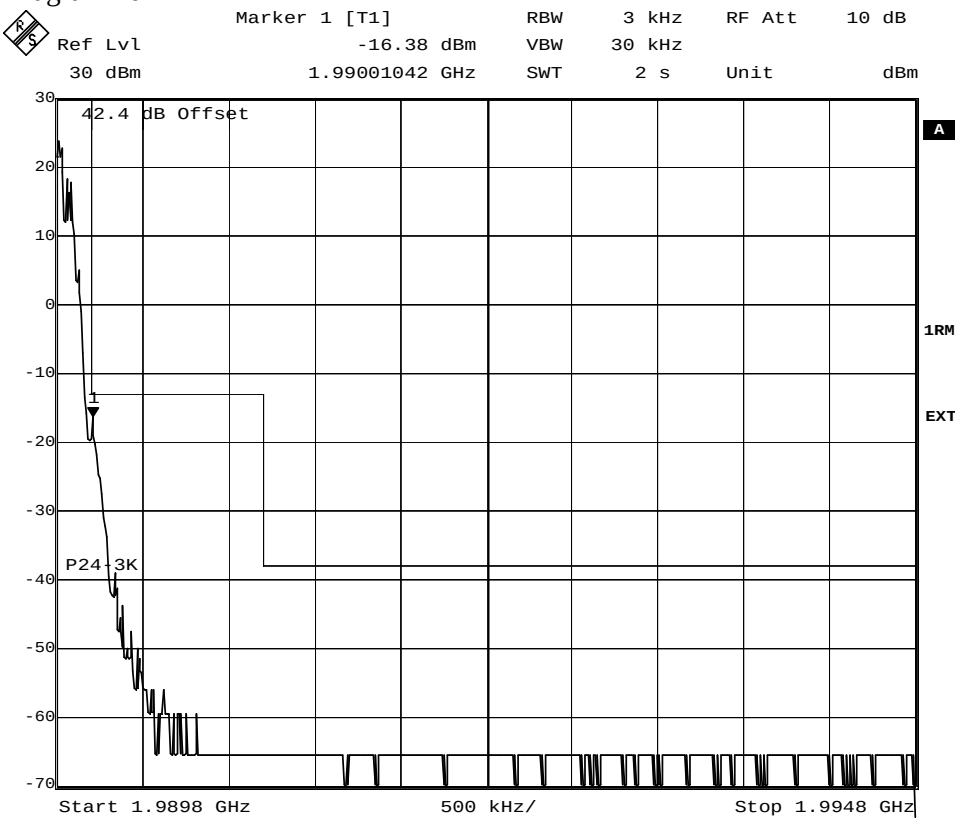


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Diagram 21

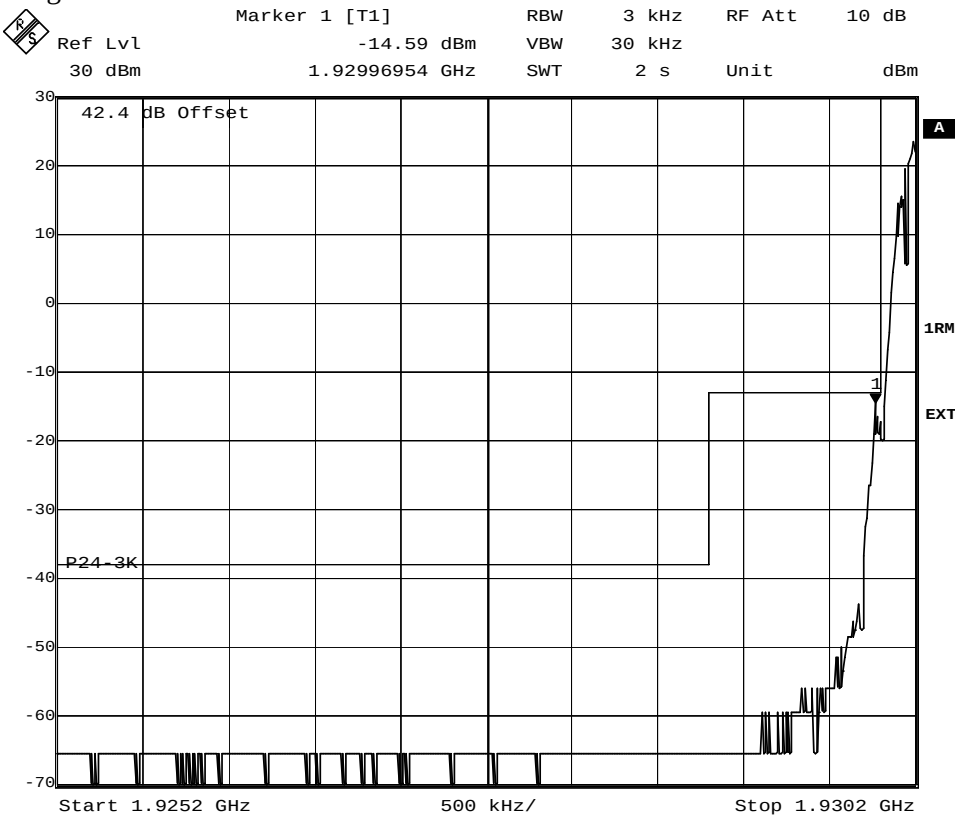
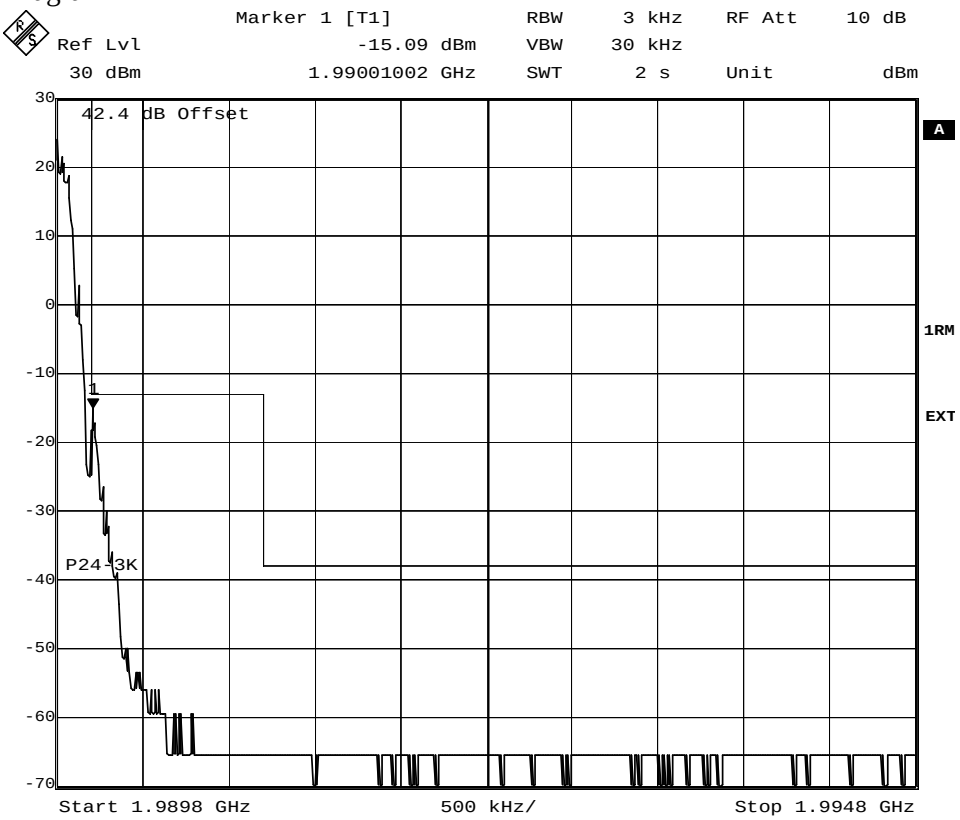


Diagram 22



Conducted spurious emission measurements according to 47CFR 2.1051

Date	Temperature	Humidity
2006-02-17	23 °C ± 3 °C	20 % ± 5 %
2006-02-20	23 °C ± 3 °C	23 % ± 5 %
2006-03-04	25 °C ± 3 °C	10 % ± 5 %
2006-03-05	24 °C ± 3 °C	10 % ± 5 %
2006-03-09	22 °C ± 3 °C	14 % ± 5 %

Test set-up and procedure

The measurements were made per definition in 24.238. Measurements were made at CDU-G and CDU-F output connector. The output was connected to a spectrum analyser. The spectrum analyser was connected to an external 10 MHz reference standard during the measurements. The transmitter was activated at maximum output power and modulated with pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSIQ	2006-07	503 738
Testo 610, Temperature and humidity meter	2006-12	502 658

Measurement uncertainty: 3.7 dB

Results

The results are shown in appendix 5.1

CDU-G

Modulation: **GMSK**

dTRU, with internal combiner plus TCC:

Diagram 1: Ch 512
Diagram 2: Ch 661
Diagram 3: Ch 810

dTRU, without internal combiner:

Diagram 4: TRX output 1, Ch 512
Diagram 5: TRX output 1, Ch 661
Diagram 6: TRX output 1, Ch 810
Diagram 7: TRX output 2, Ch 512
Diagram 8: TRX output 2, Ch 661
Diagram 9: TRX output 2, Ch 810

dTRU, with internal combiner:

Diagram 10: TRX output 1 Ch 512, TRX output 2 Ch 537
Diagram 11: TRX output 1 Ch 785, TRX output 2 Ch 810

Modulation: **8-PSK**

dTRU, with internal combiner plus TCC:

Diagram 12: Ch 512
Diagram 13: Ch 661
Diagram 14: Ch 810

dTRU, without internal combiner:

Diagram 15: TRX output 1, Ch 512
Diagram 16: TRX output 1, Ch 661
Diagram 17: TRX output 1, Ch 810
Diagram 18: TRX output 2, Ch 512
Diagram 19: TRX output 2, Ch 661
Diagram 20: TRX output 2, Ch 810

dTRU, with internal combiner:

Diagram 21: TRX output 1 Ch 512, TRX output 2 Ch 537
Diagram 22: TRX output 1 Ch 785, TRX output 2 Ch 810

CDU-F

Modulation: **GMSK**

dTRU, without internal combiner (1x4):

Diagram 23: dTRU 1, TRX output 1 Ch 512, TRX output 2 Ch 537
dTRU 2, TRX output 1 Ch 785, TRX output 2 Ch 810

dTRU, without internal combiner (2x6):

Diagram 24: dTRU 1, TRX output 1 Ch 512, TRX output 2 Ch 537
dTRU 2, TRX output 1 Ch 562, TRX output 2 Ch 760
dTRU 3, TRX output 1 Ch 785, TRX output 2 Ch 810

Modulation: **8-PSK**

dTRU, without internal combiner (1x4):

Diagram 25: dTRU 1, TRX output 1 Ch 512, TRX output 2 Ch 537
dTRU 2, TRX output 1 Ch 785, TRX output 2 Ch 810

dTRU, without internal combiner (2x6):

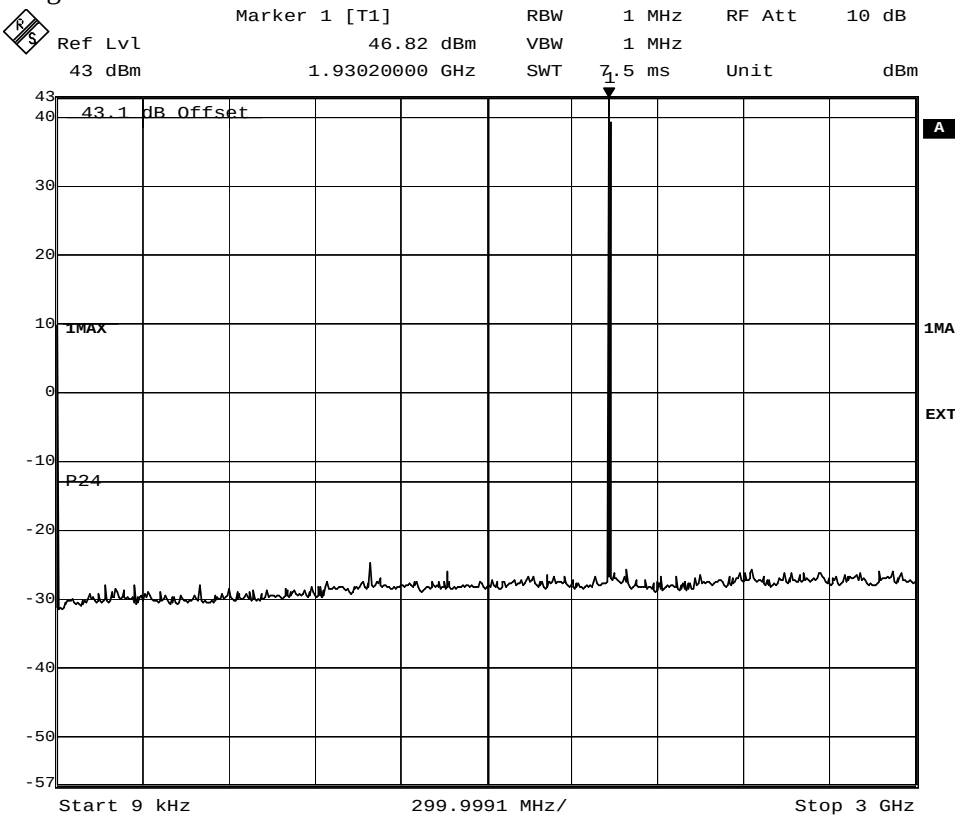
Diagram 26: dTRU 1, TRX output 1 Ch 512, TRX output 2 Ch 537
dTRU 2, TRX output 1 Ch 562, TRX output 2 Ch 760
dTRU 3, TRX output 1 Ch 785, TRX output 2 Ch 810

Limits

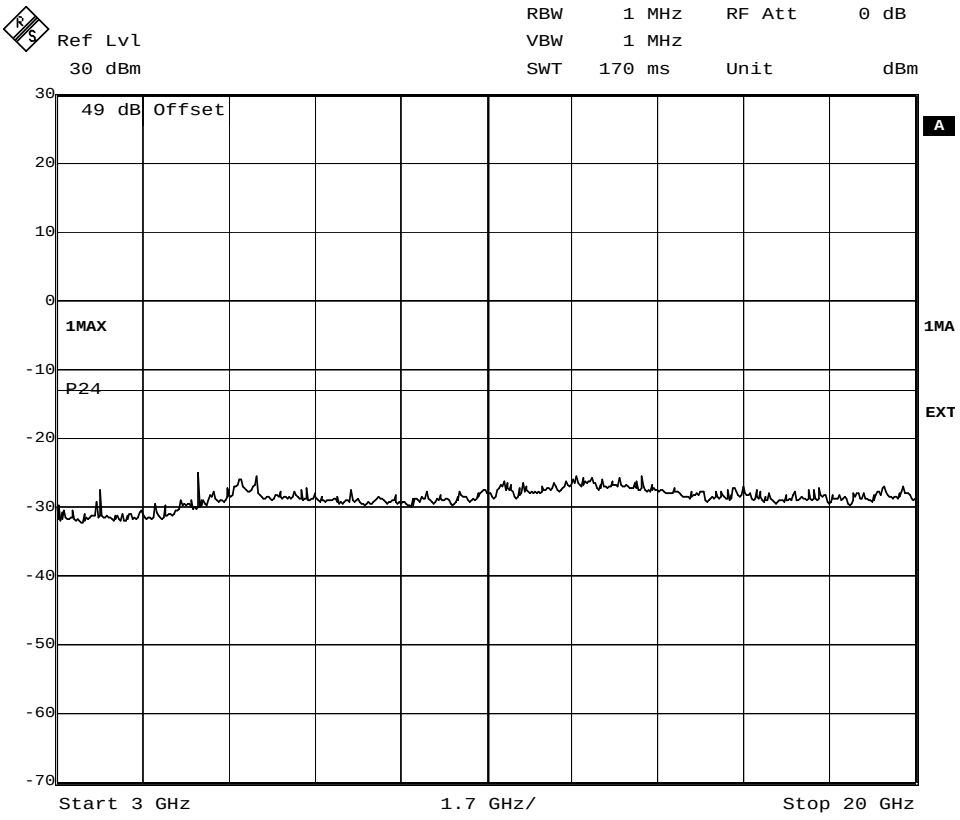
The power of any emission outside the frequency band shall be attenuated below the transmitter power (P) by at least 43 + 10 log P dB.

Complies?	Yes

Diagram 1

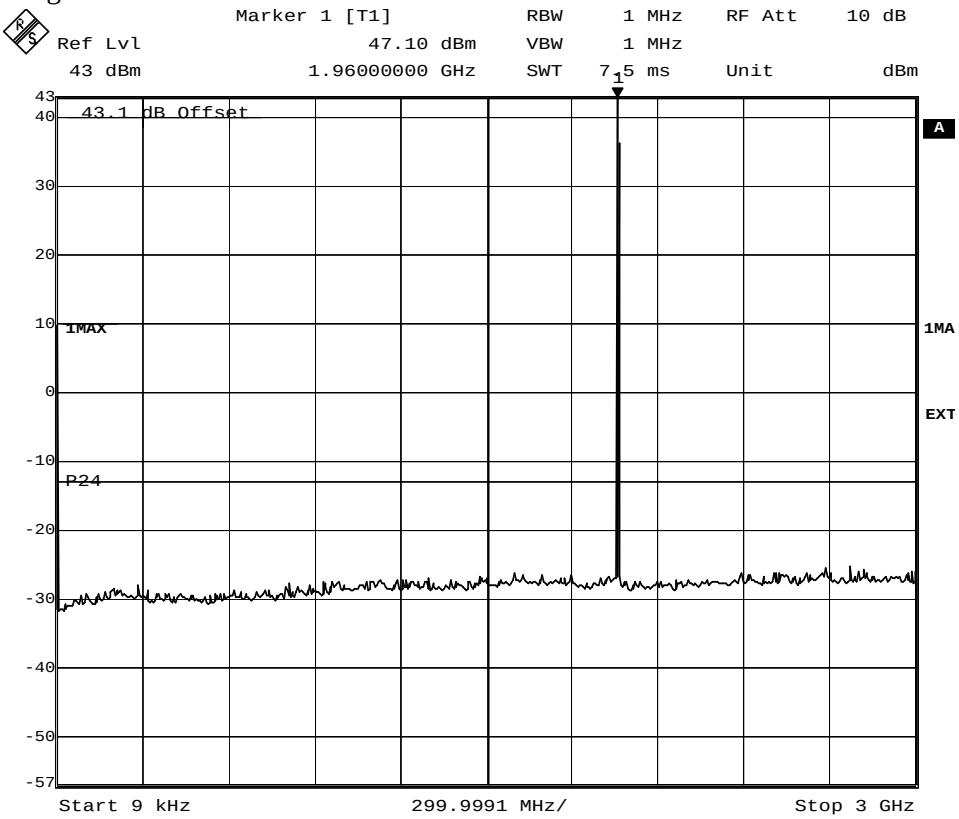


Date: 20.FEB.2006 09:13:39

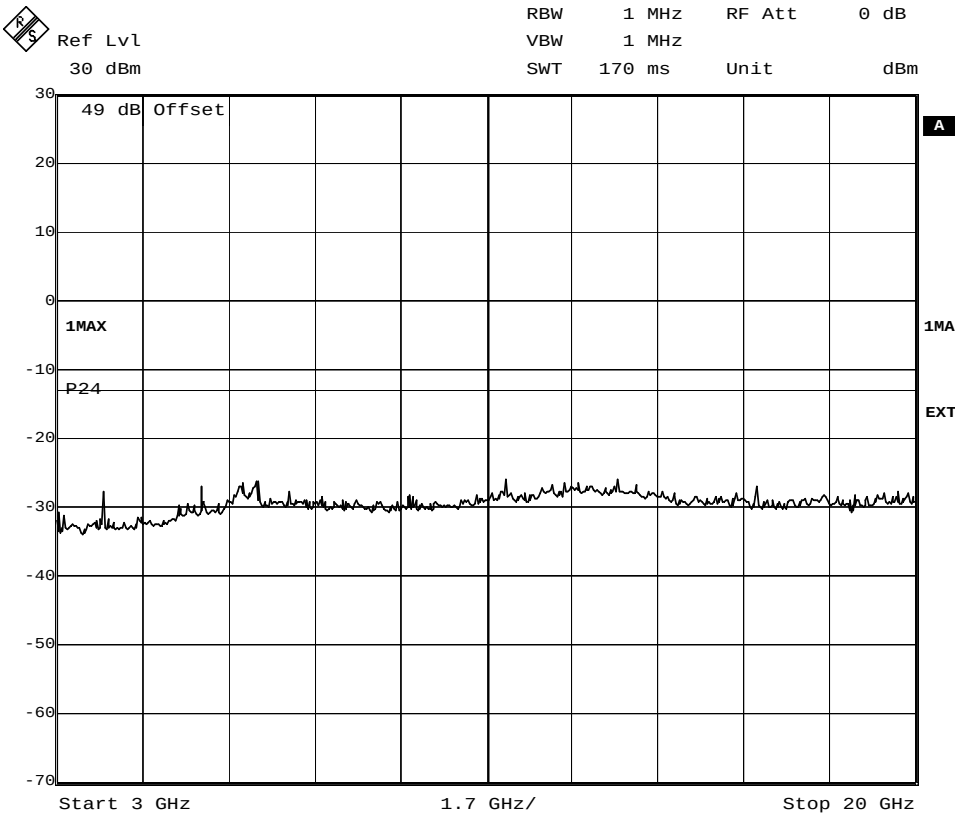


Date: 20.FEB.2006 09:19:32

Diagram 2

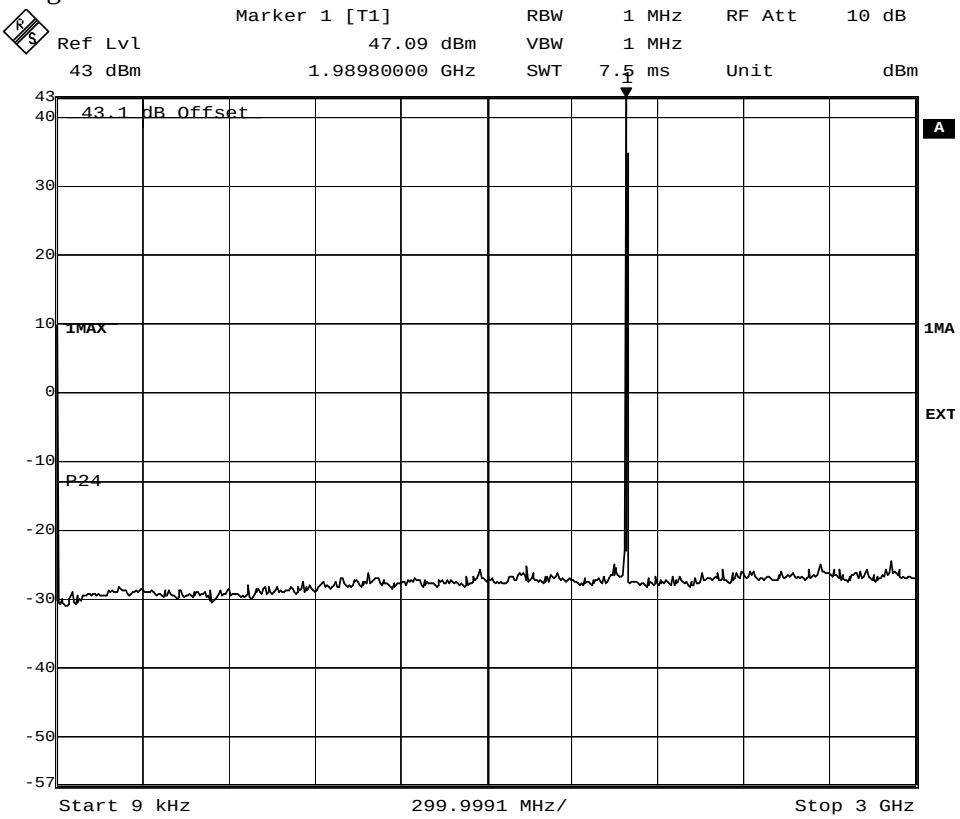


Date: 20.FEB.2006 09:12:51

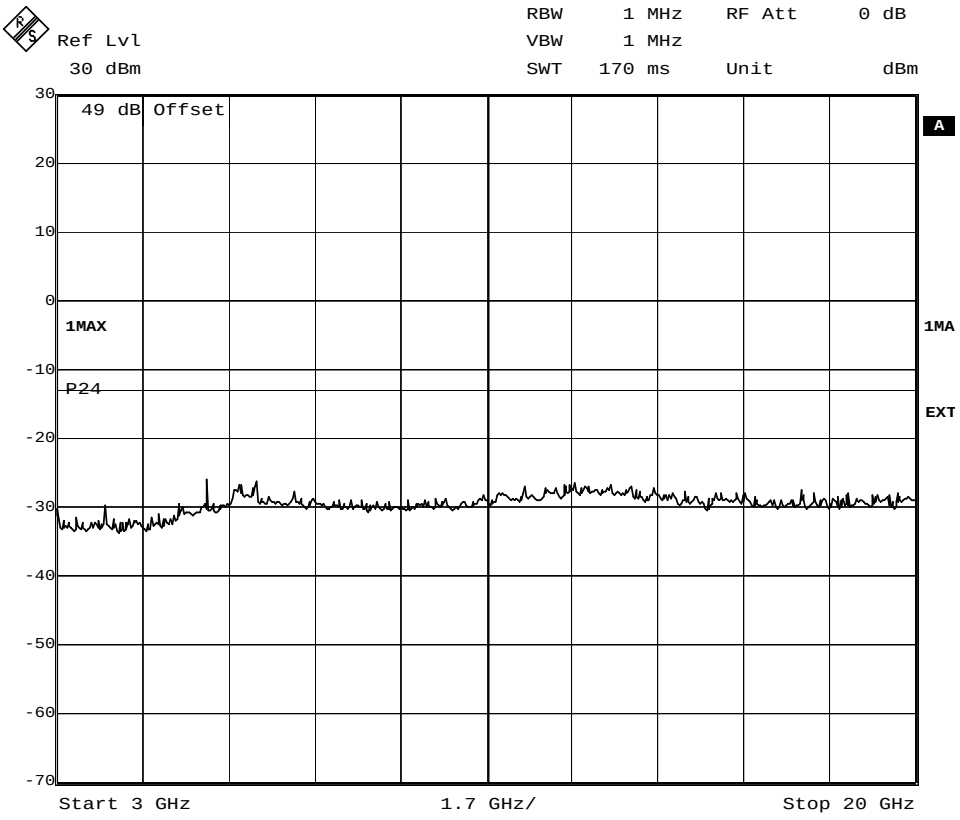


Date: 20.FEB.2006 09:20:19

Diagram 3

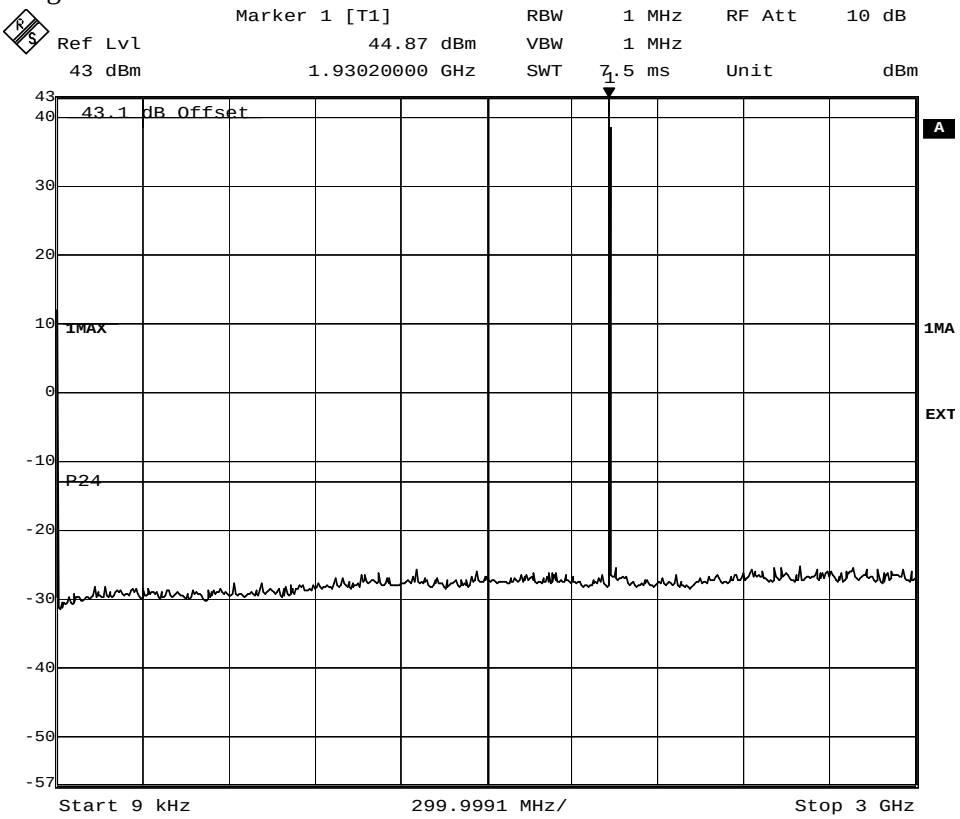


Date: 20.FEB.2006 09:12:00



Date: 20.FEB.2006 09:20:58

Diagram 4


Marker 1 [T1]
Ref Lvl
43 dBm
44.87 dBm
1.93020000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:39:51

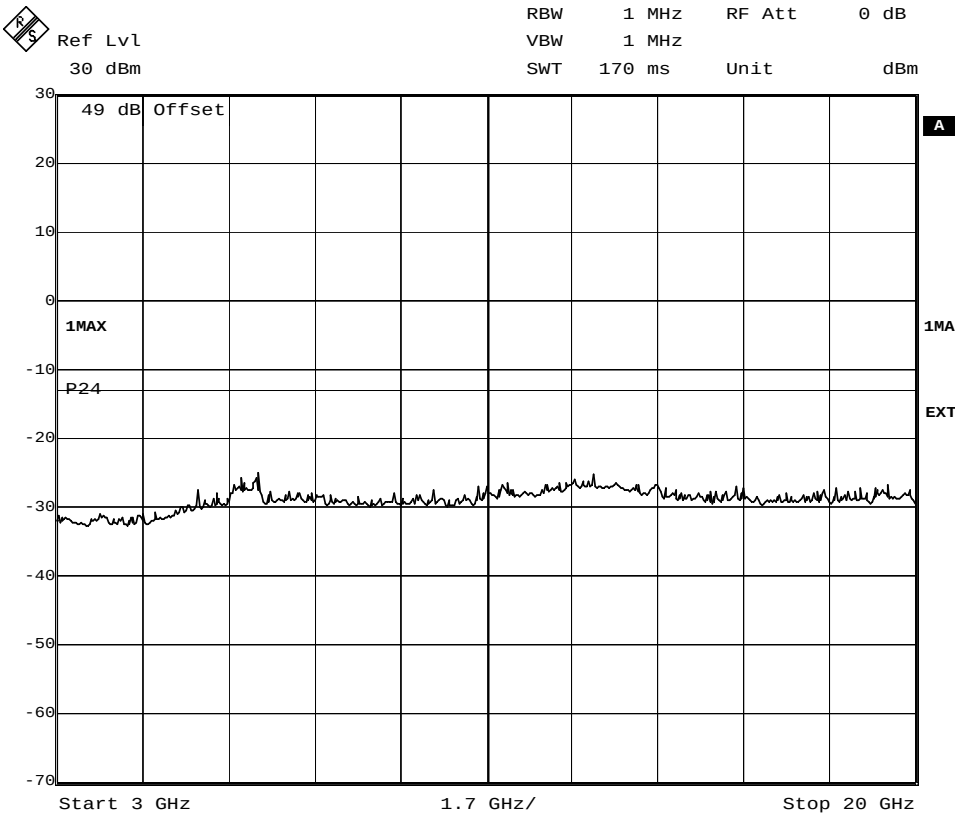
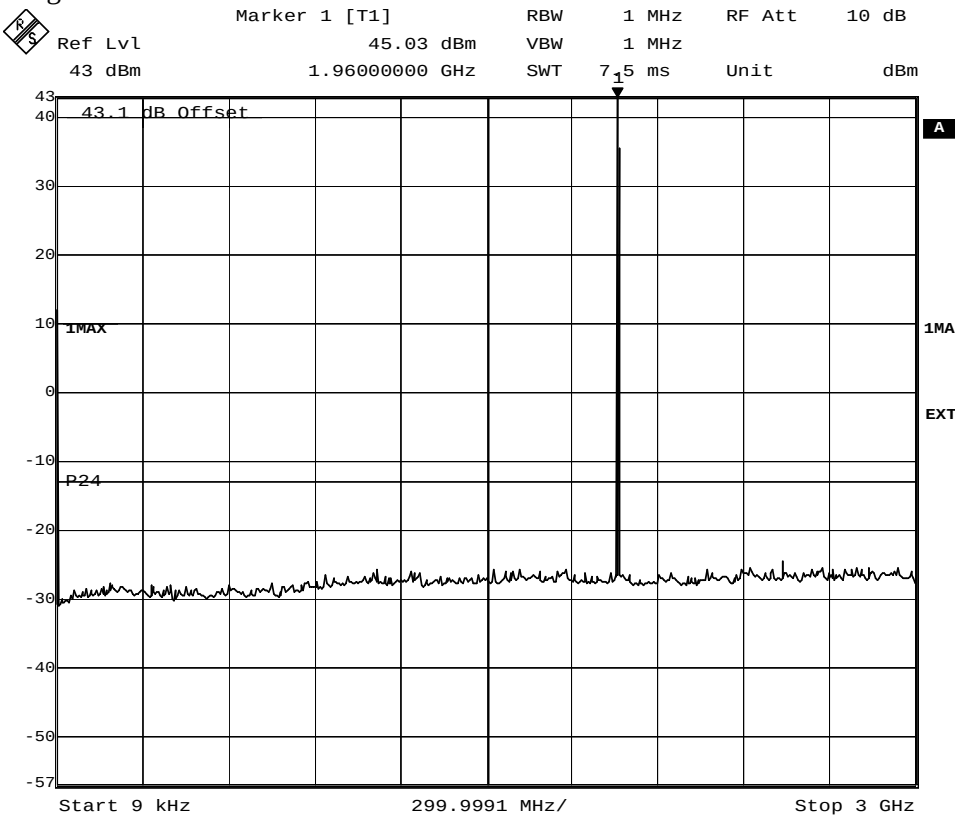

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:21:58

Diagram 5


Marker 1 [T1]
Ref Lvl
45.03 dBm
43 dBm
1.96000000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:40:30

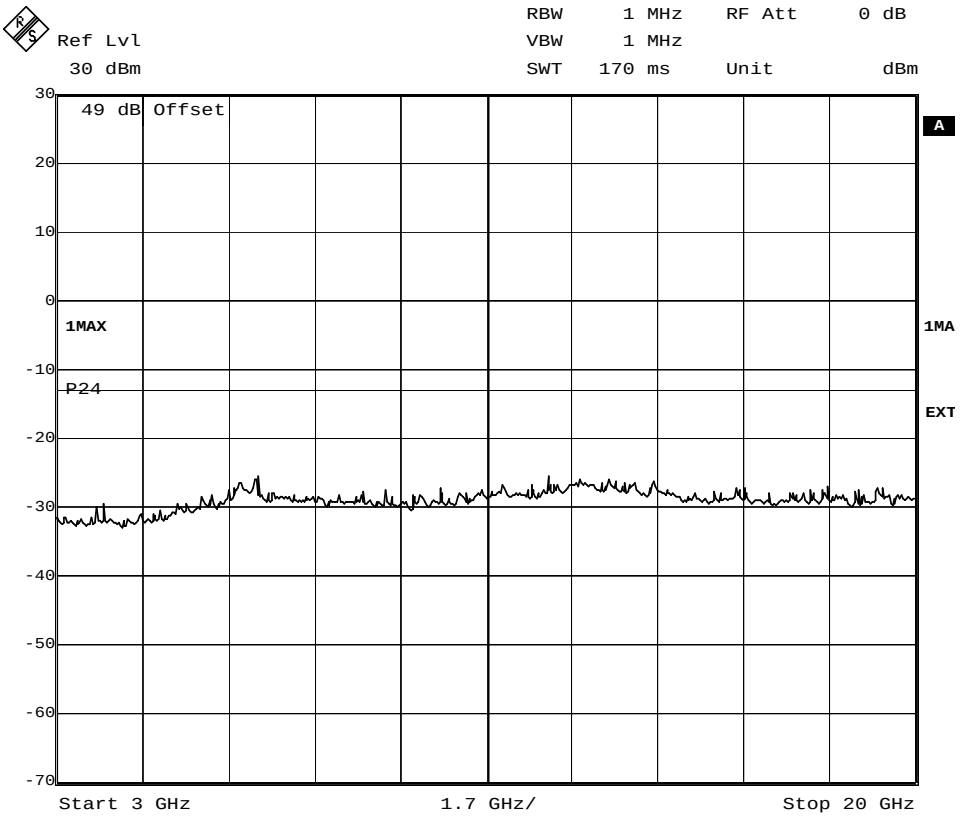
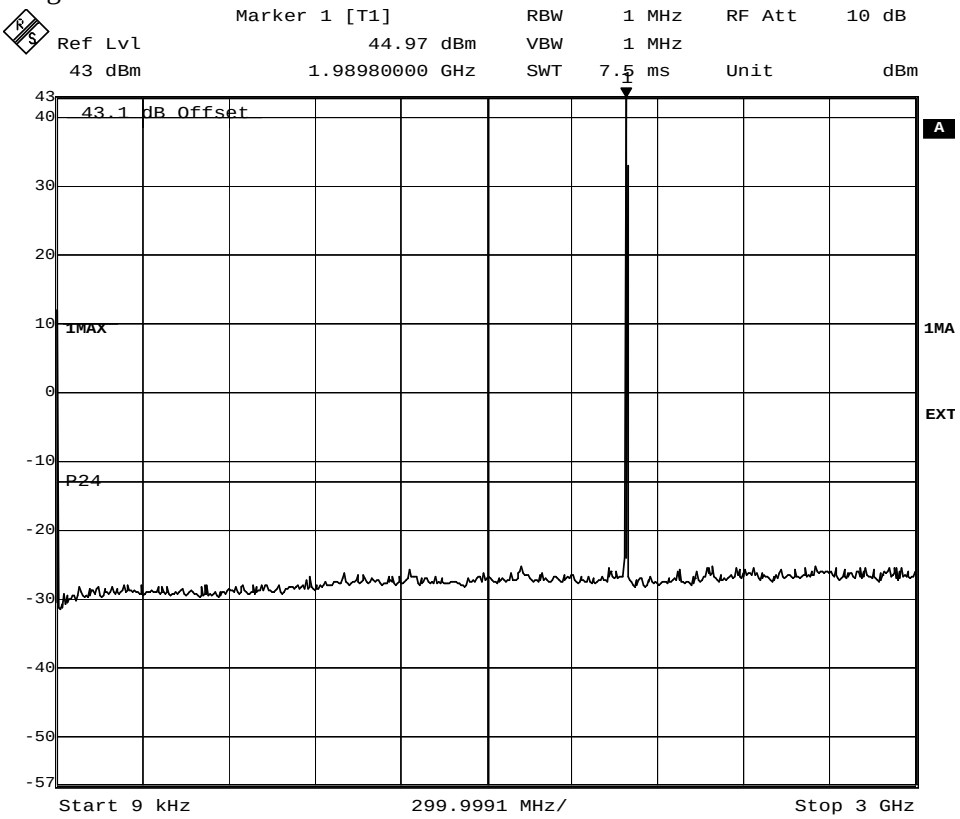

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:21:20

Diagram 6


Marker 1 [T1]
Ref Lvl
44.97 dBm
43 dBm
1.98980000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:41:48

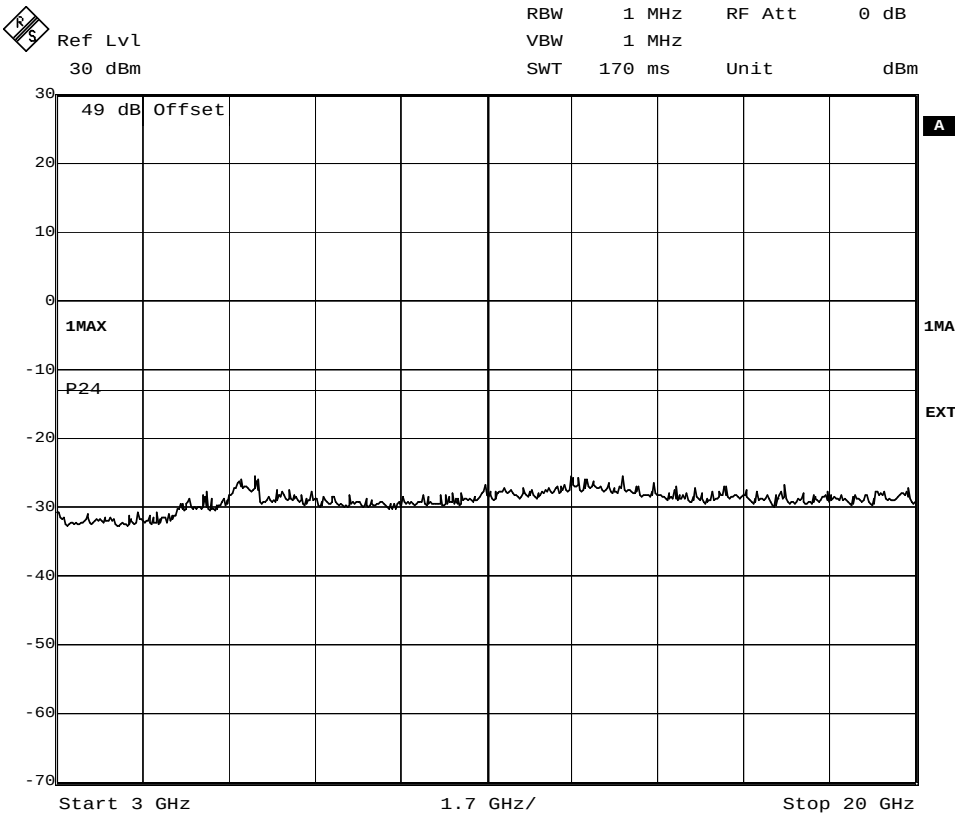
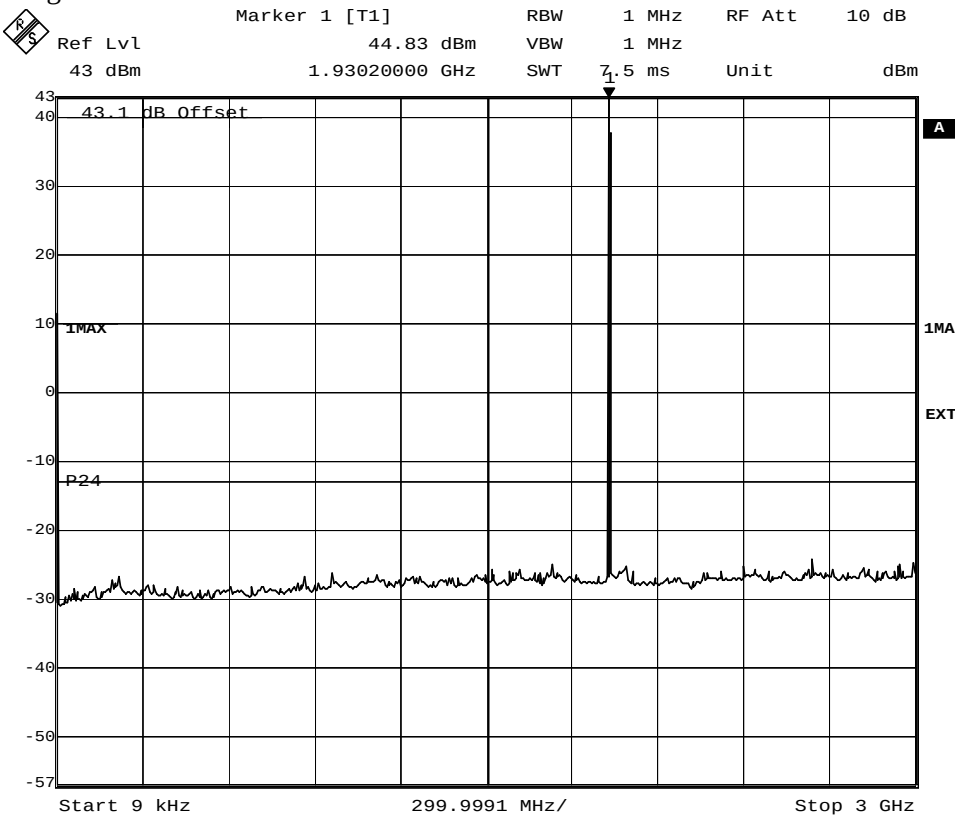

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:20:44

Diagram 7


Marker 1 [T1]
Ref Lvl
43 dBm
44.83 dBm
1.93020000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:35:41

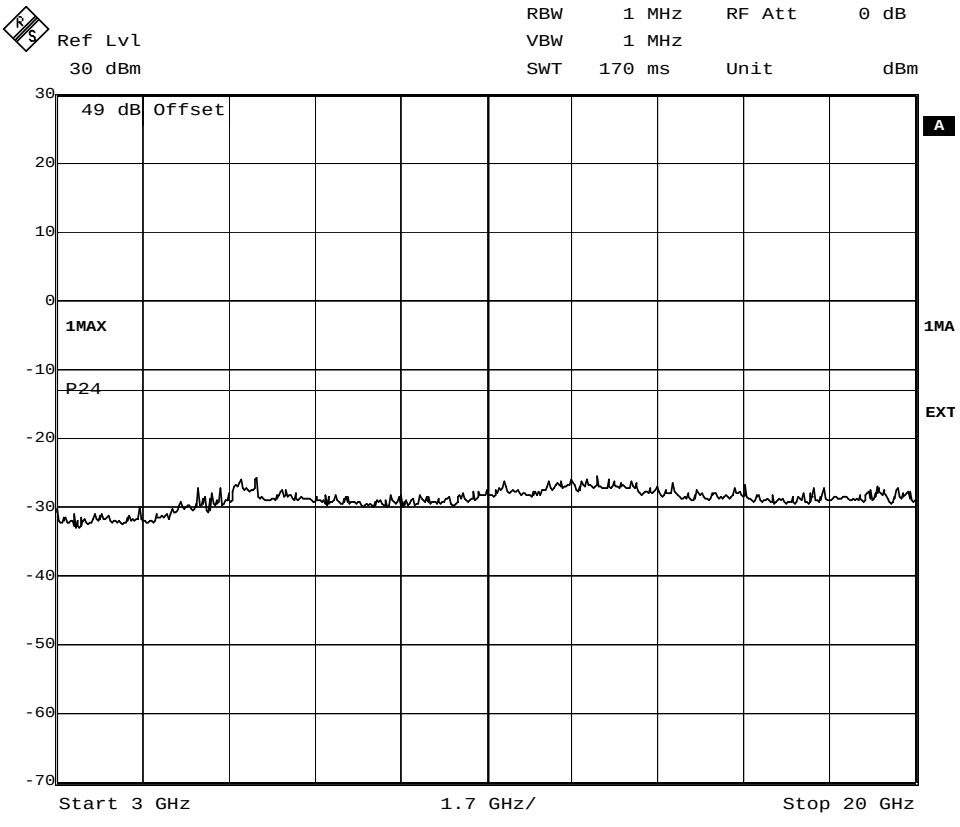
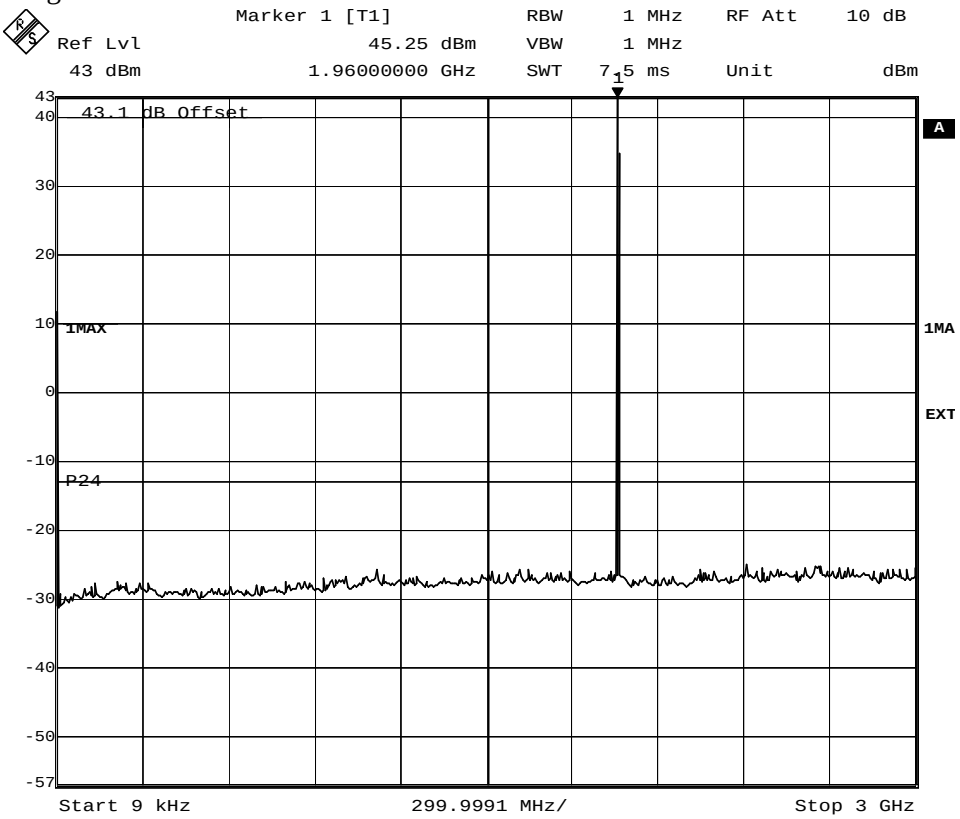

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:25:12

Diagram 8


Marker 1 [T1]
Ref Lvl
45.25 dBm
43 dBm
1.96000000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:36:41

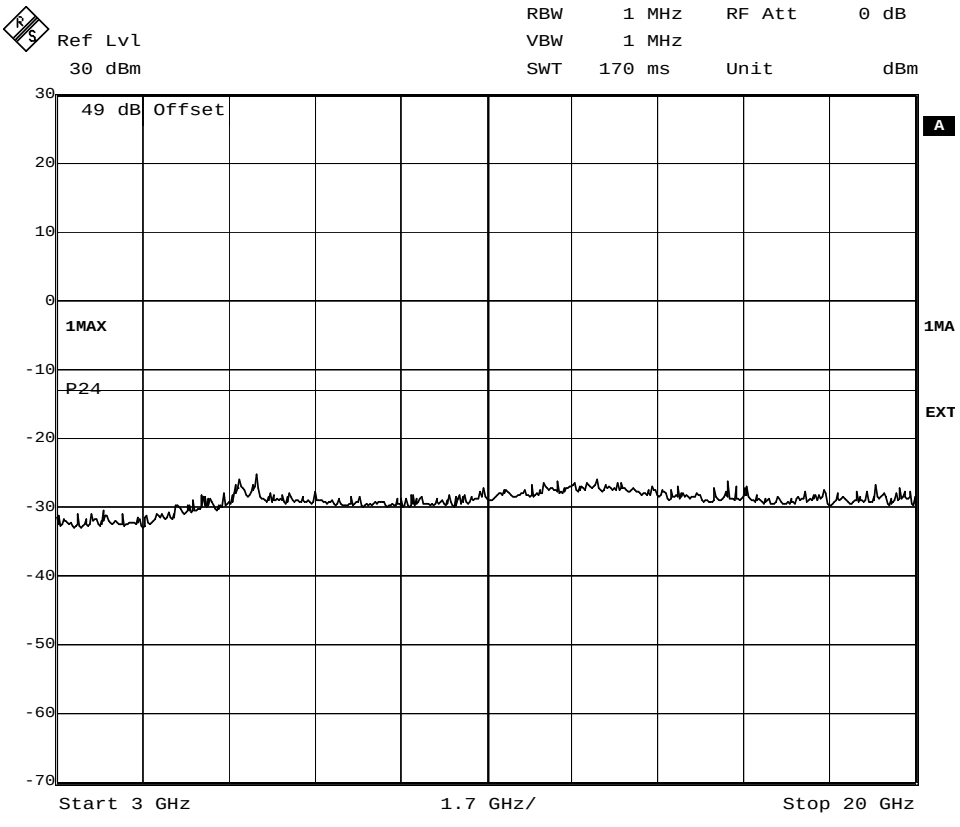
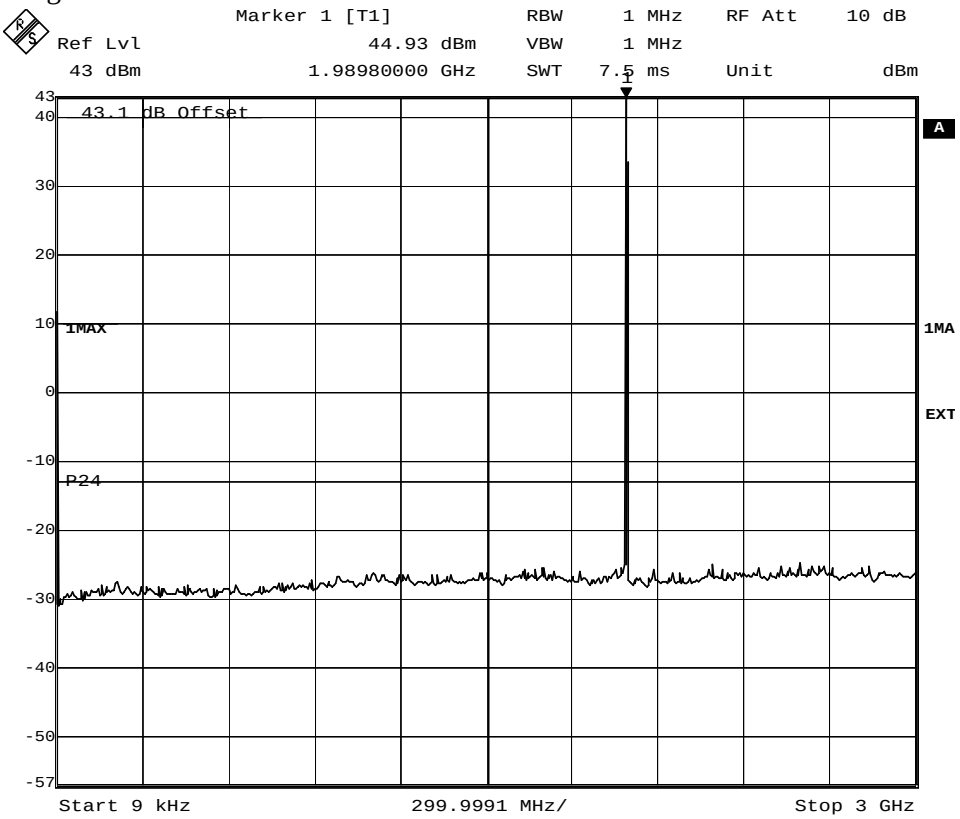

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:25:48

Diagram 9


Marker 1 [T1]
RBW 1 MHz
RF Att 10 dB
Ref Lvl
44.93 dBm
VBW 1 MHz
43 dBm
1.98980000 GHz
SWT 7.5 ms
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:37:41

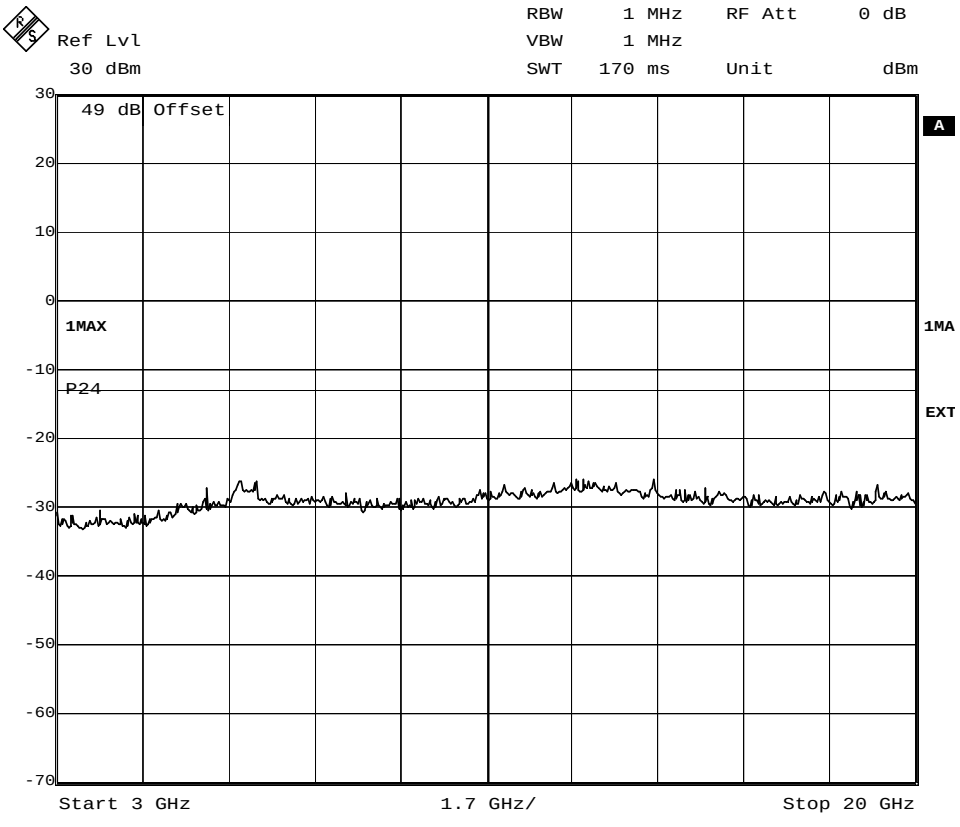
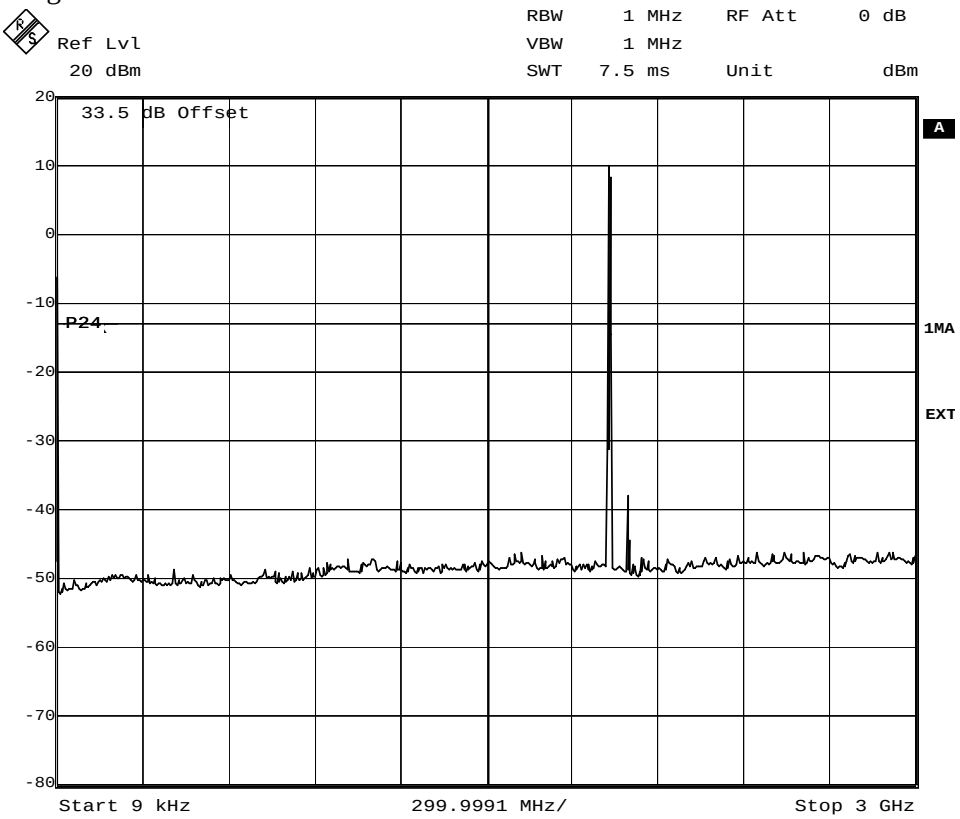
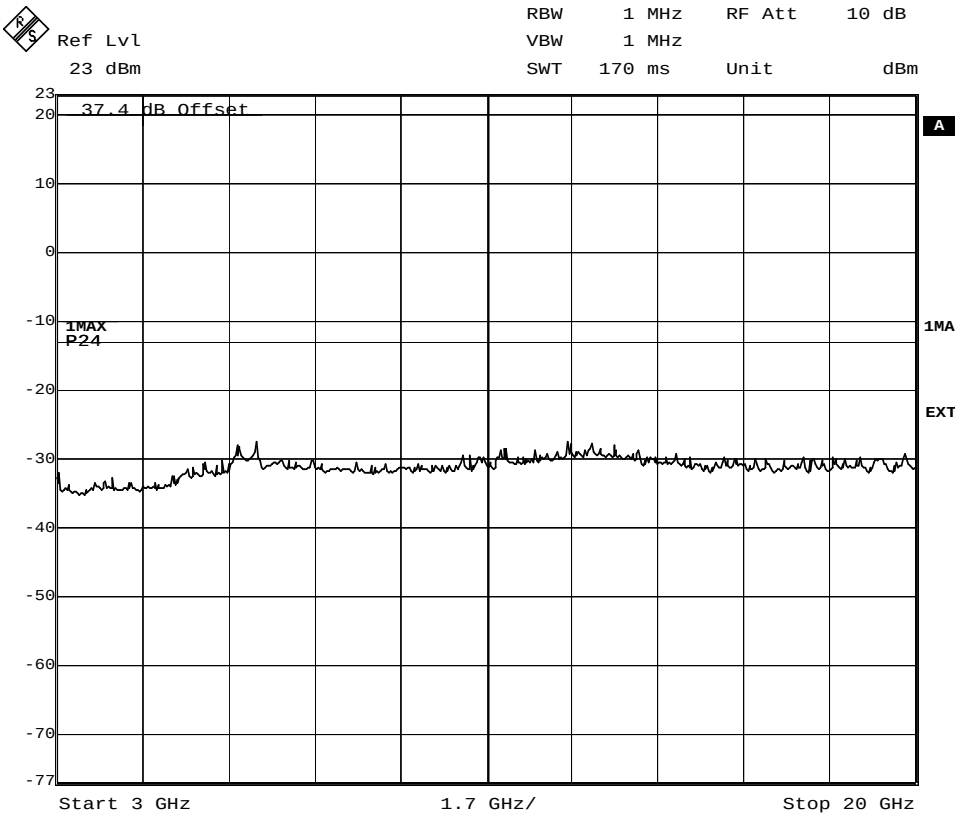

RBW 1 MHz
RF Att 0 dB
Ref Lvl
VBW 1 MHz
30 dBm
SWT 170 ms
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:26:25

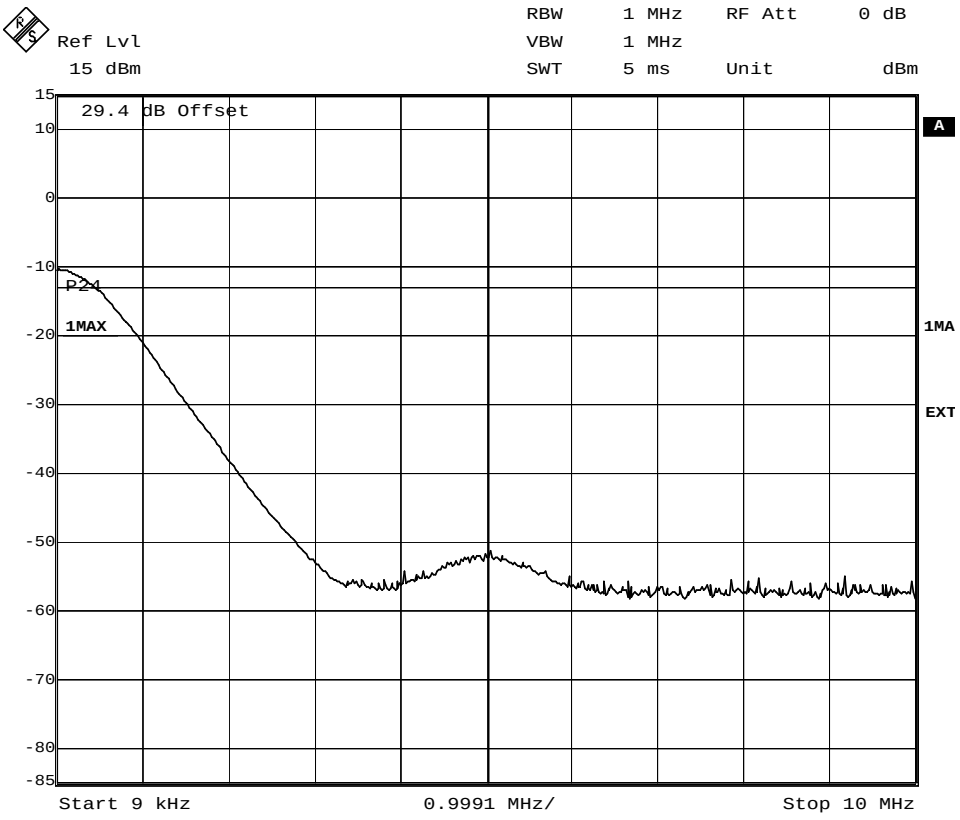
Diagram 10



Date: 5.MAR.2006 15:22:31

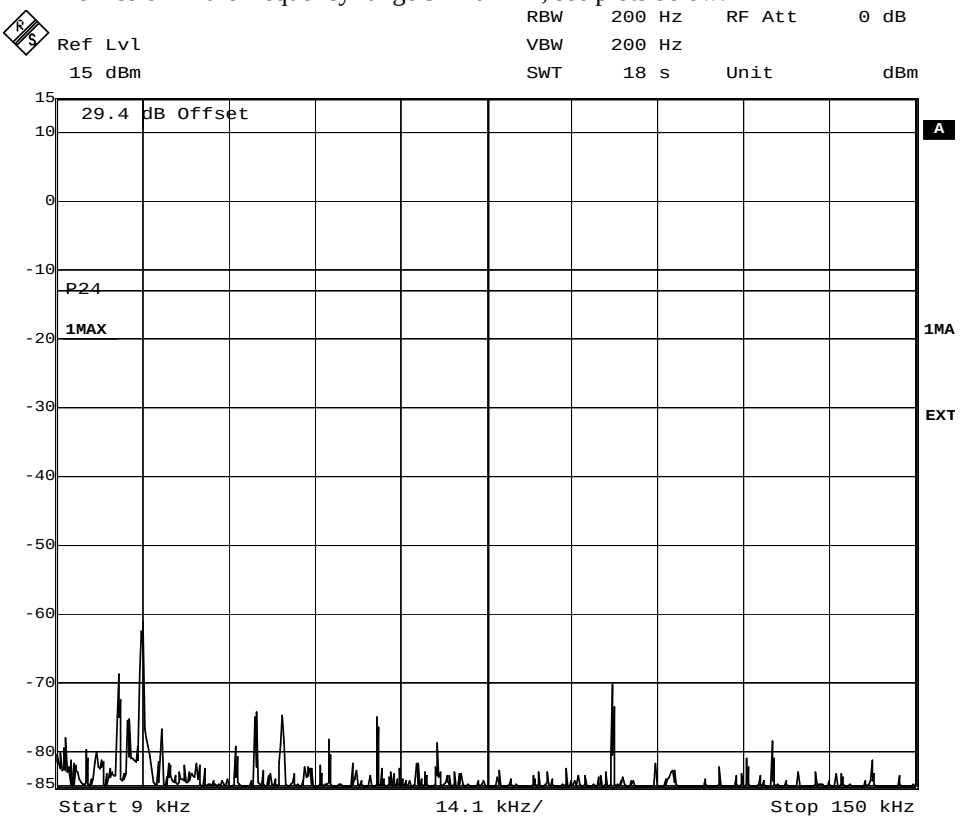


Date: 5.MAR.2006 15:56:54



Date: 5.MAR.2006 15:33:25

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



Date: 5.MAR.2006 15:32:17

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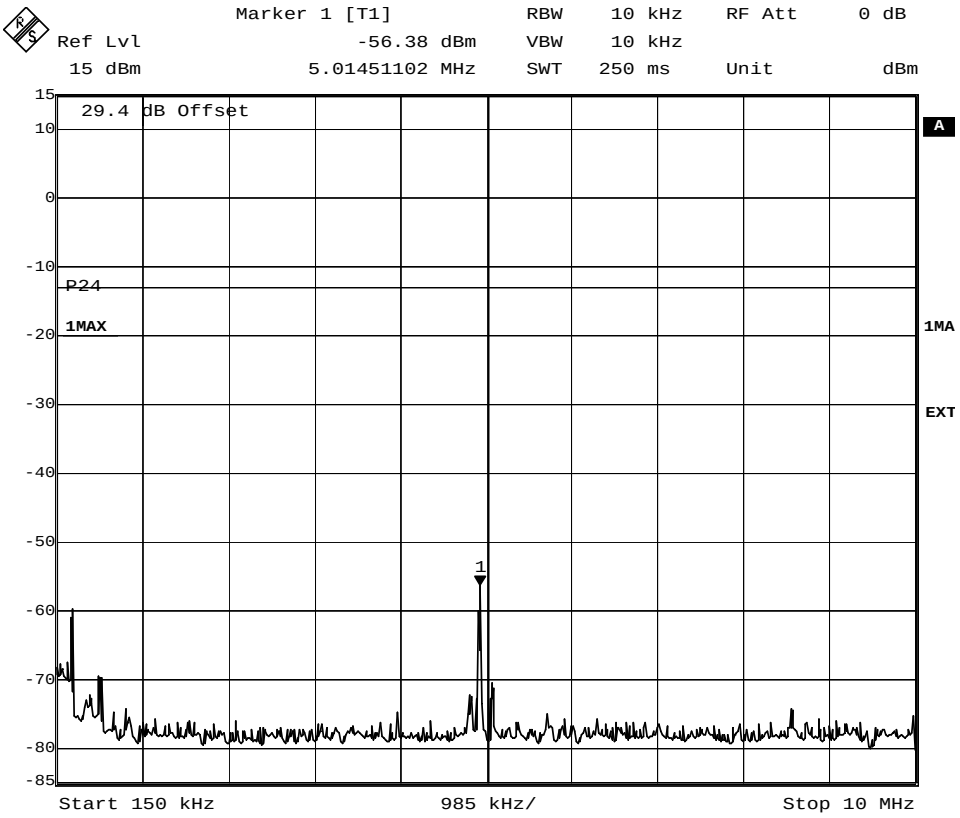
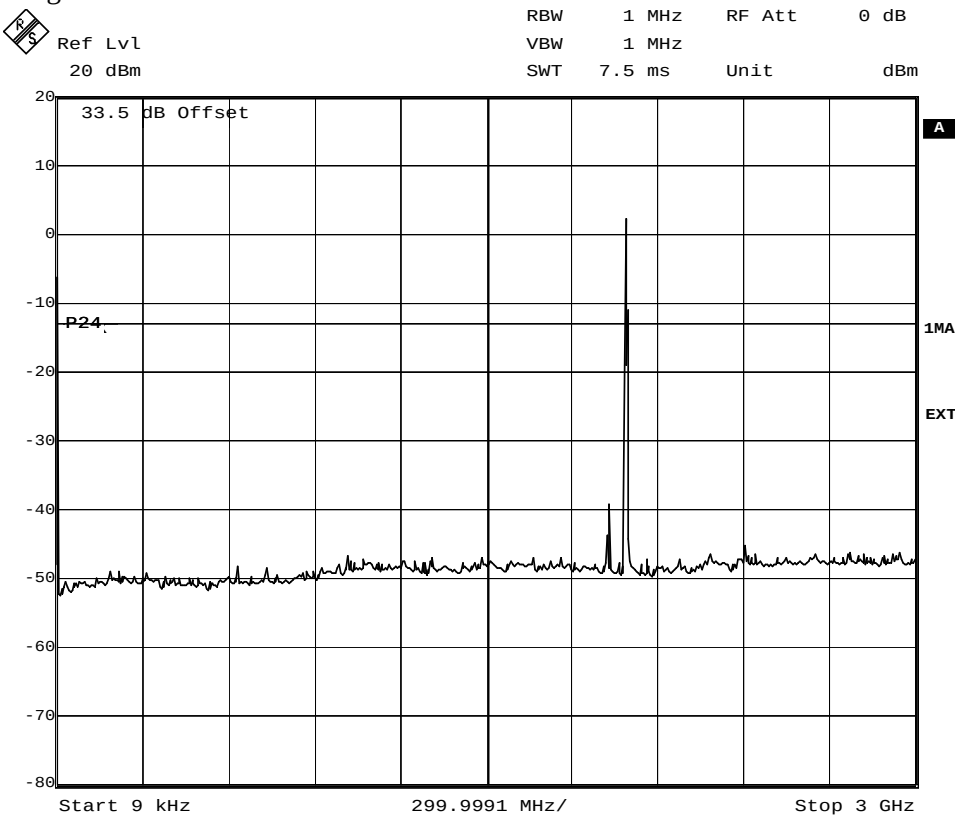
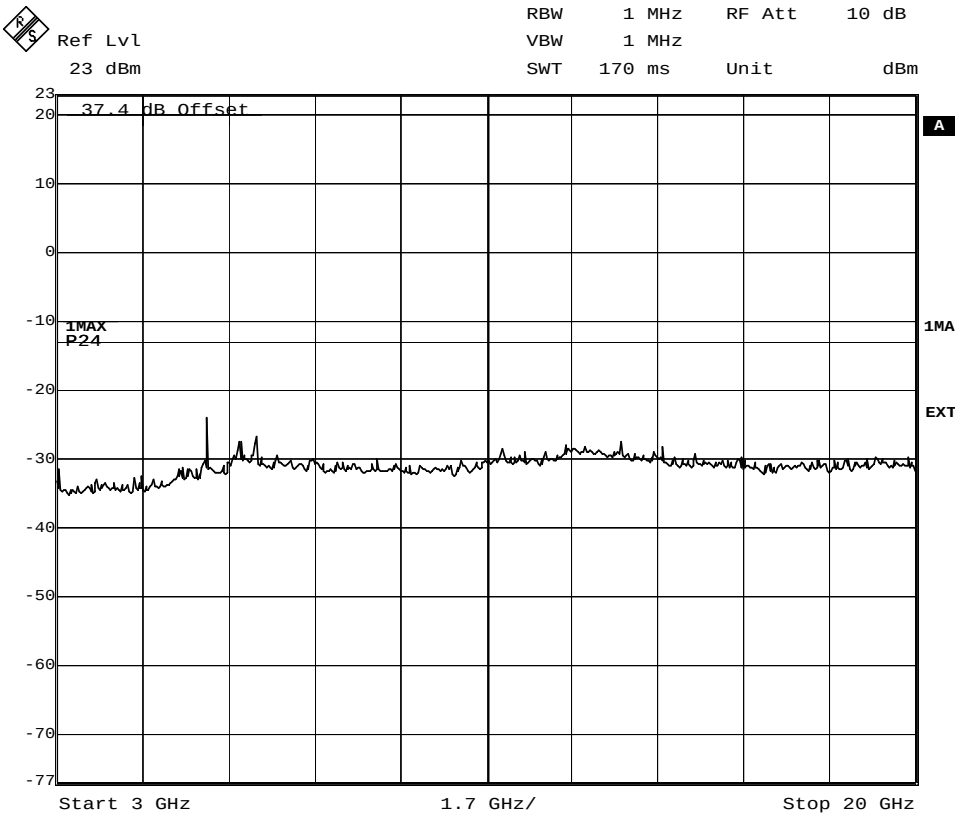


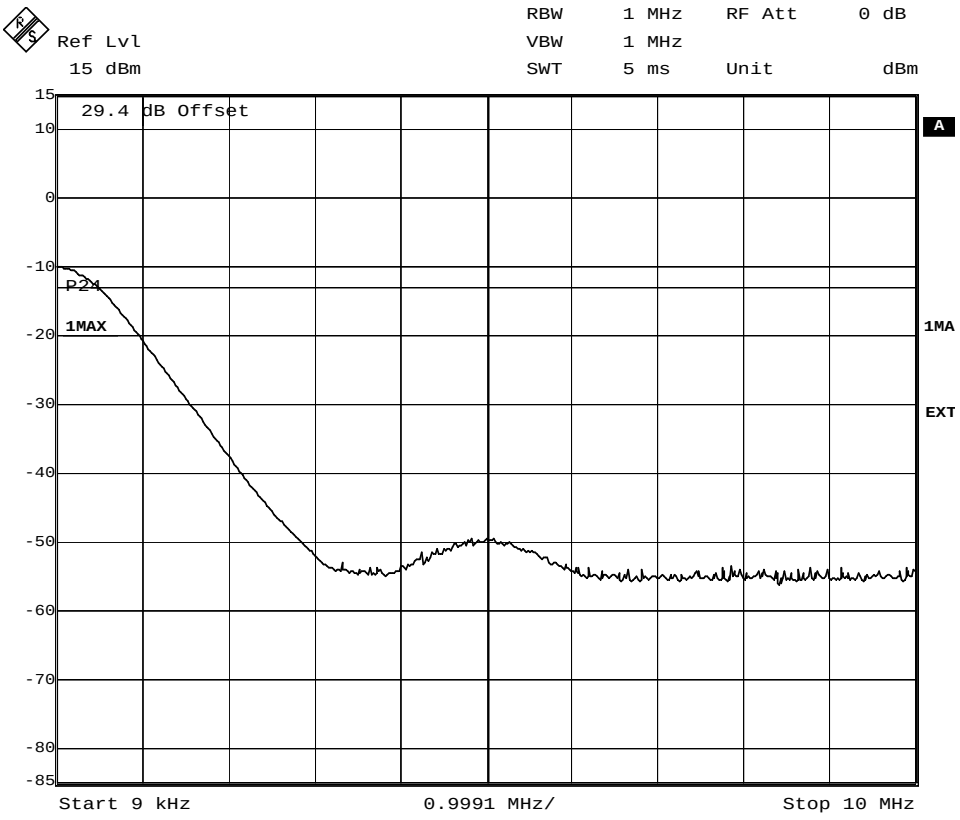
Diagram 11



Date: 5.MAR.2006 15:16:56

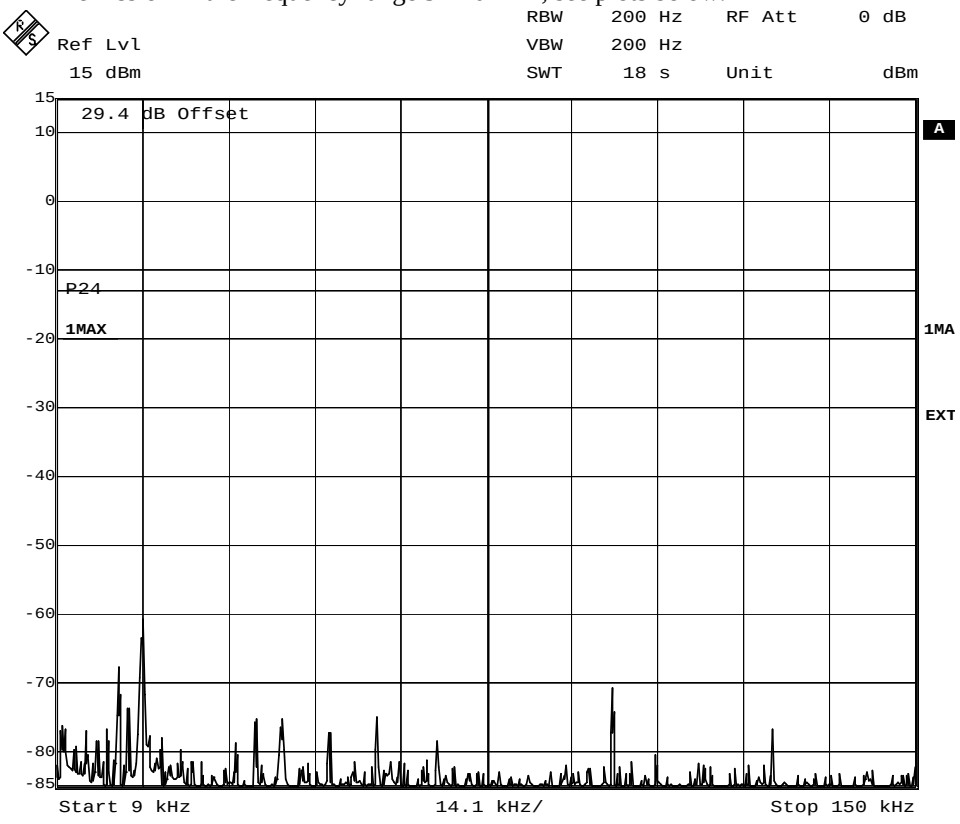


Date: 5.MAR.2006 15:50:36



Date: 5.MAR.2006 14:37:22

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



Date: 5.MAR.2006 14:39:20

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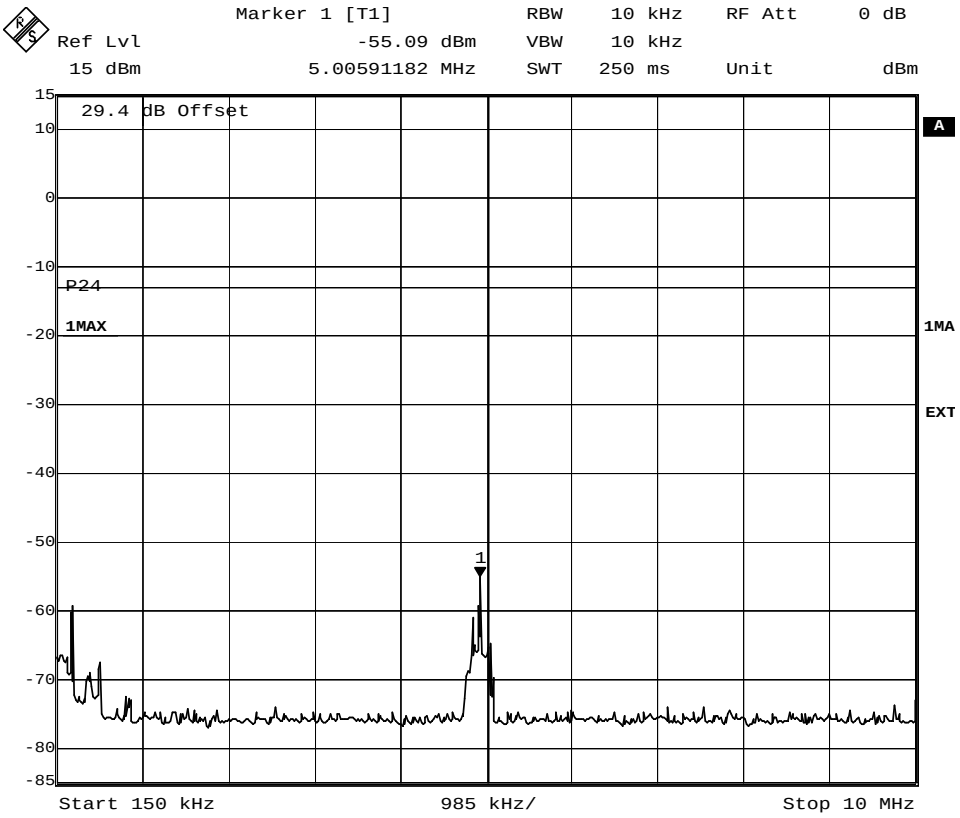
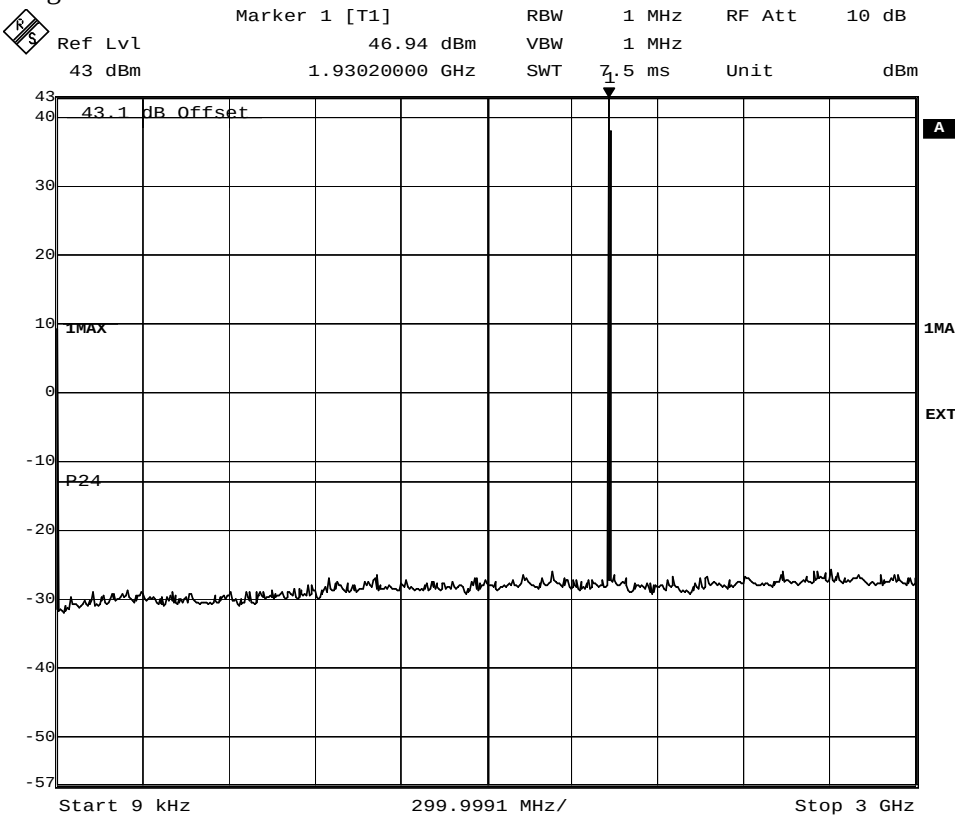


Diagram 12


Marker 1 [T1]
Ref Lvl
43 dBm
46.94 dBm
1.93020000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 20.FEB.2006 09:05:51

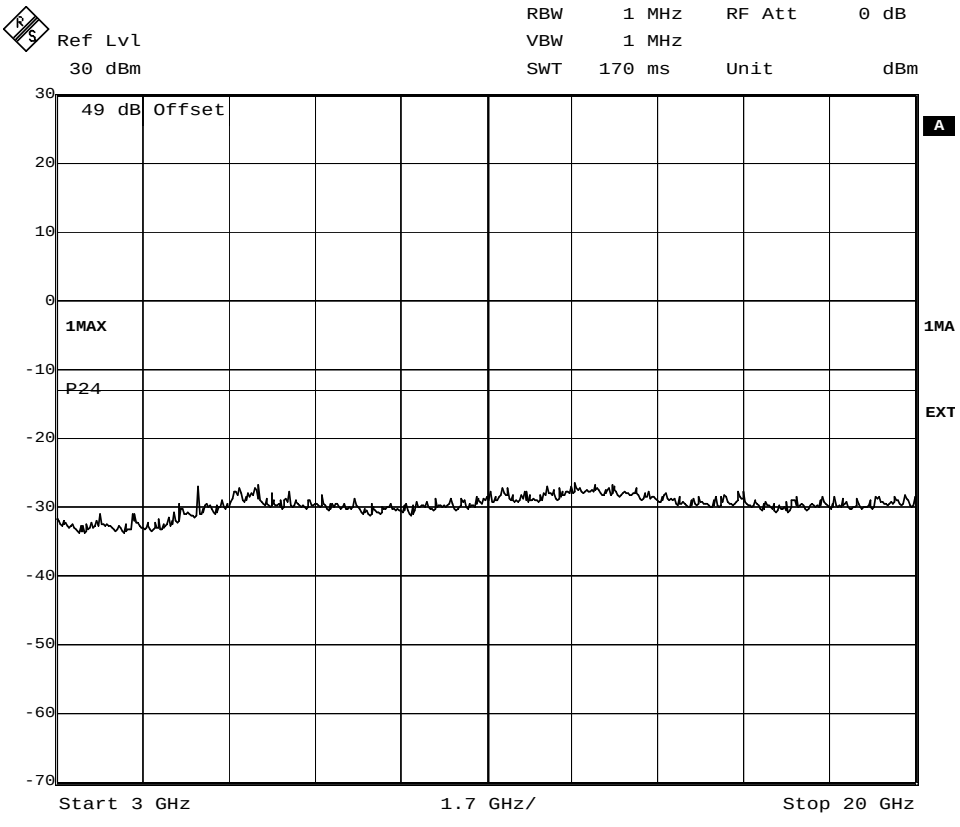
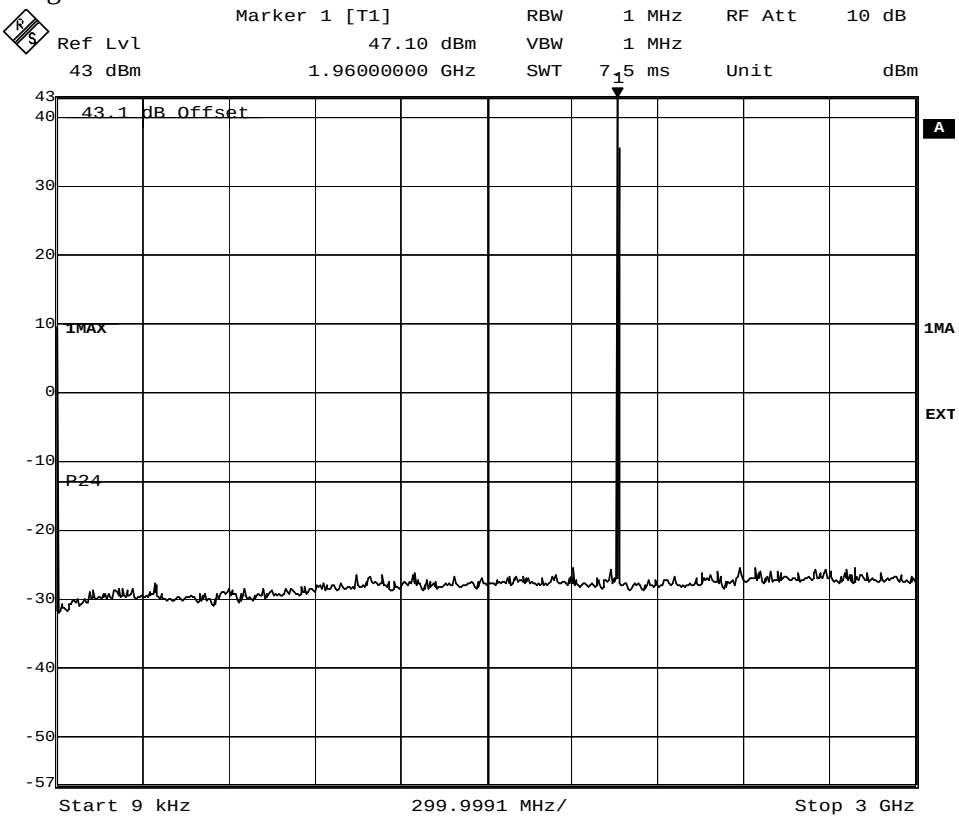
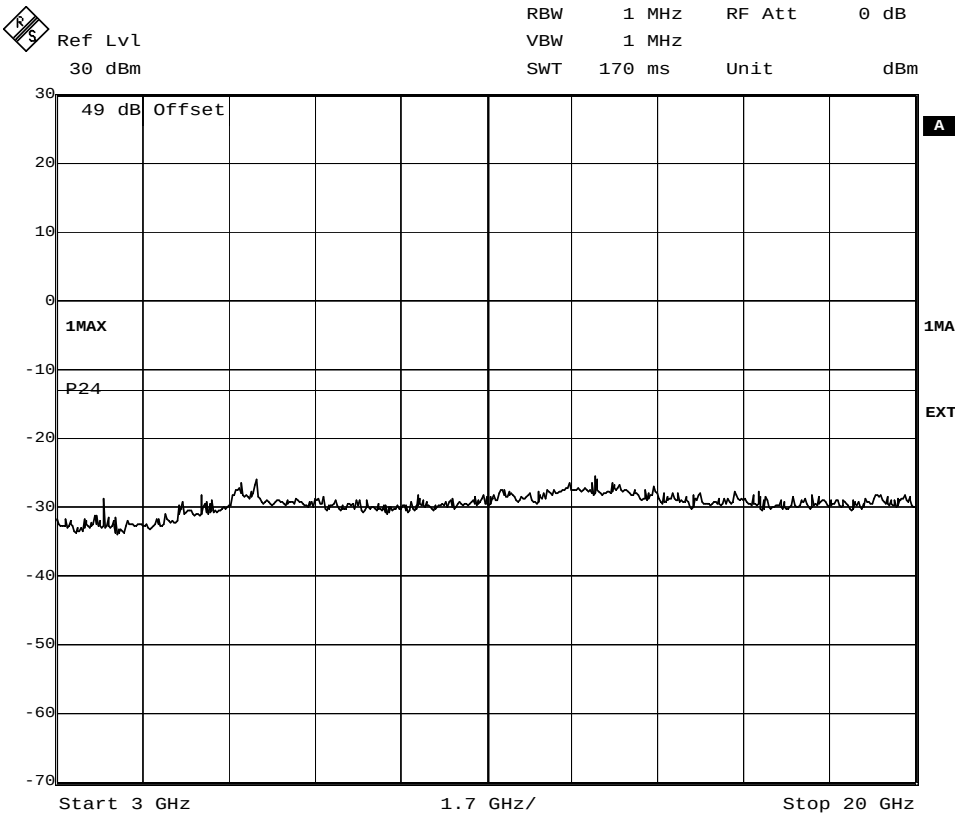

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 20.FEB.2006 09:23:28

Diagram 13

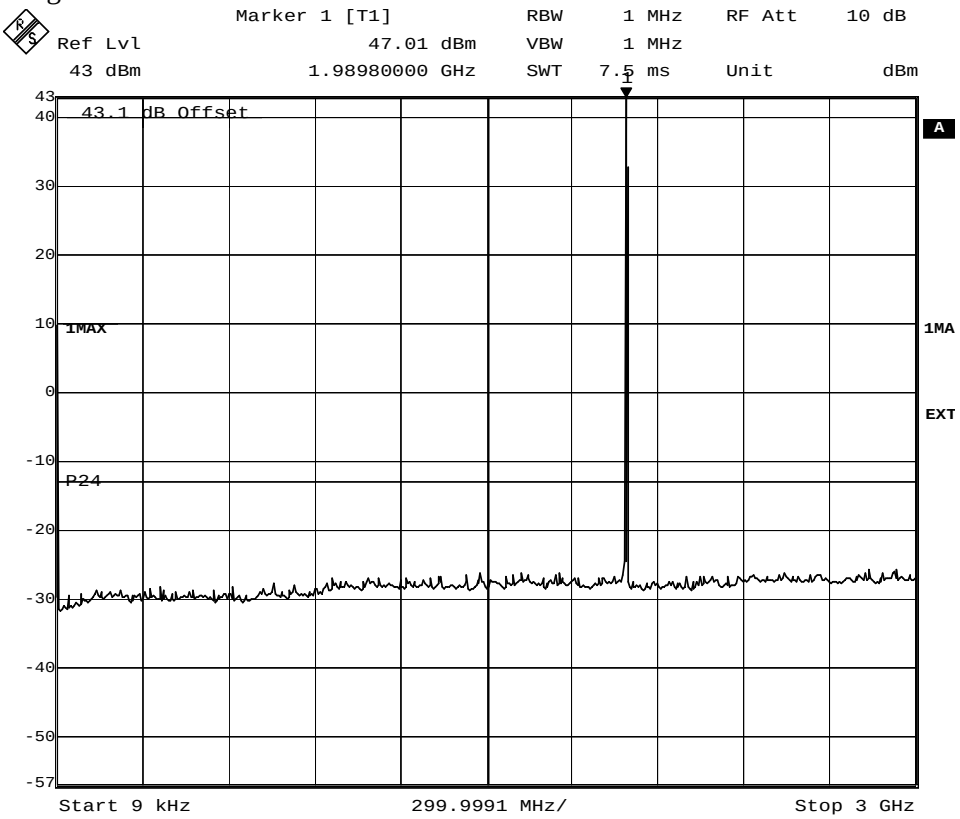


Date: 20.FEB.2006 09:06:46



Date: 20.FEB.2006 09:24:09

Diagram 14


Marker 1 [T1]
Ref Lvl
47.01 dBm
43 dBm
1.98980000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 20.FEB.2006 09:07:32

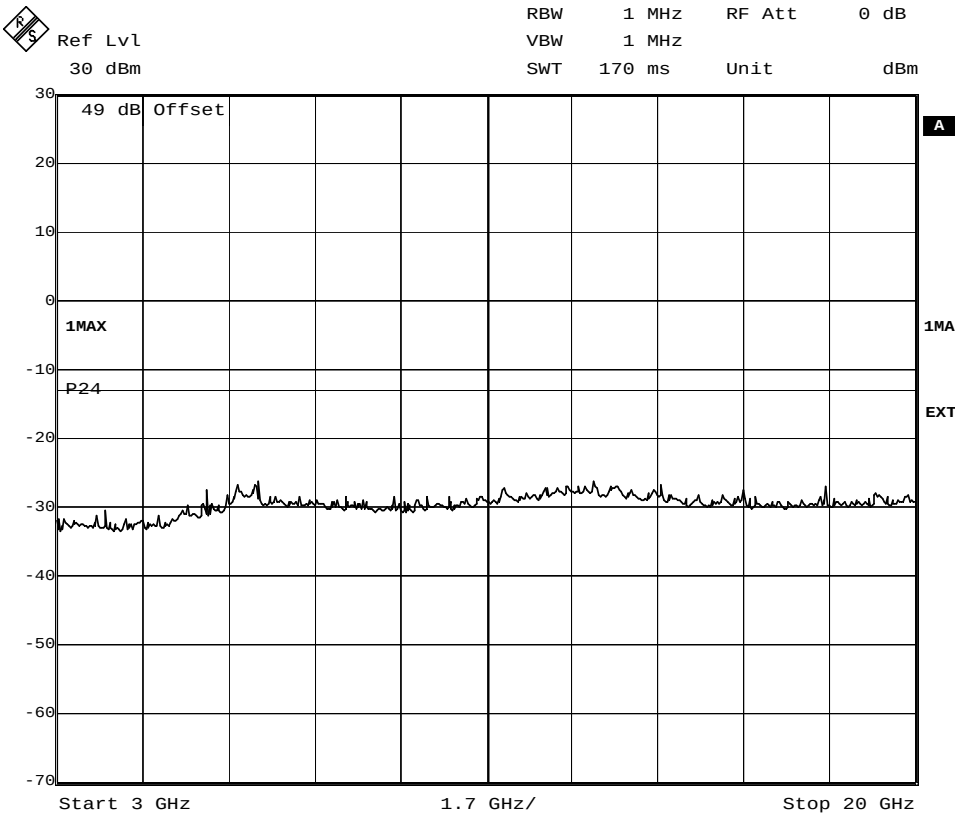
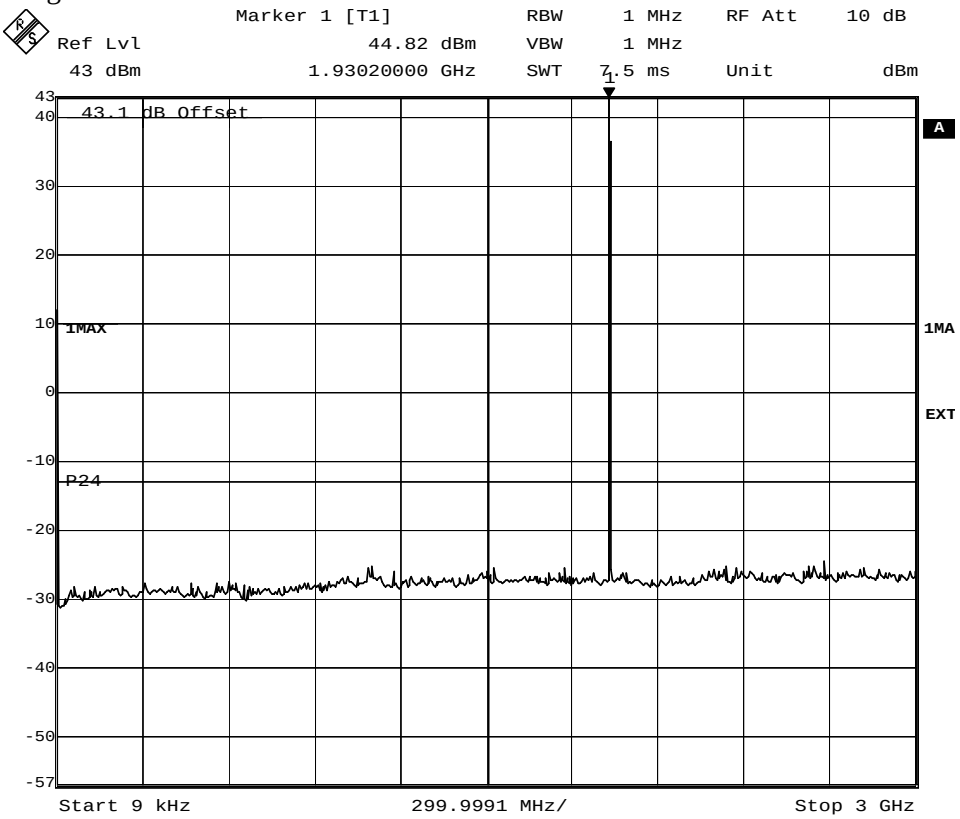

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 20.FEB.2006 09:24:50

Diagram 15


Marker 1 [T1]
Ref Lvl
43 dBm
44.82 dBm
1.93020000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:43:52

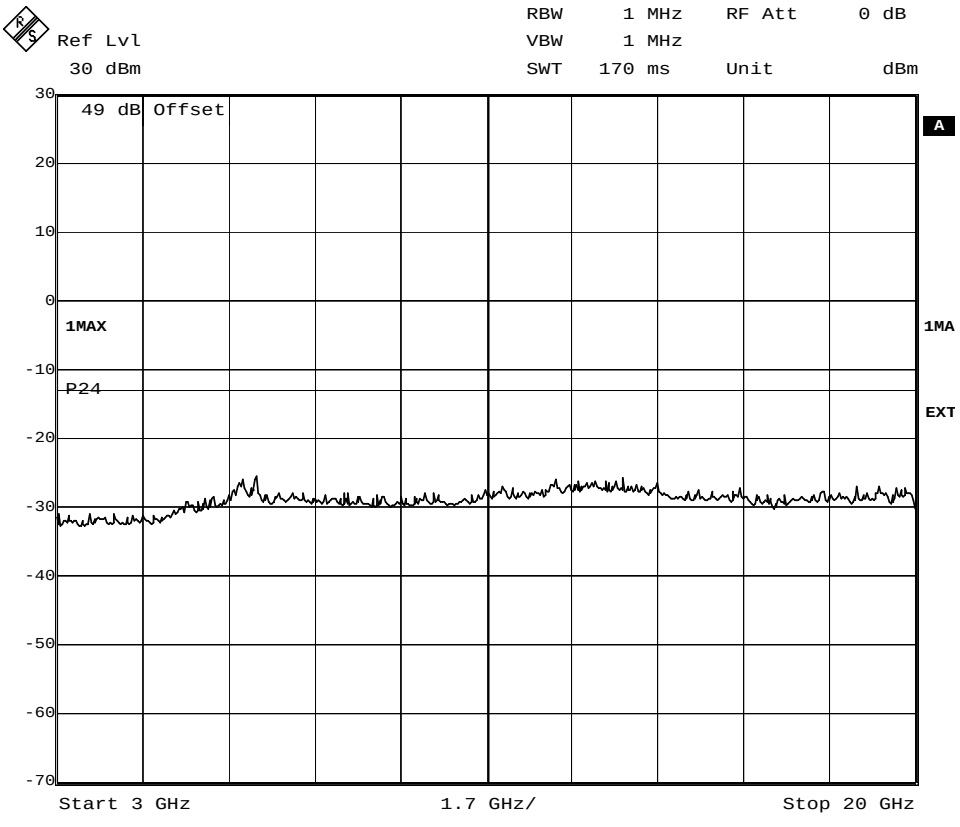
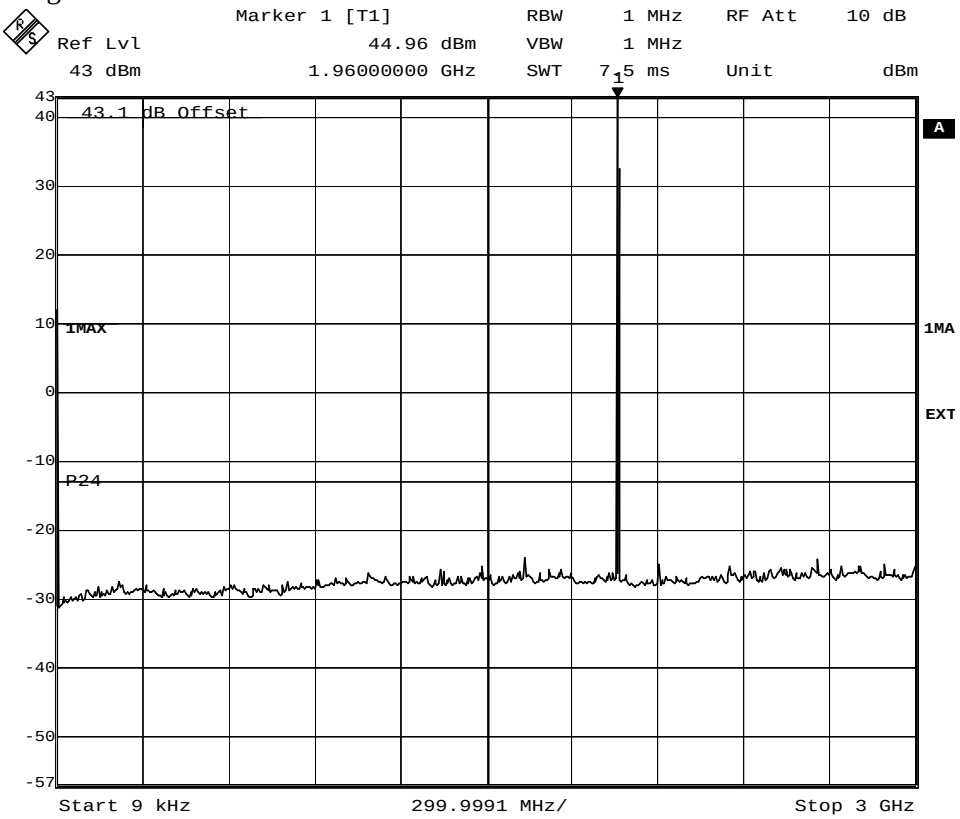

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:18:25

Diagram 16


Marker 1 [T1]
Ref Lvl
44.96 dBm
43 dBm
1.96000000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:44:29

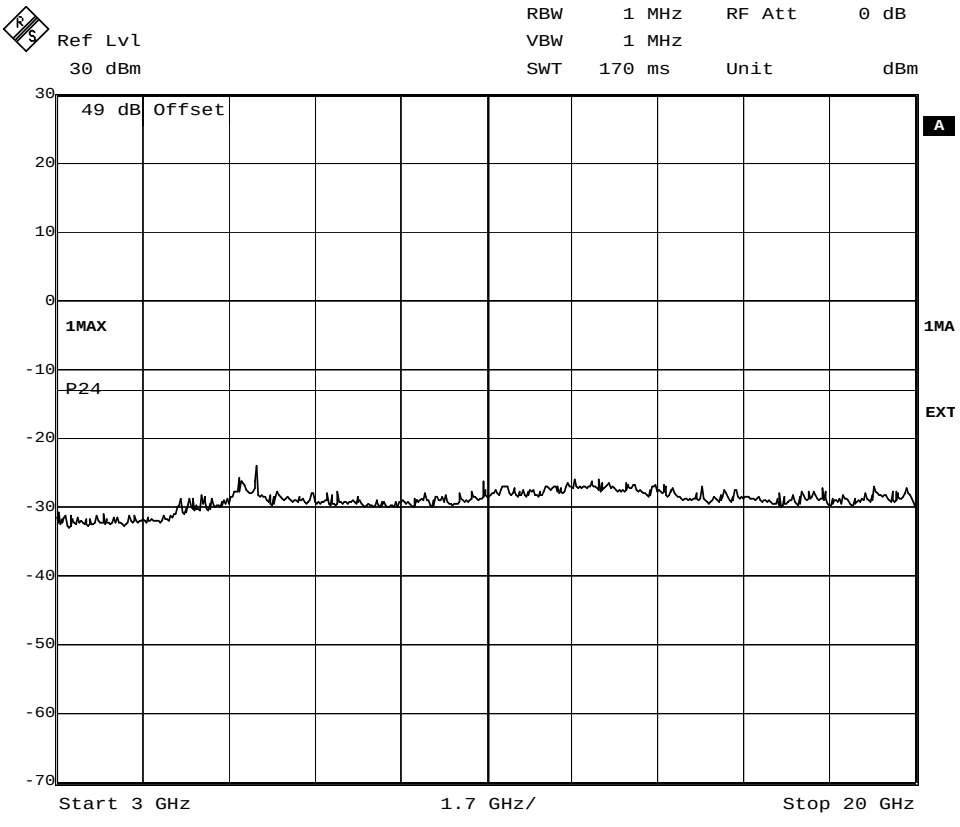
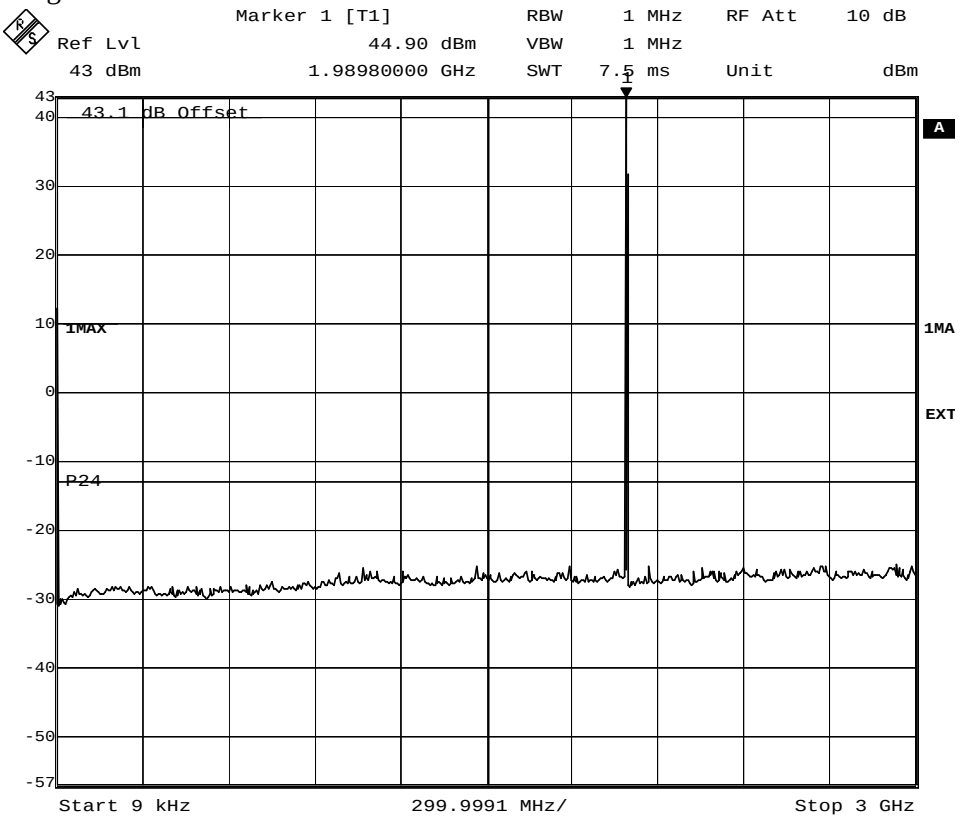

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:06:21

Diagram 17


Marker 1 [T1]
Ref Lvl
44.90 dBm
43 dBm
1.98980000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
43
40
30
20
10
0
-10
-20
-30
-40
-50
-57
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:45:23

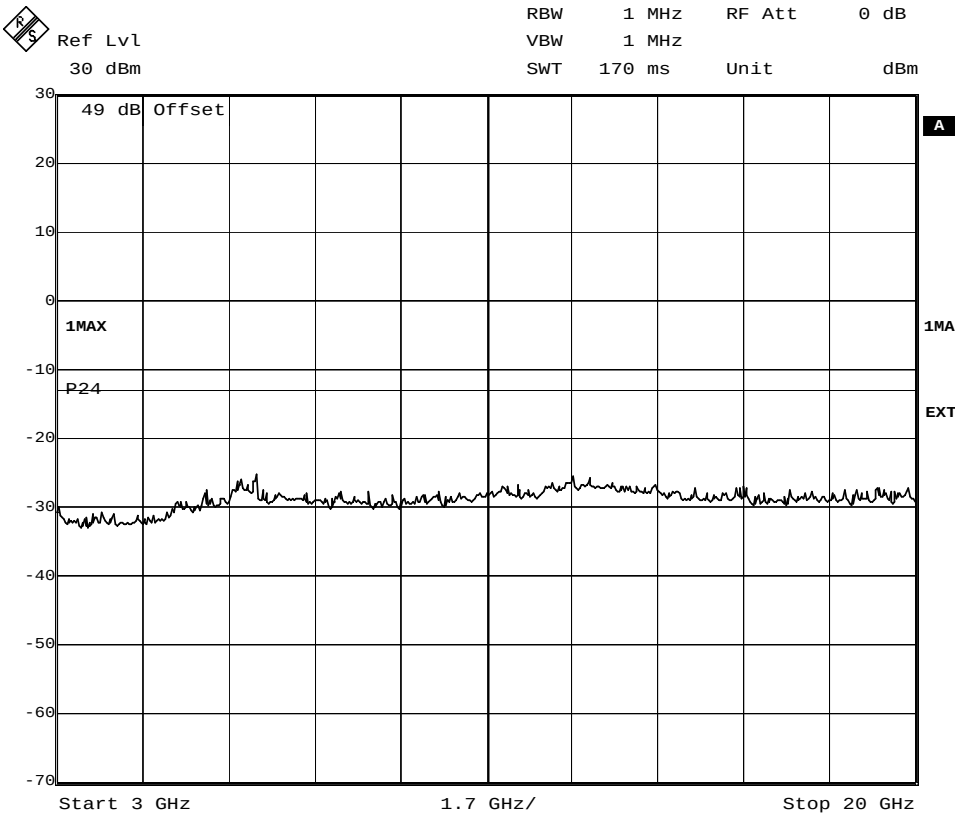
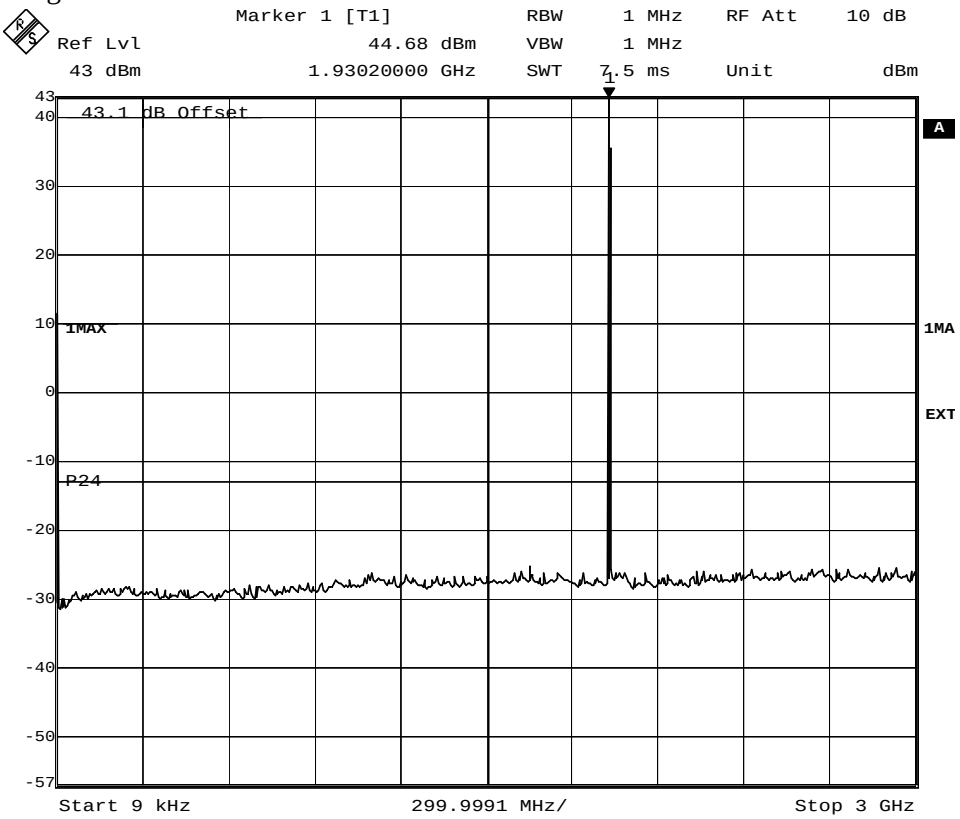

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:19:30

Diagram 18


Marker 1 [T1]
Ref Lvl
43 dBm
44.68 dBm
1.93020000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:34:43

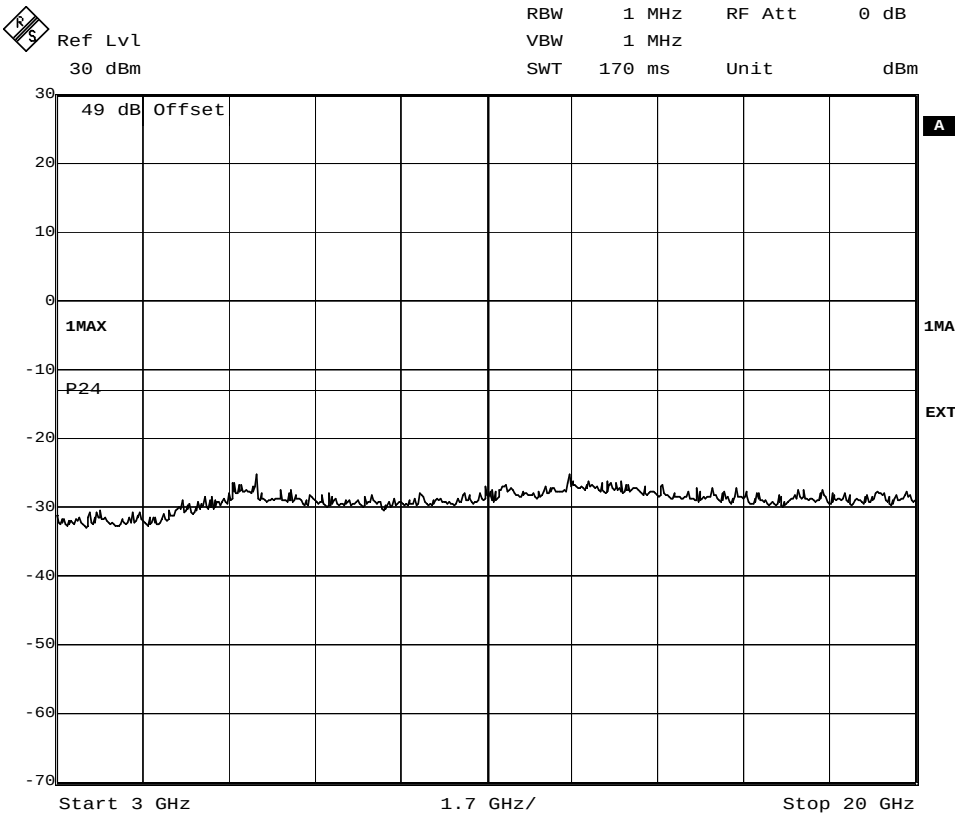
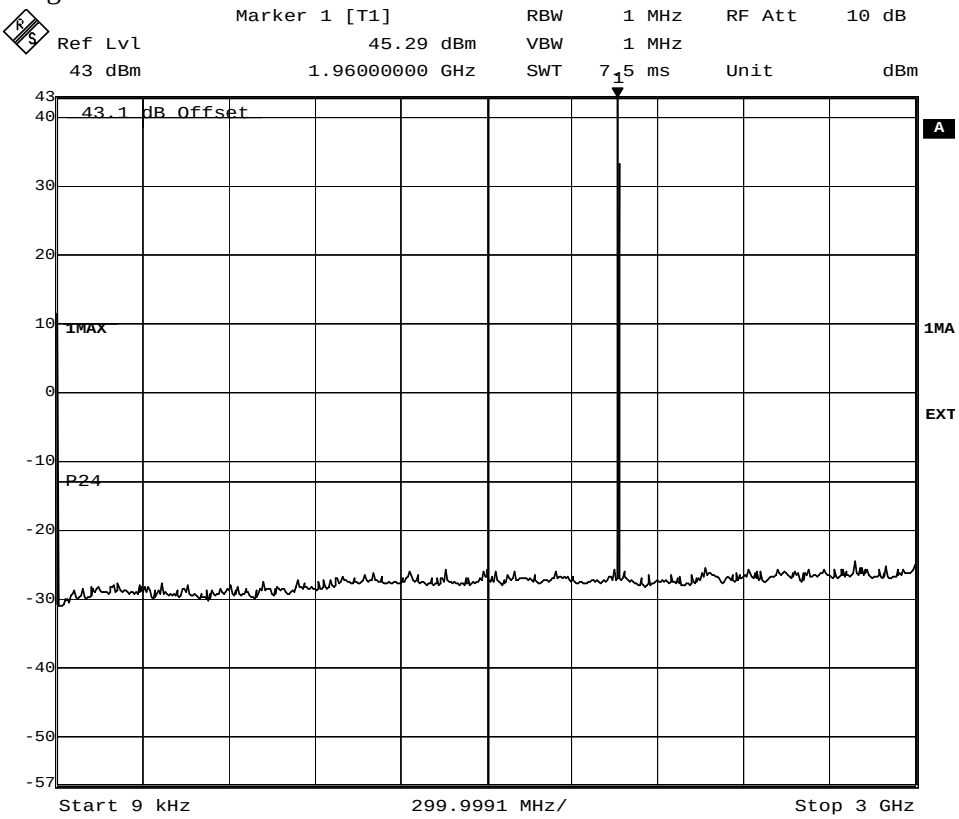
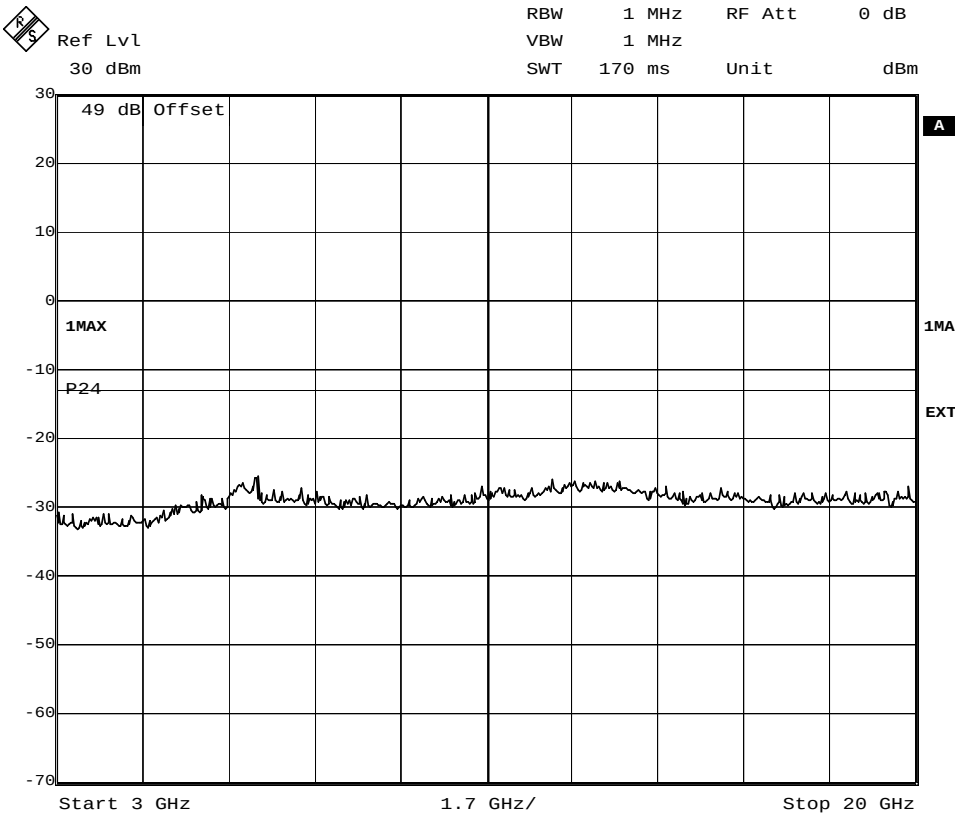

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:27:48

Diagram 19

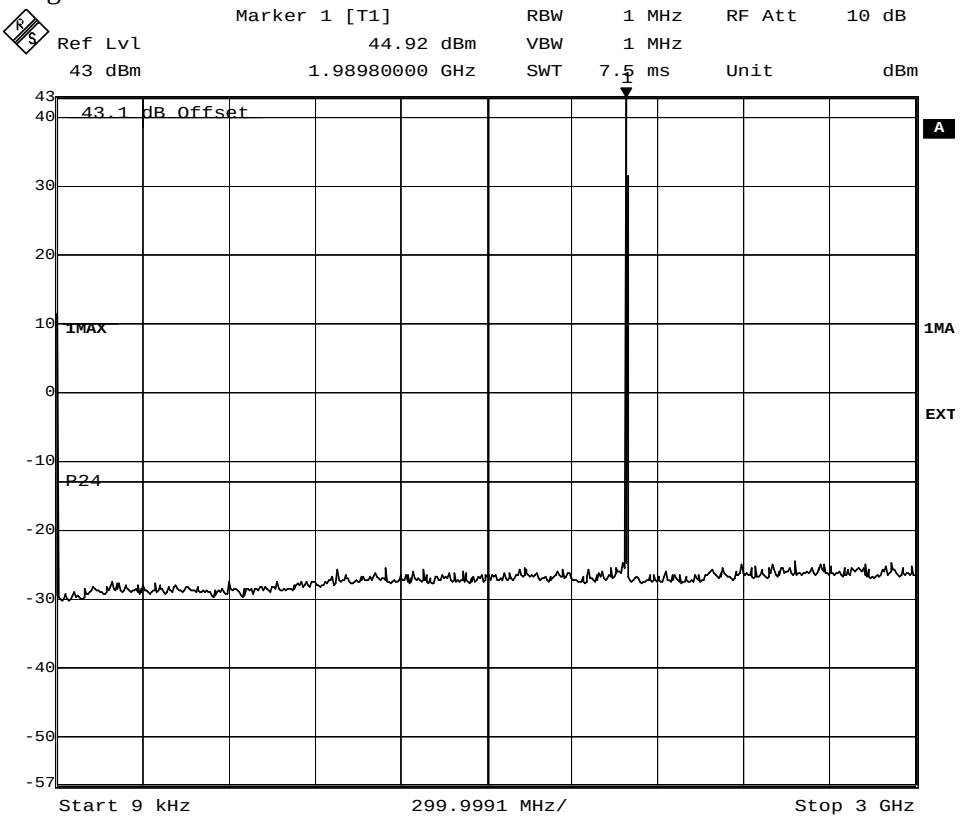


Date: 17.FEB.2006 16:33:50



Date: 17.FEB.2006 16:28:22

Diagram 20


Marker 1 [T1]
Ref Lvl
44.92 dBm
43 dBm
1.98980000 GHz
RBW 1 MHz
VBW 1 MHz
SWT 7.5 ms
RF Att 10 dB
Unit dBm
43.1 dB Offset
1MAX
P24
A
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 17.FEB.2006 16:32:52

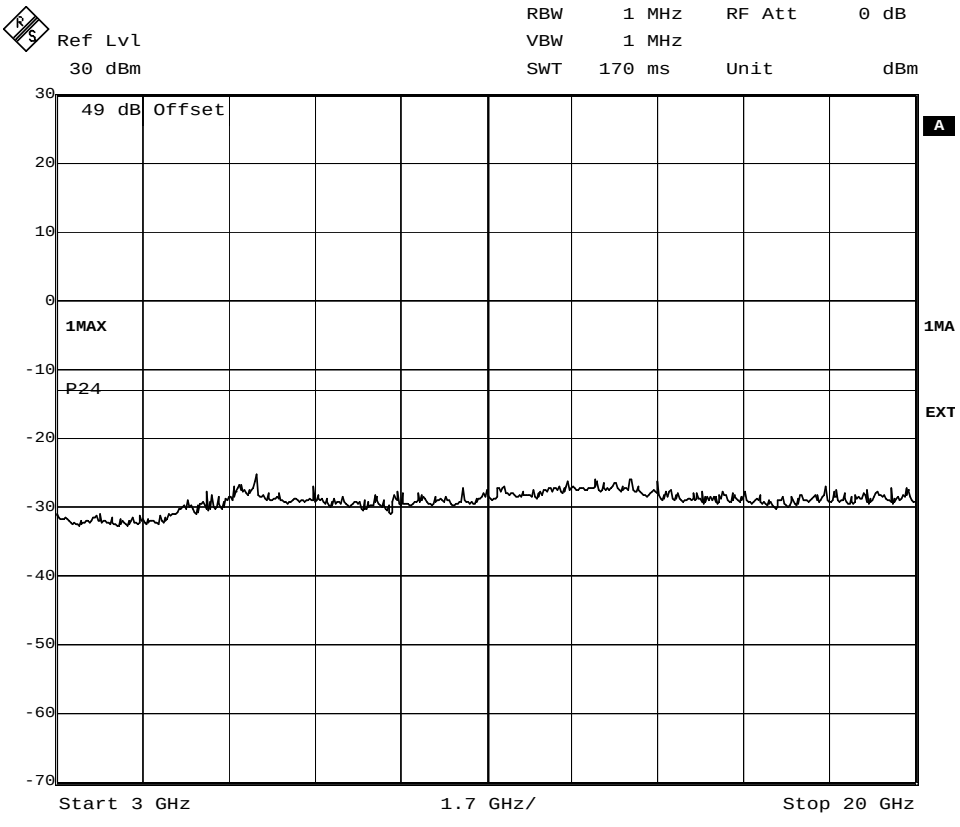
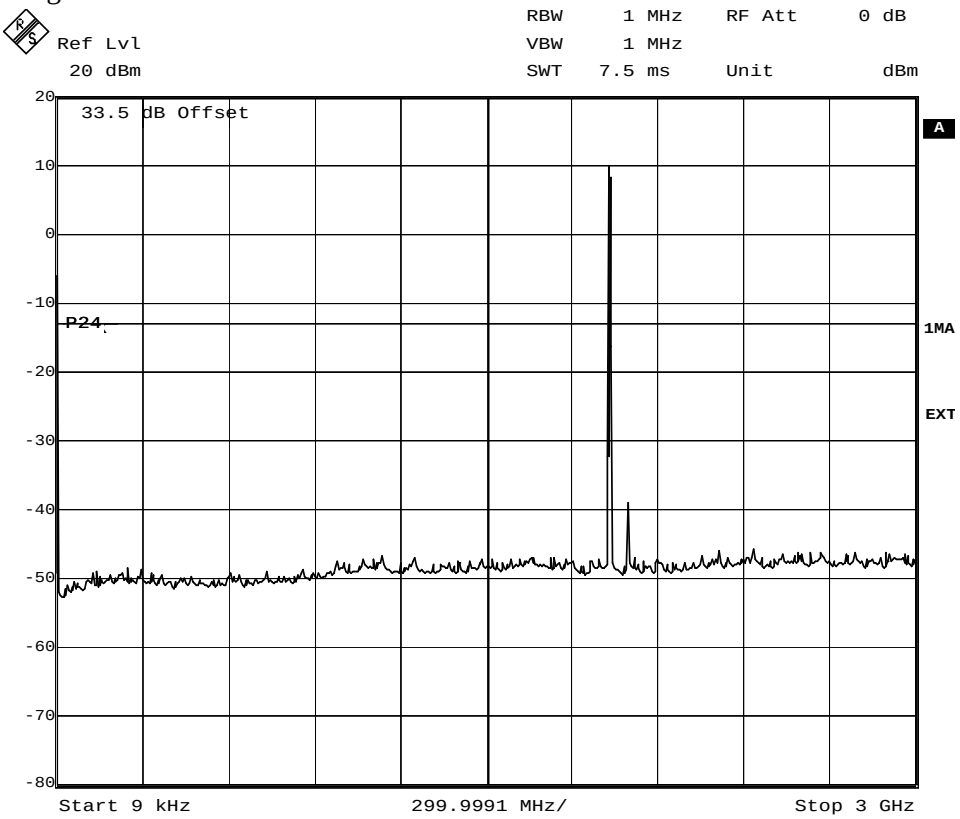
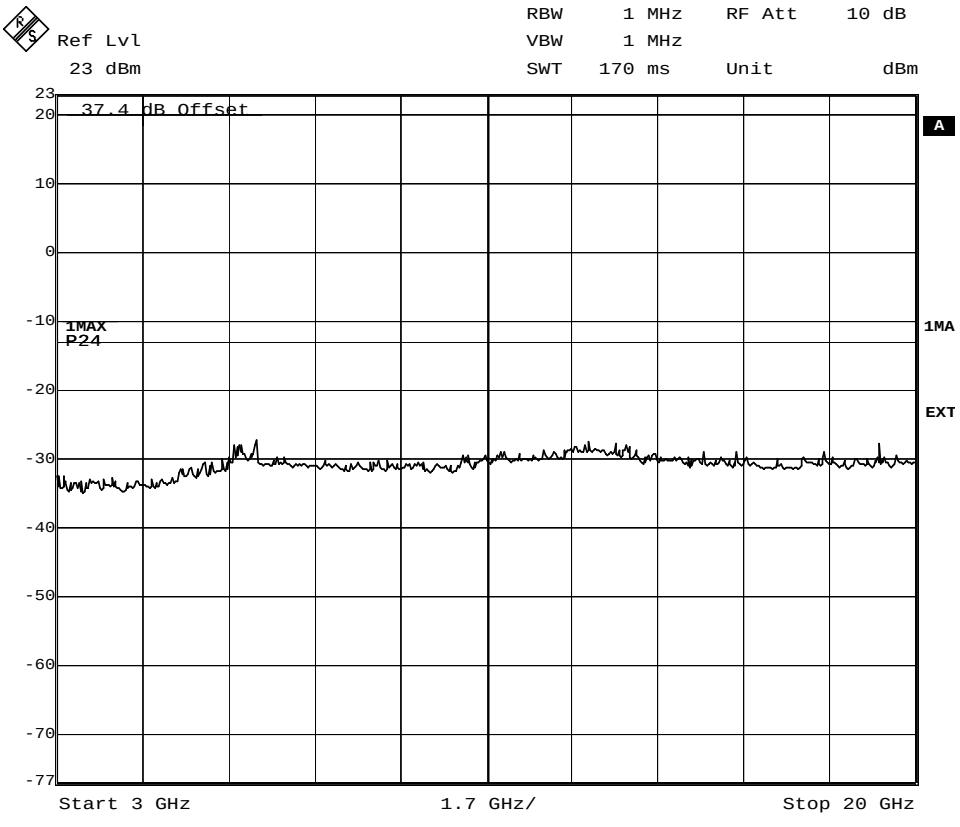
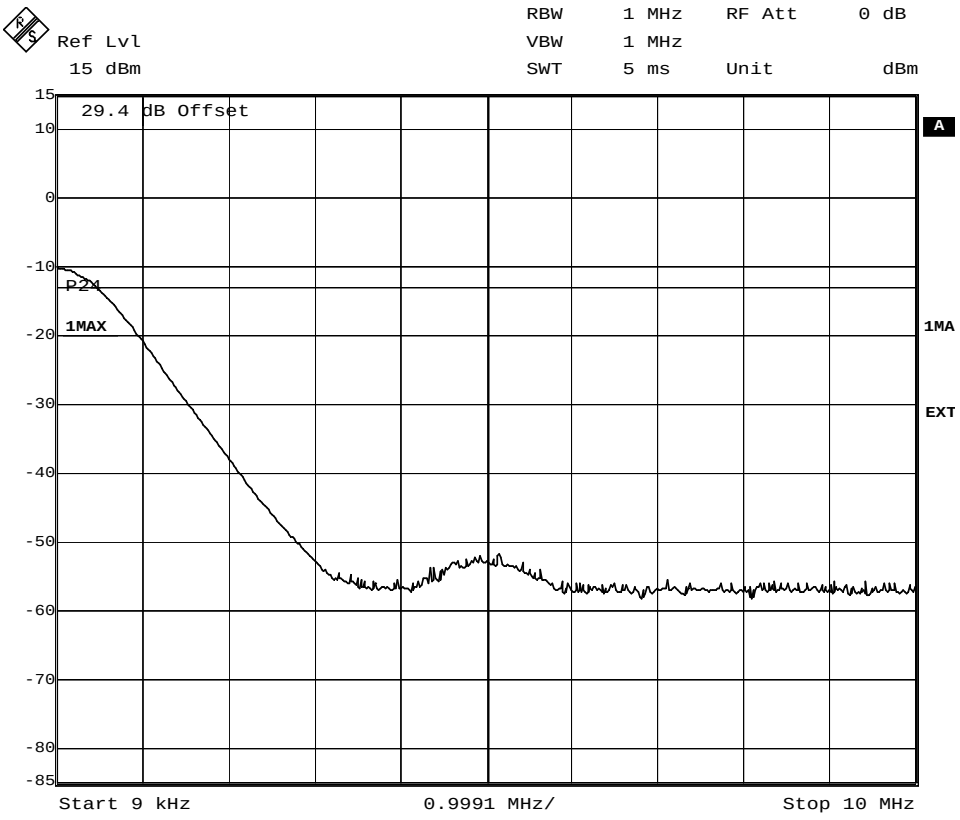

Ref Lvl
30 dBm
RBW 1 MHz
VBW 1 MHz
SWT 170 ms
RF Att 0 dB
Unit dBm
49 dB Offset
1MAX
P24
A
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 17.FEB.2006 16:28:58

Diagram 21

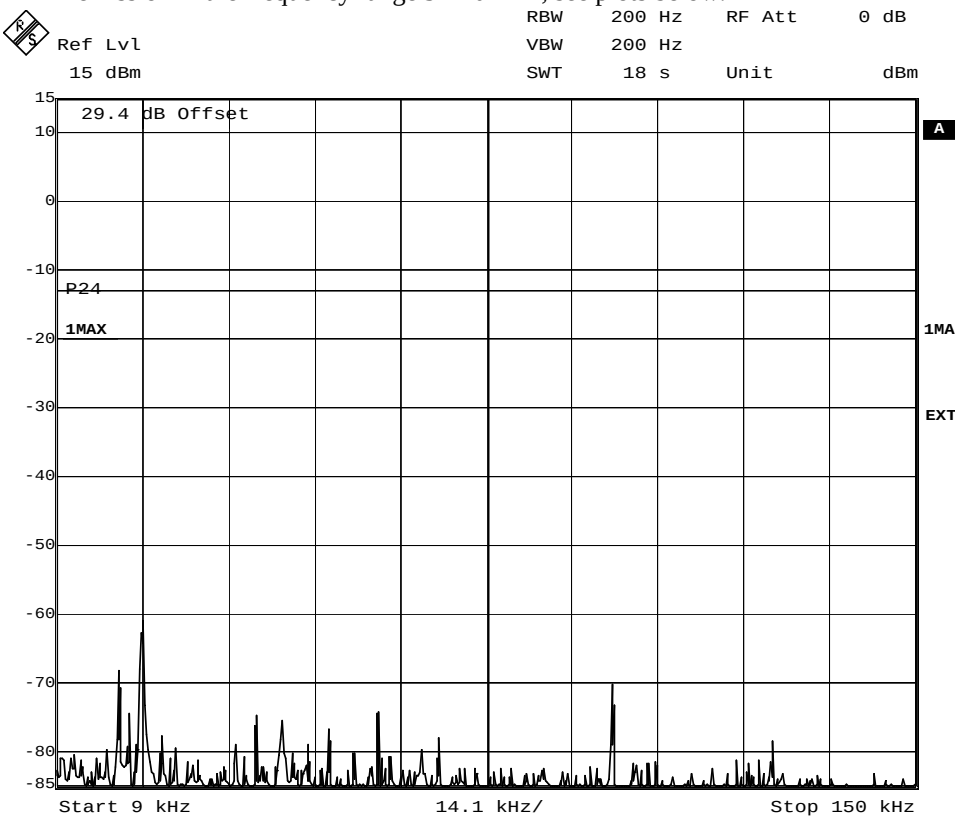

RBW 1 MHz
RF Att 0 dB
VBW 1 MHz
Ref Lvl
20 dBm
SWT 7.5 ms
Unit dBm
33.5 dB Offset
A
P24
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 5.MAR.2006 15:24:59


RBW 1 MHz
RF Att 10 dB
VBW 1 MHz
Ref Lvl
23 dBm
SWT 170 ms
Unit dBm
37.4 dB Offset
A
1MAX
P24
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 5.MAR.2006 15:55:21



Date: 5.MAR.2006 15:27:03

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



Date: 5.MAR.2006 15:30:40

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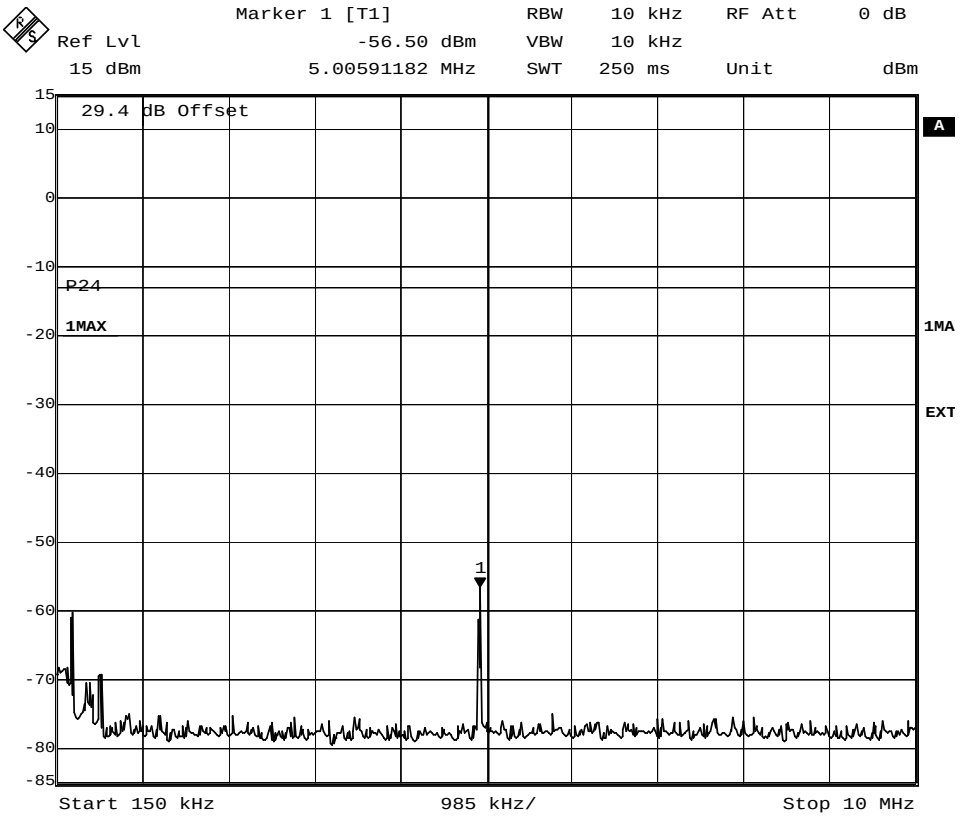
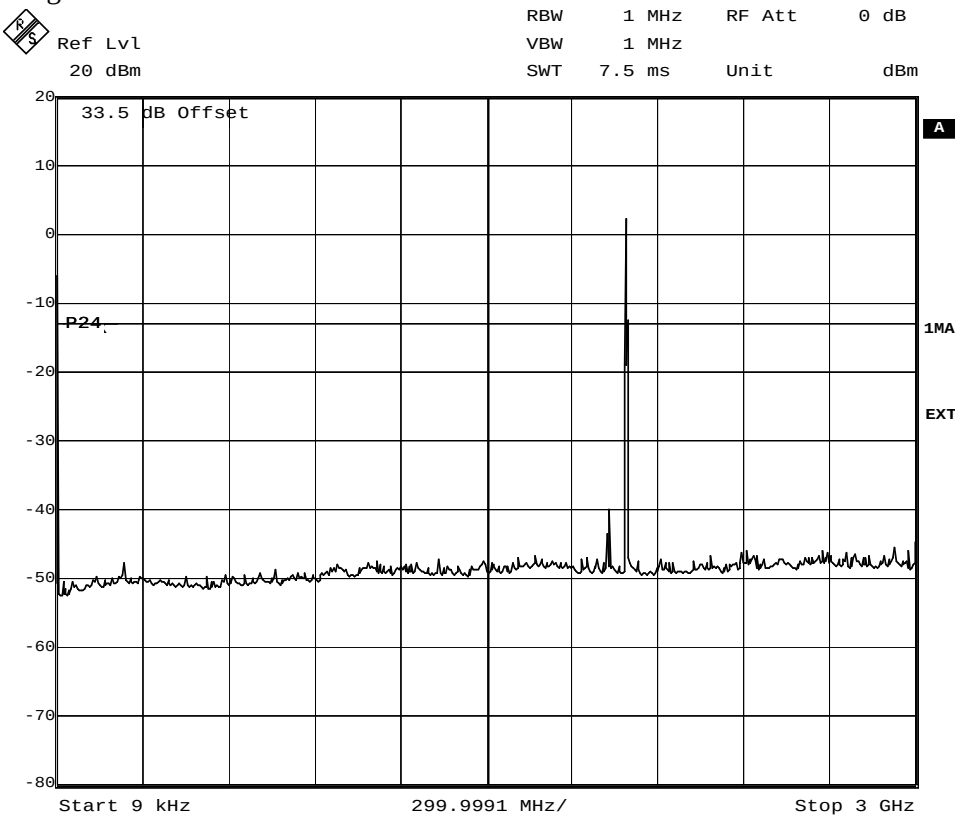
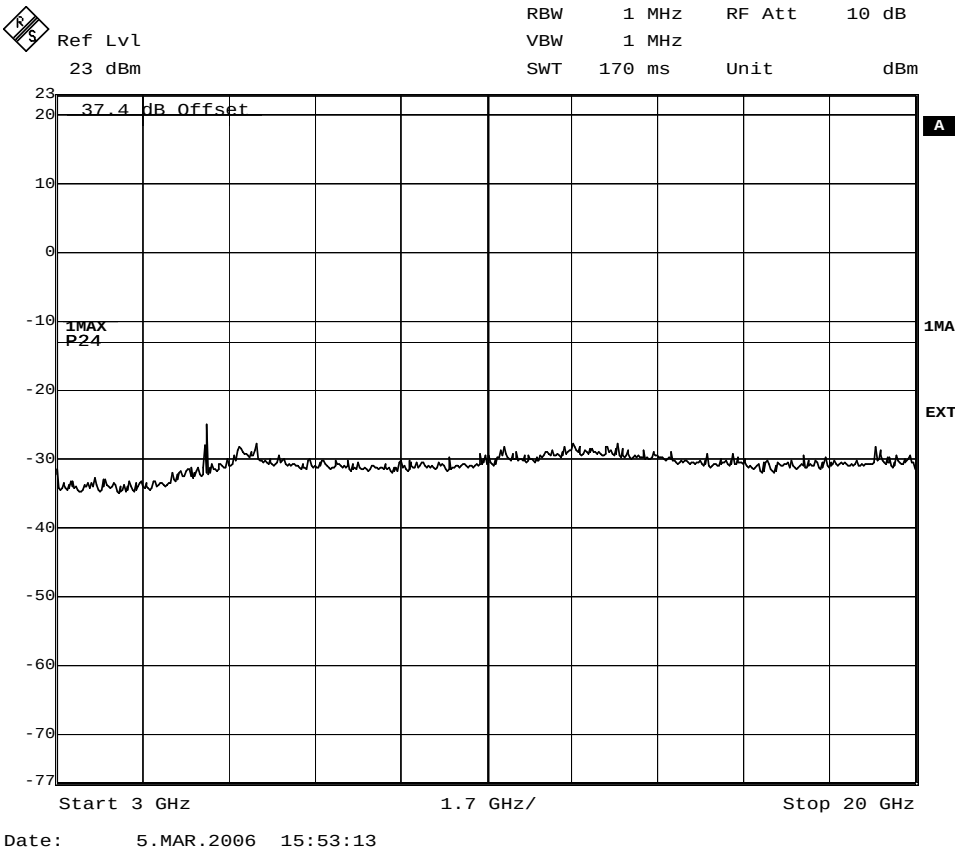
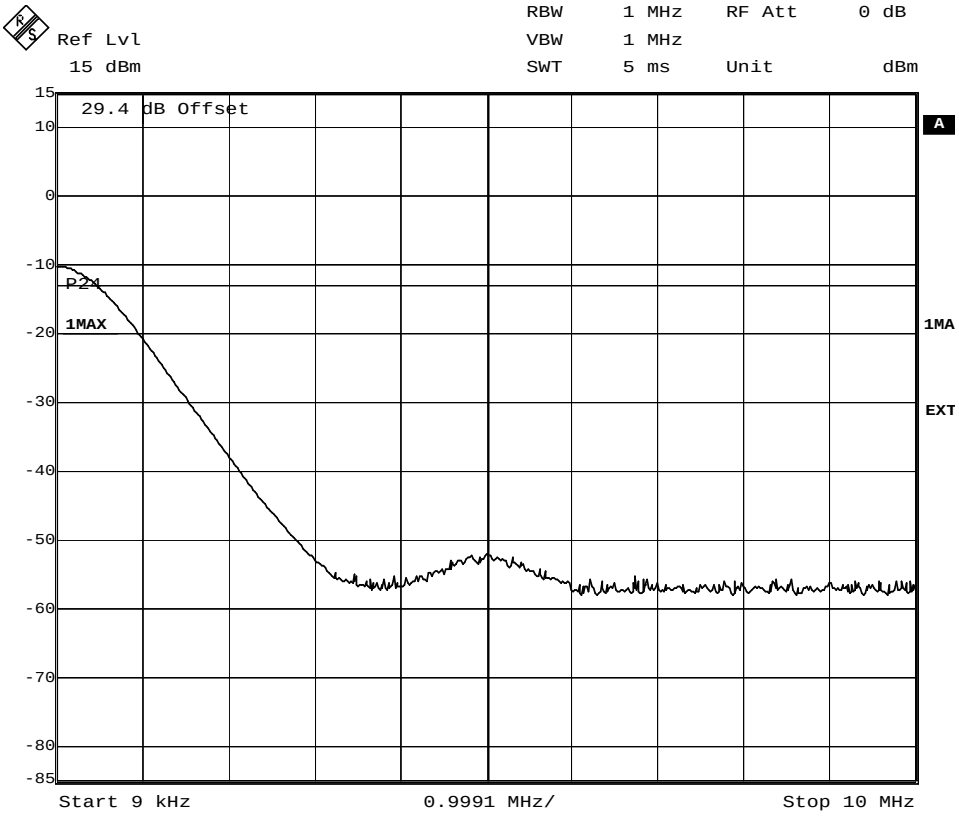


Diagram 22

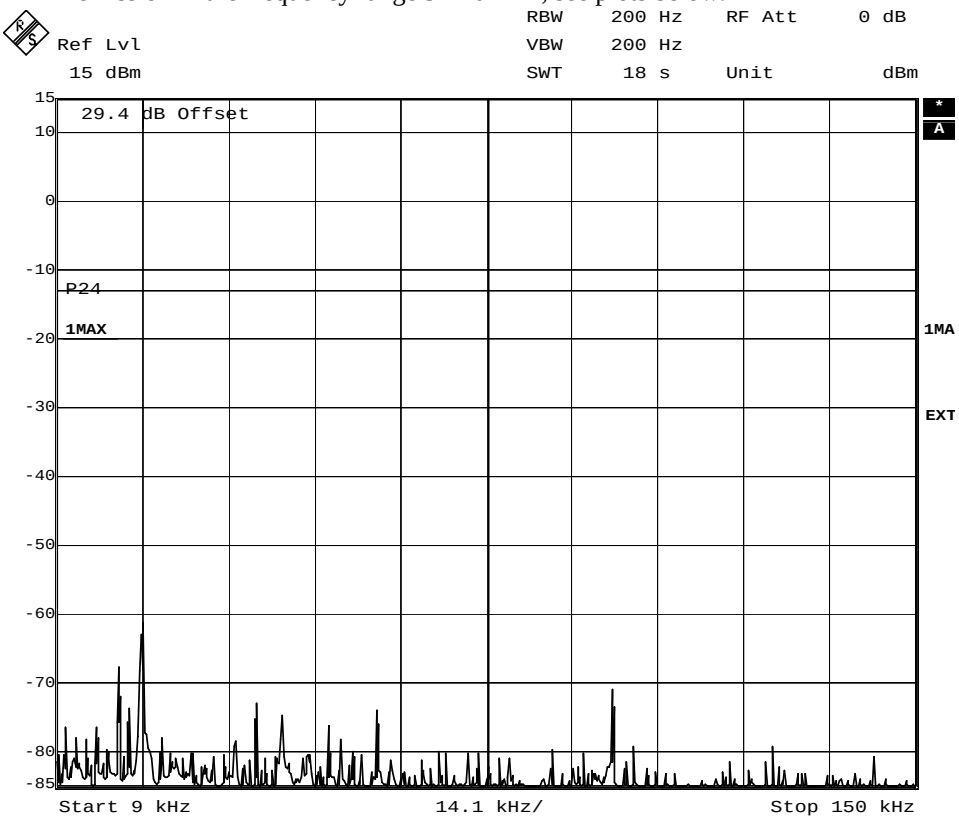

RBW 1 MHz
RF Att 0 dB
VBW 1 MHz
Ref Lvl
20 dBm
SWT 7.5 ms
Unit dBm
33.5 dB Offset
A
1MA
EXT
P24
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 5.MAR.2006 15:15:36


RBW 1 MHz
RF Att 10 dB
VBW 1 MHz
Ref Lvl
23 dBm
SWT 170 ms
Unit dBm
37.4 dB Offset
A
1MA
EXT
1MAX
P24
23
20
10
0
-10
-20
-30
-40
-50
-60
-70
-77
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 5.MAR.2006 15:53:13



Date: 5.MAR.2006 15:09:54

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



Date: 5.MAR.2006 15:12:19

FCC ID: B5KDKRC1311004-2 Appendix 5.1

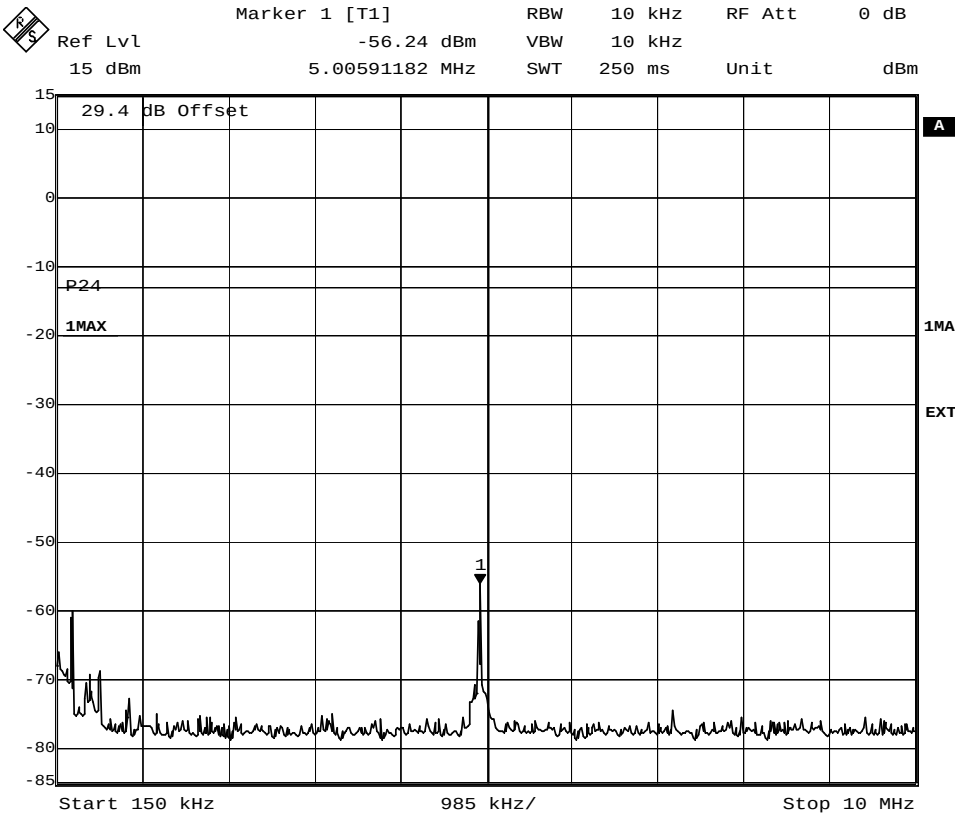
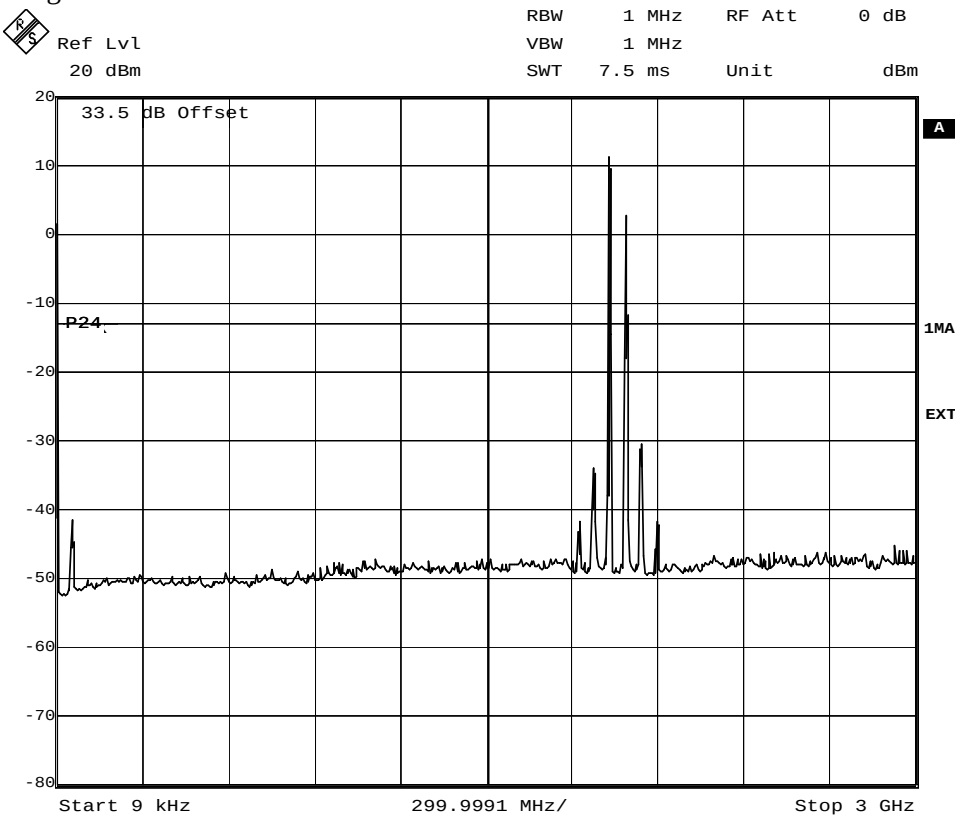
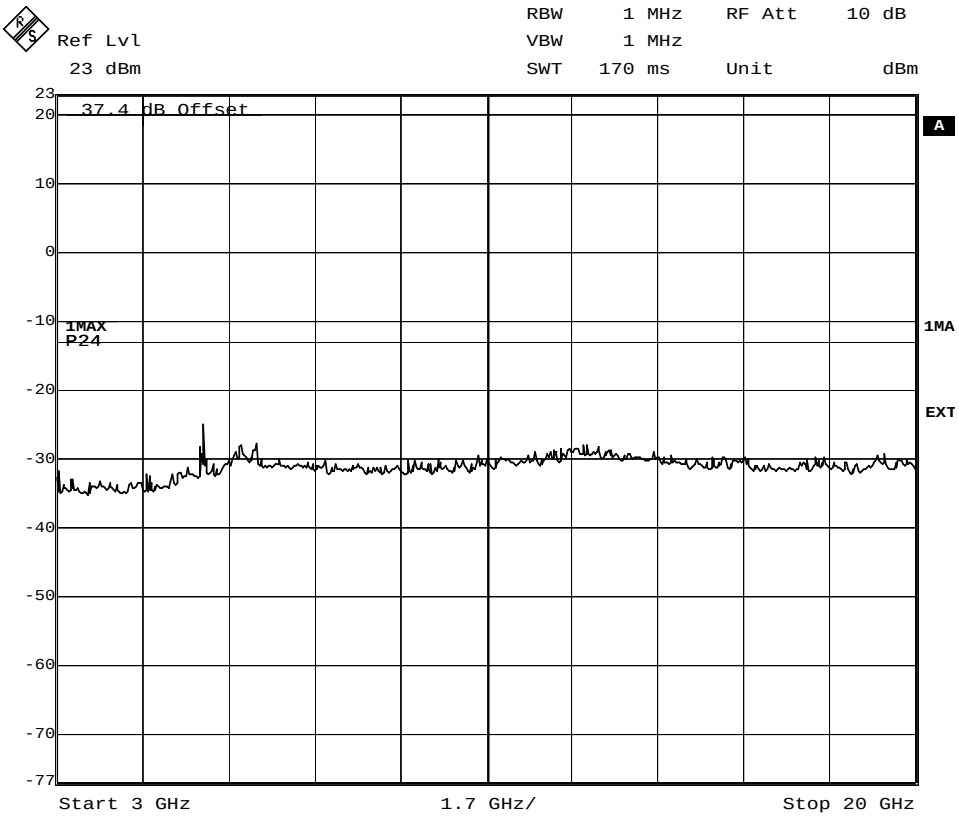


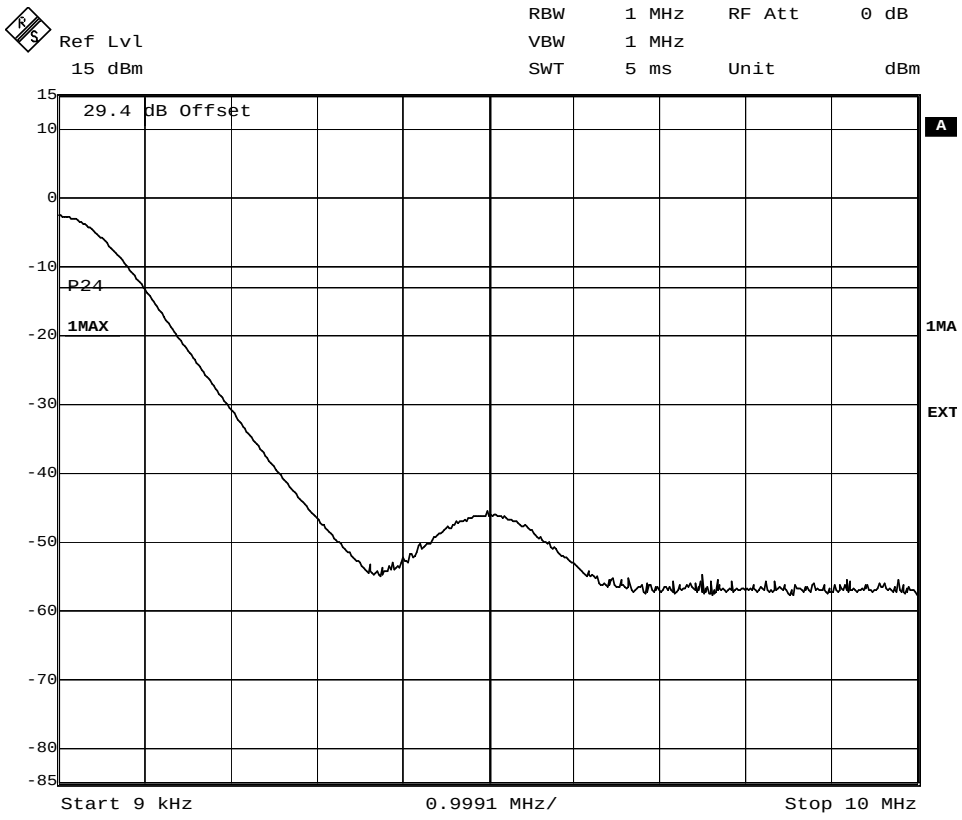
Diagram 23



Date: 4.MAR.2006 13:56:10

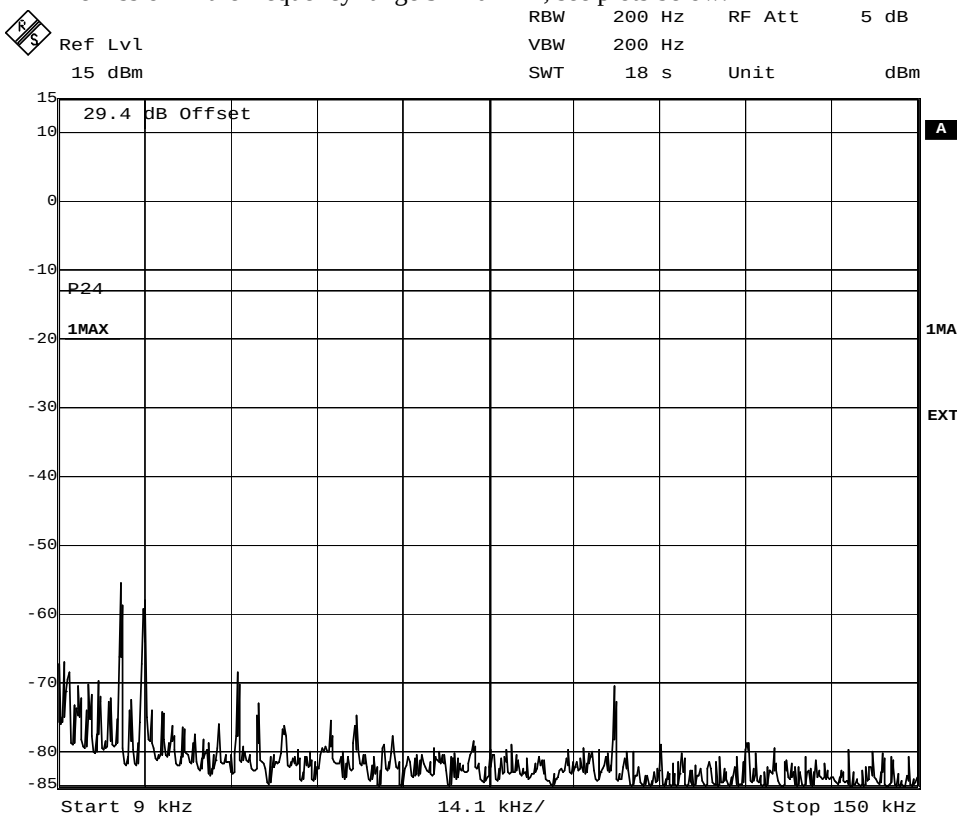


Date: 4.MAR.2006 13:51:57



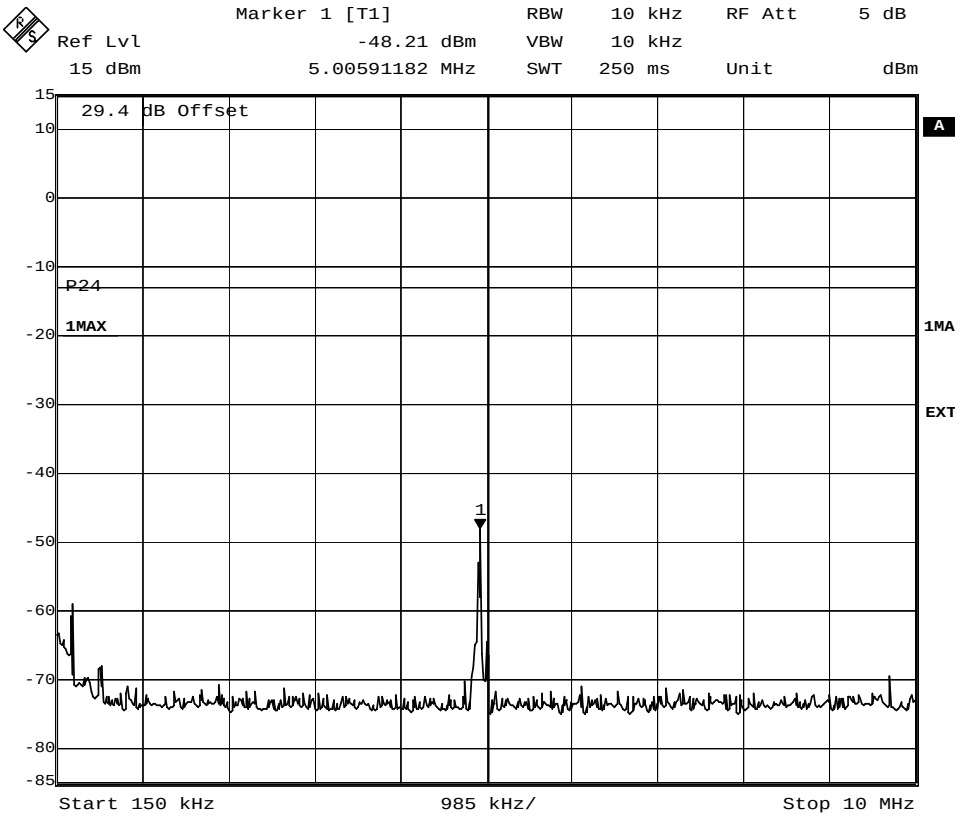
Date: 4.MAR.2006 12:35:10

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



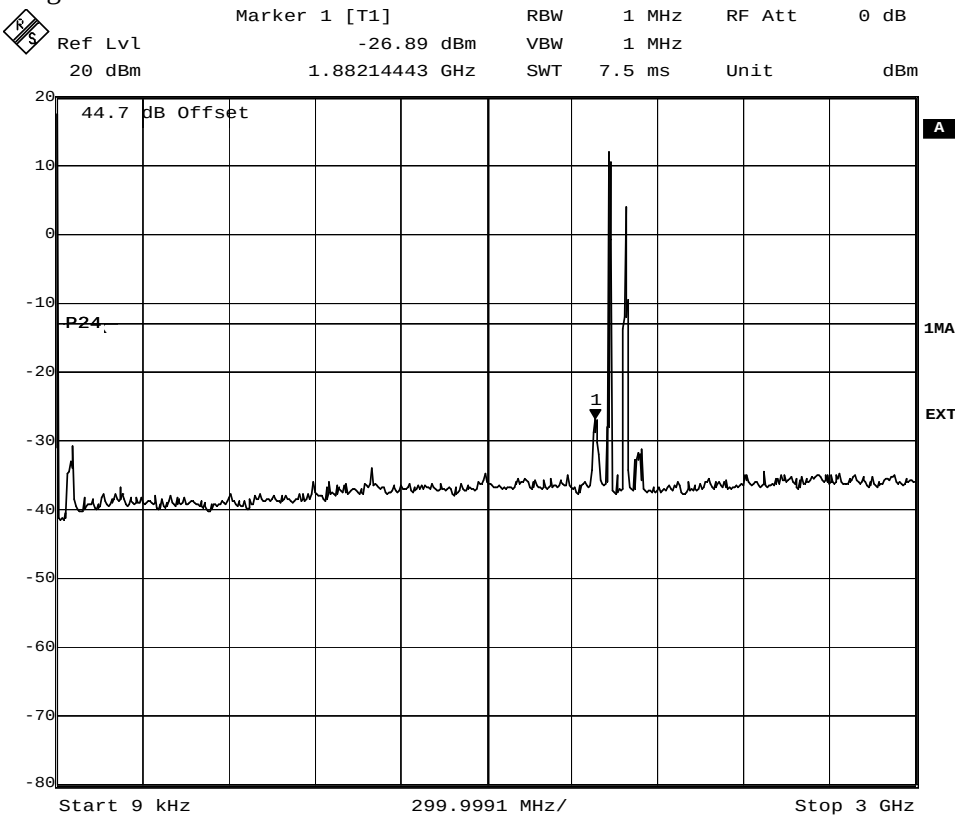
Date: 4.MAR.2006 12:46:10

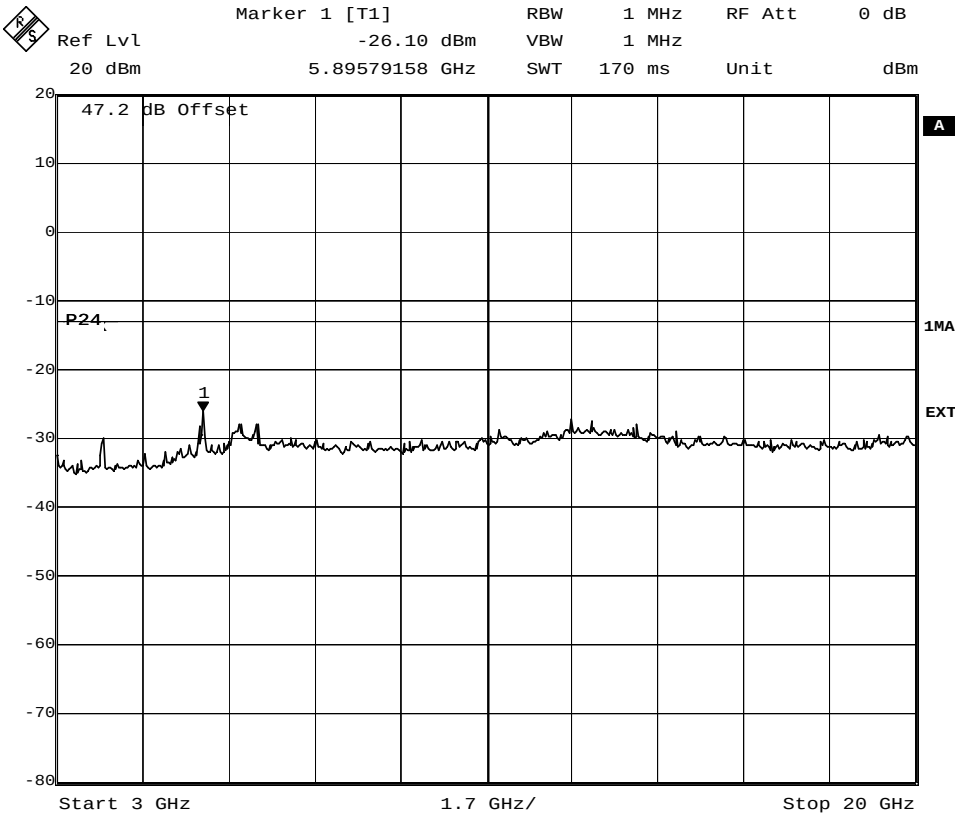
FCC ID: B5KDKRC1311004-2 Appendix 5.1

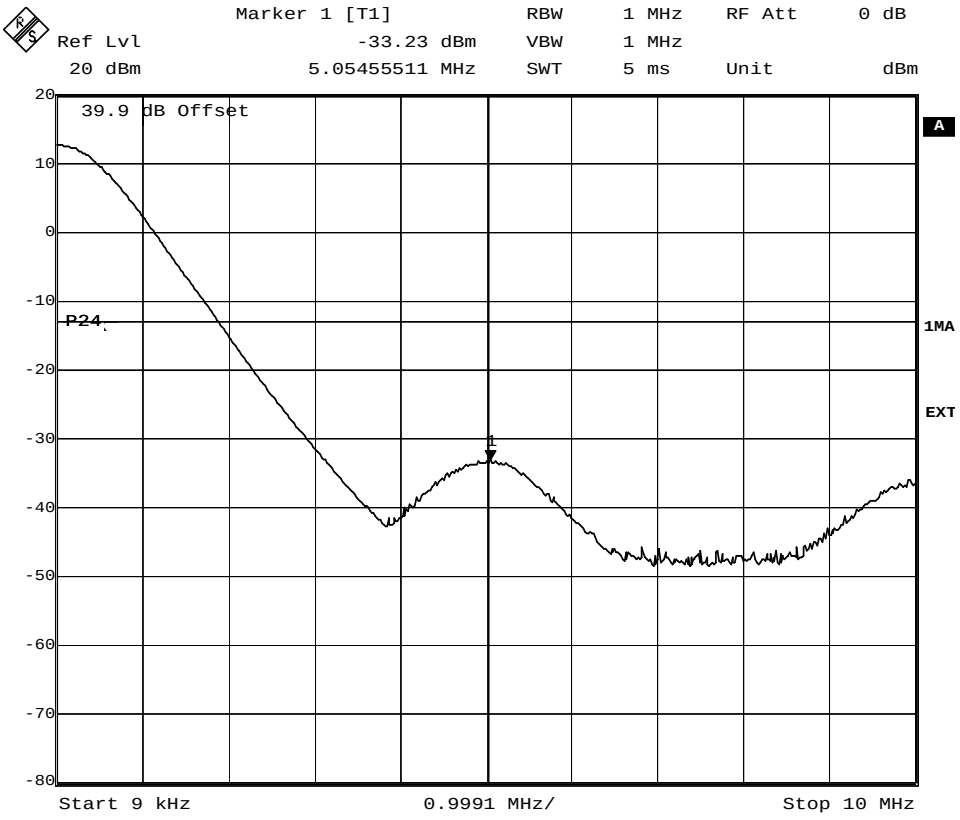


Date: 4.MAR.2006 12:42:09

Diagram 24

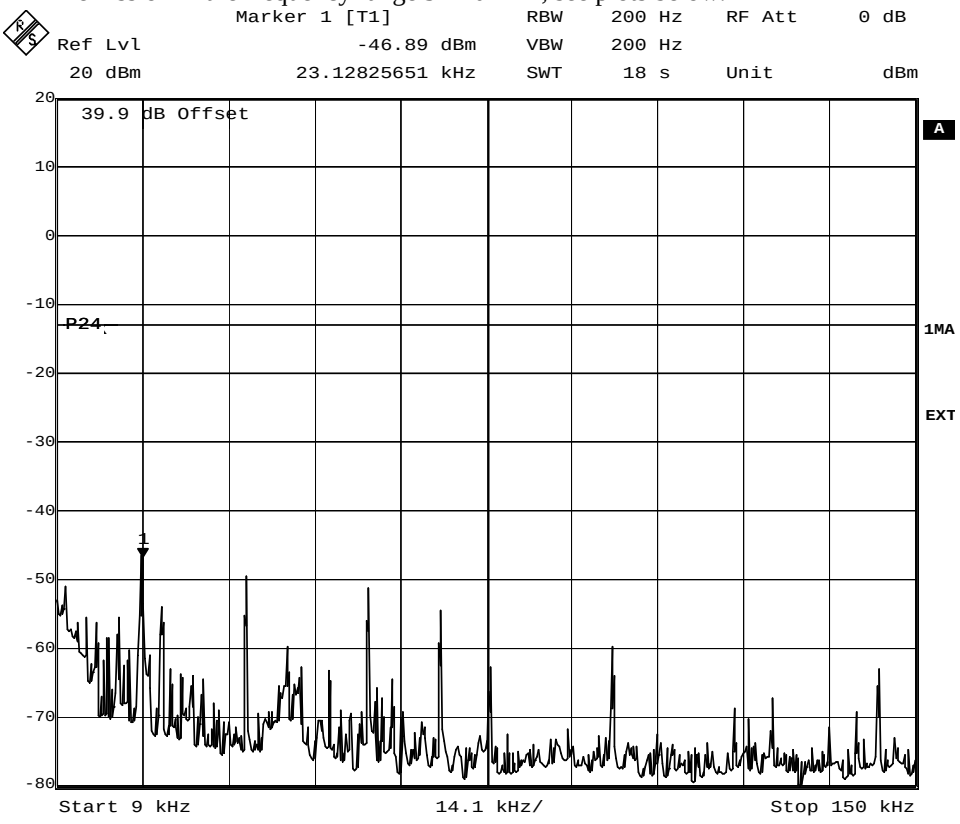

Marker 1 [T1]
RBW 1 MHz
RF Att 0 dB
Ref Lvl -26.89 dBm
VBW 1 MHz
20 dBm 1.88214443 GHz
SWT 7.5 ms
Unit dBm
44.7 dB Offset
A
P24
1MA
EXT
Start 9 kHz
299.9991 MHz/
Stop 3 GHz
Date: 9.MAR.2006 16:01:45


Marker 1 [T1]
RBW 1 MHz
RF Att 0 dB
Ref Lvl -26.10 dBm
VBW 1 MHz
20 dBm 5.89579158 GHz
SWT 170 ms
Unit dBm
47.2 dB Offset
A
P24
1MA
EXT
Start 3 GHz
1.7 GHz/
Stop 20 GHz
Date: 9.MAR.2006 14:13:44



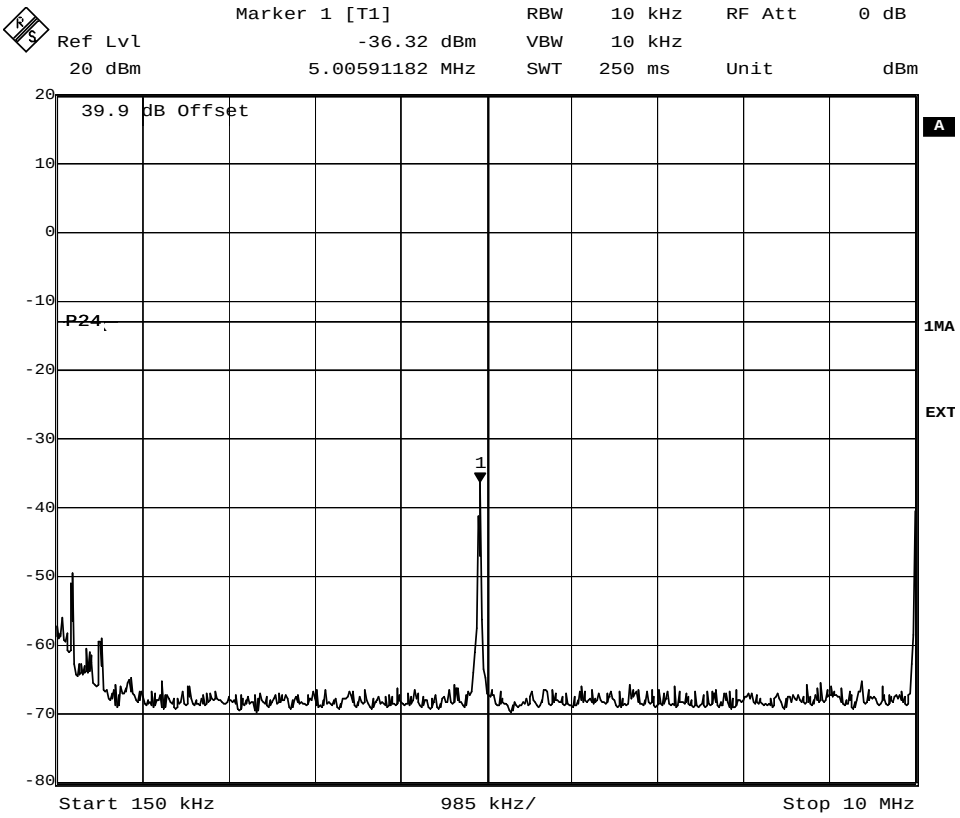
Date: 9.MAR.2006 13:37:11

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



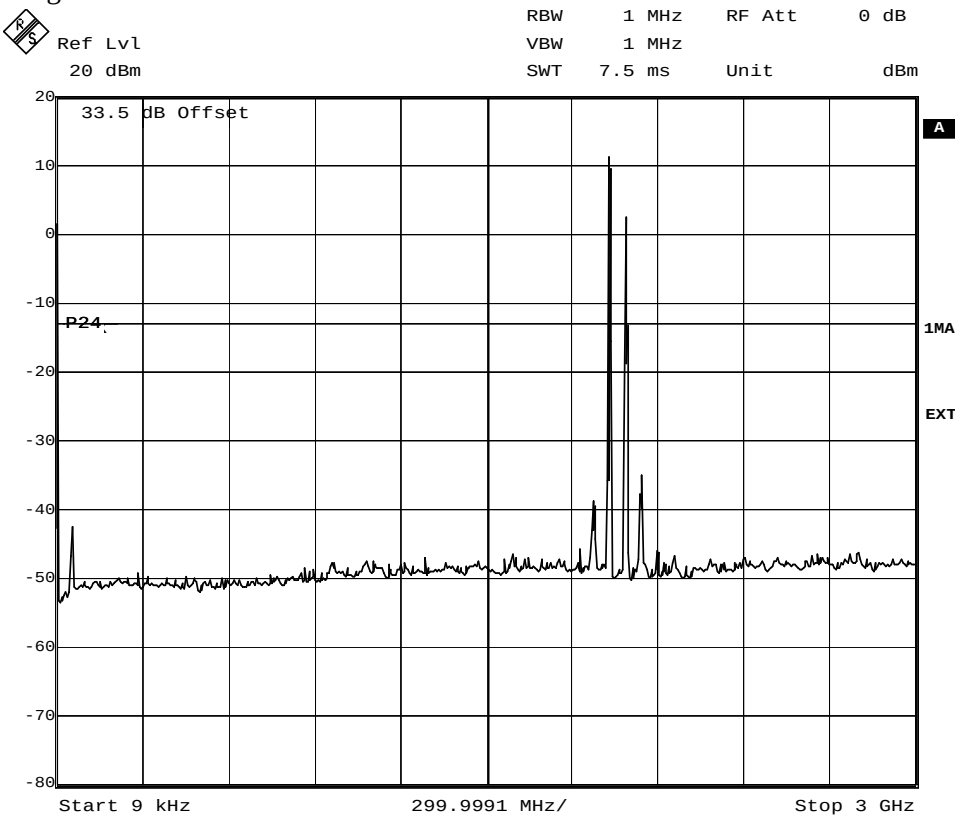
Date: 9.MAR.2006 13:43:48

FCC ID: B5KDKRC1311004-2 Appendix 5.1

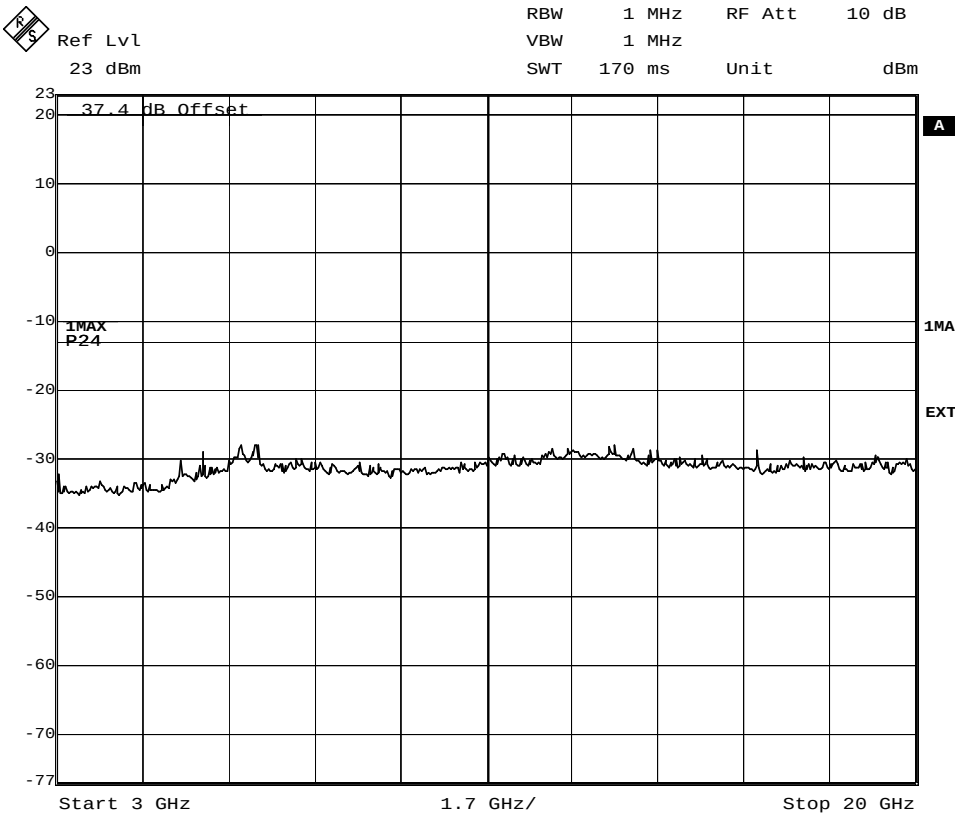


Date: 9.MAR.2006 13:45:17

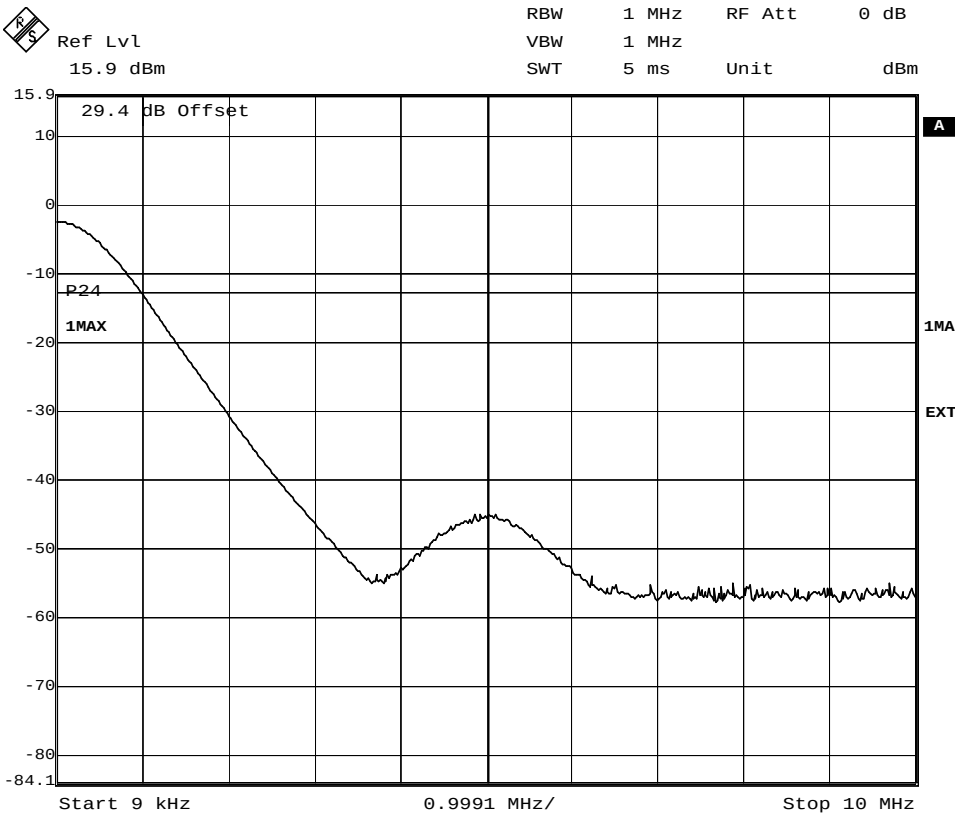
Diagram 25



Date: 4.MAR.2006 13:31:47

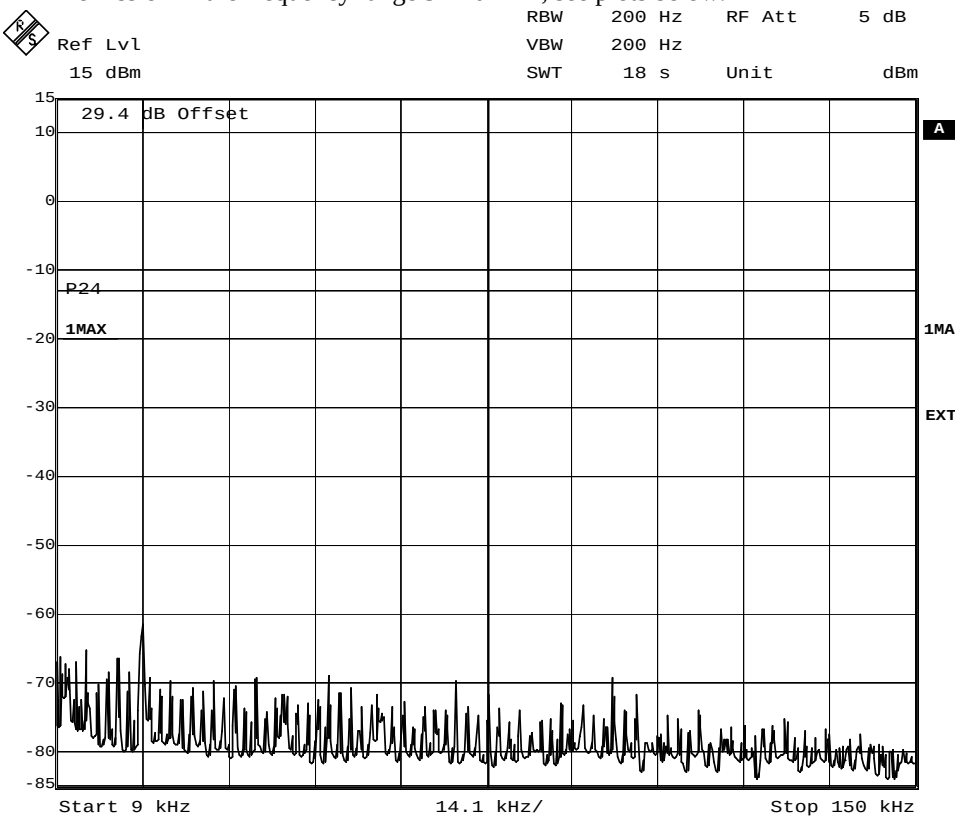


Date: 4.MAR.2006 13:45:09



Date: 4.MAR.2006 13:29:51

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



Date: 4.MAR.2006 13:38:31

FCC ID: B5KDKRC1311004-2 Appendix 5.1

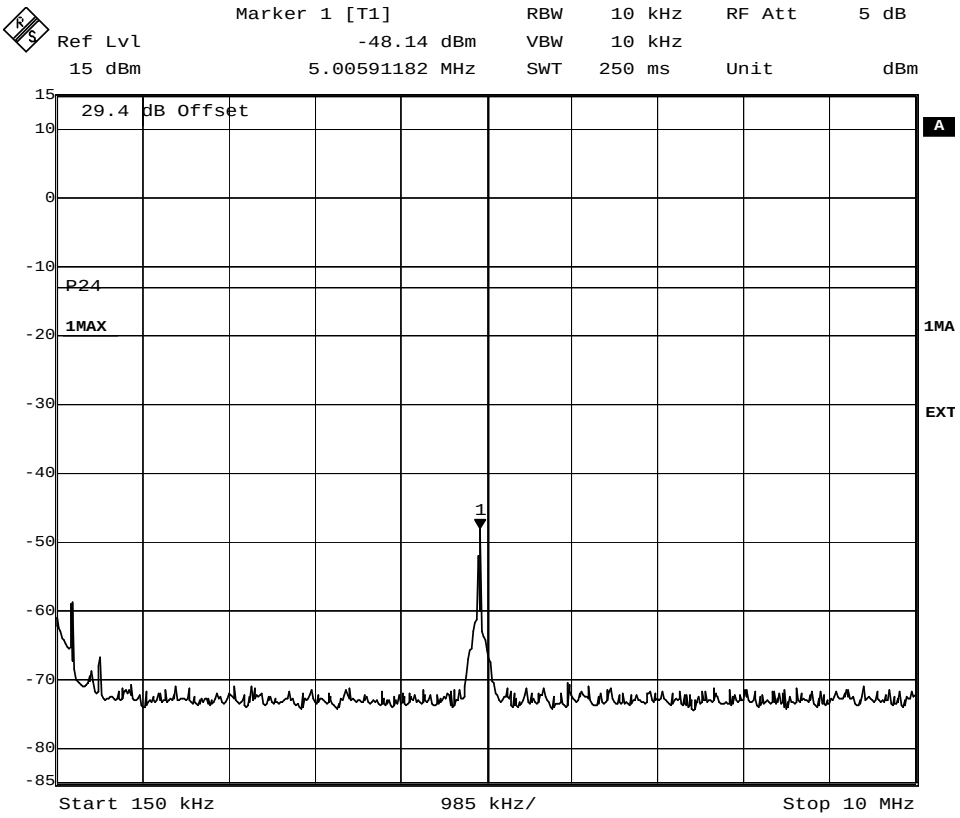
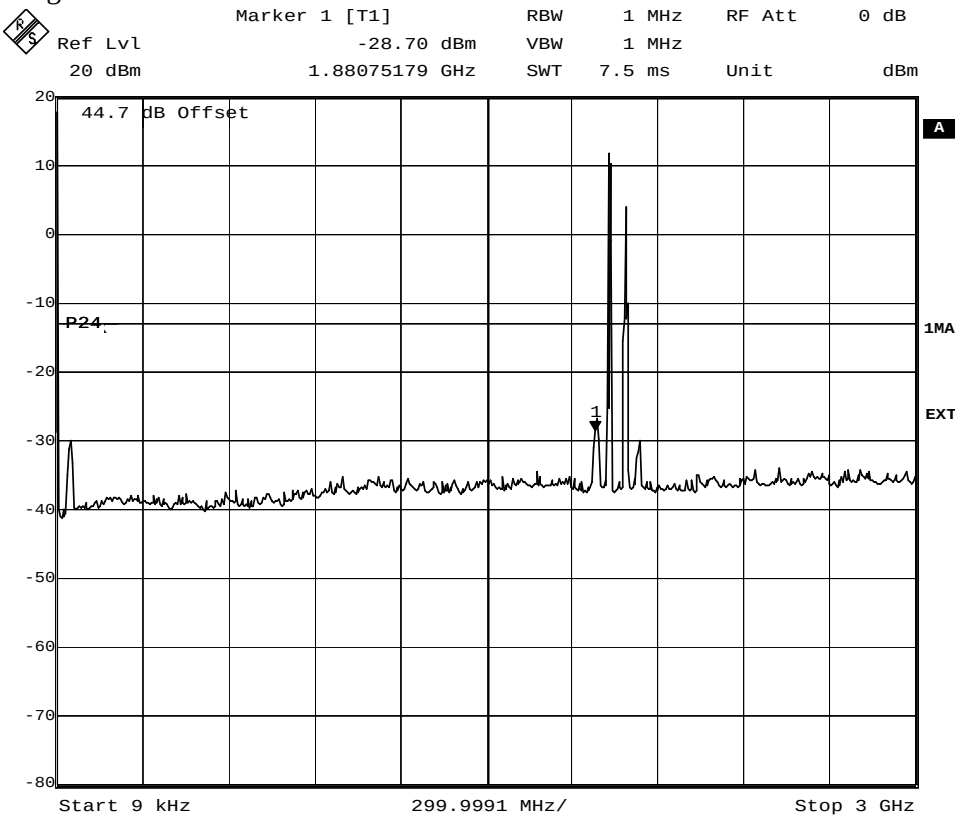
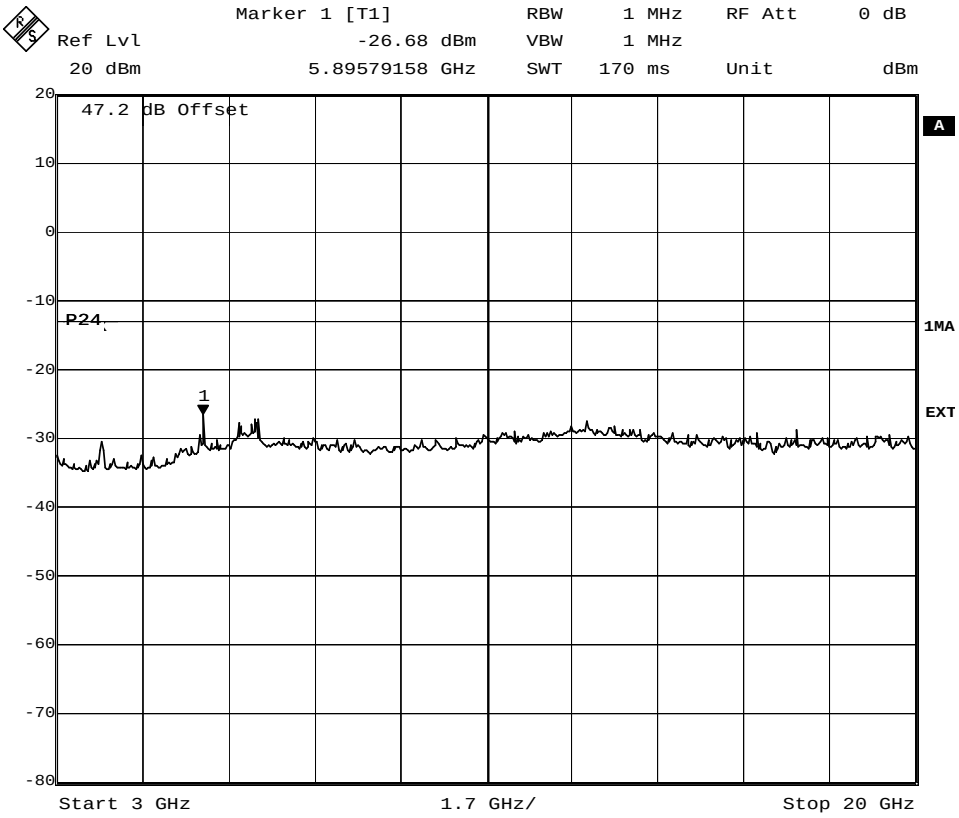


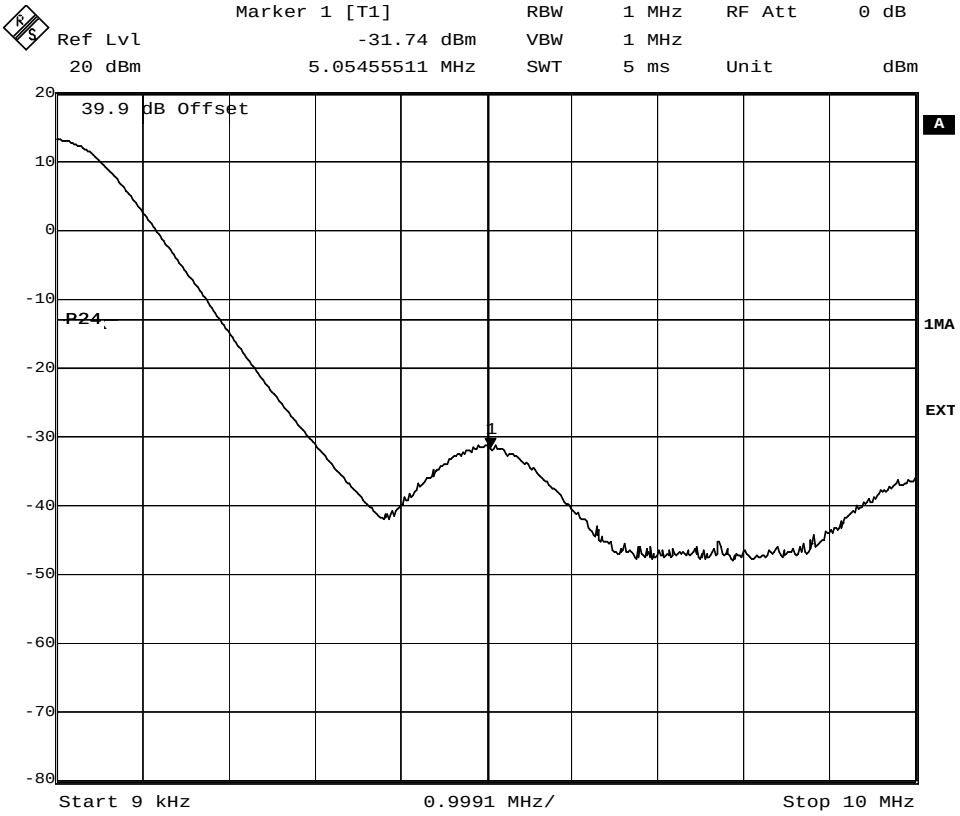
Diagram 26



Date: 9.MAR.2006 15:25:45

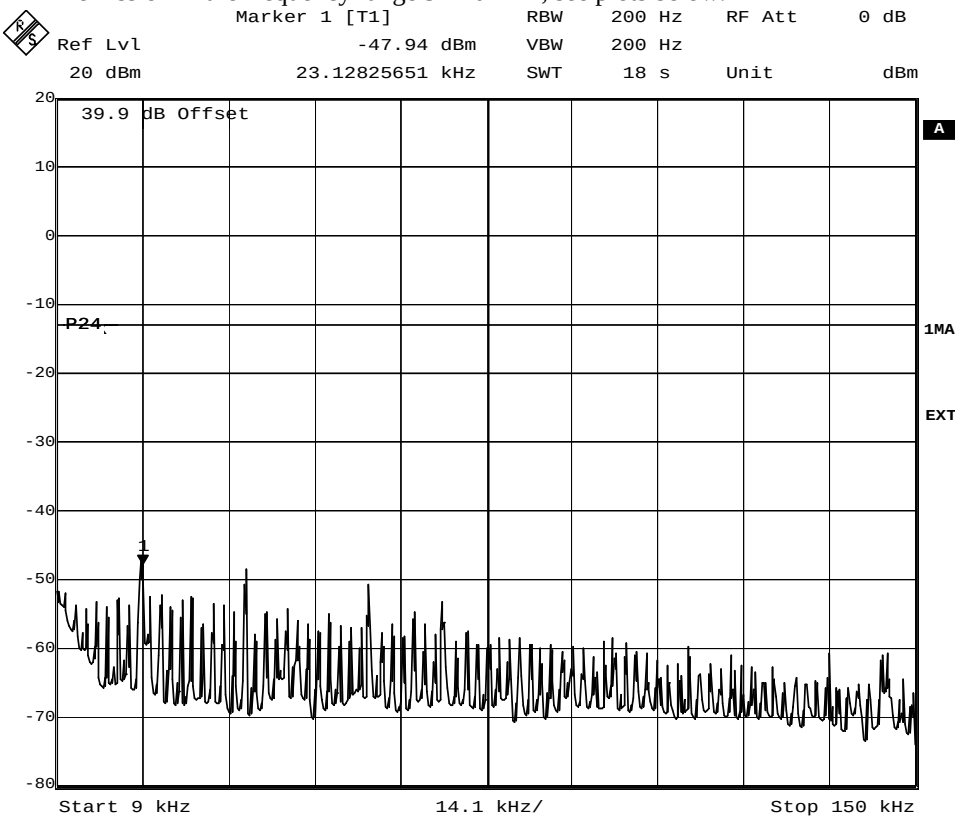


Date: 9.MAR.2006 15:33:57



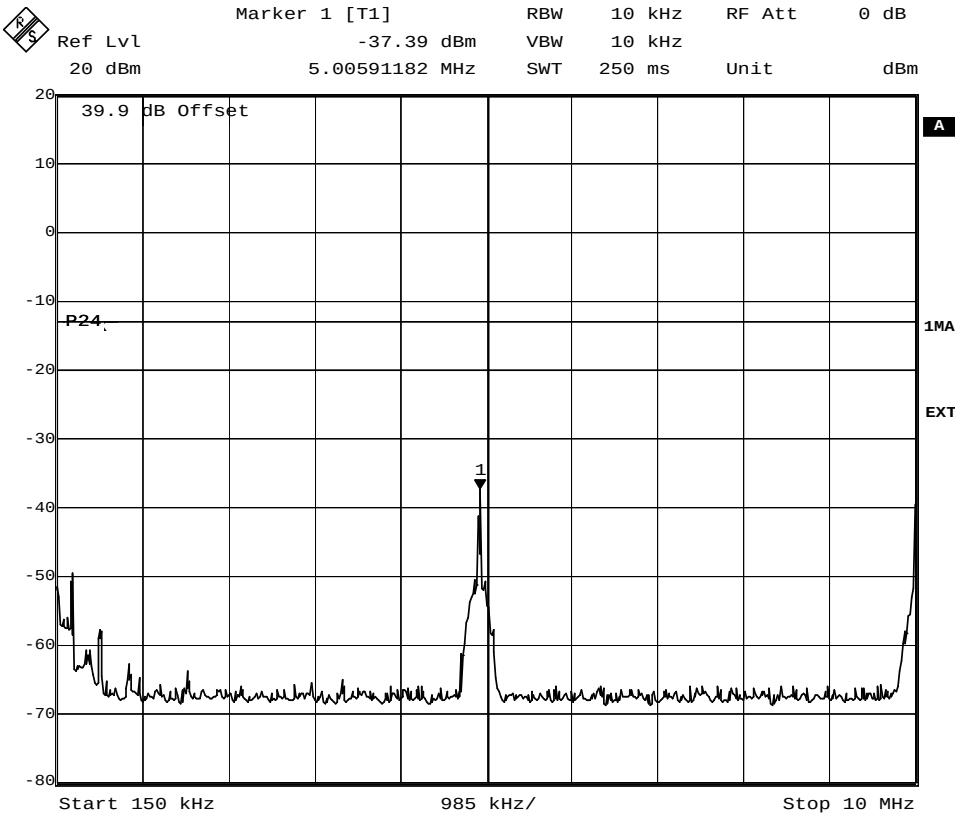
Date: 9.MAR.2006 15:12:53

Note: The emission at 9 kHz was related to the LO feedthrough. A complementary measurement was performed with a smaller RBW to verify that there were no emission in the frequency range 9k-10MHz, see plots below.



Date: 9.MAR.2006 15:21:31

FCC ID: B5KDKRC1311004-2 Appendix 5.1



Date: 9.MAR.2006 15:23:26

Field strength of spurious radiation measurements according to 47CFR 2.1053

Date	Temperature	Humidity
2006-02-13	21 °C ± 3 °C	19 % ± 5 %
2006-02-14	21 °C ± 3 °C	22 % ± 5 %
2006-02 16	20 °C ± 3 °C	22 % ± 5 %
2006-03-07	19 °C ± 3 °C	19 % ± 5 %

Test set-up and procedure

The chamber is listed at FCC, Columbia with registration number: 93866. The test site also complies with RSS 212, Issue 1, Industry Canada file no.:IC 3482.
The transmitter was modulated with pseudorandom data 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 in the frequency range 30 MHz – 18 GHz and 1m in the frequency range 18-20 GHz.

A pre-measurement was first performed:
In the frequency range 30 MHz-20 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.

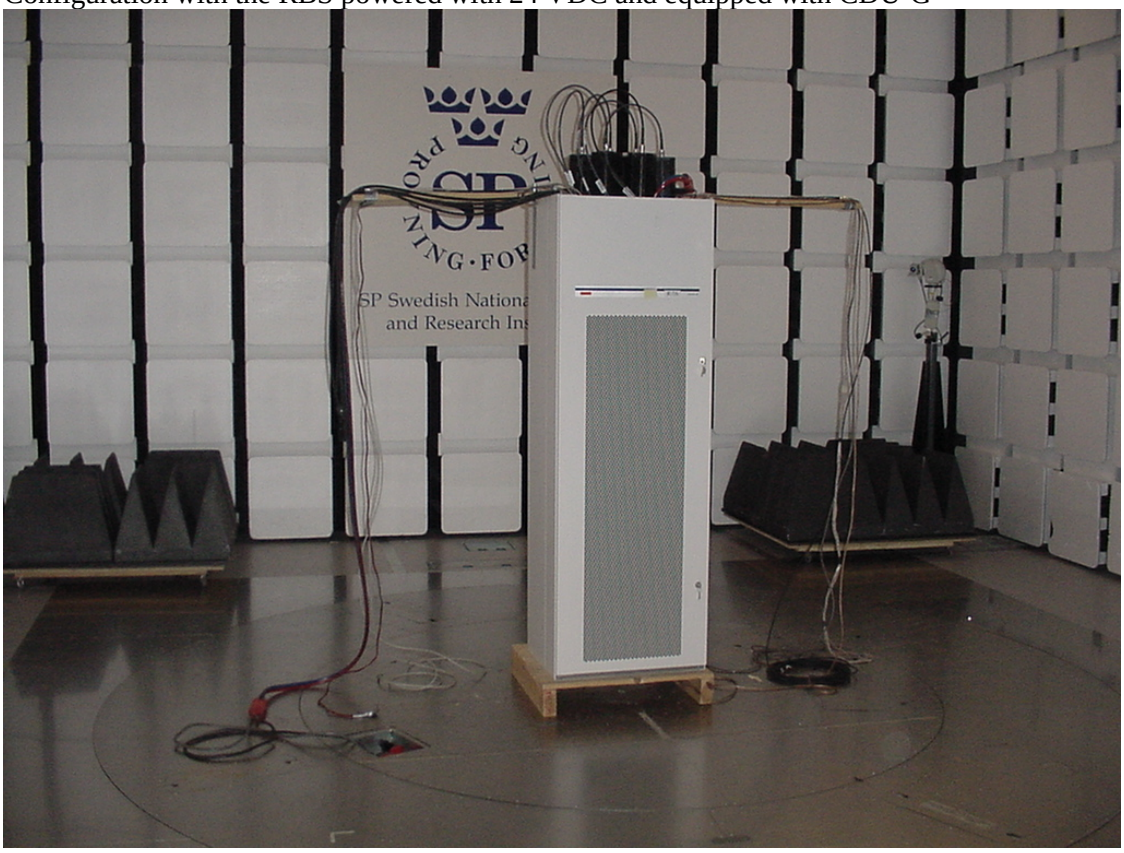
The measurement procedure was as the following:

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 is scanned 0-360 degrees and the antenna is scanned 1-4 m for maximum response. The emission is then measured with the average detector and the average value is reported, frequencies closer than 10 dB to the limit measured with the average detector was measured with the substitution method according to the standard.

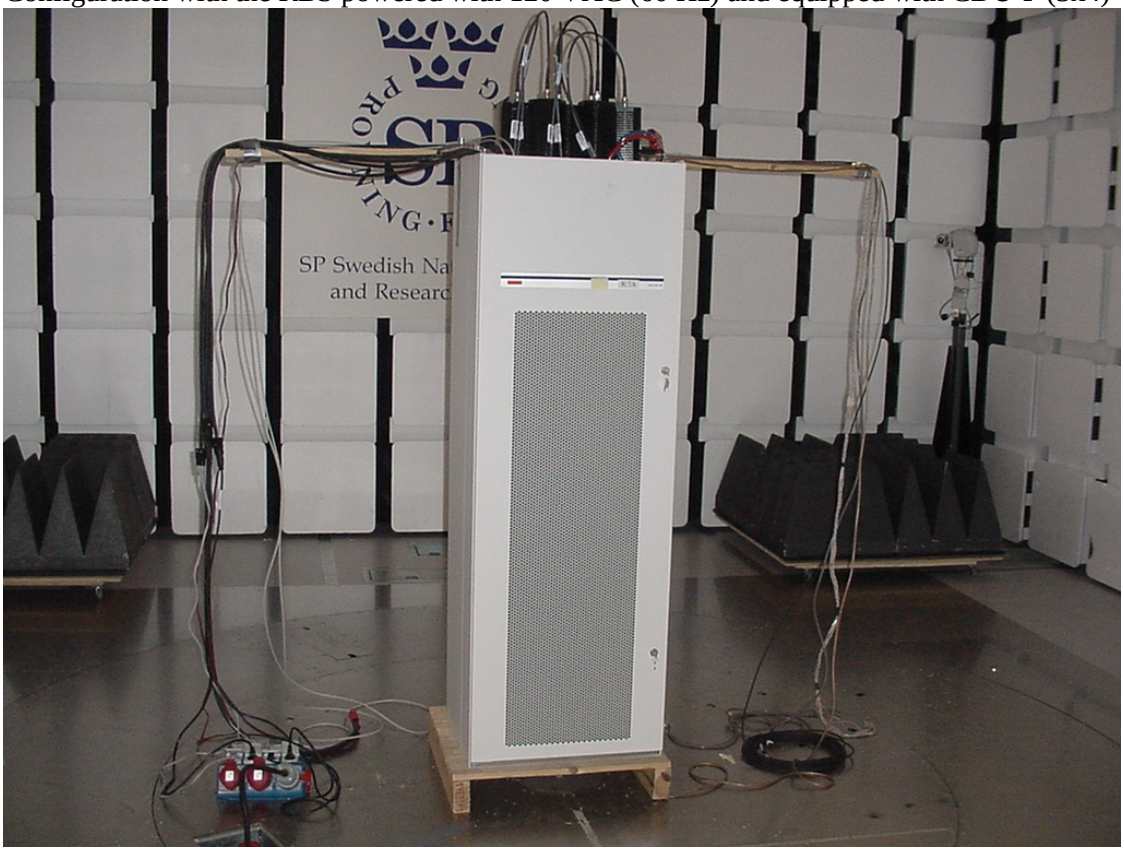
Measurement equipment	Calibration Due	SP number
Anechoic chamber	-	15:115
R&S ESI 26	2006-07	503 292
Control computer	-	503 479
Software: R&S ES-K1, ver. 1.60	-	-
Chase Bilog antenna CBL 6111A	2006-08	503 182
EMCO Horn Antenna 3115	2006-11	502 548
MITEQ Low Noise Amplifier	2006-04	503 285
Testo 615, Temperature and humidity meter	2007-09	503 505

The test set-up during the spurious radiation measurements can be seen in the pictures below:

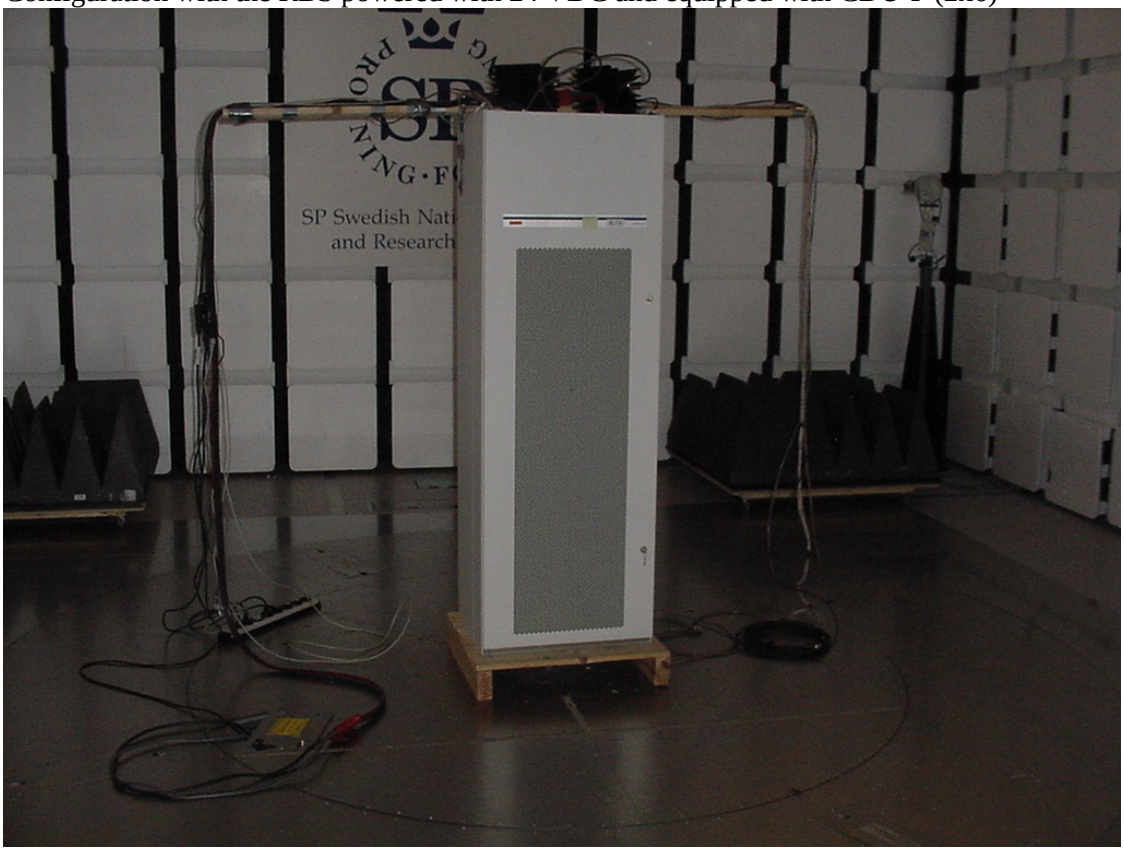
Configuration with the RBS powered with 24 VDC and equipped with CDU-G



Configuration with the RBS powered with 120 VAC (60 Hz) and equipped with CDU-F (3x4)



Configuration with the RBS powered with 24 VDC and equipped with CDU-F (2x6)



Results

GMSK and 8-PSK with CDU-G

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

GMSK and 8-PSK with CDU-F 3x4

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

GMSK and 8-PSK with CDU-F 2x6

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical	Horizontal
30-20 000	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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Frequency stability measurements according to 47CFR 2.1055

Date	Temperature	Humidity
2006-02-20 to 2006-02-23	21 °C ± 3 °C	23 % ± 5 %

Test set-up and procedure

The measurements were made per J-STD-007A (GMSK) and TIA/EIA-136-280 (8-PSK).

The test was made with the dTRU mounted in the RBS 2206 cabinet.
Measurements were made at CDU-G output connector. The output was connected to a spectrum analyzer. The spectrum analyzer was connected to an external 10 MHz reference standard during measurement.
The transmitter was activated at maximum output power and modulated with pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
Climate chamber	2006-02	503 546
R&S FSIQ	2006-07	503 738
Multimeter Fluke 87	2006-11	502 190
Testo 610, Temperature and humidity meter	2006-12	502 658

Results

Nominal Voltage 24 V DC
Channel 661 (1960.0 MHz)

Test conditions		Frequency error (Hz)			
Supply voltage DC (V)	Temperature (°C)	**GMSK**		**8-PSK**	
		TRX 1	TRX 2	TRX 1	TRX 2
24.0	+20	-21	-23	-21	-37
27.6	+20	-21	-22	+24	-23
20.4	+20	-20	-20	-19	+23
24.0	+30	+29	-19	+30	-21
24.0	+40	+27	-20	+24	+21
24.0	+50	-29	-32	-30	-25
24.0	+10	-20	+19	+18	+22
24.0	0	-30	-31	-36	-22
24.0	-10	-65	-59	-42	-36
24.0	-20	-89	-75	-61	-40
24.0	-30	-51	-41	-36	-31
Maximum freq. error (Hz)		-89		-61	
Measurement uncertainty		$< \pm 1 \times 10^{-7}$			

Note1: At -10 °C the following was reported in the RBS Fault log:
"CF Fault 2A No. 16: Indoor Temp Out Of Normal Conditional Range".

Note2: At -20 and -30 °C the following was reported in the RBS Fault log:
"CF Fault 1A No. 10: Indoor Temp Out of Safe Range".

Limits

The maximum frequency error shall not be greater than 0.05 ppm (98 Hz).

Complies?	Yes

Hardware list RBS 2206

Unit	Product Number	Revision	Serial Number
Cabinet	107/SEB 112 1095/1	R7A	AB20000004
ACCU-01	BMG 980 07/1	R2A	S792063320
FCU-01	BGM 136 1001/3	R2A	X991000299
DC-filter	KFE 101 1145/1	R1C	X181032301
CDU shelf	BFL 119 424/1	R1A	- -
CDU-G 19	BFL 119 153/1	R5F	A40003K3WX
CDU-G 19	BFL 119 153/1	R5F	A40003VZGM
CDU-G 19	BFL 119 153/1	R5F	A40003VZ1E
CDU-F 19	BFL 119 156/1	R1C	A400206745
CNU	KRY 101 1909/1	P1A	- -
CDU-F 19	BFL 119 156/1	R1C	A400204748
CNU	KRY 101 1909/1	P1A	- -
CDU-F 19	BFL 119 156/1	R1C	A400204749
CNU	KRY 101 1909/1	P1A	- -
Dummy	SXK 107 5031/2	R1B	- -
CXU-10	KRY 101 1856/1	R3C	S6900148R
Dummy	SXK 107 5031/1	R1B	- -
TRU shelf	BFL 119 425/1	R1B	- -
dTRU-19	KRC 131 1004/2	R3A	AE52476772
dTRU-19	KRC 131 1004/2	R3A	AE52476765
dTRU-19	KRC 131 1004/2	R3A	AE52476744
dTRU-19	KRC 131 1004/2	R3A	AE52476767
dTRU-19	KRC 131 1004/2	R3A	AE52476746
dTRU-19	KRC 131 1004/2	R3A	AE52476768
Dummy	SXK 107 5031/2	R1B	- -
IDM 01	BMG 980 06/1	R3C	X701148778
PSU-shelf	BFL 119 426/1	R1A	- -
PSU-AC	BML 231 202/1	R3C	TL93091820
PSU-AC	BML 231 202/1	R3C	TL93276086
PSU-AC	BML 231 202/1	R3C	TL92636630
PSU-AC	BML 231 202/1	R3C	TL93439690
DXU-21A	BOE 602 14/1	R14B	TU87260988
TMA-CM-01	SDK 107 881/1	R1B	SA22300484
Dummy	SXK 107 5029/1	R1B	- -
Dummy	SXK 107 5030/1	R1B	- -
Dummy	SXK 107 5030/1	R1B	- -

Software	Revision
R12A	R09V

Description of EUT

The EUT is a dTRU that can be installed in a GSM Base station that are designed to provide mobile telephone users with a connection to a mobile network or the PSTN.

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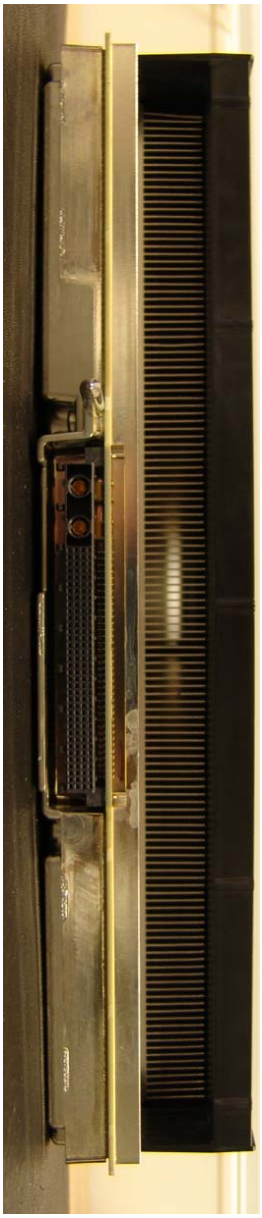
Photos
Transceiver Unit KRC 131 1004/2, R3A

Front side

Rear side



FCC ID label

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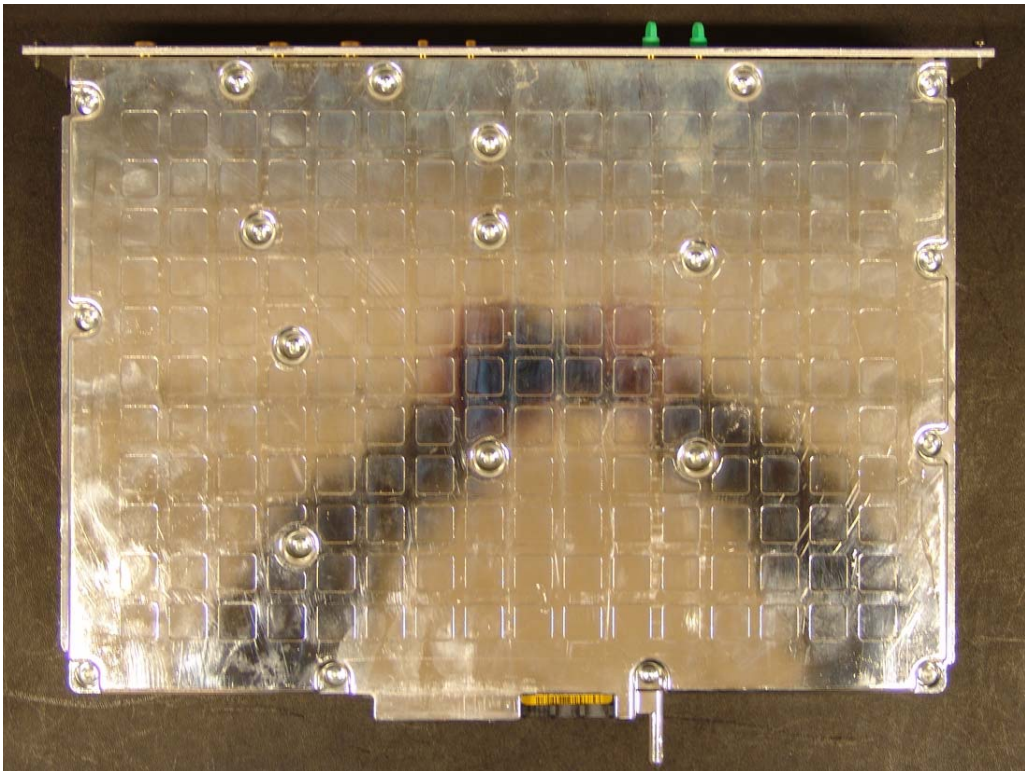
Left side



Right side