

REPORT

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Handläggare, enhet/Handled by, department	Datum/Date	Beteckning/Reference	Sida/Page
Fredrik Isaksson	2002-09-11	F211633-F24	1(2)
Electronics			
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Equipment Authorization measurements on GSM Base station 1900 MHz with FCC ID: B5KAKRC1311004-2 (10 enclosures)

Test object

Transceiver Unit dTRU-19 EDGE, KRC 131 1004/2, R1B

Summary

Standard	Compliant	Enclosure	Remarks
FCC CFR 47			
2.1046 RF Power output	Yes	2	
2.1047 Modulation characteristics	Yes	3	
2.1049 Occupied bandwidth	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	
Intermodulation test	Yes	8	

Note 1: In GMSK mode this unit must use reduced transmit power with 14 dB, to 30.5 dBm, for the channels adjacent to each frequency block edge in order to comply. In EDGE mode the channels adjacent to each frequency block edge must be excluded in order to comply. It is not relevant to test TCC with output power below 44 dBm, thus no measurements were performed at the channels 512 and 810 with TCC.

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SP Swedish National Testing and Research Institute, Box 857, S-501 15 BORÅS, SWEDEN, Telephone + 46 33 16 50 00, Telefax + 46 33 13 55 02, E-mail info@sp.se, Reg.No 556464-6874

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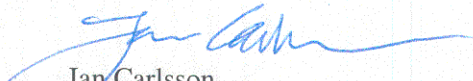
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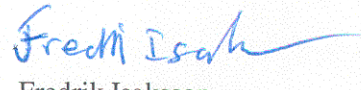
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SP Swedish National Testing and Research Institute Electronics - EMC


Jan Carlsson
Deputy Technical Manager


Fredrik Isaksson
Technical Officer

Description - Equipment Under Test (EUT)

Equipment: GSM Base station transceiver 1900MHz

Tx Frequency range: 1930.2-1989.8 MHz

Tested Channels:

Radiated measurements:

GMSK Mode	512: 1930.2 MHz	dTRU with internal combiner plus TCC
	537: 1935.2 MHz	dTRU with internal combiner
	562: 1940.2 MHz	dTRU with internal combiner
	660: 1959.8 MHz	dTRU without internal combiner
	685: 1964.8 MHz	dTRU without internal combiner
	760: 1979.8 MHz	dTRU with internal combiner
	785: 1984.8 MHz	dTRU with internal combiner
	810: 1989.8 MHz	dTRU with internal combiner plus TCC
EDGE mode	512: 1930.2 MHz	
	537: 1935.2 MHz	
	785: 1984.8 MHz	
	810: 1989.8 MHz	

One mode tested at a time: with internal combiner, without internal combiner and with internal combiner plus TCC

Conducted measurements: 512: 1930.2 MHz
513: 1930.4 MHz
661: 1960.0 MHz
809: 1989.6 MHz
810: 1989.8 MHz

Product number: dTRU-19 EDGE: KRC 131 1004/2

Serial number: See Hardware list in enclosure 9

Two dTRU were used during RF conducted measurements,
dTRU-19 EDGE: KRC 131 1004/2, R1B, with s/n: AE5000HQSX and s/n AE5000HQT1
All RF conducted measurements were done at the output connectors of CDU-G.
CDU-G19: BFL 119 153/1, R5B, s/n: A40003XCDW

Manufacturer's
representative: Larry Lindström, Ericsson AB

Purpose of test

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

Reservation

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

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FCC ID: B5KAKRC1311004-2

Delivery of test object

The test object was delivered: 2002-08-19

Test engineers

Fredrik Isaksson
Peter Grahn
Jonas Bremholt

Test witness

Larry Lindström, Ericsson AB (partly present)

Sign:.....

RF Power output measurements according to 47CFR 2.1046

Date 2002-09-11	Temperature 22 °C ± 3 °C	Humidity 49 % ± 5 %
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Test set-up and Procedure

The measurements were made per J-STD-007A Vol 1. Measurements were made at CDU-G output connectors. The output was connected to a Peak power analyzer via a 50 ohm attenuator. The RF power was measured with variation in supply voltage at the highest power level. Test was performed on 24 V DC supply voltage system. The transmitter was modulated with 270.8 kbs pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
Boonton RF Peak power meter/analyzer	2002-12	503 144
Boonton Power sensor 56518-S/4	2003-02	503 146
Multimeter Fluke 85 III	2003-09	503 418
Testo 610, Temperature and humidity meter	2002-11	502 658

Results

Mode: **GMSK**

dTRU, output 1+2 (TCC).

Nominal power 24 V DC

Rated output power level after CDU-G (maximum): 47 dBm

Test conditions		Transmitter power (dBm)		
		Peak/Average		
		Channel 512	Channel 661	Channel 810
T _{nom} 22°C	V _{nom} 24 V DC	45.7/45.3	46.4/46.0	46.1/45.6
T _{nom} 22°C	V _{min} 20.4 V DC	45.9/45.5	46.6//46.2	46.2/45.8
	V _{max} 27.6 V DC	45.7/45.3	46.5/46.0	46.1/45.6
Measurement uncertainty		0.5 dB		

dTRU, output 1, without internal combiner:

Nominal power 24 V DC

Rated output power level after CDU-G (maximum): 44.5 dBm

Test conditions		Transmitter power (dBm)		
		Peak/Average		
		Channel 512	Channel 661	Channel 810
T _{nom} 22°C	V _{nom} 24 V DC	43.6/43.1	44.2/43.7	43.8/43.2
T _{nom} 22°C	V _{min} 20.4 V DC	43.6/43.1	44.2/43.7	43.8/43.2
	V _{max} 27.6 V DC	43.6/43.1	44.2/43.7	43.8/43.2
Measurement uncertainty		0.5 dB		

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dTRU, output 2, without internal combiner:

Nominal power 24 V DC

Rated output power level after CDU-G (maximum): 44.5 dBm

Test conditions		Transmitter power (dBm)		
		Peak/Average		
		Channel 512	Channel 661	Channel 810
T _{nom} 22°C	V _{nom} 24 V DC	43.5/43.0	44.2/43.8	43.9/43.4
T _{nom} 22°C	V _{min} 20.4 V DC	43.6/43.0	44.2/43.8	43.9/43.4
	V _{max} 27.6 V DC	43.5/43.0	44.2/43.8	43.9/43.4
Measurement uncertainty		0.5 dB		

dTRU, output 1, with internal combiner:

Nominal power 24 V DC

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	40.2/39.6	40.8/40.2	40.3/39.7
T _{nom} 22°C	V _{min} 20.4 V DC	40.2/39.6	40.8/40.2	40.3/39.7
	V _{max} 27.6 V DC	40.2/39.5	40.8/40.2	40.3/39.7
Measurement uncertainty		0.5 dB		

dTRU, output 2, with internal combiner:

Nominal power 24 V DC

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	40.3/39.7	41.0/40.4	40.6/40.1
T _{nom} 22°C	V _{min} 20.4 V DC	40.3/39.7	41.0/40.4	40.6/40.1
	V _{max} 27.6 V DC	40.2/39.6	41.1/40.4	40.7/40.1
Measurement uncertainty		0.5 dB		

Mode: **EDGE**

dTRU, output 1+2 (TCC):

Nominal power 24 V DC

Rated output power level after CDU-G (maximum): 47 dBm

Test conditions		Transmitter power (dBm) Peak/Average		
		Channel 512	Channel 661	Channel 810
T _{nom} 22°C	V _{nom} 24 V DC	45.7/42.3	46.5/43.0	46.1/42.6
T _{nom} 22°C	V _{min} 20.4 V DC	45.7/42.3	46.5/43.0	46.1/42.6
	V _{max} 27.6 V DC	45.7/42.3	46.5/43.0	46.1/42.6
Measurement uncertainty		0.5 dB		

dTRU, output 1, without internal combiner:

Nominal power 24 V DC

Rated output power level after CDU-G (maximum): 44.5 dBm

Test conditions		Transmitter power (dBm) Peak/Average		
		Channel 512	Channel 661	Channel 810
T _{nom} 22°C	V _{nom} 24 V DC	43.6/40.1	44.1/40.6	43.6/40.2
T _{nom} 22°C	V _{min} 20.4 V DC	43.6/40.1	44.1/40.6	43.7/40.2
	V _{max} 27.6 V DC	43.6/40.1	44.1/40.6	43.7/40.2
Measurement uncertainty		0.5 dB		

dTRU, output 2, without internal combiner:

Nominal power 24 V DC

Rated output power level after CDU-G (maximum): 44.5 dBm

Test conditions		Transmitter power (dBm) Peak/Average		
		Channel 512	Channel 661	Channel 810
T _{nom} 22°C	V _{nom} 24 V DC	43.6/40.0	44.4/40.8	44.0/40.4
T _{nom} 22°C	V _{min} 20.4 V DC	43.6/40.0	44.3/40.7	44.1/40.4
	V _{max} 27.6 V DC	43.6/40.0	44.3/40.8	44.0/40.4
Measurement uncertainty		0.5 dB		

dTRU, output 1, with internal combiner:

Nominal power 24 V DC

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	40.0/36.4	40.7/37.0	40.3/36.6
T _{nom} 22°C	V _{min} 20.4 V DC	40.0/36.4	40.7/37.0	40.3/36.6
	V _{max} 27.6 V DC	40.0/36.3	40.7/37.0	40.3/36.6
Measurement uncertainty		0.5 dB		

dTRU, output 2, with internal combiner:

Nominal power 24 V DC

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	40.3/36.4	40.9/37.2	40.6/36.9
T _{nom} 22°C	V _{min} 20.4 V DC	40.2/36.4	40.9/37.2	40.7/36.9
	V _{max} 27.6 V DC	40.2/36.4	40.9/37.2	40.7/36.9
Measurement uncertainty		0.5 dB		

Remark

dTRU with serial number AE5000HQT1 was used during the test.

LimitsThe deviation of output power shall not be greater than ± 2 dB of the maximum rated output power.

Complies?	Yes
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Modulation characteristics measurements according to 47CFR 2.1047

Date 2002-09-05	Temperature 22 °C ± 3 °C	Humidity 57 % ± 5 %
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Test set-up and Procedure

The measurement was made per J-STD-007A Vol 1 and TIA/EIA-139-280-B. Measurements were made at CDU-G output connectors. The output was connected to a spectrum analyser. The spectrum analyser was connected to an external 10 MHz reference standard during measurement. The transmitter was modulated with 270.8 kbs pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
R&S ES140	2003-08	503 125
Multimeter Fluke 85III	2003-09	503 418
Testo 610, Temperature and humidity meter	2002-11	502 658

Results

Nominal Voltage 24 V DC
 44.5 dBm output power at Channel 661 (1960.0 MHz)

Mode: **GMSK**

Test conditions		Phase error (°)	
Supply voltage DC (V)	T (°C)	TRU Output 0	TRU Output 1
24.0	+20	1	1
Maximum phase error (°)		1	

Mode: **EDGE**

Test conditions		EVM (% _{RMS})	
Supply voltage DC (V)	T (°C)	TRU Output 0	TRU Output 1
24.0	+20	2.2	2.0
Maximum EVM (% _{RMS})		2.2	

Test conditions		Origin offset (dB)	
Supply voltage DC (V)	T (°C)	TRU Output 0	TRU Output 1
24.0	+20	-53.15	-53.55
Minimum origin offset (dB)		-53.15	

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Remark

dTRU with serial number AE5000HQT1 was used during the test.

Limits

GMSK: The tolerance of the maximum output phase error shall not be greater than 5 degrees.

EDGE: The Error Vector Magnitude (EVM) shall be less than 12.5 %_{RMS}
The origin offset in any burst shall be less than -30 dBc.

Complies?	Yes
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Sign:.....

Occupied bandwidth measurements according to 47CFR 2.1049

Date	Temperature	Humidity
2002-09-11	22 °C ± 3 °C	49 % ± 5 %
2002-09-12	23 °C ± 3 °C	51 % ± 5 %

Test set-up and Procedure

The measurements were made per J-STD-007A Vol 1. Measurements were made at CDU-G 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 modulated with 270.8 kbs pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSEM s/n 1079.8500.30	2003-03	—
Testo 610, Temperature and humidity meter	2002-11	502 658

Measurement uncertainty: 3.7 dB

Results

Mode: **GMSK**

dTRU Output 1, without internal combiner:

Diagram 1 Ch 512 OBW Reference level +30.5 dBm output power
 Diagram 2 Ch 512 OBW 26 dB points +30.5 dBm output power
 Diagram 3 Ch 512 OBW Band edge +30.5 dBm output power

Diagram 4 Ch 513 OBW Reference level +44.5 dBm output power
 Diagram 5 Ch 513 OBW 26 dB points +44.5 dBm output power
 Diagram 6 Ch 513 OBW Band edge +44.5 dBm output power

Diagram 7 Ch 809 OBW Reference level +44.5 dBm output power
 Diagram 8 Ch 809 OBW 26 dB points +44.5 dBm output power
 Diagram 9 Ch 809 OBW Band edge +44.5 dBm output power

Diagram 10 Ch 810 OBW Reference level +30.5 dBm output power
 Diagram 11 Ch 810 OBW 26 dB points +30.5 dBm output power
 Diagram 12 Ch 810 OBW Band edge +30.5 dBm output power

dTRU Output 2, without internal combiner:

Diagram 13 Ch 512 OBW Reference level +30.5 dBm output power
 Diagram 14 Ch 512 OBW 26 dB points +30.5 dBm output power
 Diagram 15 Ch 512 OBW Band edge +30.5 dBm output power

Diagram 16 Ch 513 OBW Reference level +44.5 dBm output power
 Diagram 17 Ch 513 OBW 26 dB points +44.5 dBm output power
 Diagram 18 Ch 513 OBW Band edge +44.5 dBm output power

Diagram 19 Ch 809 OBW Reference level +44.5 dBm output power
 Diagram 20 Ch 809 OBW 26 dB points +44.5 dBm output power

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Diagram 21 Ch 809 OBW Band edge +44.5 dBm output power

Diagram 22 Ch 810 OBW Reference level +30.5 dBm output power

Diagram 23 Ch 810 OBW 26 dB points +30.5 dBm output power

Diagram 24 Ch 810 OBW Band edge +30.5 dBm output power

(TCC), dTRU Output 1+2 (TX1+TX2):

Diagram 25 Ch 513 OBW Reference level +47 dBm output power

Diagram 26 Ch 513 OBW 26 dB points +47 dBm output power

Diagram 27 Ch 513 OBW Band edge +47 dBm output power

Diagram 28 Ch 809 OBW Reference level +47 dBm output power

Diagram 29 Ch 809 OBW 26 dB points +47 dBm output power

Diagram 30 Ch 809 OBW Band edge +47 dBm output power

Mode: **EDGE**

dTRU Output 1, without internal combiner:

Diagram 31 Ch 513 OBW Reference level +44.5 dBm output power

Diagram 32 Ch 513 OBW 26 dB points +44.5 dBm output power

Diagram 33 Ch 513 OBW Band edge +44.5 dBm output power

Diagram 34 Ch 809 OBW Reference level +44.5 dBm output power

Diagram 35 Ch 809 OBW 26 dB points +44.5 dBm output power

Diagram 36 Ch 809 OBW Band edge +44.5 dBm output power

dTRU Output 2, without internal combiner:

Diagram 37 Ch 513 OBW Reference level +44.5 dBm output power

Diagram 38 Ch 513 OBW 26 dB points +44.5 dBm output power

Diagram 39 Ch 513 OBW Band edge +44.5 dBm output power

Diagram 40 Ch 809 OBW Reference level +44.5 dBm output power

Diagram 41 Ch 809 OBW 26 dB points +44.5 dBm output power

Diagram 42 Ch 809 OBW Band edge +44.5 dBm output power

(TCC), dTRU Output 1+2 (TX1+TX2):

Diagram 43 Ch 513 OBW Reference level +47 dBm output power

Diagram 44 Ch 513 OBW 26 dB points +47 dBm output power

Diagram 45 Ch 513 OBW Band edge +47 dBm output power

Diagram 46 Ch 809 OBW Reference level +47 dBm output power

Diagram 47 Ch 809 OBW 26 dB points +47 dBm output power

Diagram 48 Ch 809 OBW Band edge +47 dBm output power

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Remarks

dTRU with serial number AE5000HQSX was used during the test.

In GMSK mode this unit must use reduced transmit power with 14 dB, to 30.5 dBm, for the channels adjacent to each frequency block edge in order to comply.

In EDGE mode it was not possible to reduce the transmit power enough for the channels adjacent to each frequency block edge to fulfil the requirements, thus the channels adjacent to each frequency block edge must be excluded in order to comply.

It is not relevant to test TCC with output power below 44 dBm, thus no measurements were performed at the channels 512 and 810 with TCC.

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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Sign:.....

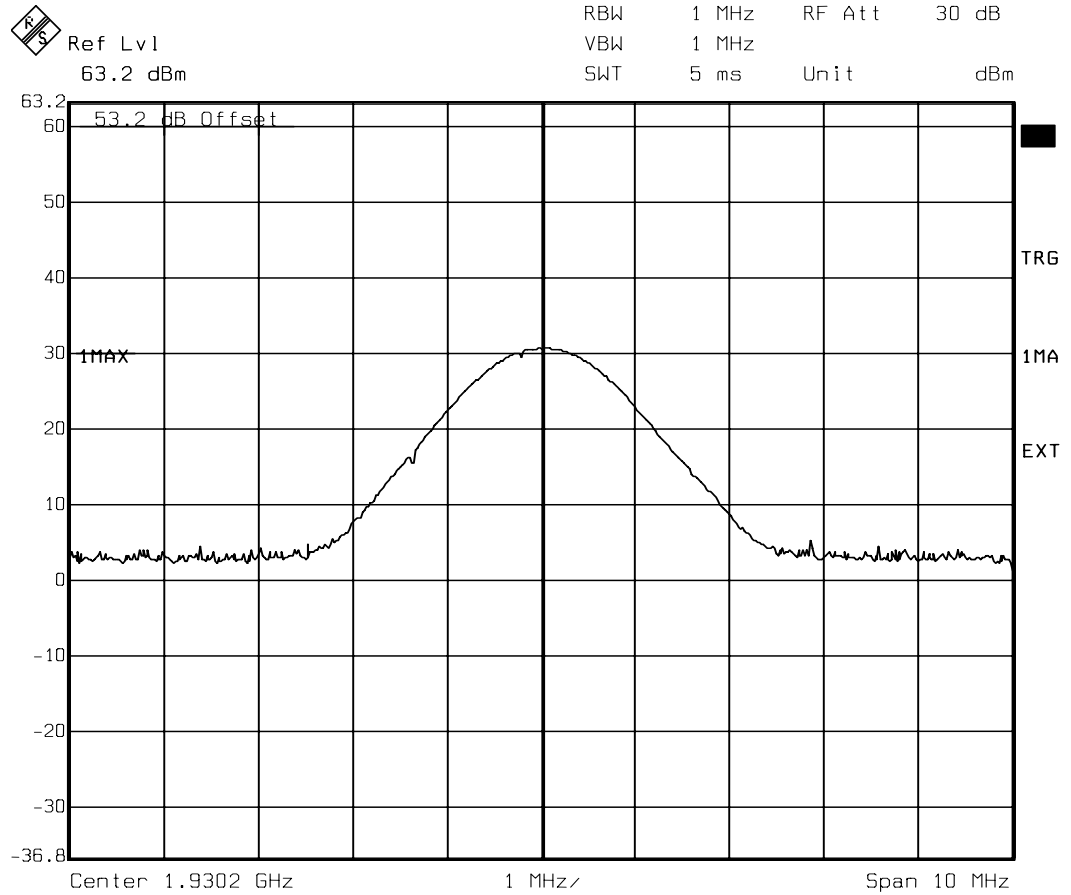
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Diagram 1 (48)
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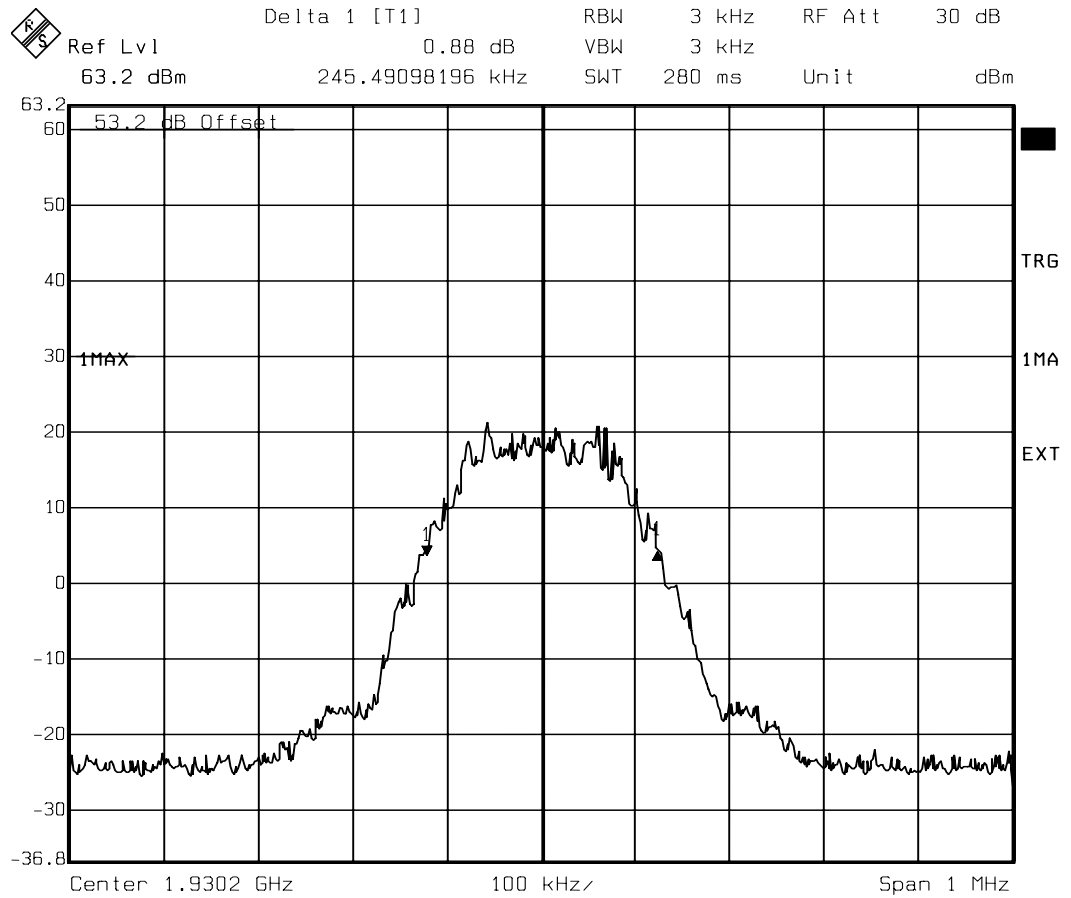
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Diagram 2 (48)
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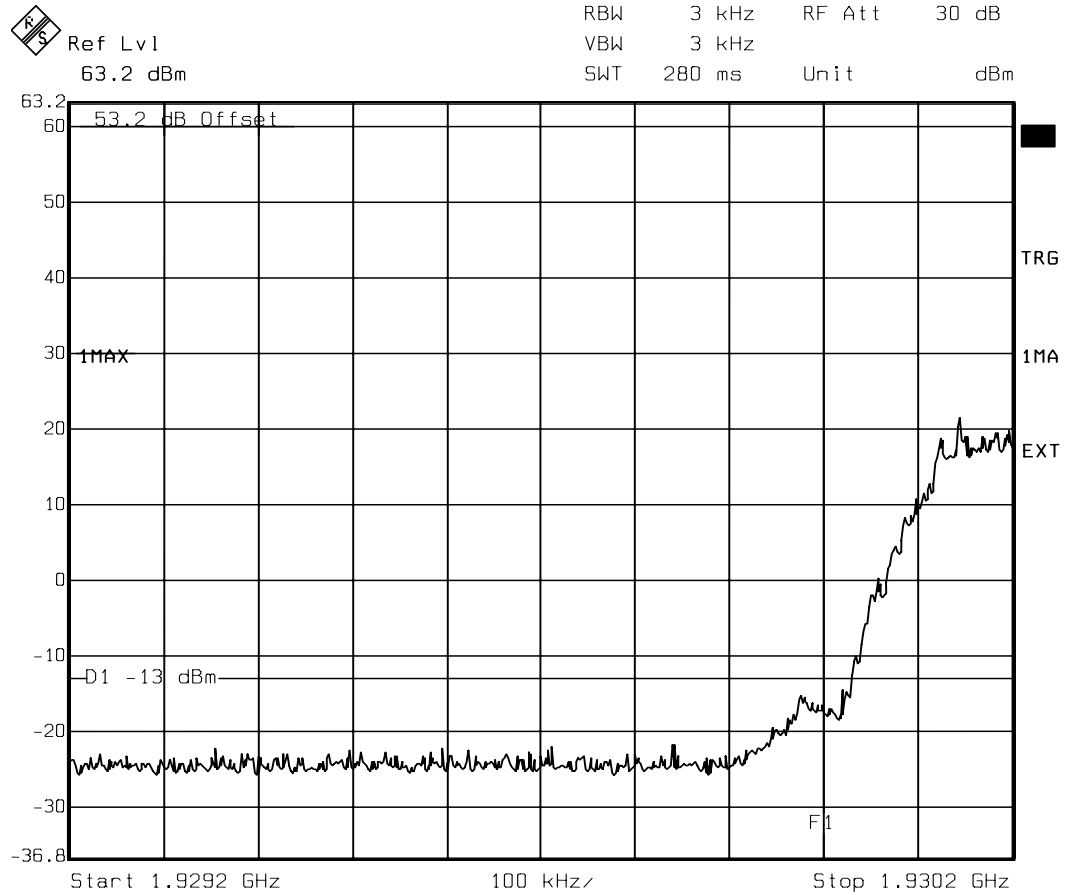
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Diagram 3 (48)
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Date: 12.SEP.2002 10:46:49

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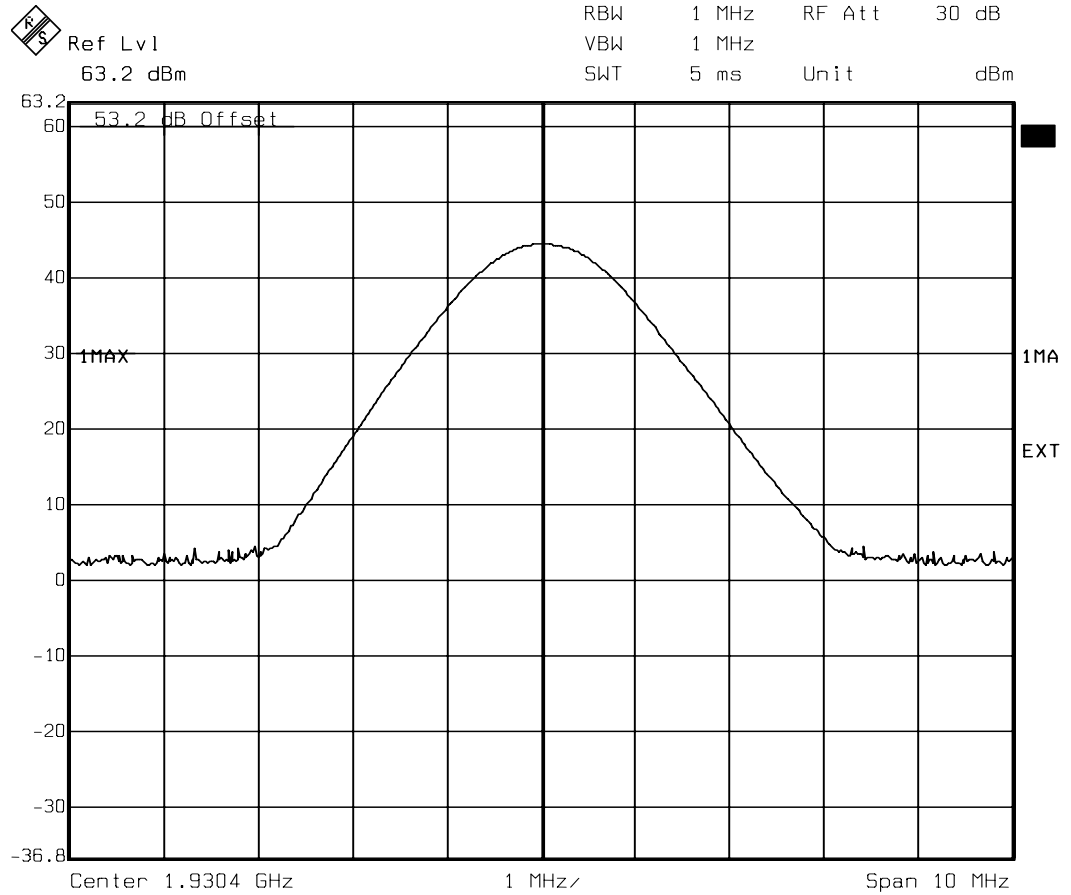
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Diagram 4 (48)
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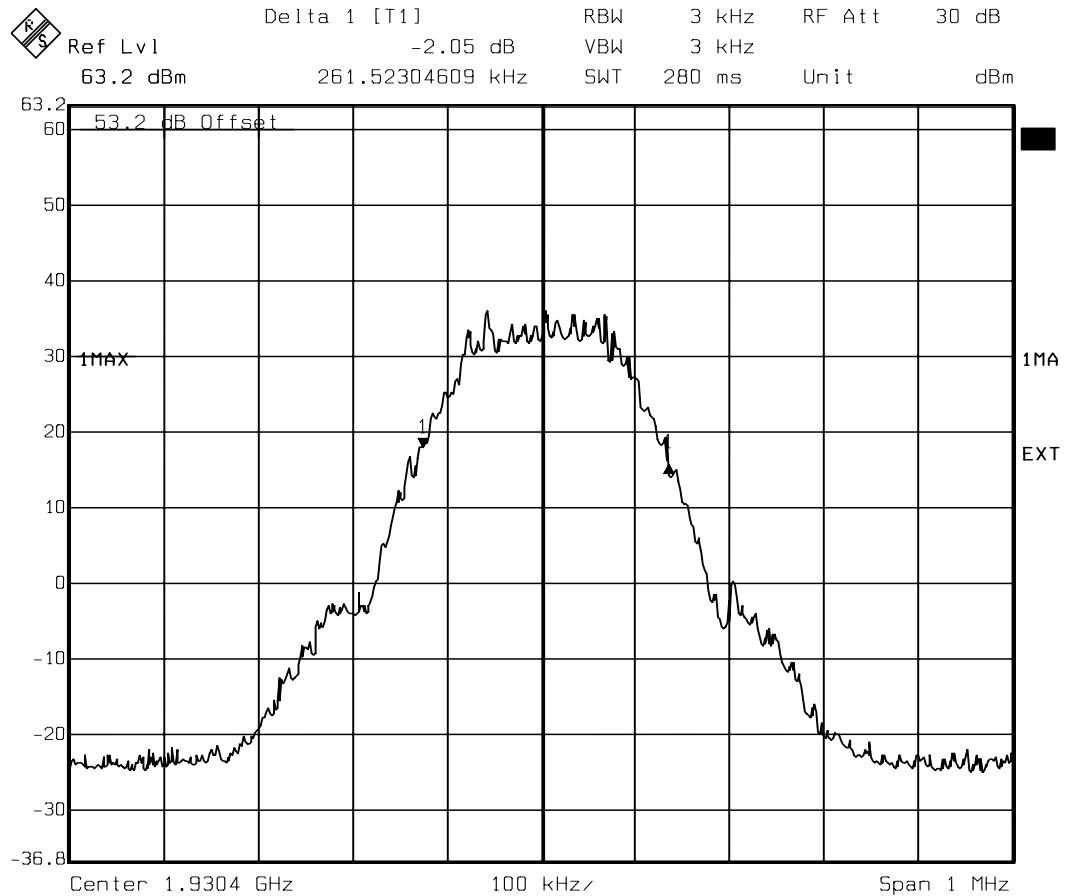
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Diagram 5 (48)
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Date: 12.SEP.2002 10:58:38

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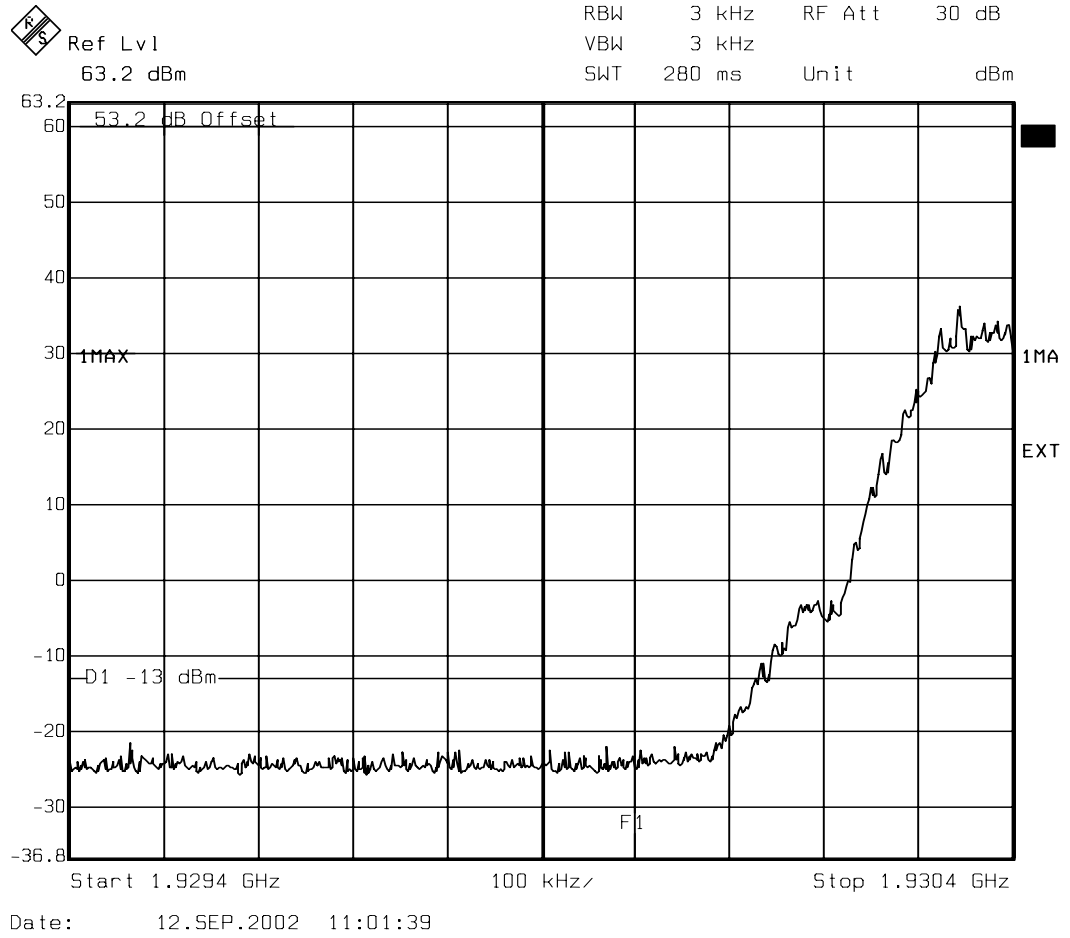
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Diagram 6 (48)
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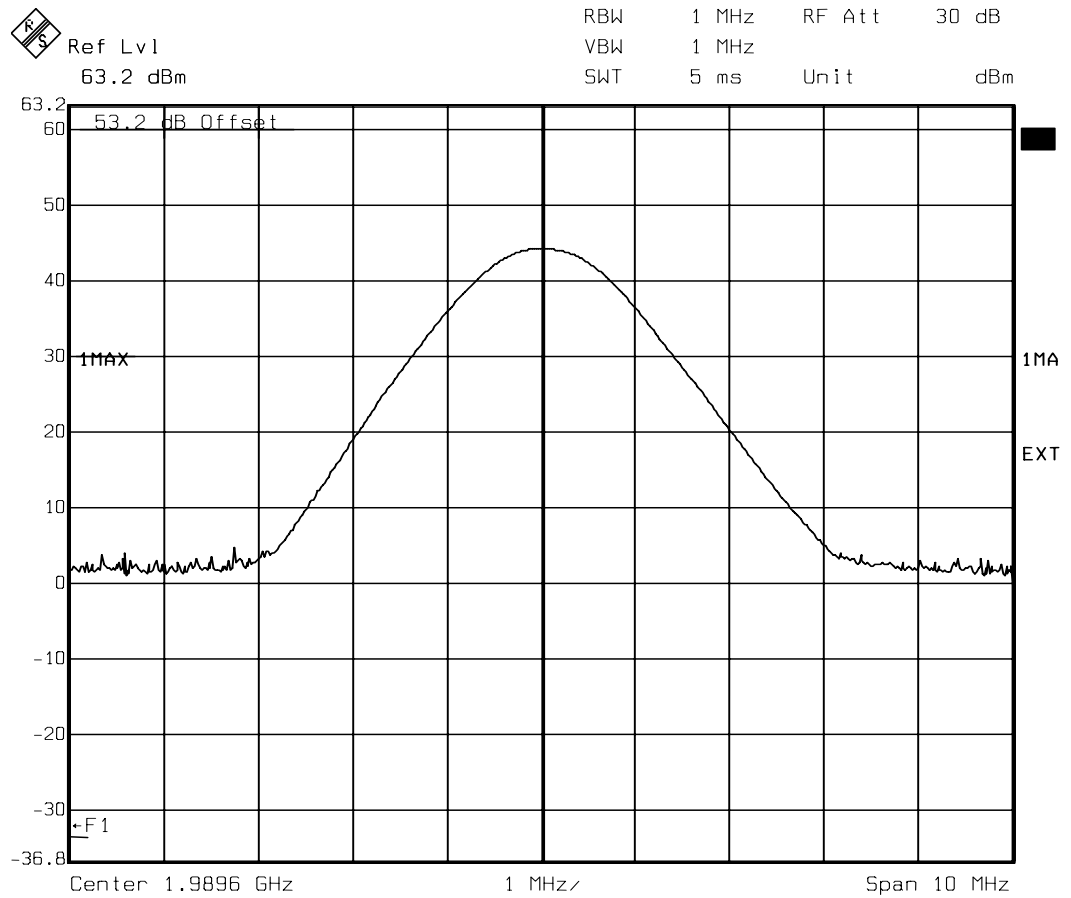
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Diagram 7 (48)
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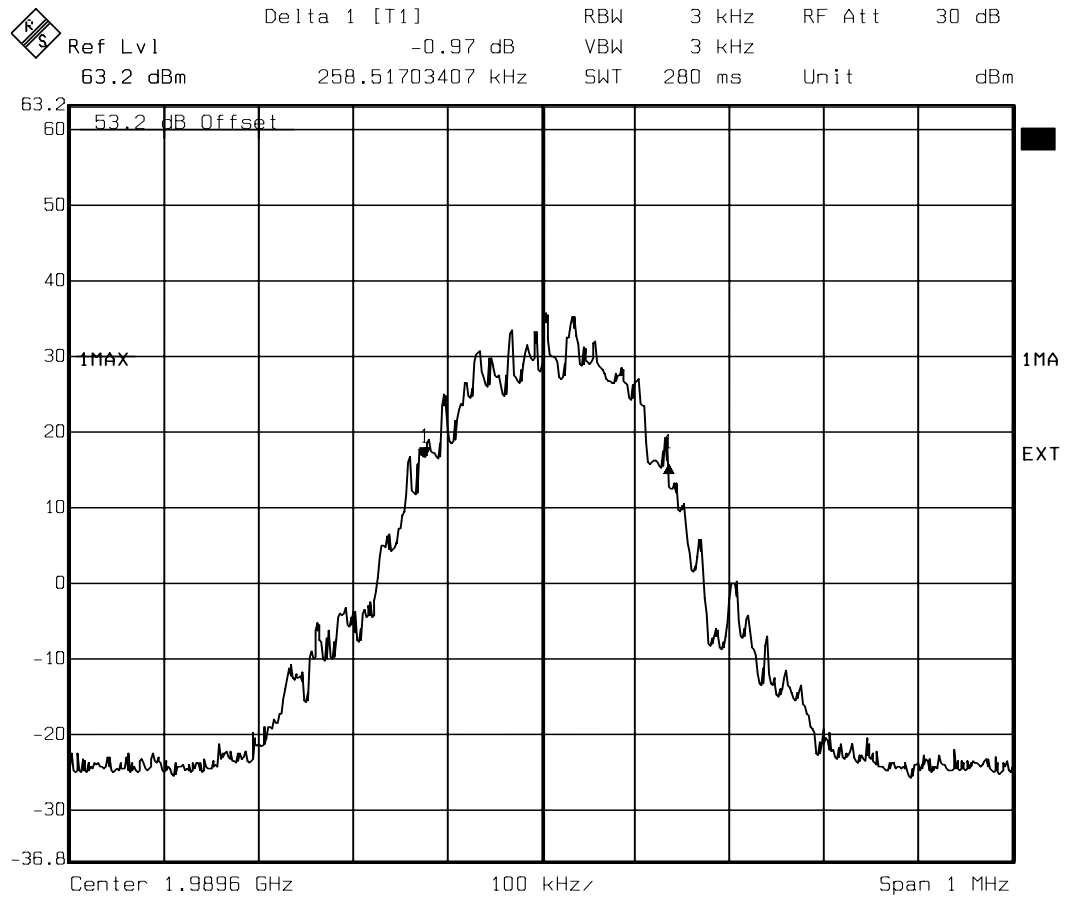
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Diagram 8 (48)
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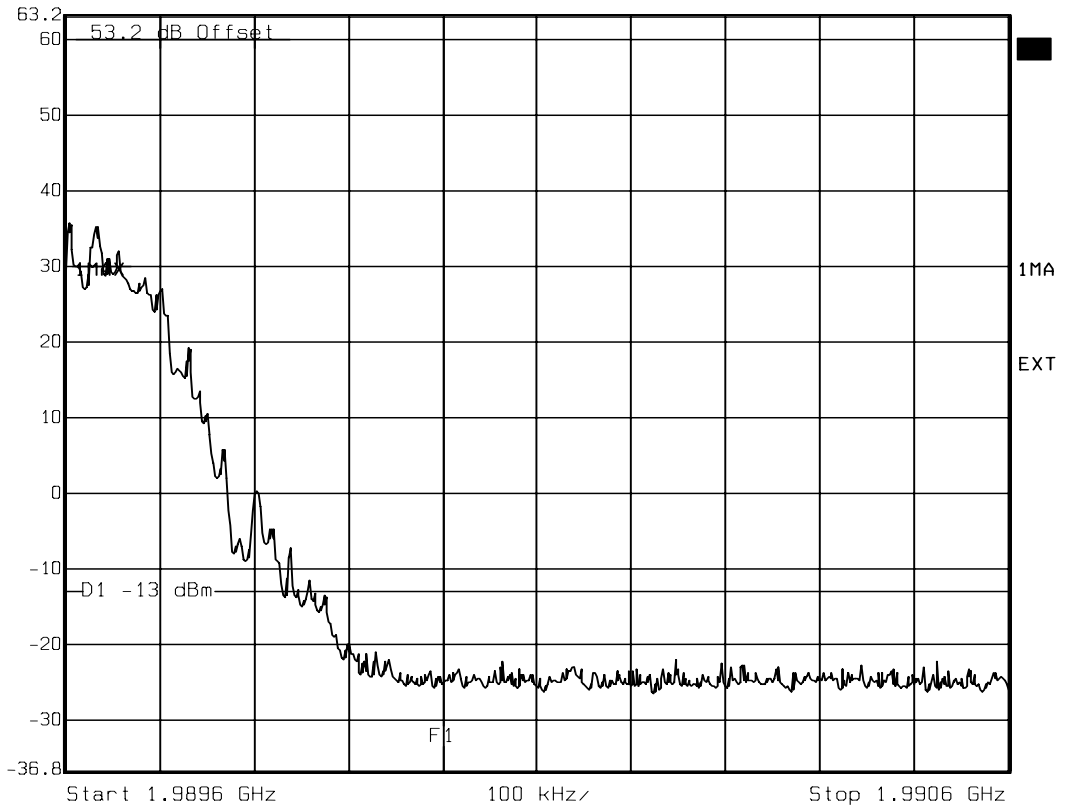
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Ref Lvl
63.2 dBm

RBW 3 kHz RF Att 30 dB
VBW 3 kHz
SWT 280 ms Unit dBm



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Sign:.....

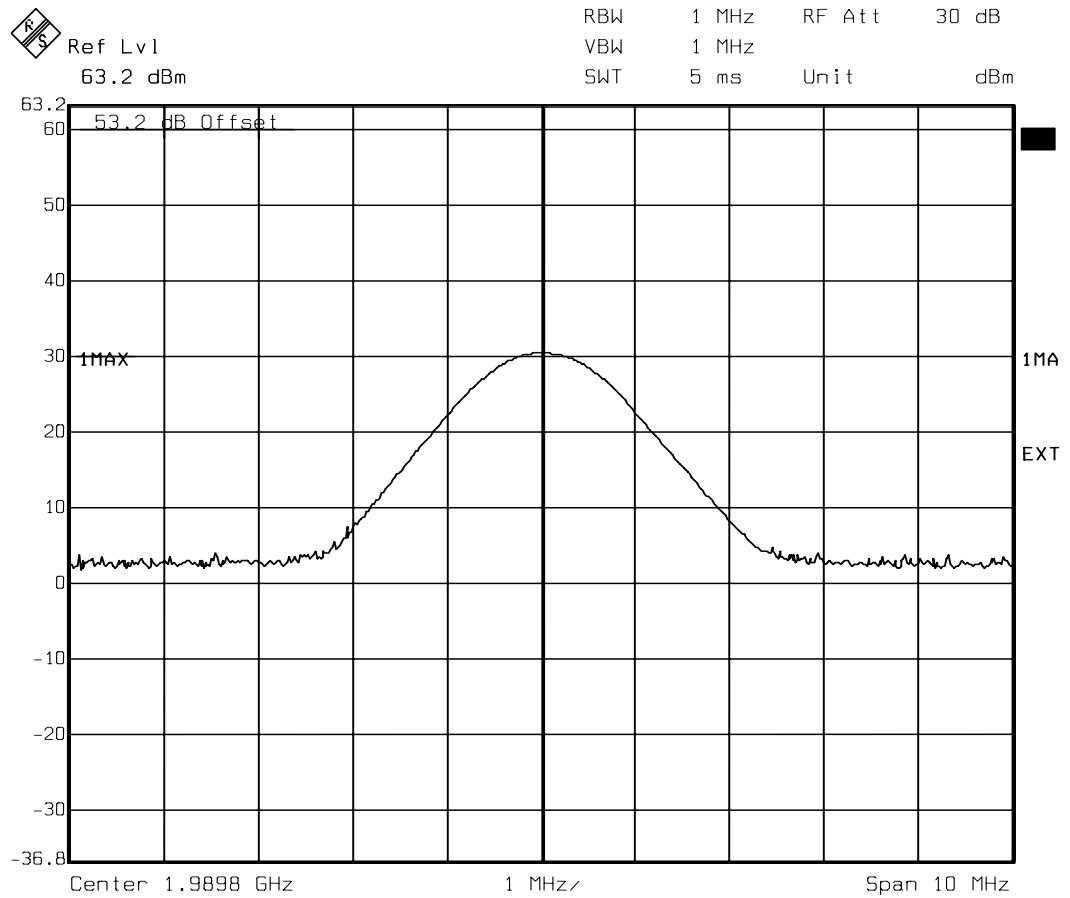
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Diagram 10 (48)
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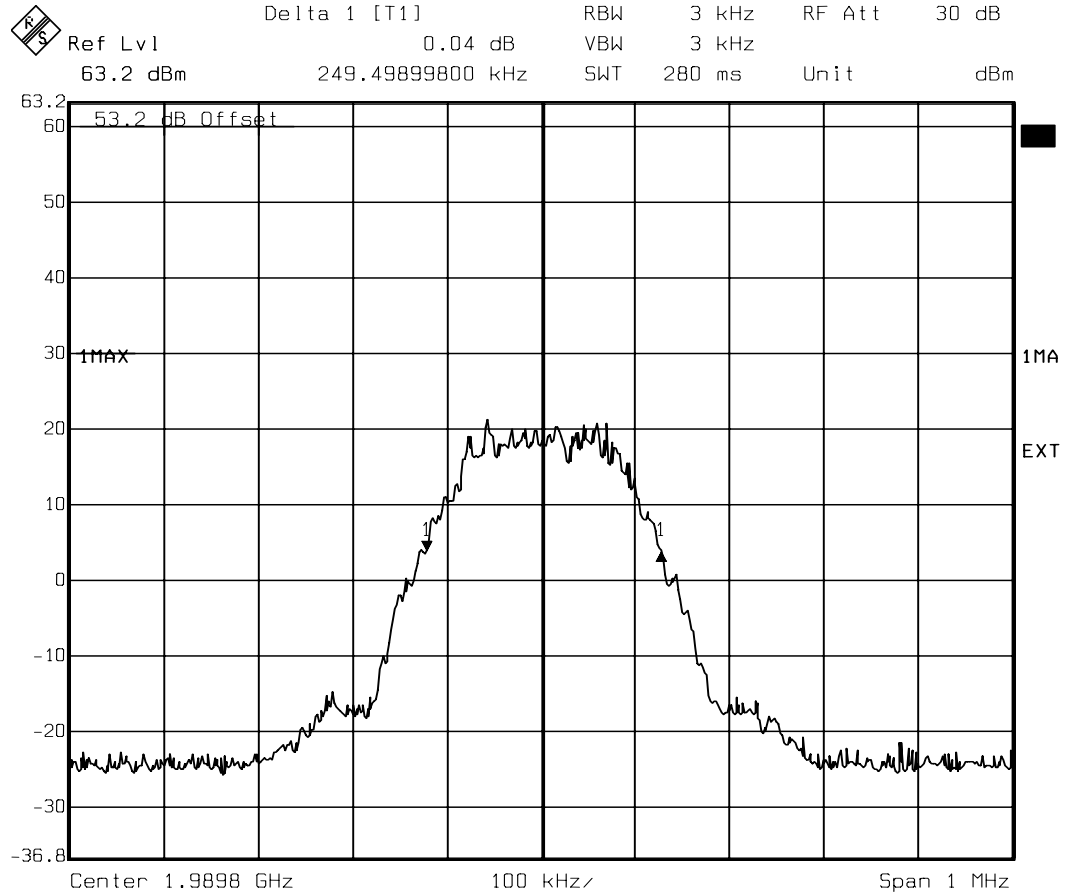
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Diagram 11 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 11:15:34

Sign:.....

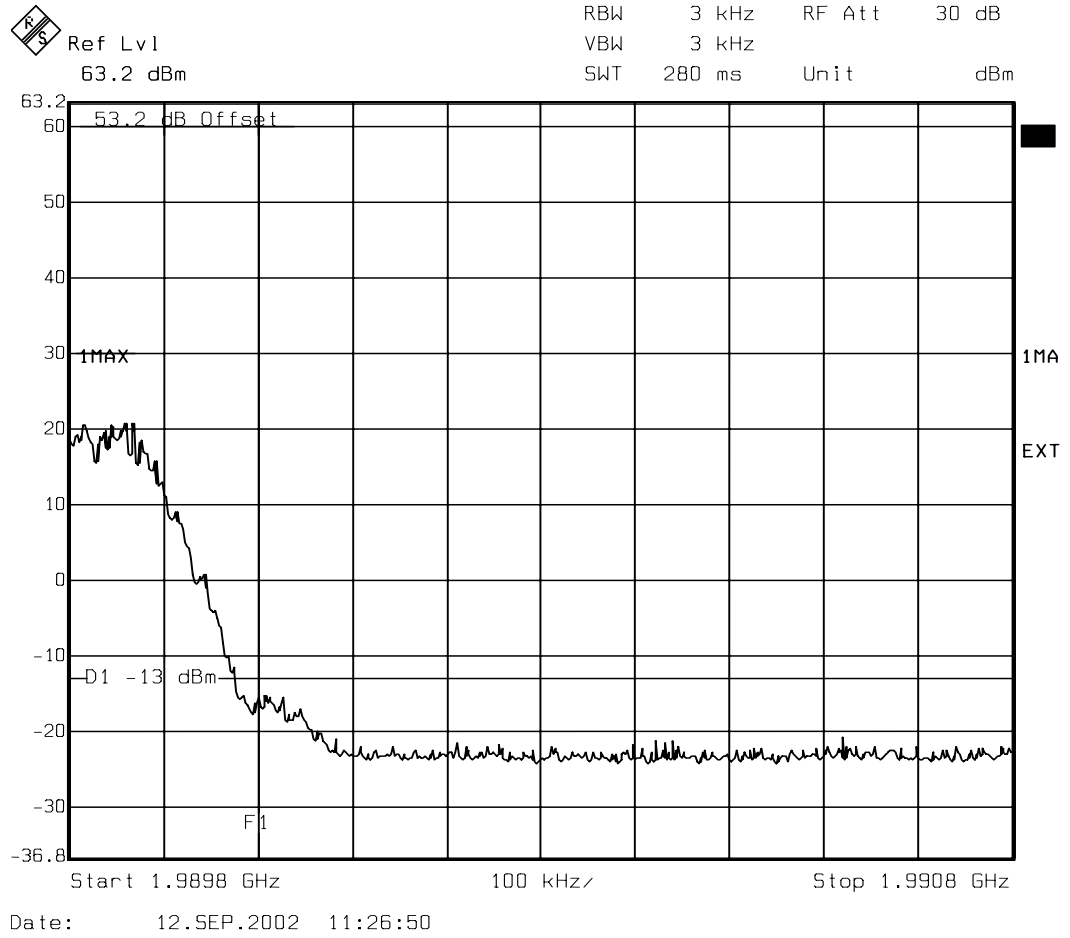
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 12 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

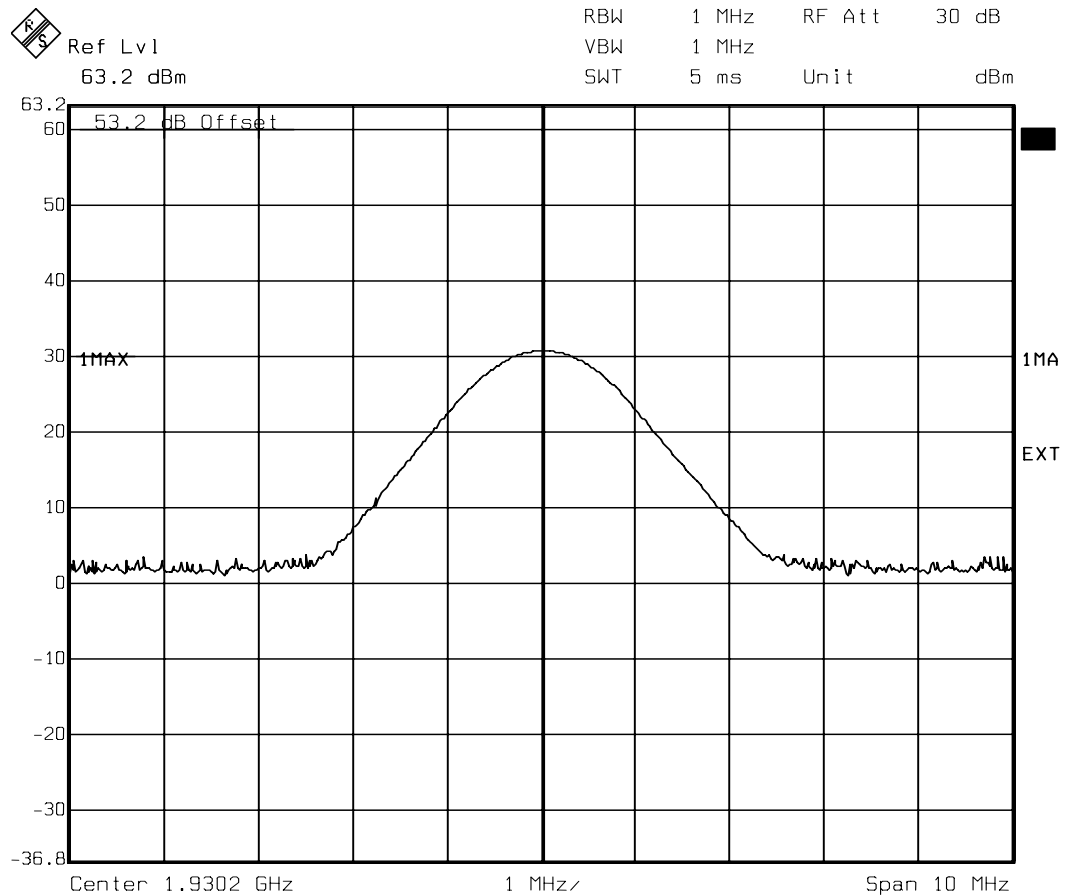
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 13 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 12:33:07

Sign:.....

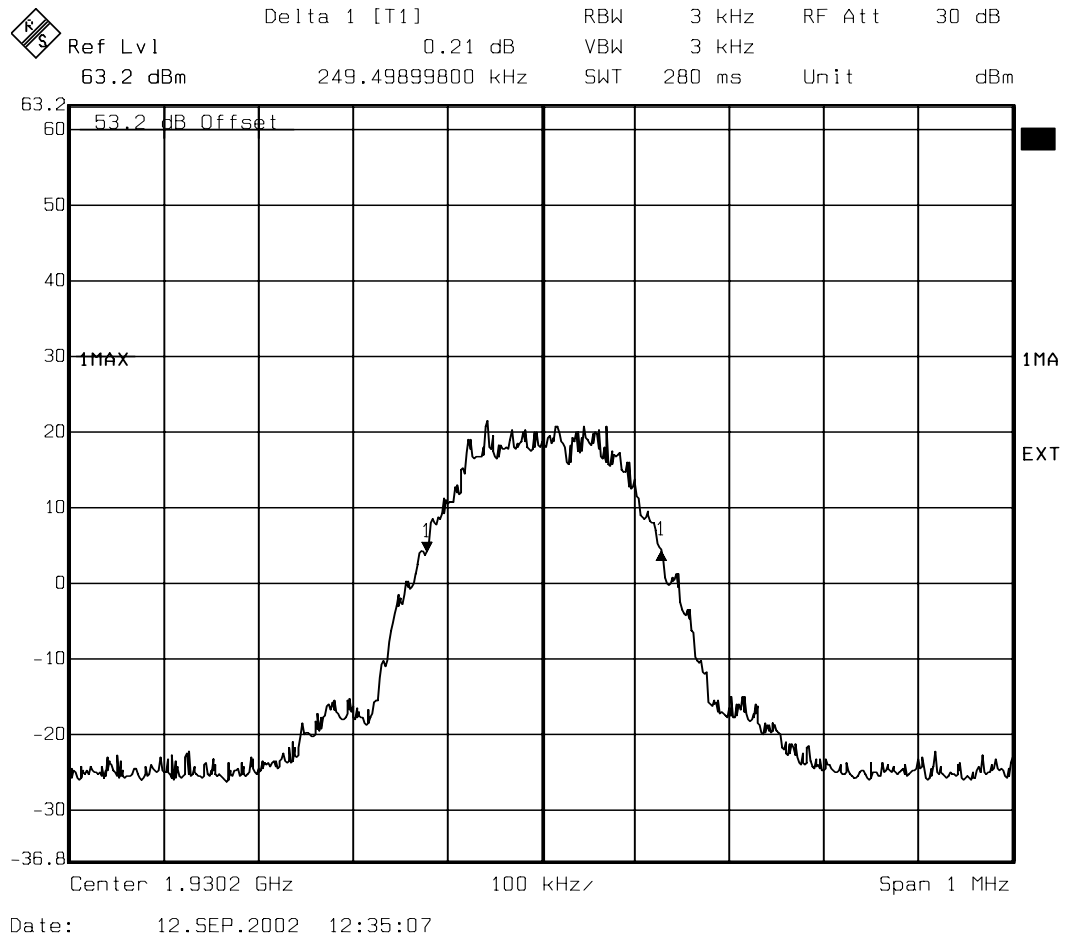
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 14 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

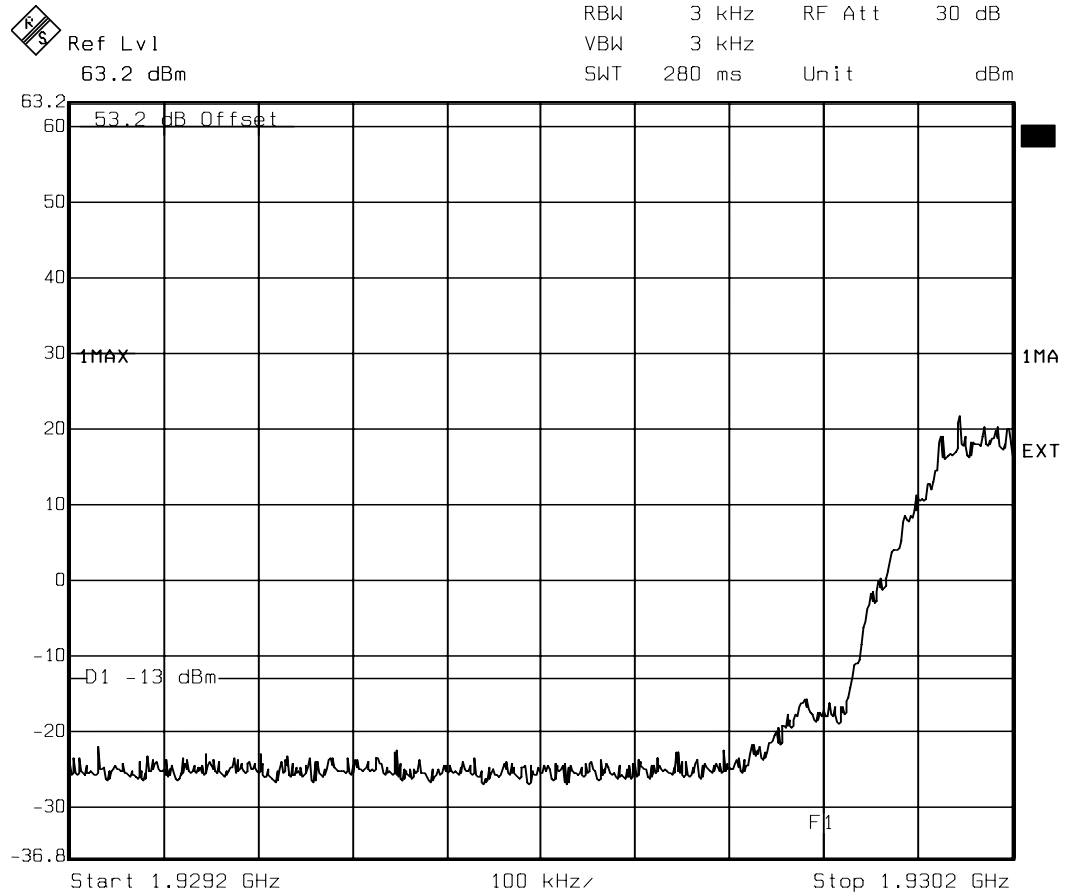
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 15 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 12:36:30

Sign:.....

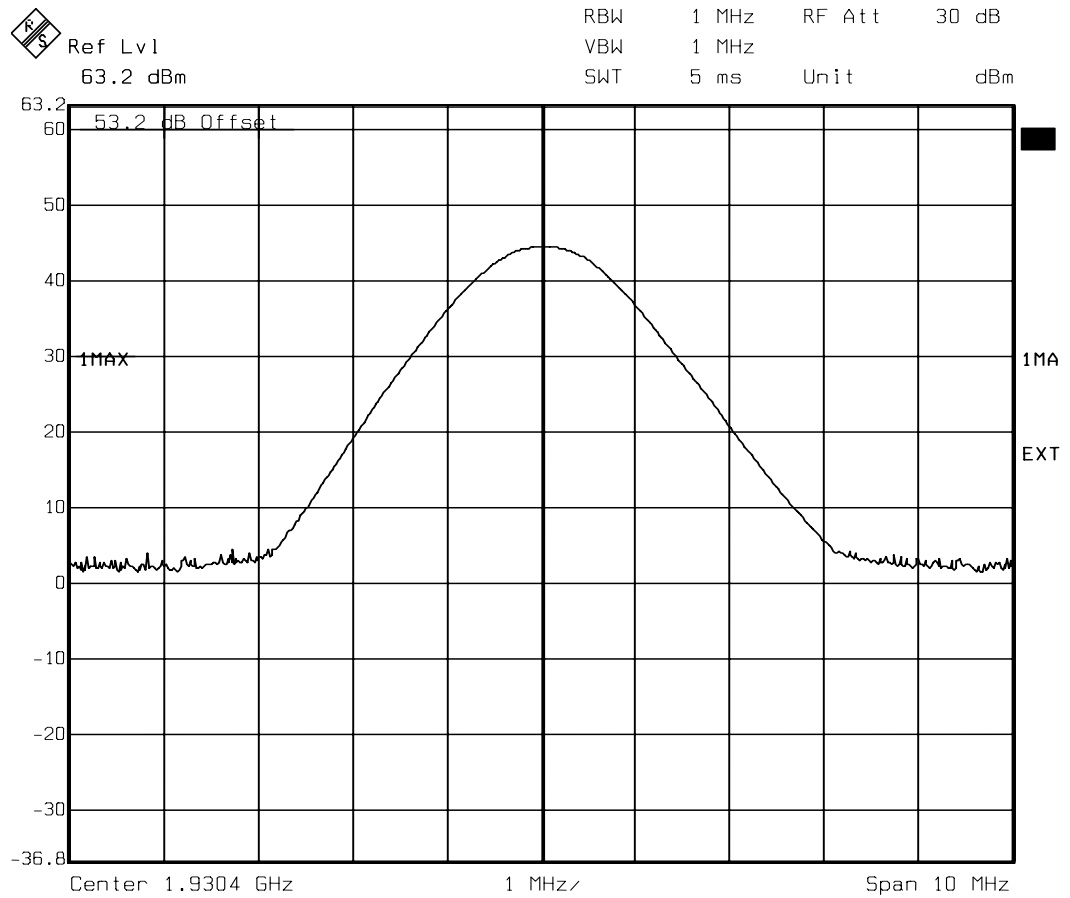
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 16 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 12:39:03

Sign:.....

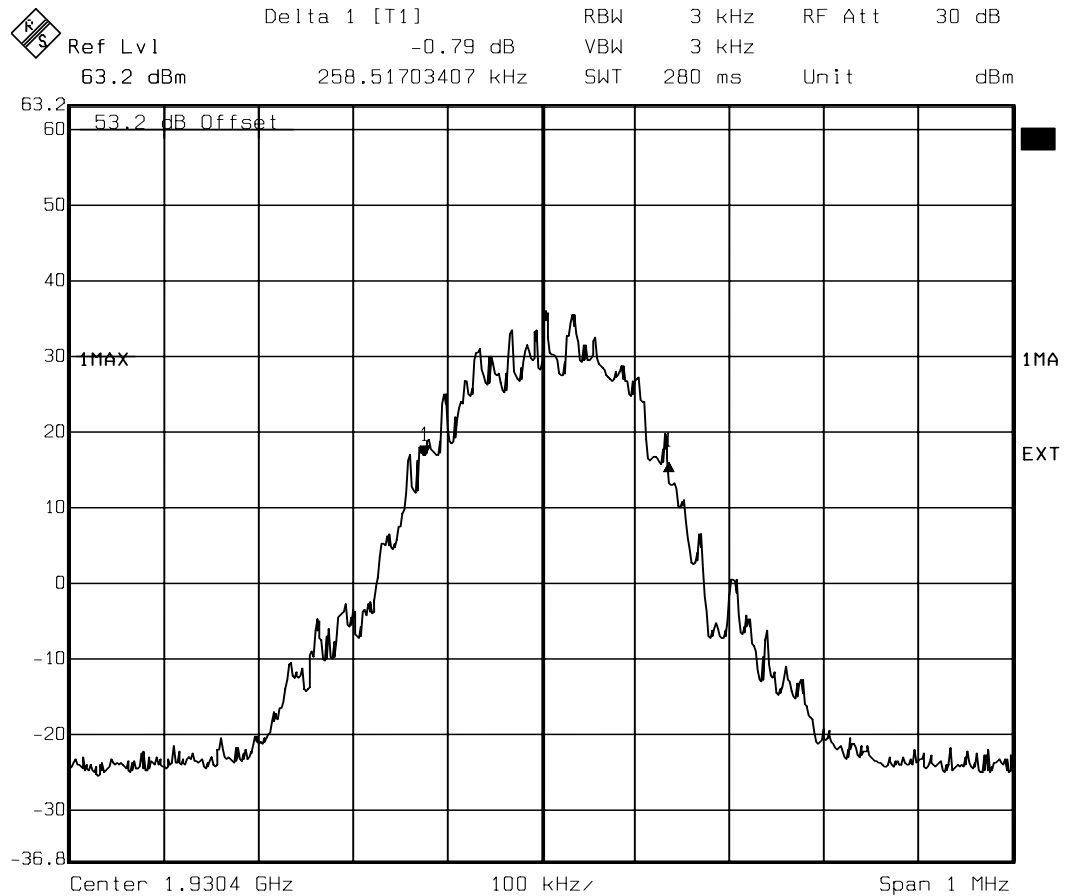
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

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Diagram 17 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 12:41:59

Sign:.....

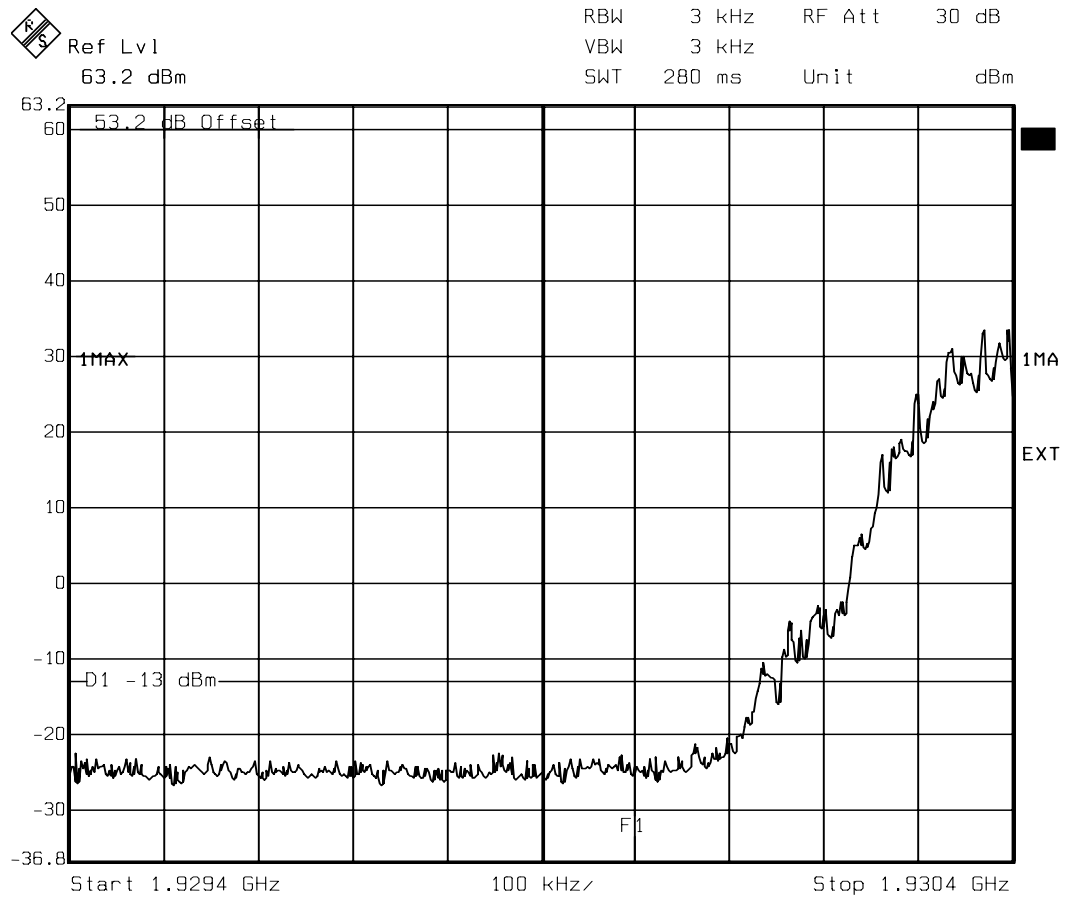
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 18 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 12:43:37

Sign:.....

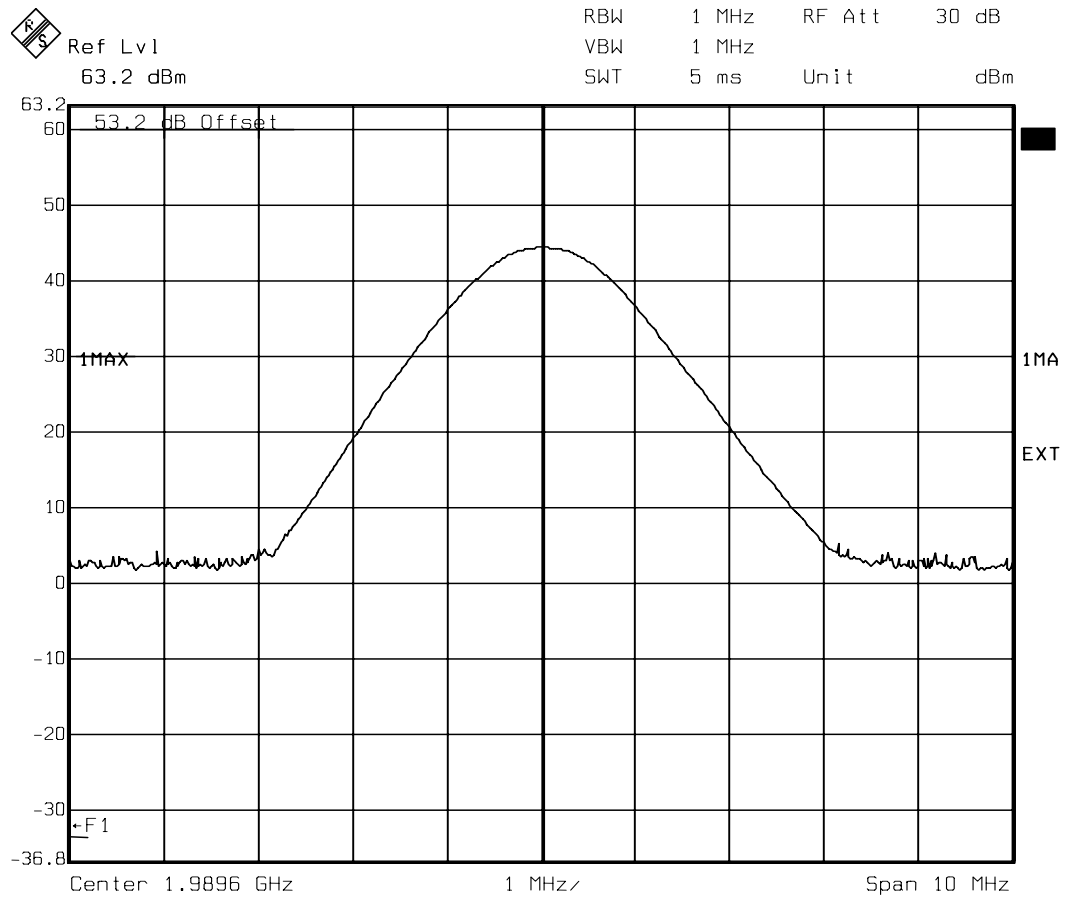
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 19 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 13:07:51

Sign:.....

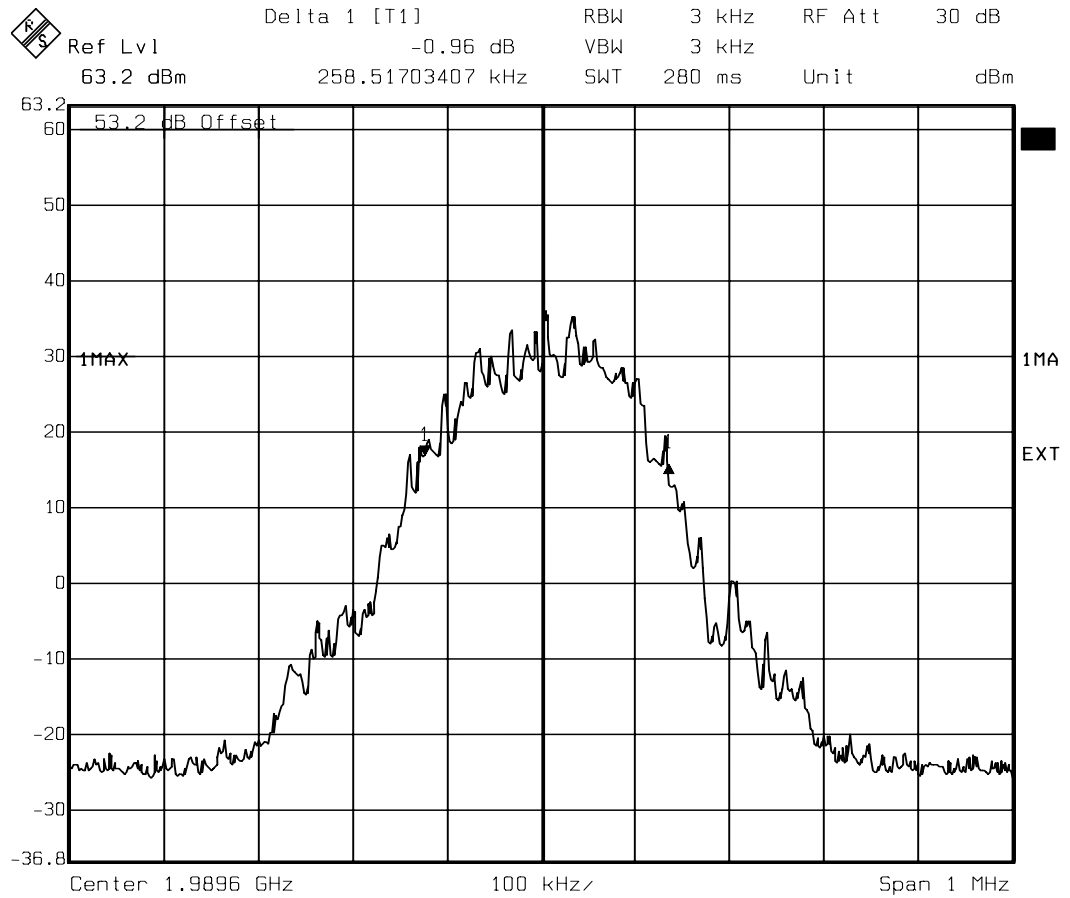
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 20 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 13:09:36

Sign:.....

REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

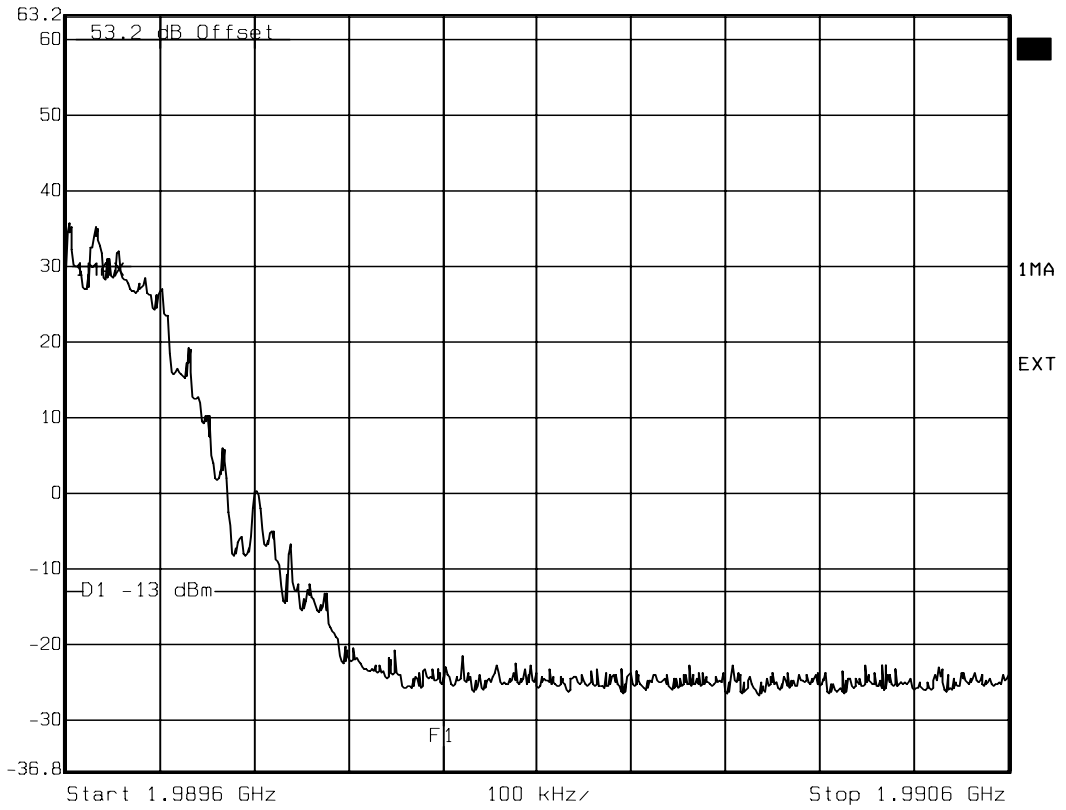
Sida/Page
Diagram 21 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Ref Lvl
63.2 dBm

RBW 3 kHz RF Att 30 dB
VBW 3 kHz
SWT 280 ms Unit dBm



Date: 12.SEP.2002 13:11:06

Sign:.....

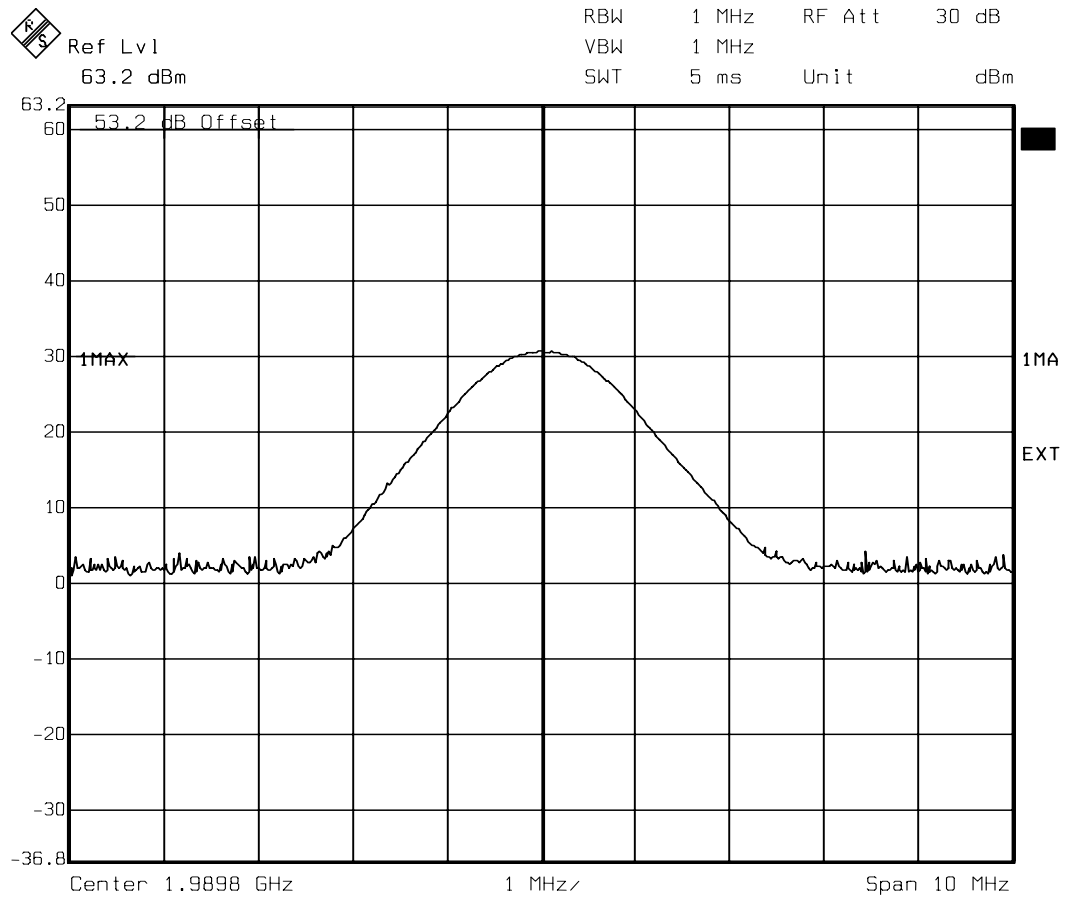
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 22 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 13:15:55

Sign:.....

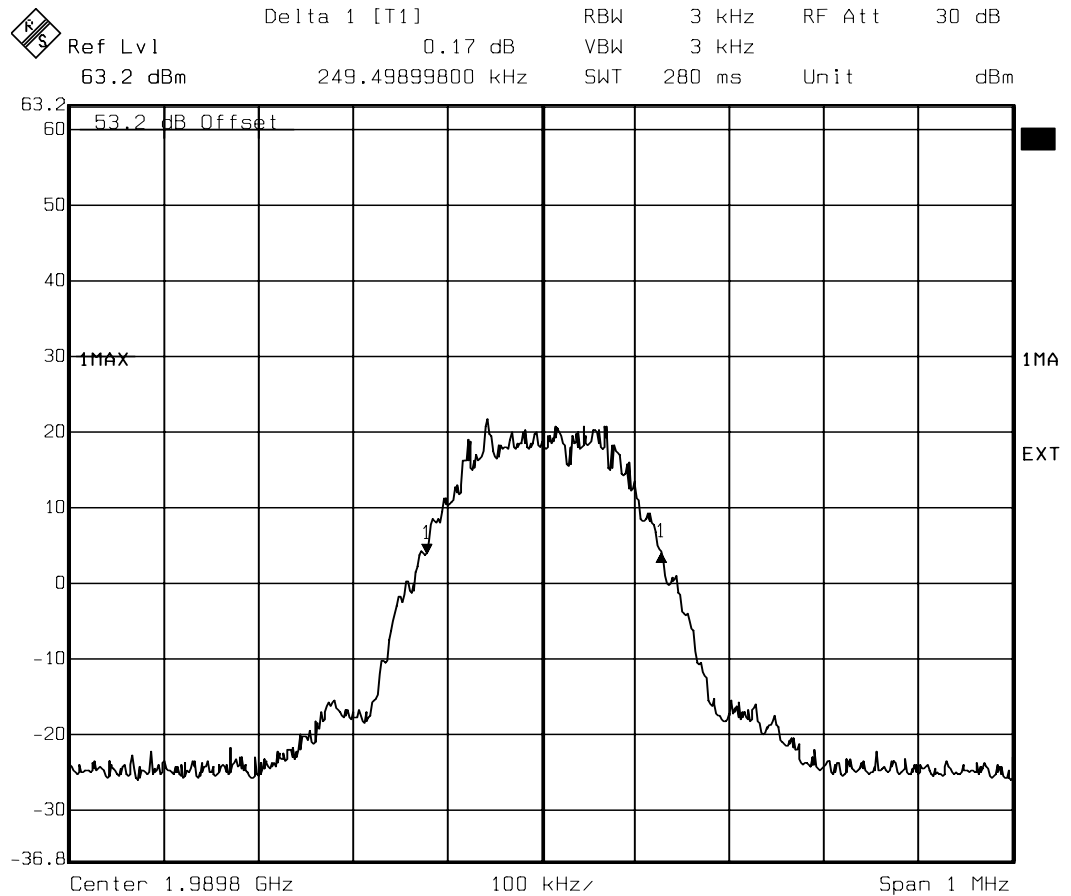
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 23 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 13:17:40

Sign:.....

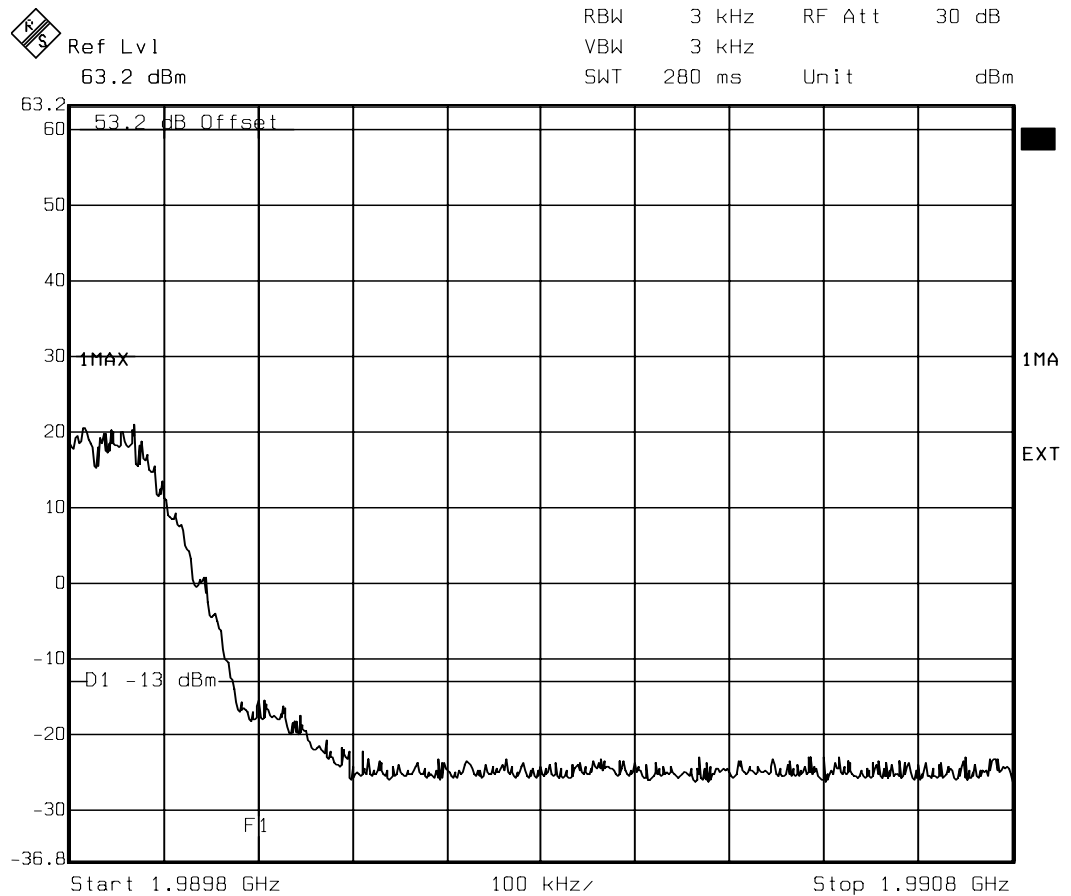
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 24 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 13:14:20

Sign:.....

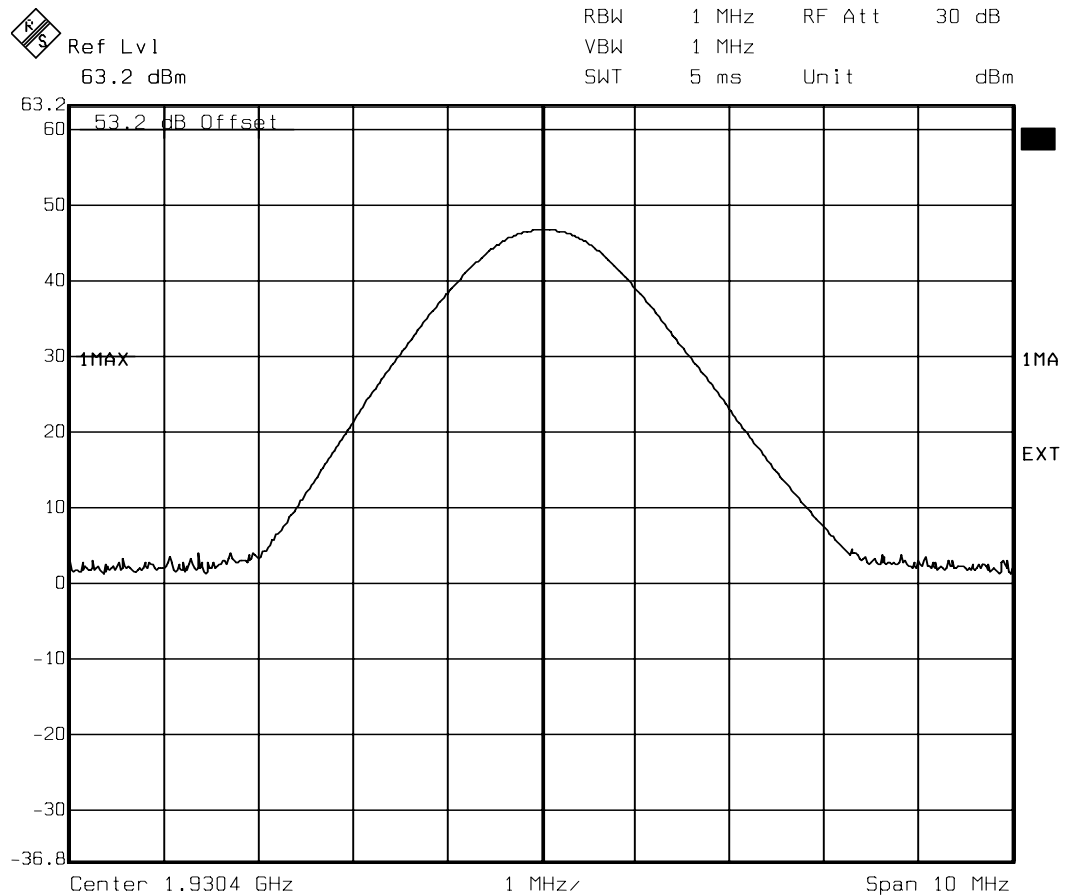
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 25 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 11.SEP.2002 16:14:01

Sign:.....

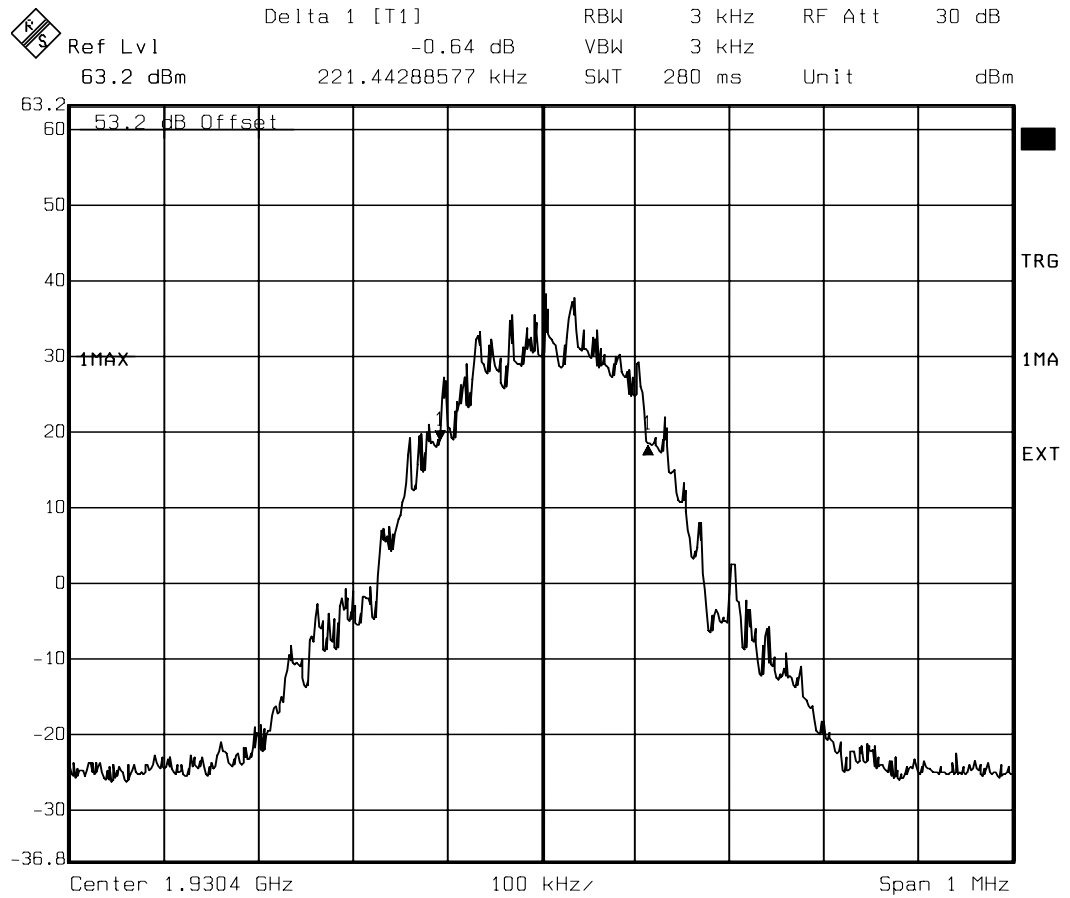
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 26 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 11.SEP.2002 16:17:31

Sign:.....

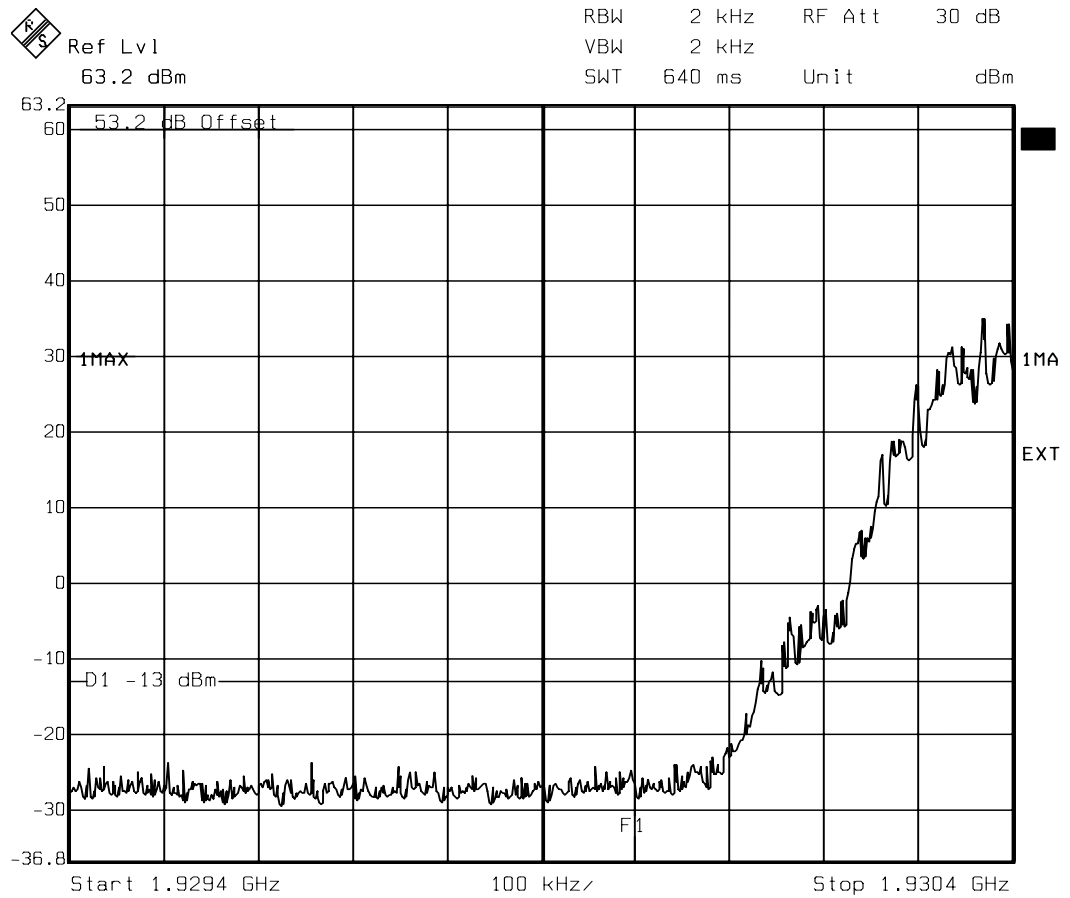
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 27 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 11.SEP.2002 16:09:57

Sign:.....

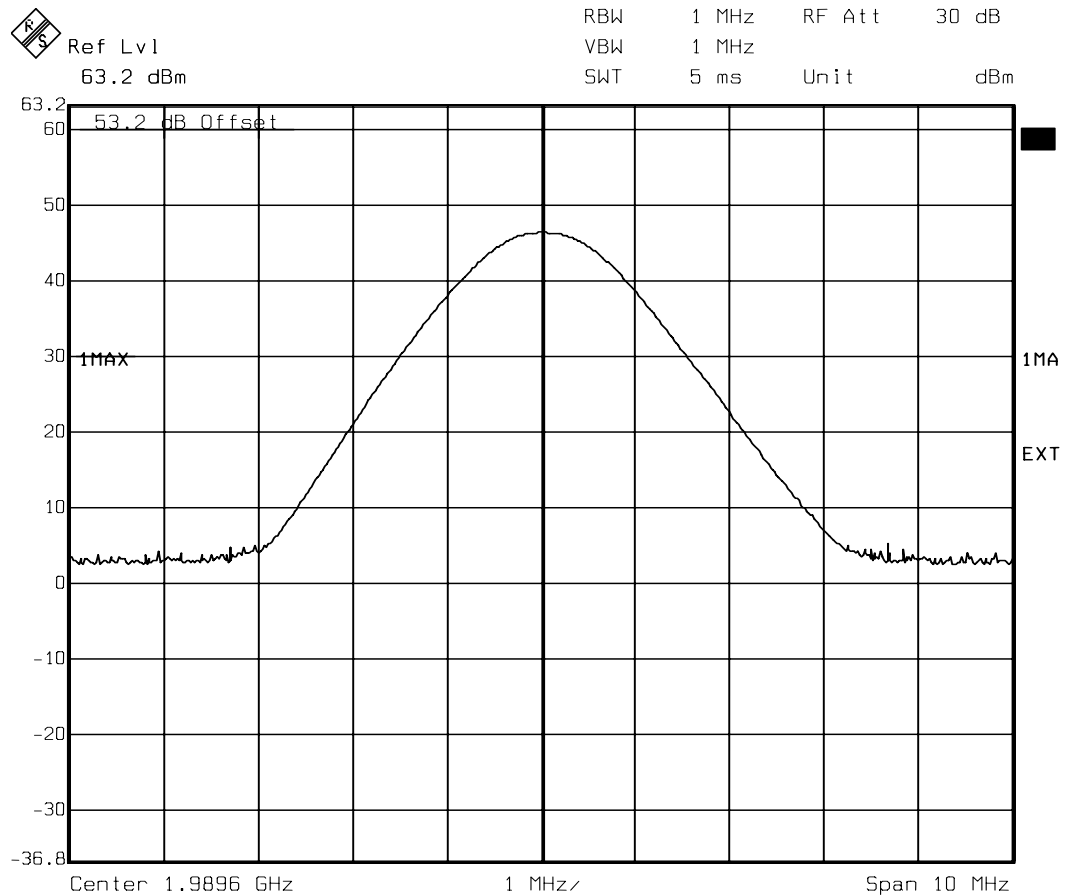
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 28 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 11.SEP.2002 16:02:23

Sign:.....

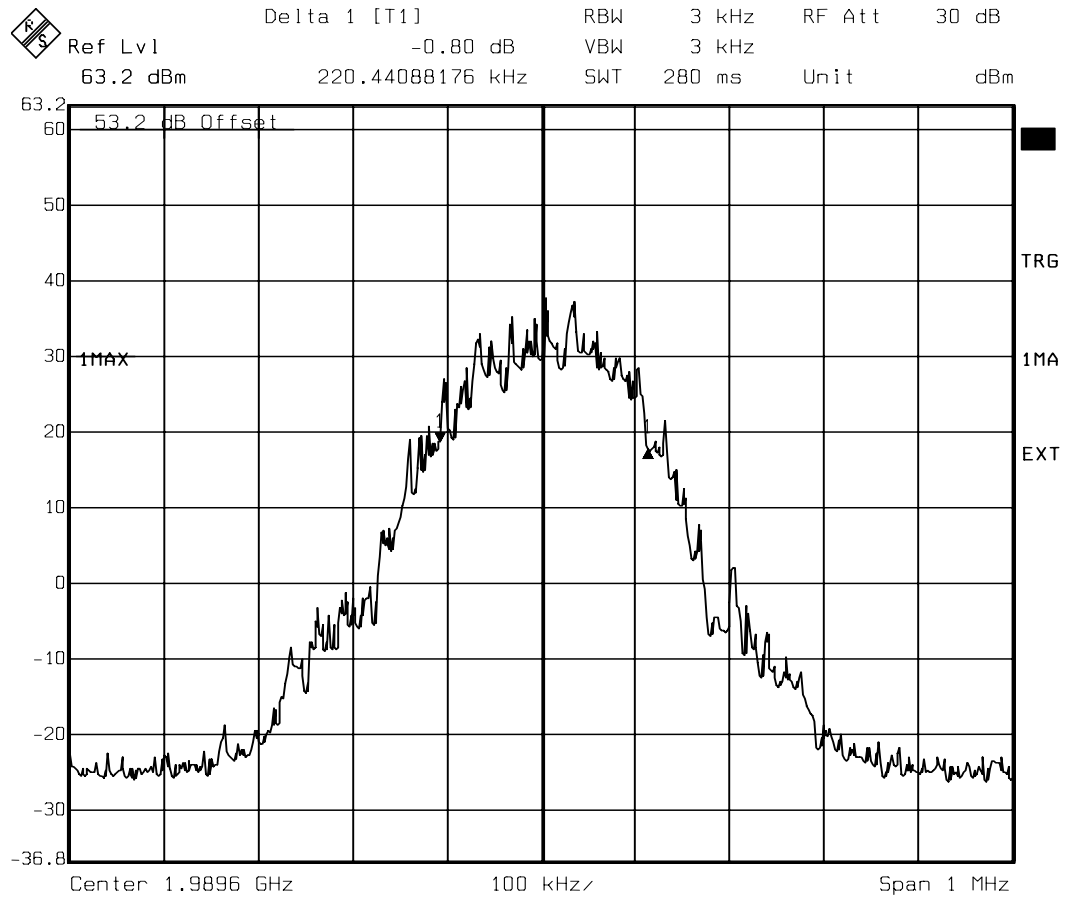
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 29 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 11.SEP.2002 16:21:57

Sign:.....

REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

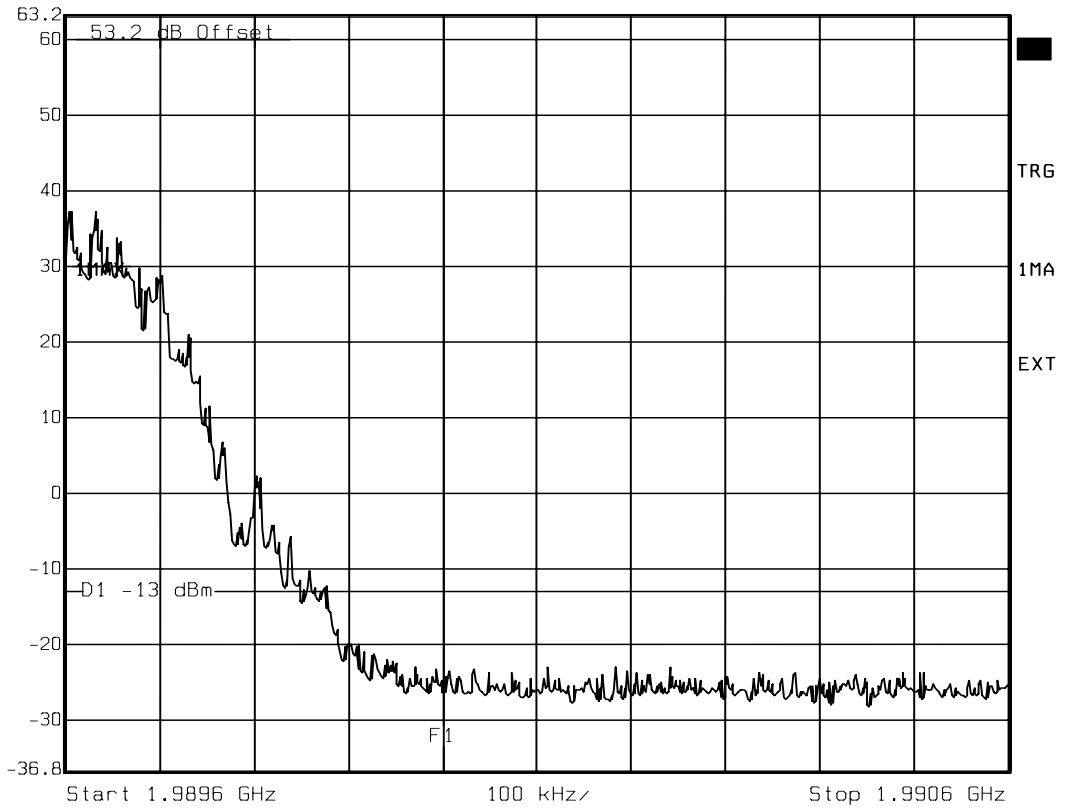
Sida/Page
Diagram 30 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Ref Lvl
63.2 dBm

RBW 3 kHz RF Att 30 dB
VBW 3 kHz
SWT 280 ms Unit dBm



Date: 11.SEP.2002 16:23:27

Sign:.....

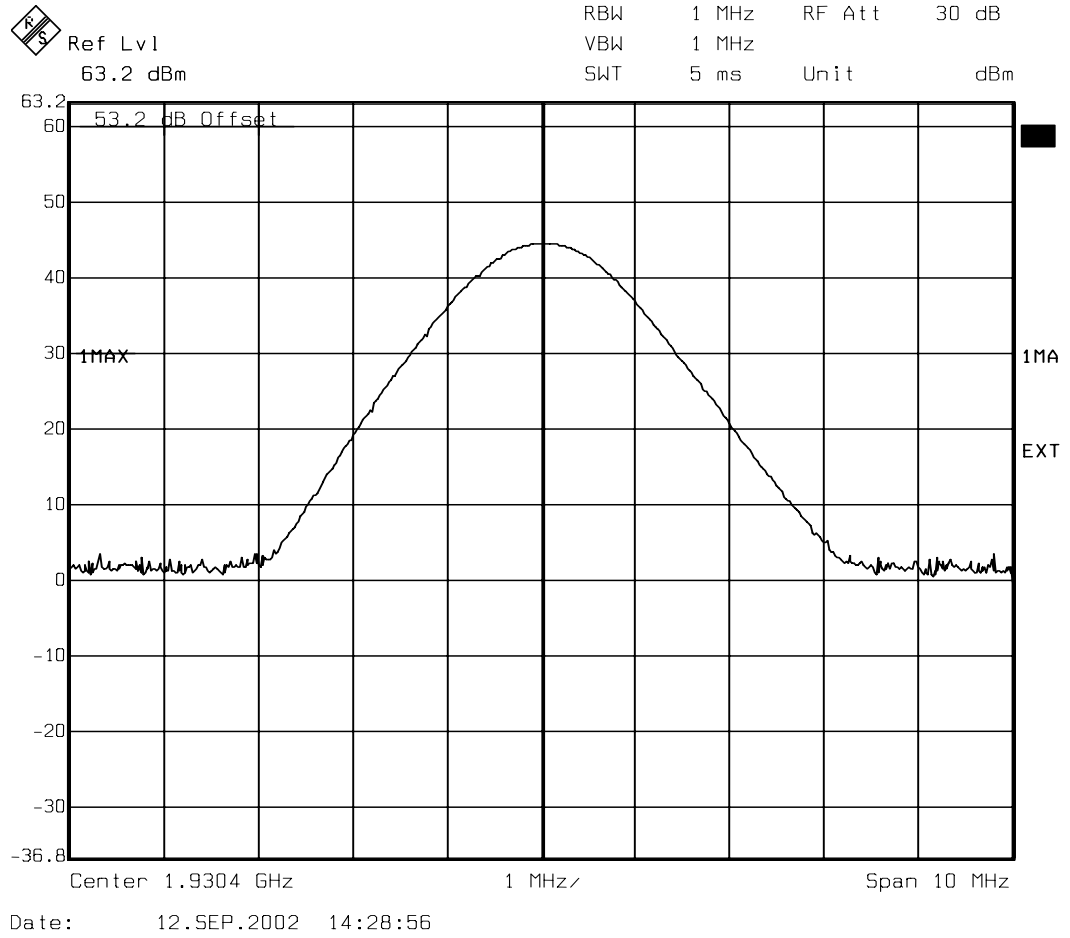
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 31 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

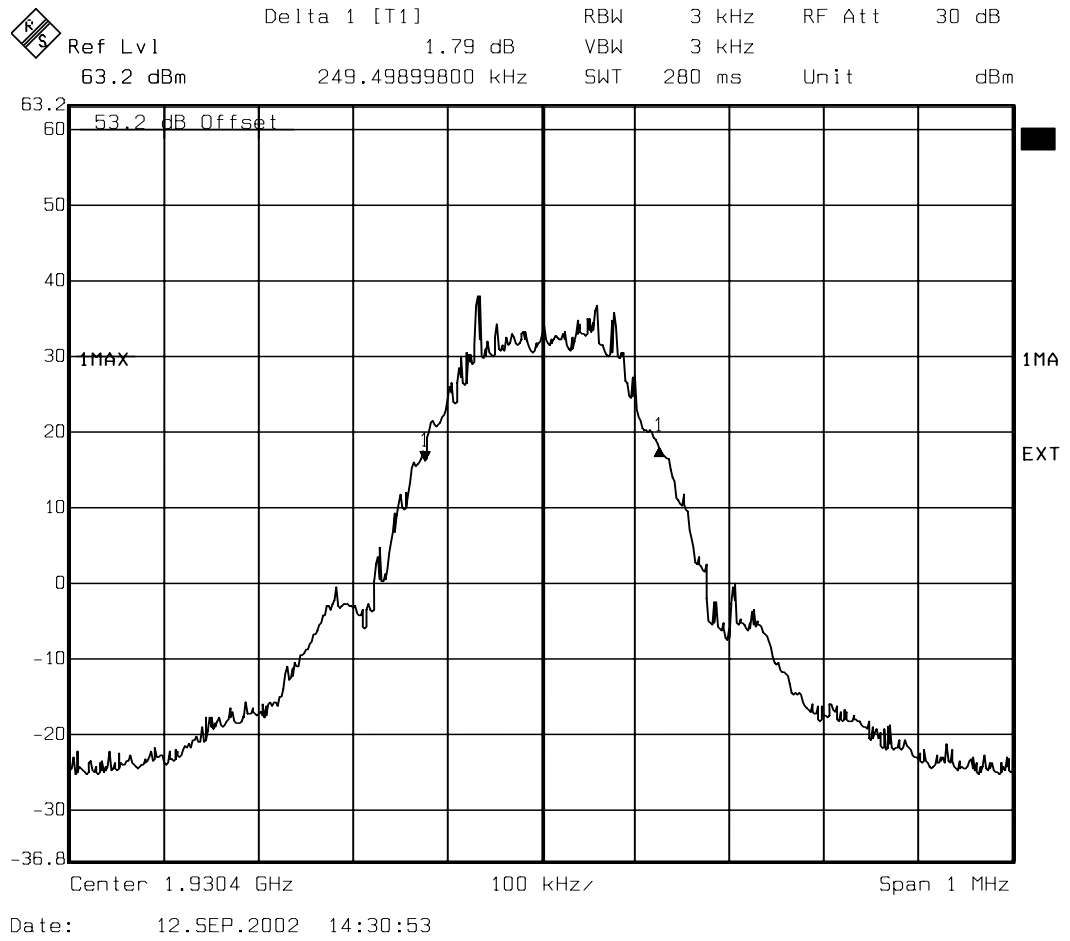
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 32 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

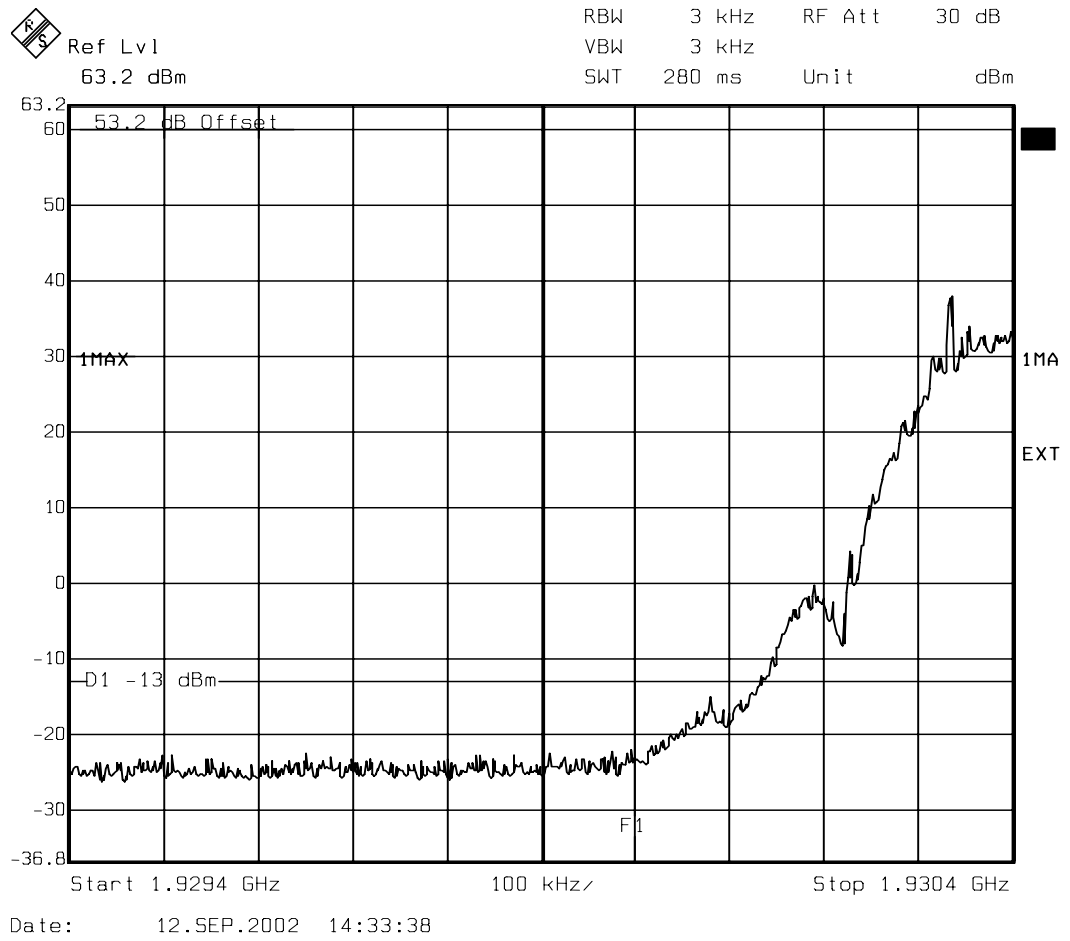
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 33 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

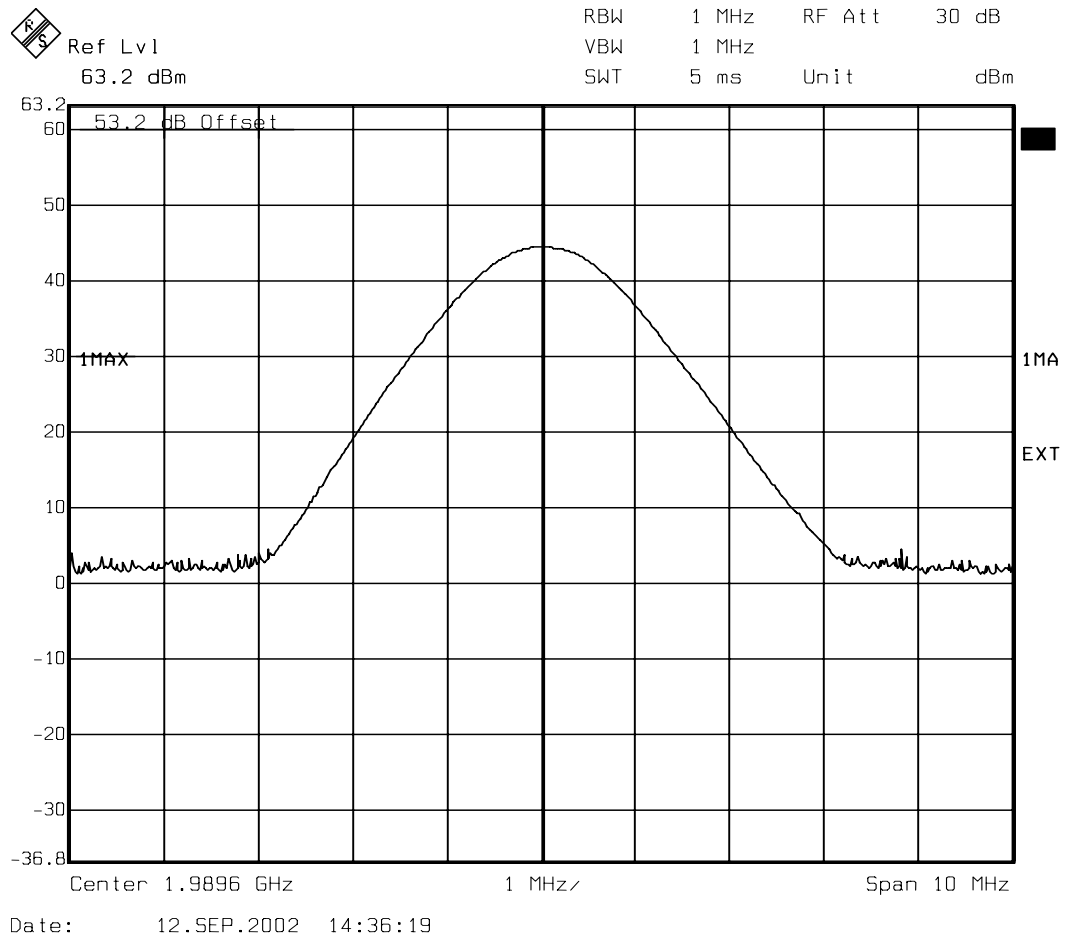
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 34 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

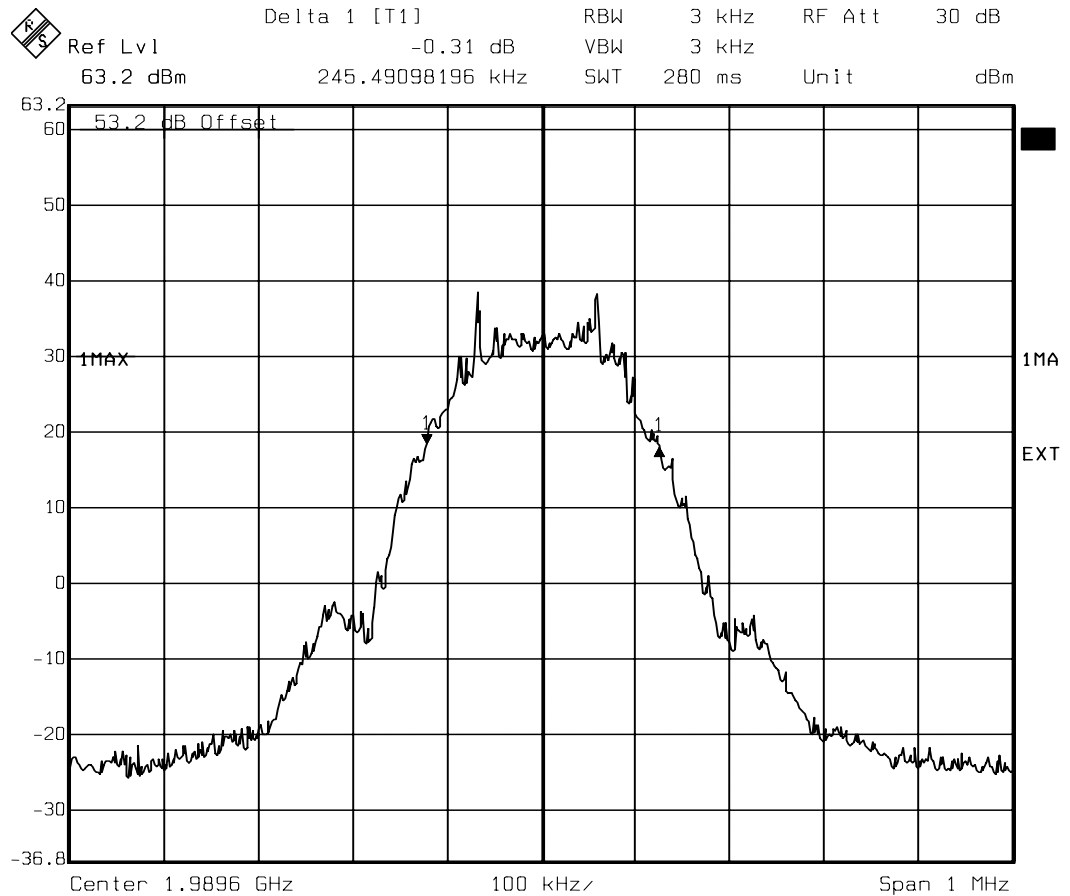
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 35 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 14:37:59

Sign:.....

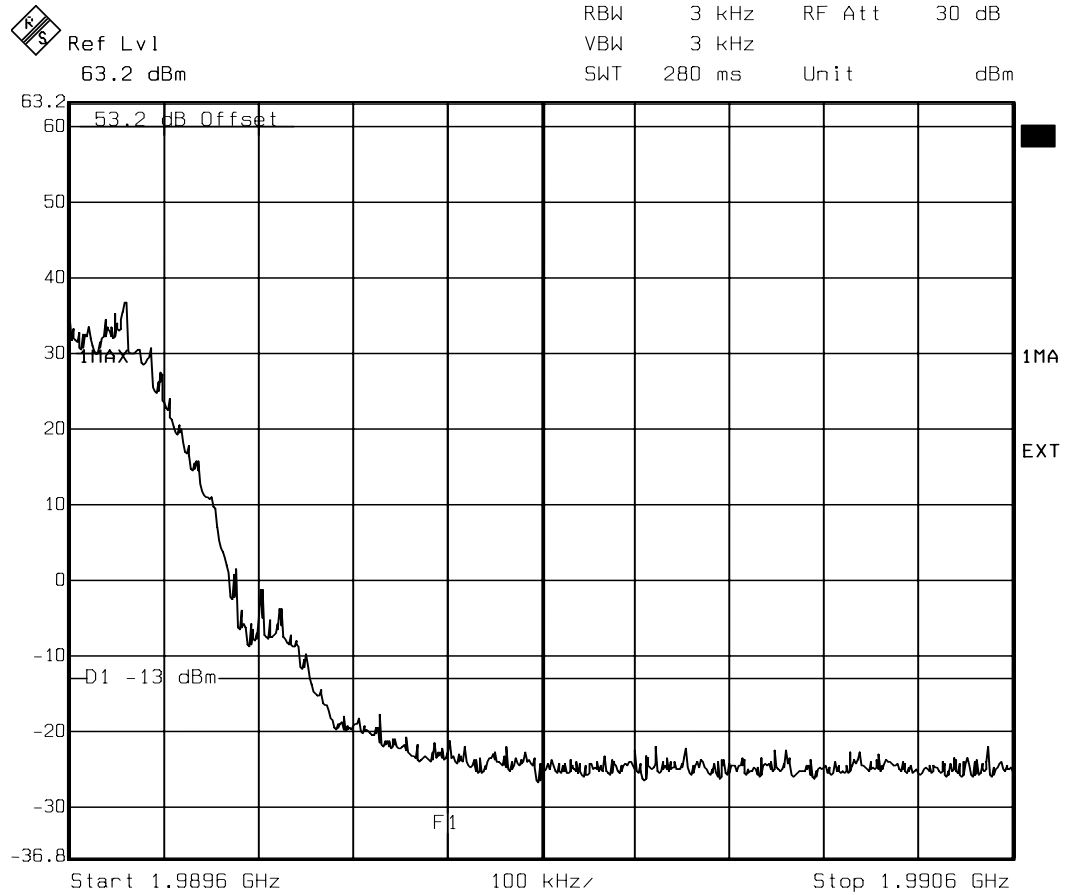
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Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 36 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 14:39:33

Sign:.....

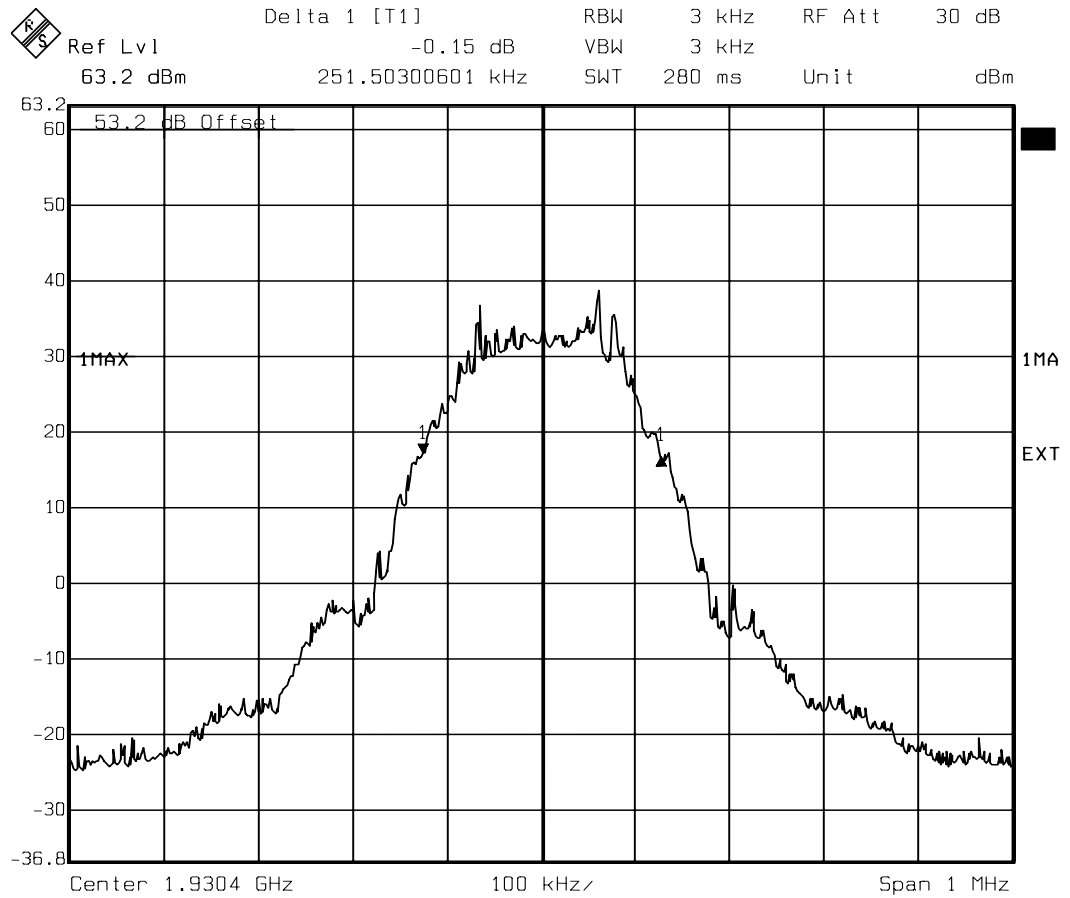
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 37 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 14:07:45

Sign:.....

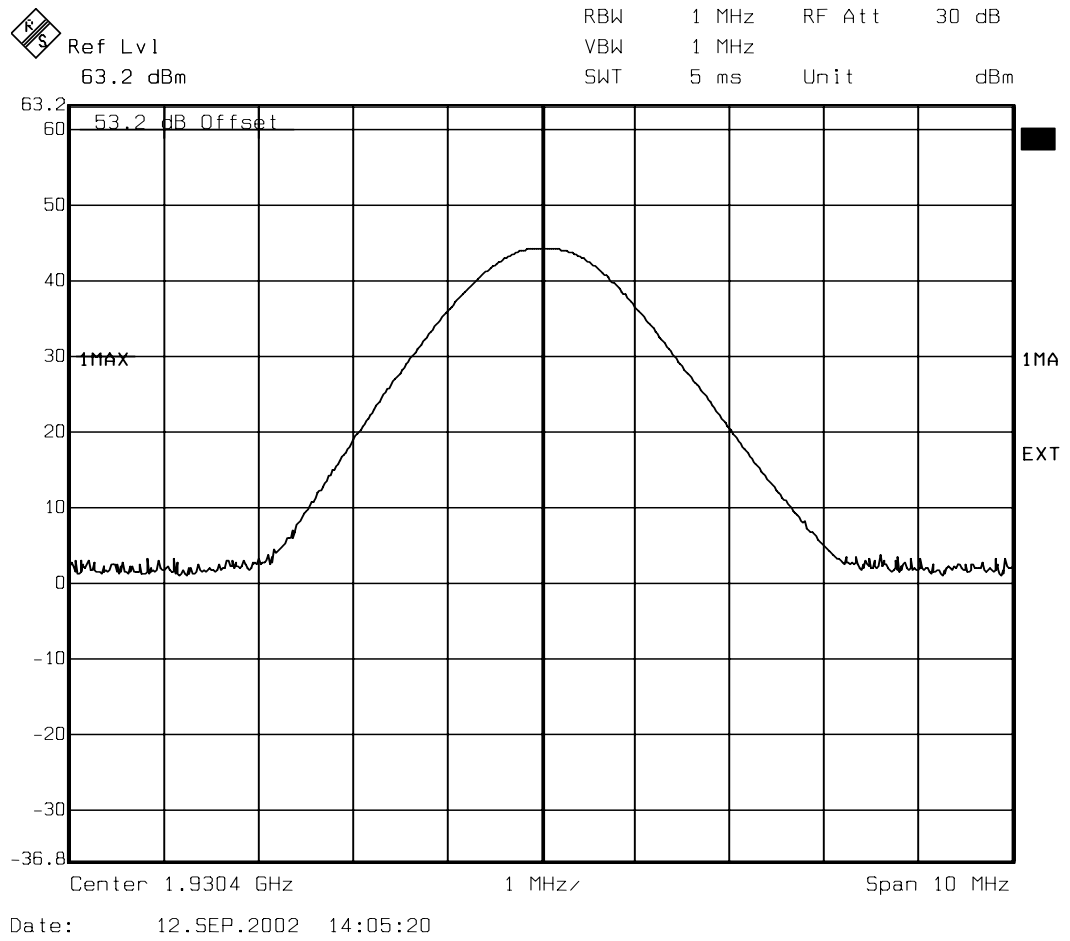
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 38 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

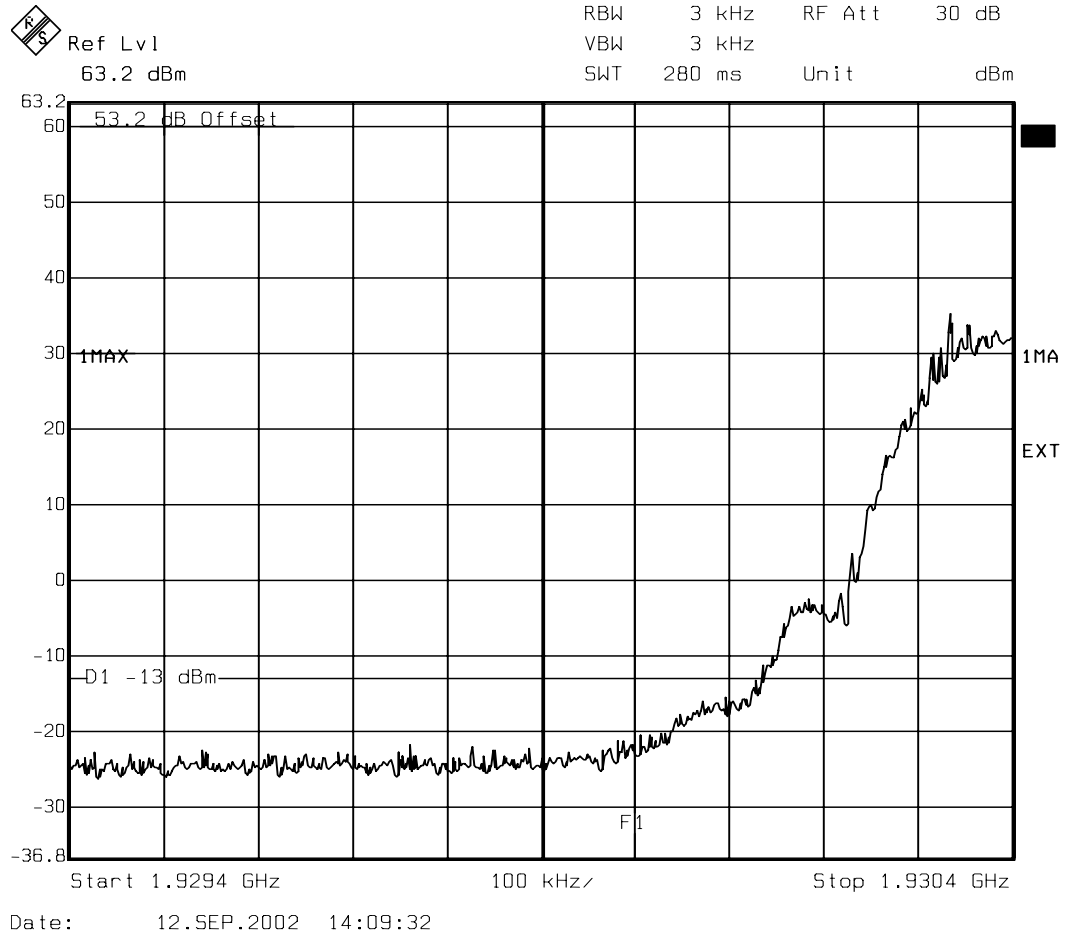
REPORT

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2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 39 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

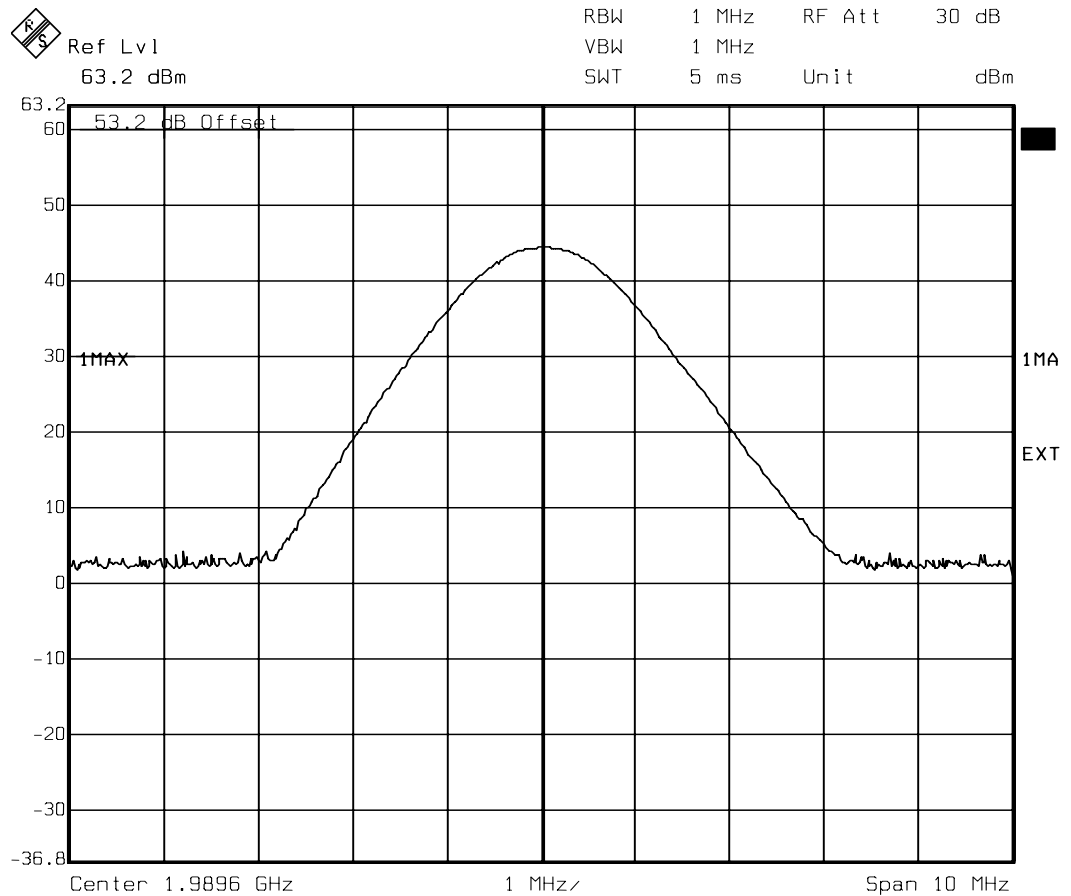
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 40 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 14:19:52

Sign:.....

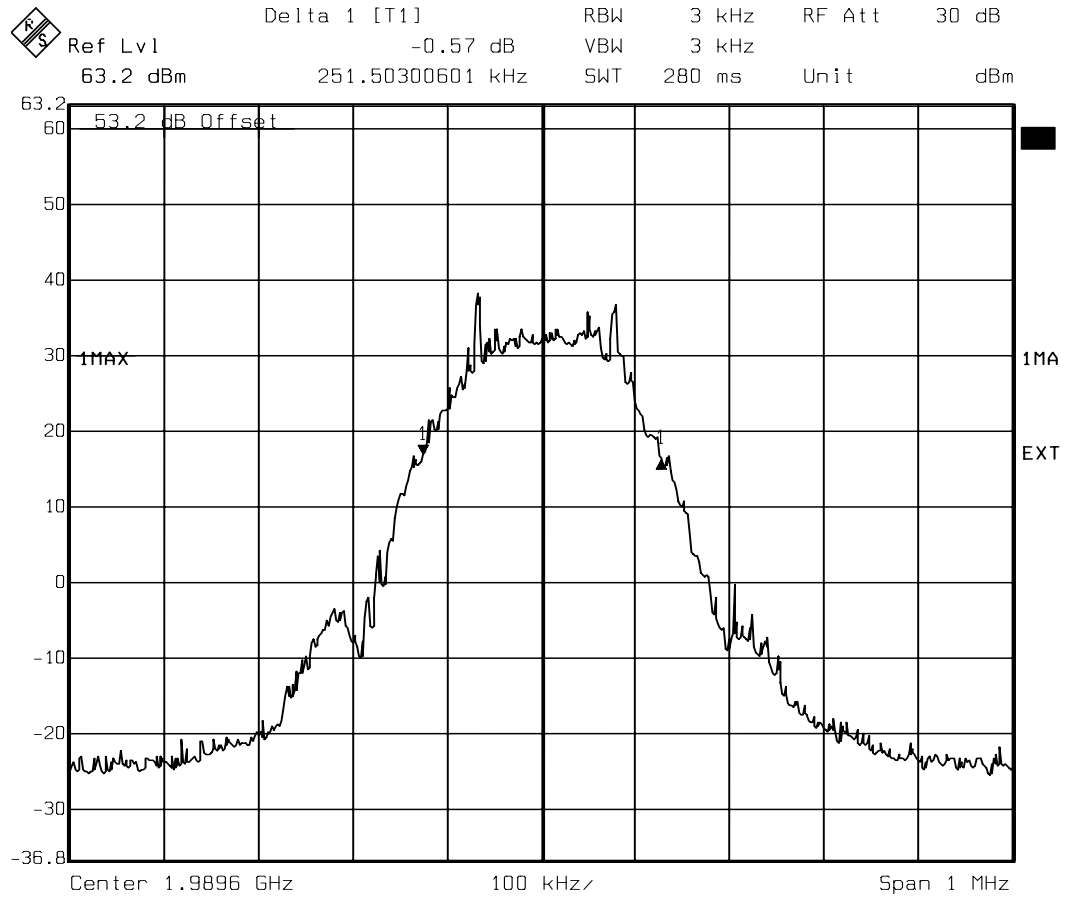
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

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Diagram 41 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 14:21:38

Sign:.....

REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

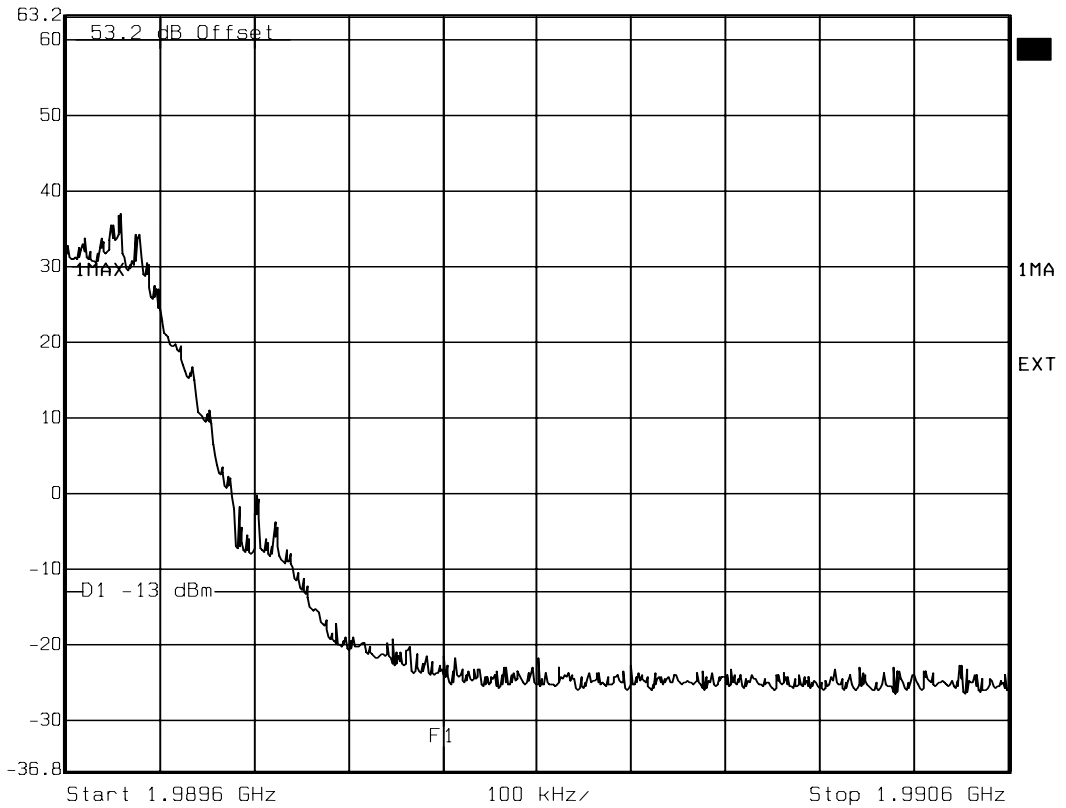
Sida/Page
Diagram 42 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Ref Lvl
63.2 dBm

RBW 3 kHz RF Att 30 dB
VBW 3 kHz
SWT 280 ms Unit dBm



Date: 12.SEP.2002 14:23:49

Sign:.....

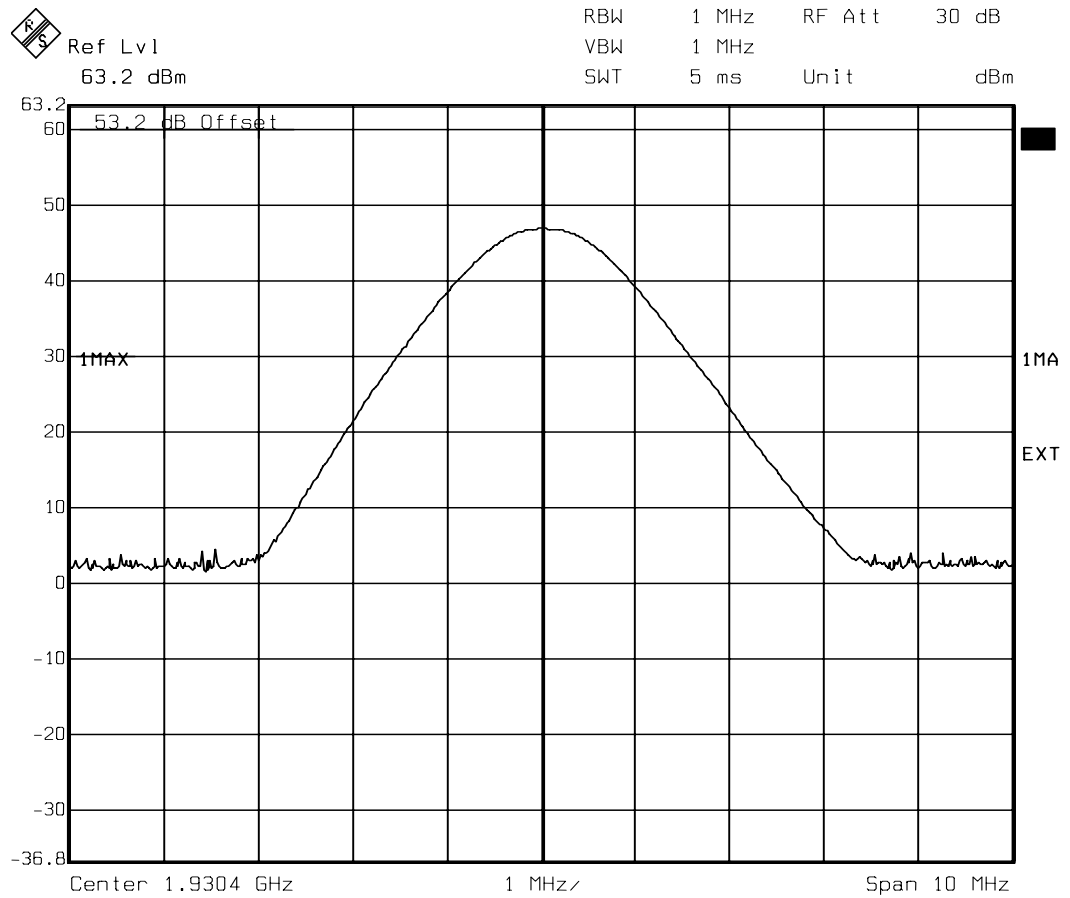
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 43 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 15:32:19

Sign:.....

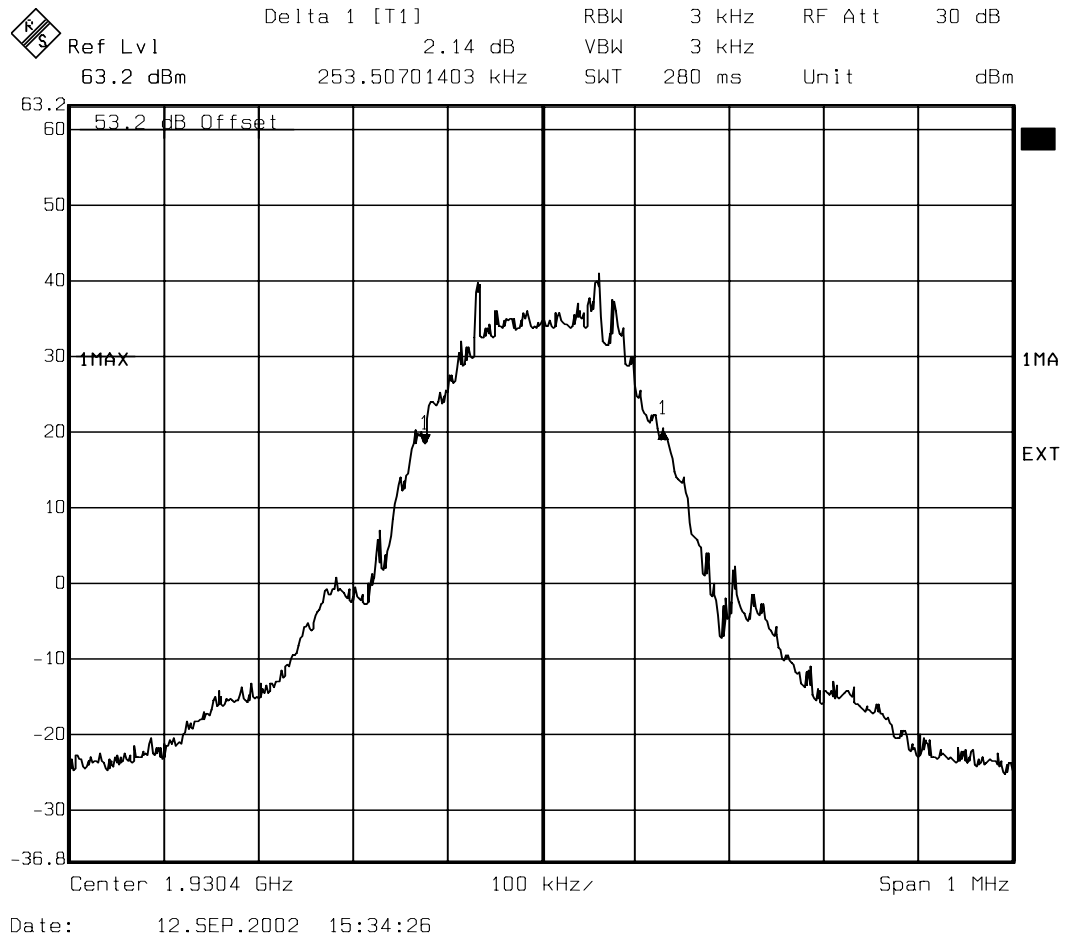
REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 44 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Sign:.....

REPORT

Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

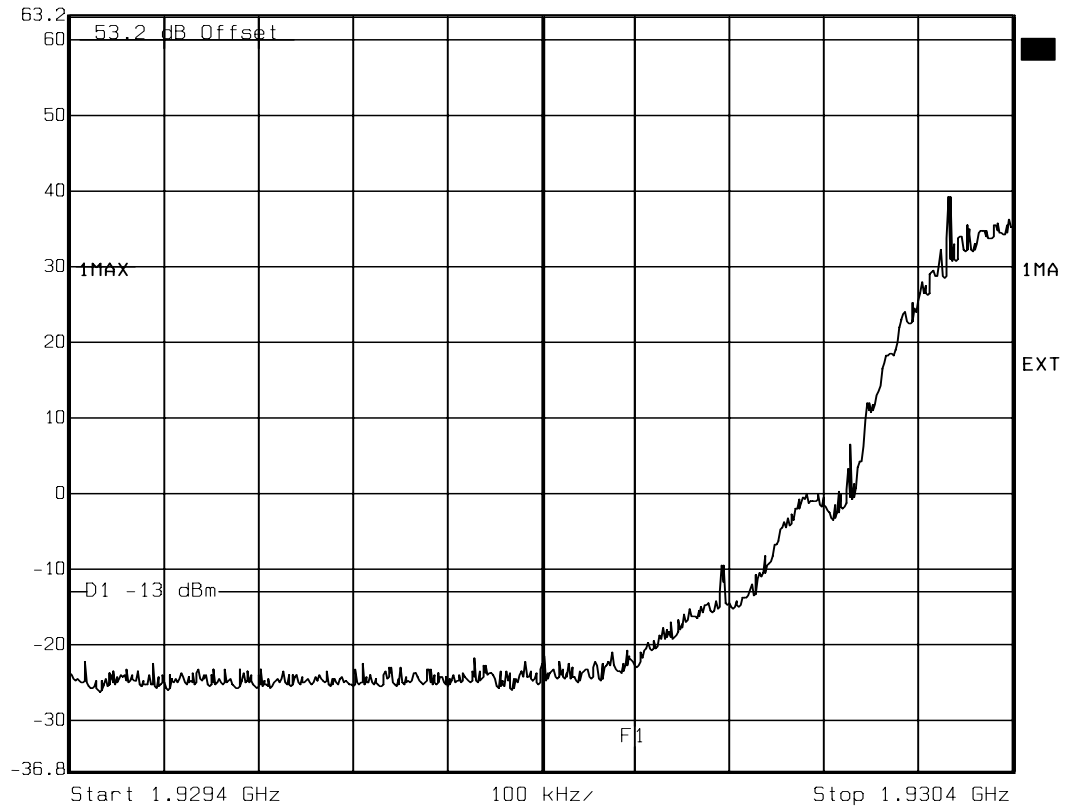
Sida/Page
Diagram 45 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Ref Lvl
63.2 dBm

RBW 3 kHz RF Att 30 dB
VBW 3 kHz
SWT 280 ms Unit dBm



Date: 12.SEP.2002 15:36:30

Sign:.....

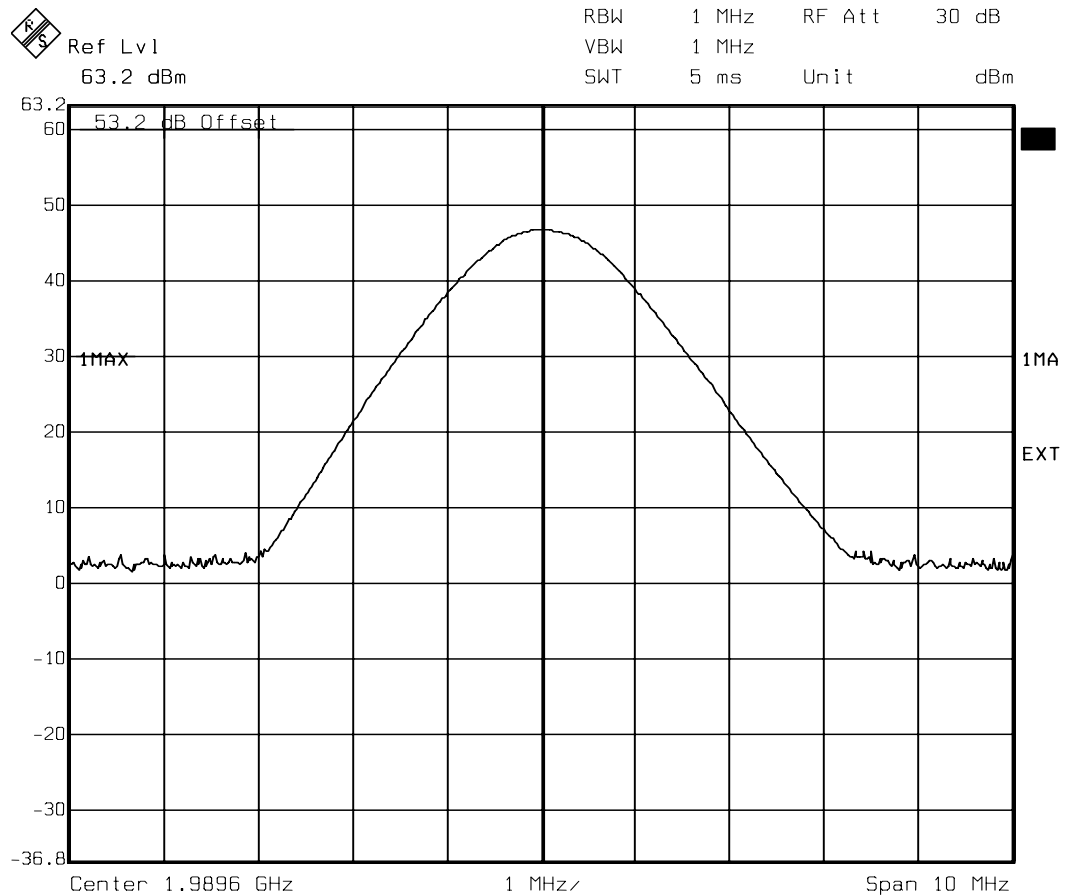
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2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 46 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 15:28:21

Sign:.....

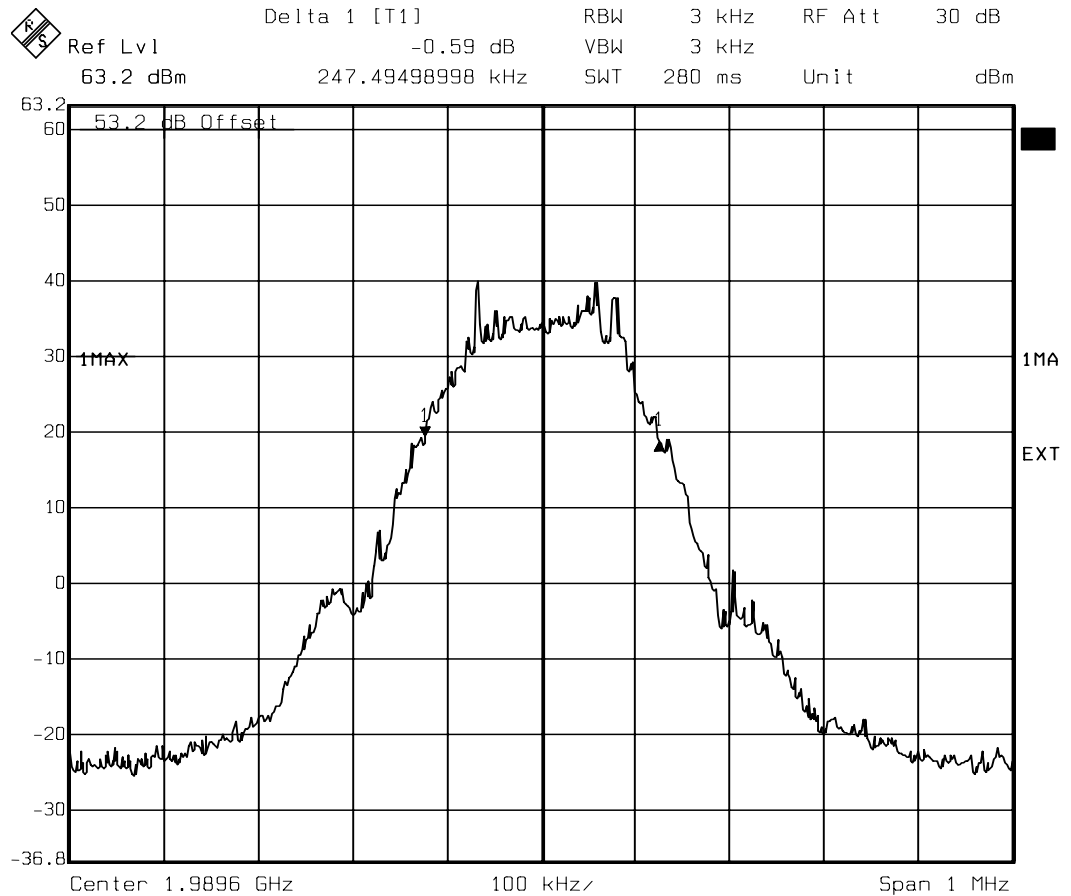
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Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 47 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 15:30:00

Sign:.....

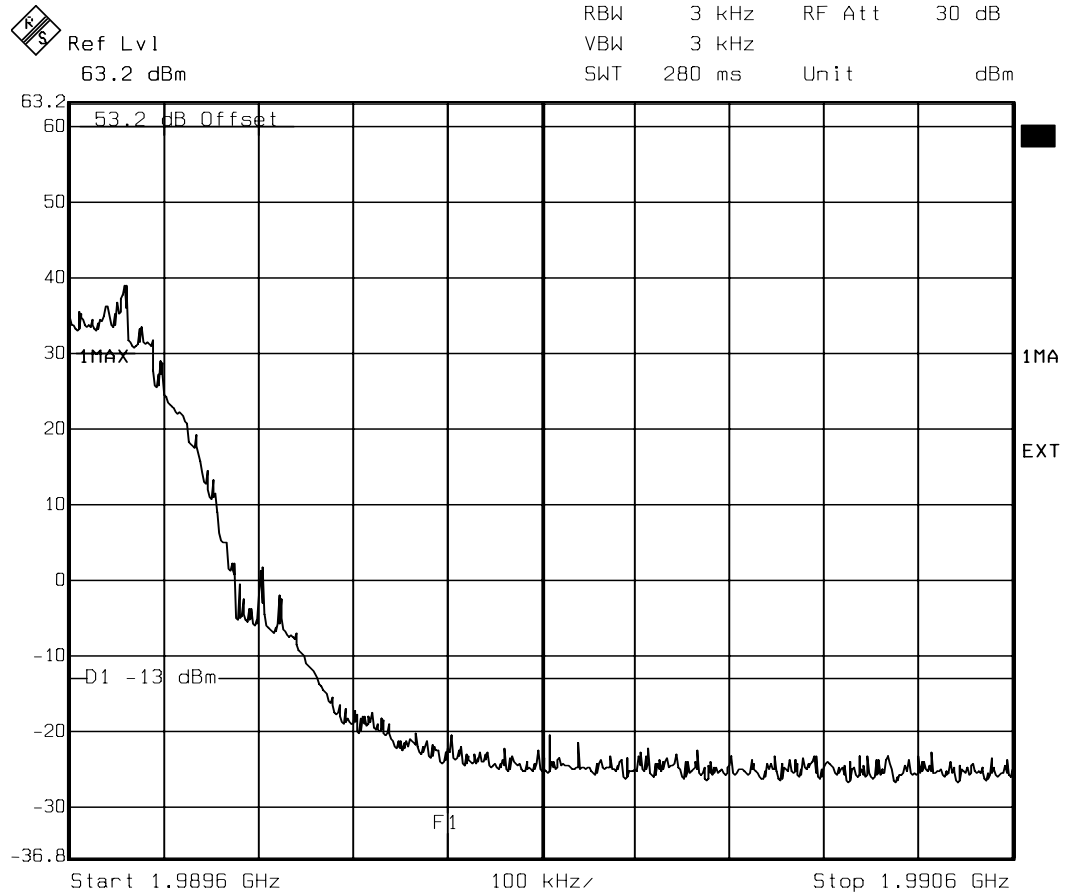
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Datum/Date
2002-09-11

Beteckning/Reference
F211633-F24

Sida/Page
Diagram 48 (48)
Encl. 4.1

FCC ID: B5KAKRC1311004-2



Date: 12.SEP.2002 15:26:24

Sign:.....

Conducted spurious emission measurements according to 47CFR 2.1051

Date	Temperature	Humidity
2002-09-12	23 °C ± 3 °C	48 % ± 5 %
2002-09-13	22 °C ± 3 °C	60 % ± 5 %

Test set-up and Procedure

The measurement were made per J-STD-007A Vol 1. Measurements were made at CDU-G 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 modulated with 270.8 kbs pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
R&S FSEM s/n 1079.8500.30	2003-03	—
Testo 610, Temperature and humidity meter	2002-11	502 658

Measurement uncertainty: 3.7 dB

Results

Mode: **GMSK**

dTRU, without internal combiner:

- Diagram 1: TRX output 1, Ch 512, +44.5 dBm
- Diagram 2: TRX output 1, Ch 810, +44.5 dBm
- Diagram 3: TRX output 2, Ch 512, +44.5 dBm
- Diagram 4: TRX output 2, Ch 810, +44.5 dBm

dTRU, with internal combiner:

- Diagram 5: Ch 512, +41 dBm and ch 537, +41 dBm
- Diagram 6: Ch 785, +41 dBm and ch 810, +41 dBm

dTRU, (TCC), (TX1+TX2):

- Diagram 7: Ch 512, +47 dBm
- Diagram 8: Ch 810, +47 dBm

Mode: **EDGE**

dTRU, without internal combiner:

- Diagram 9: TRX output 1, Ch 513, +44.5 dBm
- Diagram 10: TRX output 1, Ch 809, +44.5 dBm
- Diagram 11: TRX output 2, Ch 513, +44.5 dBm
- Diagram 12: TRX output 2, Ch 809, +44.5 dBm

dTRU, with internal combiner:

- Diagram 13: Ch 513, +41 dBm and ch 538, +41 dBm
- Diagram 14: Ch 784, +41 dBm and ch 809, +41 dBm

dTRU, (TCC), (TX1+TX2):

- Diagram 15: Ch 513, +47 dBm
- Diagram 16: Ch 809, +47 dBm

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2002-09-11

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F211633-F24

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2 (2)
Encl. 5

FCC ID: B5KAKRC1311004-2

Remark

dTRU with serial number AE5000HQSX was used during the test.

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
-----------	-----

Sign:.....

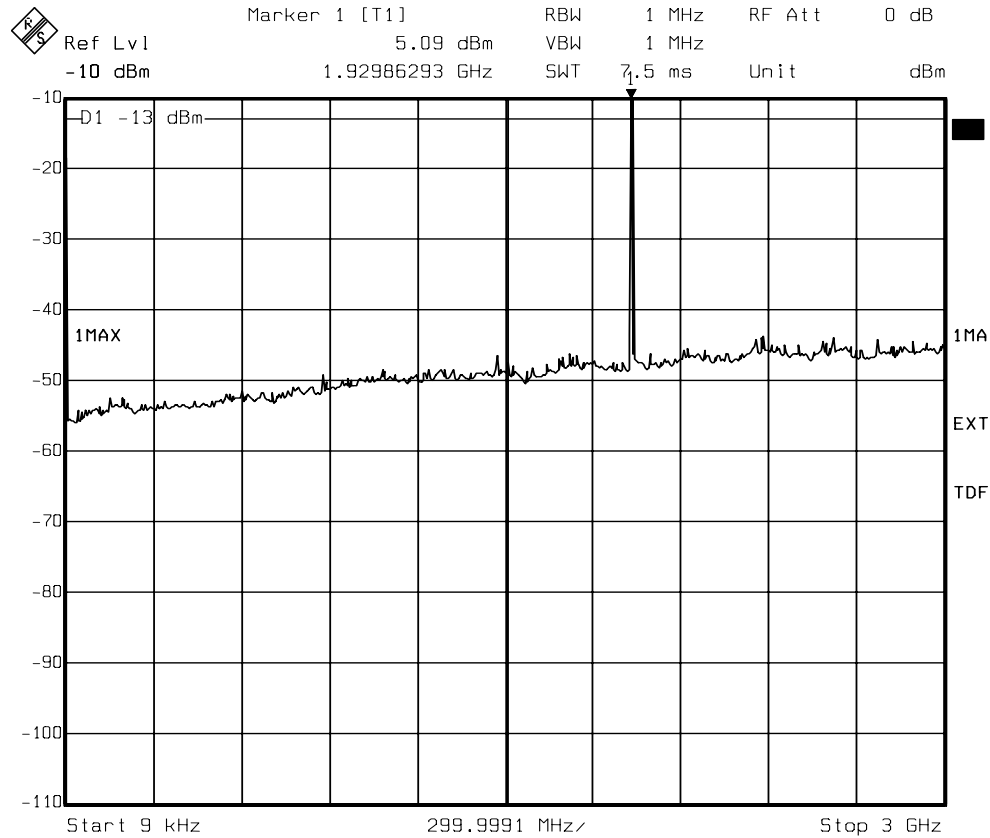
REPORT

Datum/Date
2002-09-11

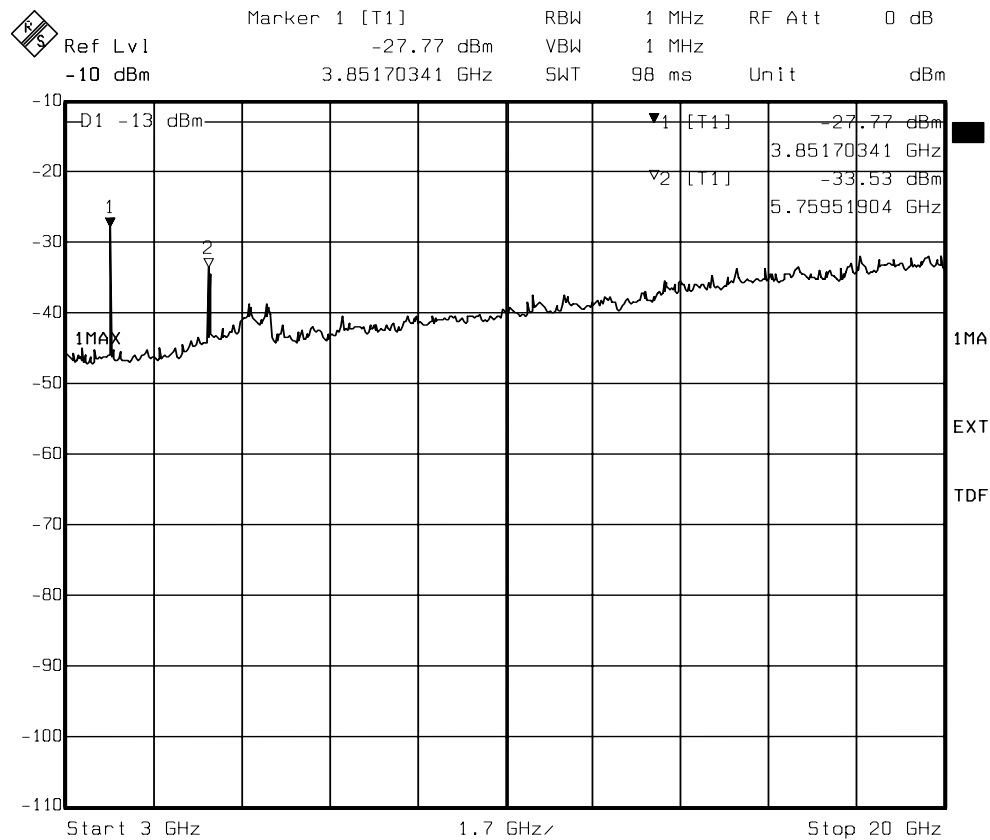
Beteckning/Reference
F211633-F24

Sida/Page
Diagram 1 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 12:41:18



Date: 13.SEP.2002 12:34:29

Sign:.....

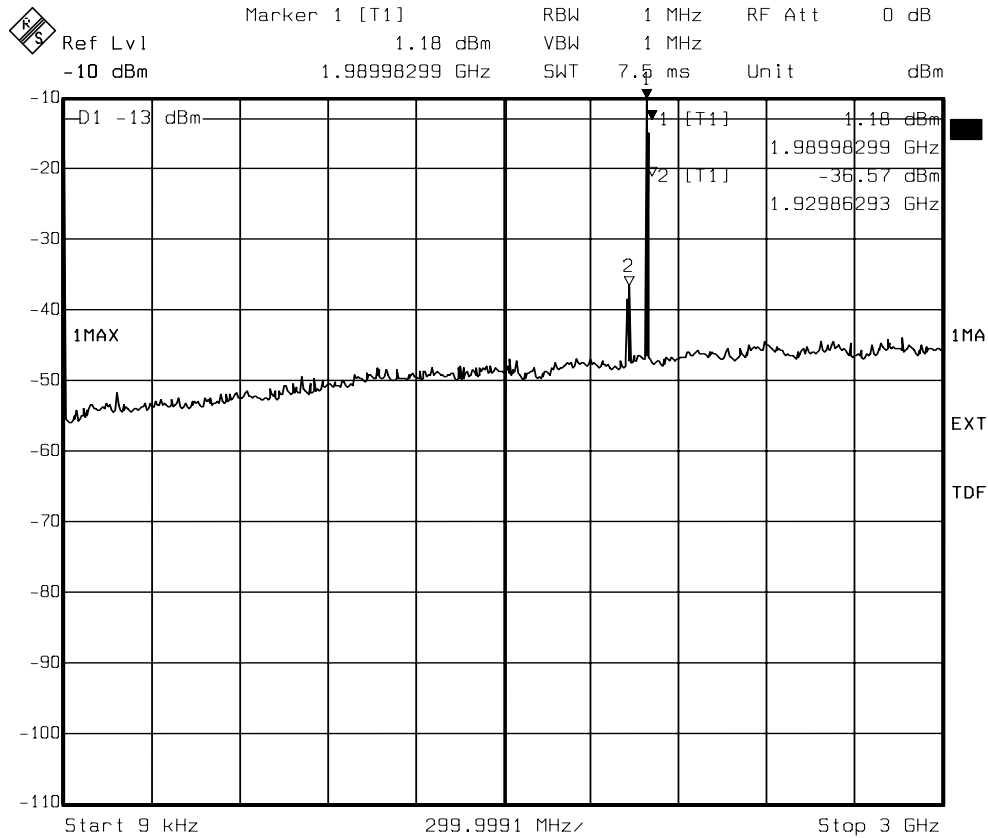
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Datum/Date
2002-09-11

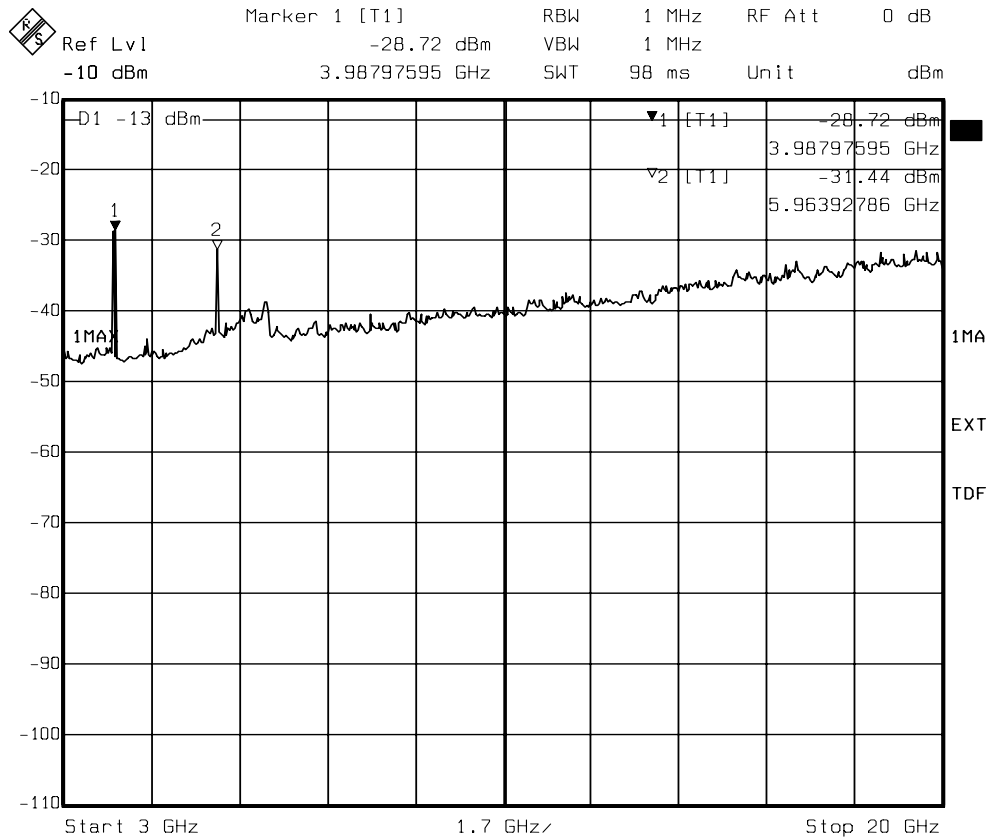
Beteckning/Reference
F211633-F24

Sida/Page
Diagram 2 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 12:39:32



Date: 13.SEP.2002 12:36:16

Sign:.....

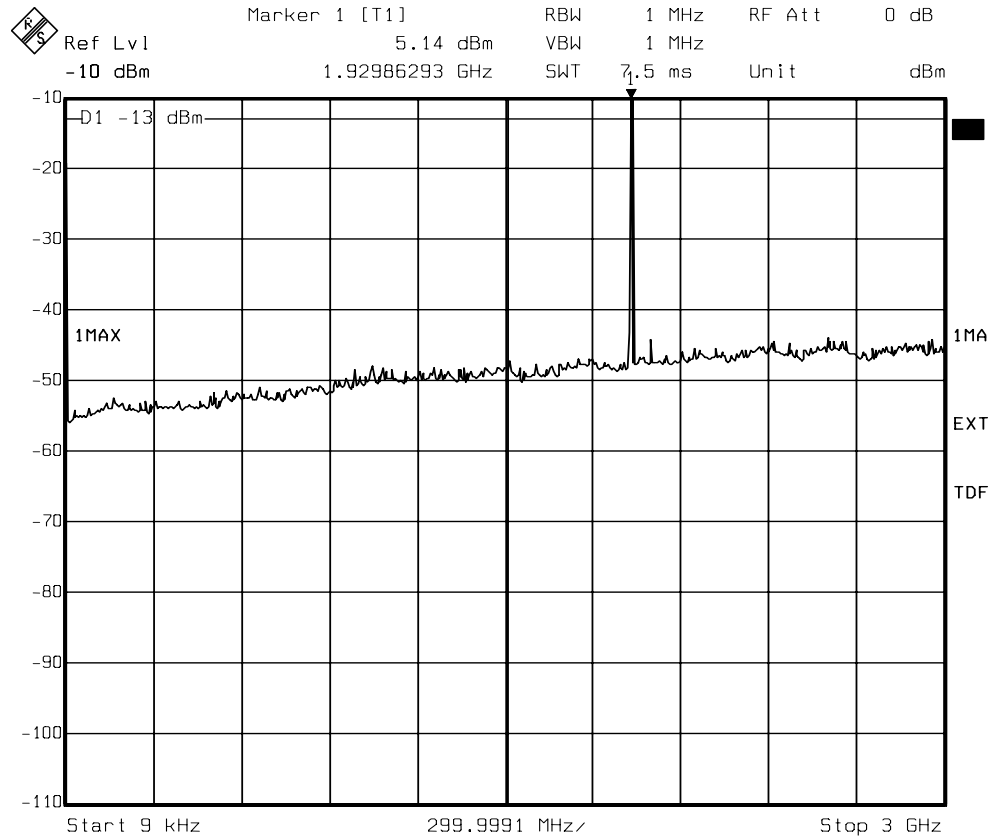
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Datum/Date
2002-09-11

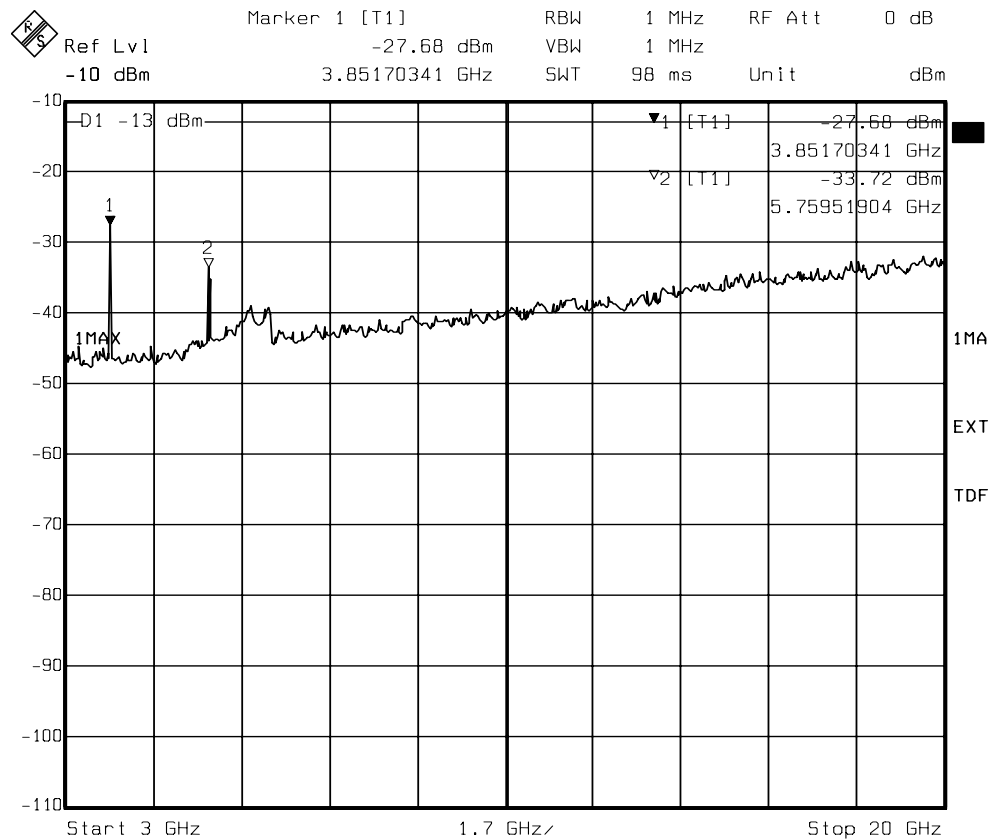
Beteckning/Reference
F211633-F24

Sida/Page
Diagram 3 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 12:43:06



Date: 13.SEP.2002 12:49:31

Sign:.....

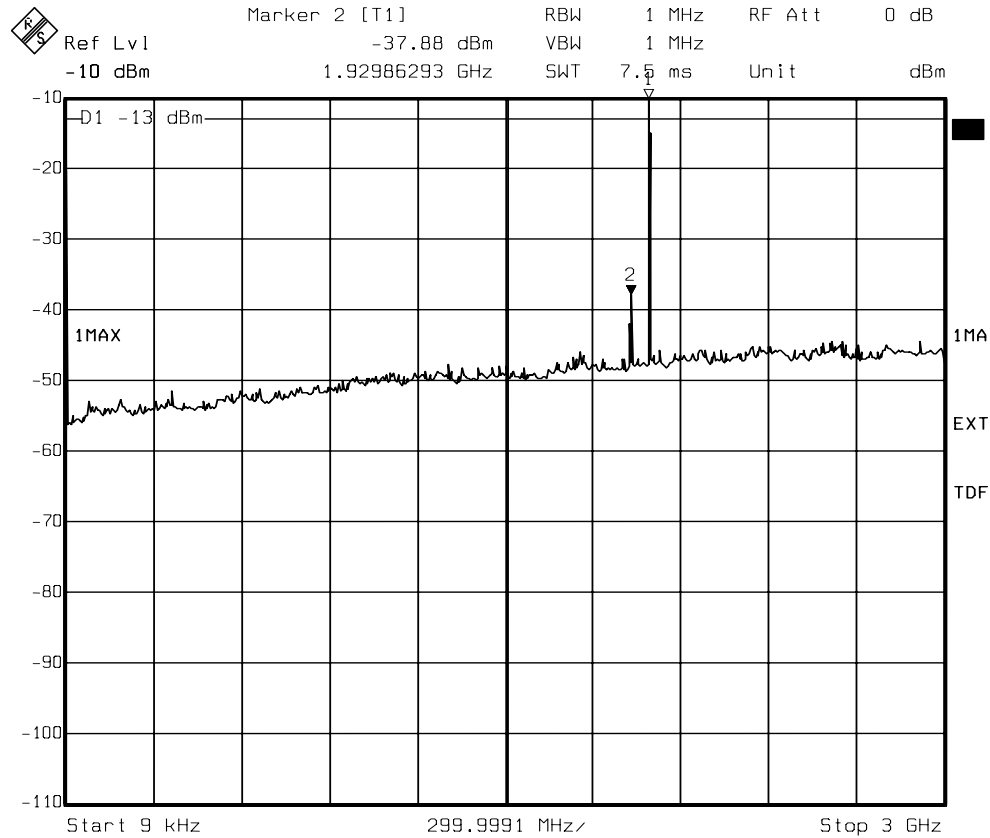
REPORT

Datum/Date
2002-09-11

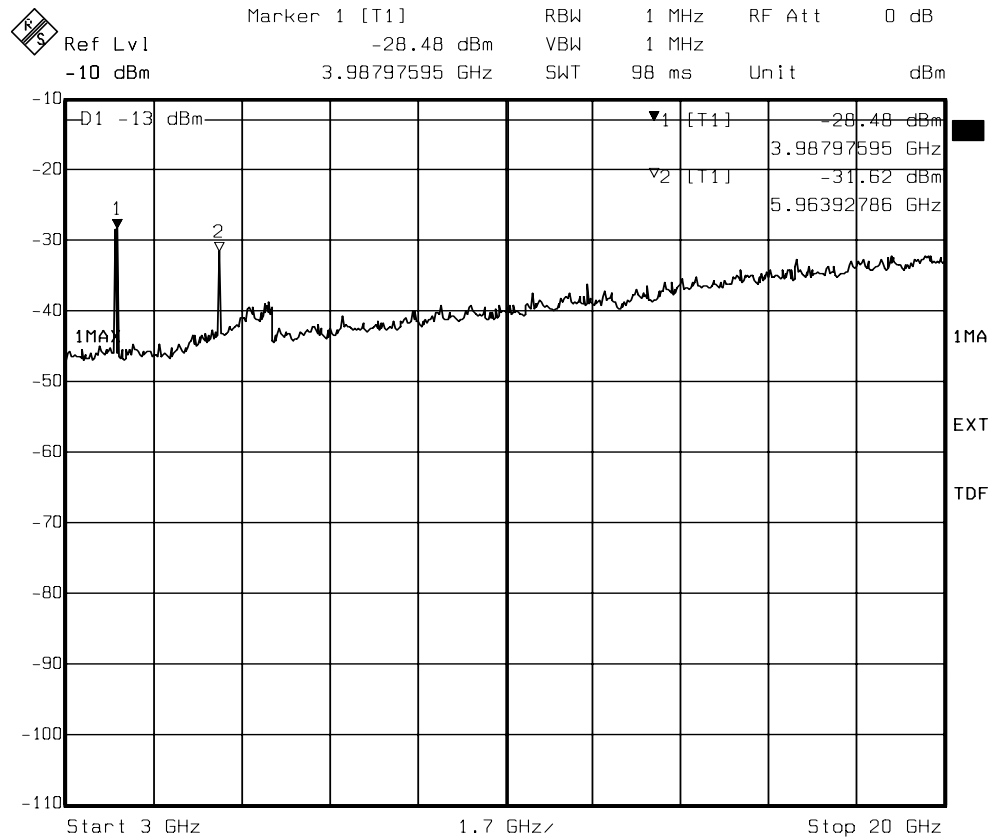
Beteckning/Reference
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Diagram 4 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 12:44:25



Date: 13.SEP.2002 12:48:11

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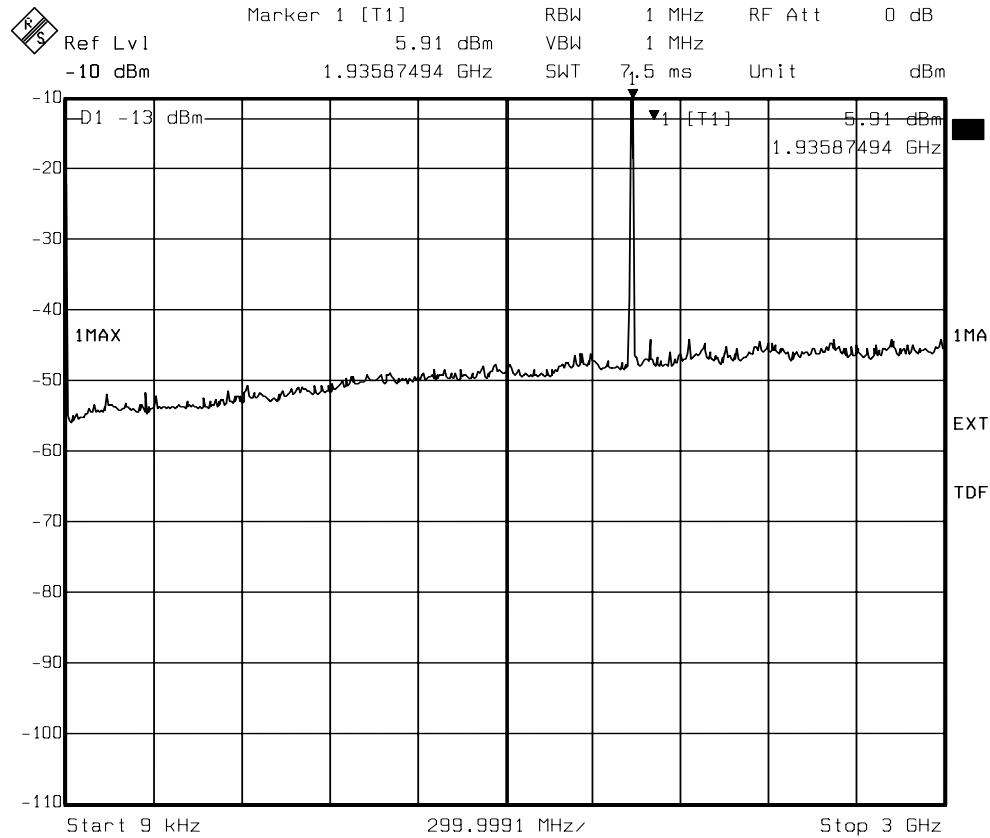
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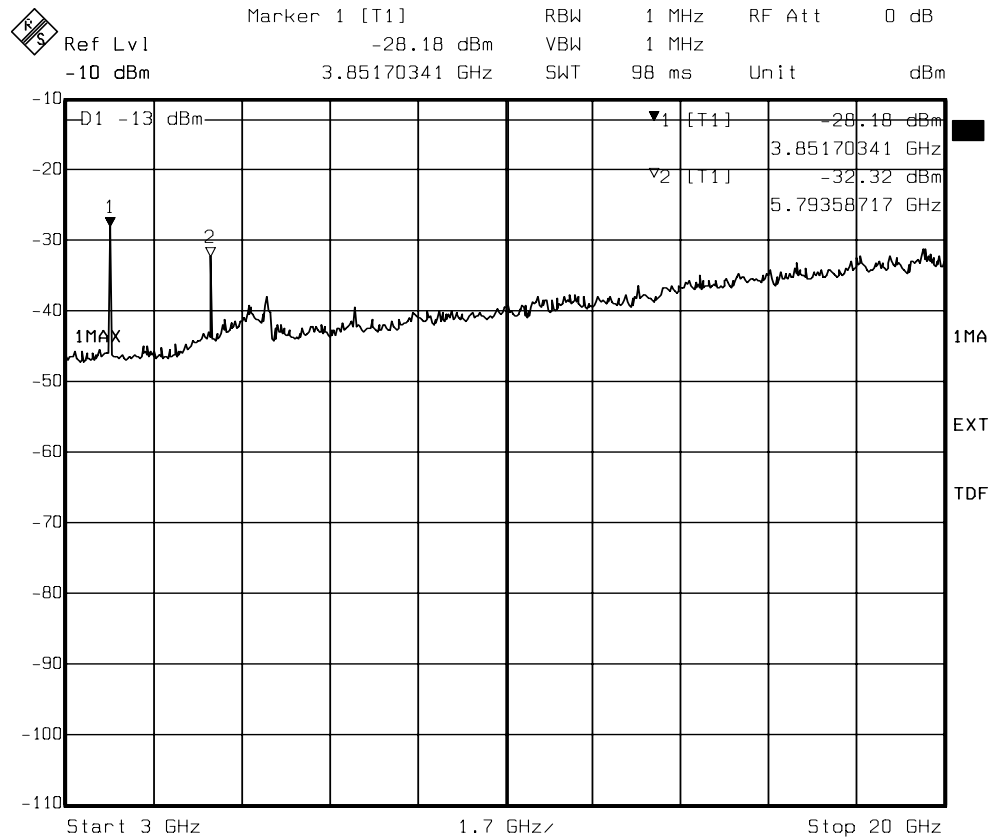
Beteckning/Reference
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Diagram 5 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 11:13:43



Date: 13.SEP.2002 11:06:57

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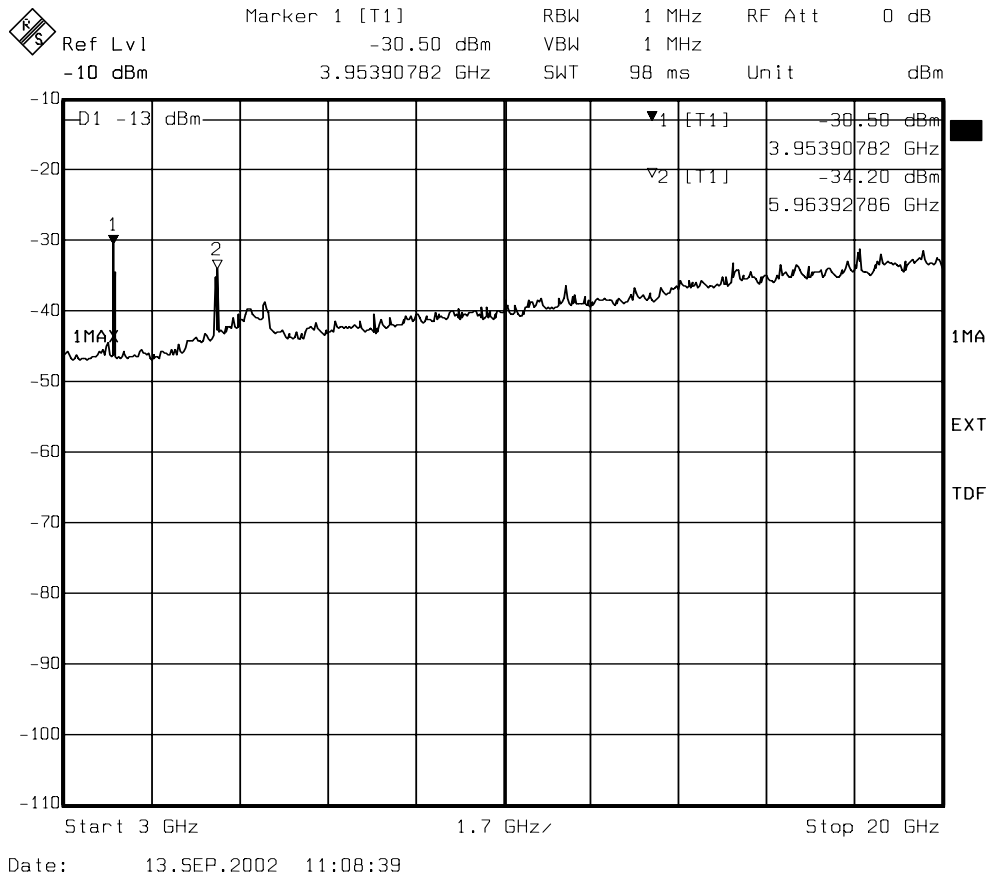
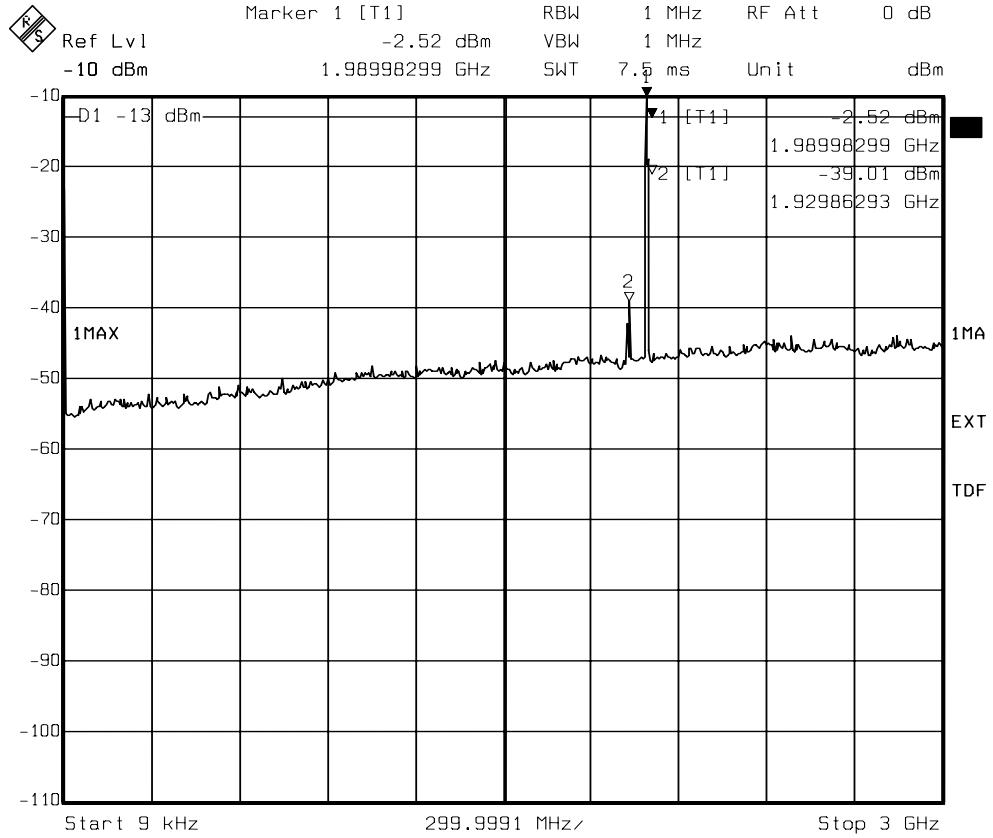
REPORT

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2002-09-11

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Diagram 6 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Sign:.....

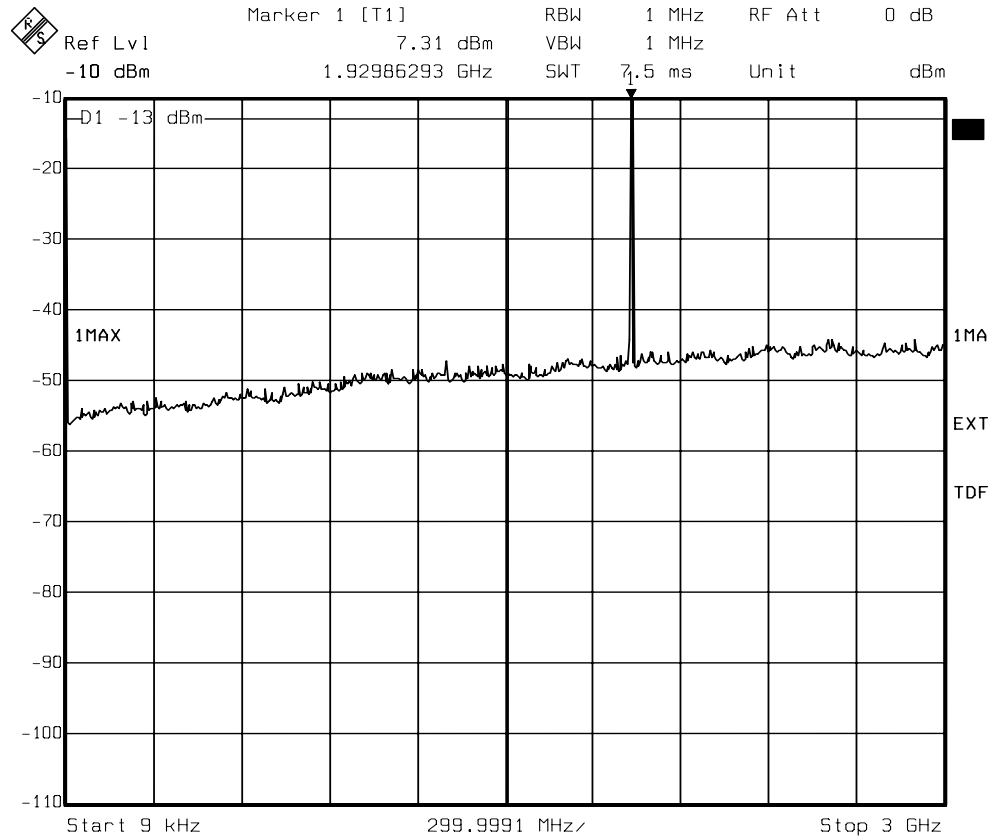
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Datum/Date
2002-09-11

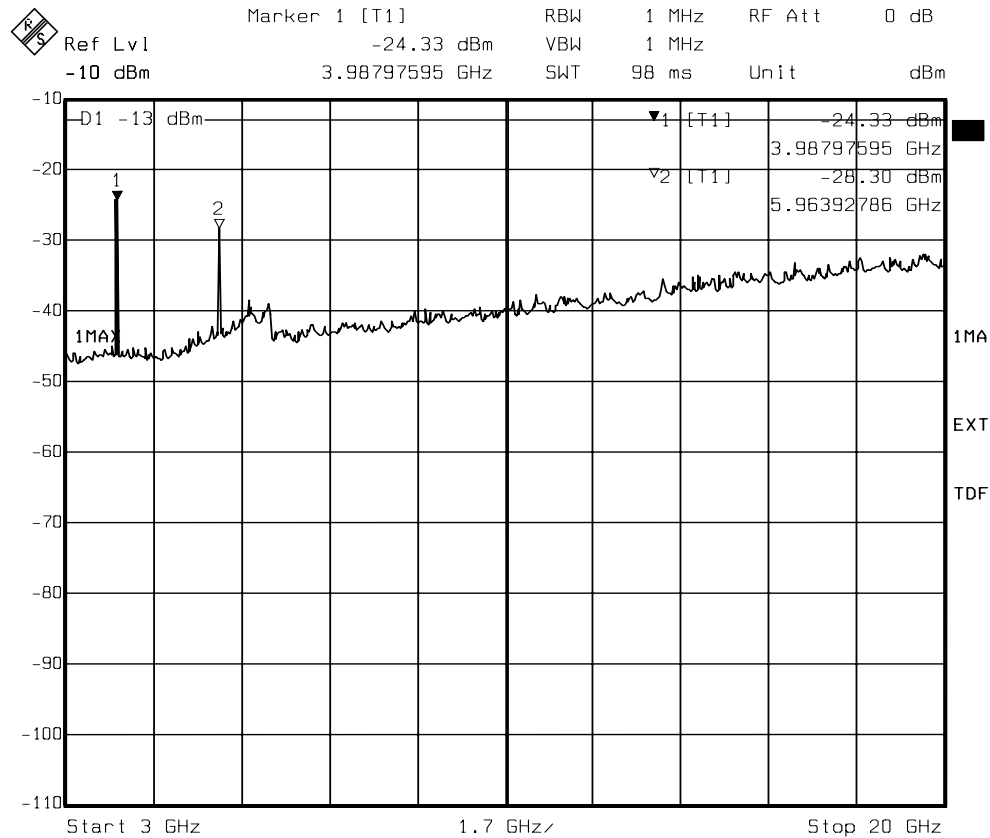
Beteckning/Reference
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Diagram 7 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 12:12:48



Date: 13.SEP.2002 12:20:47

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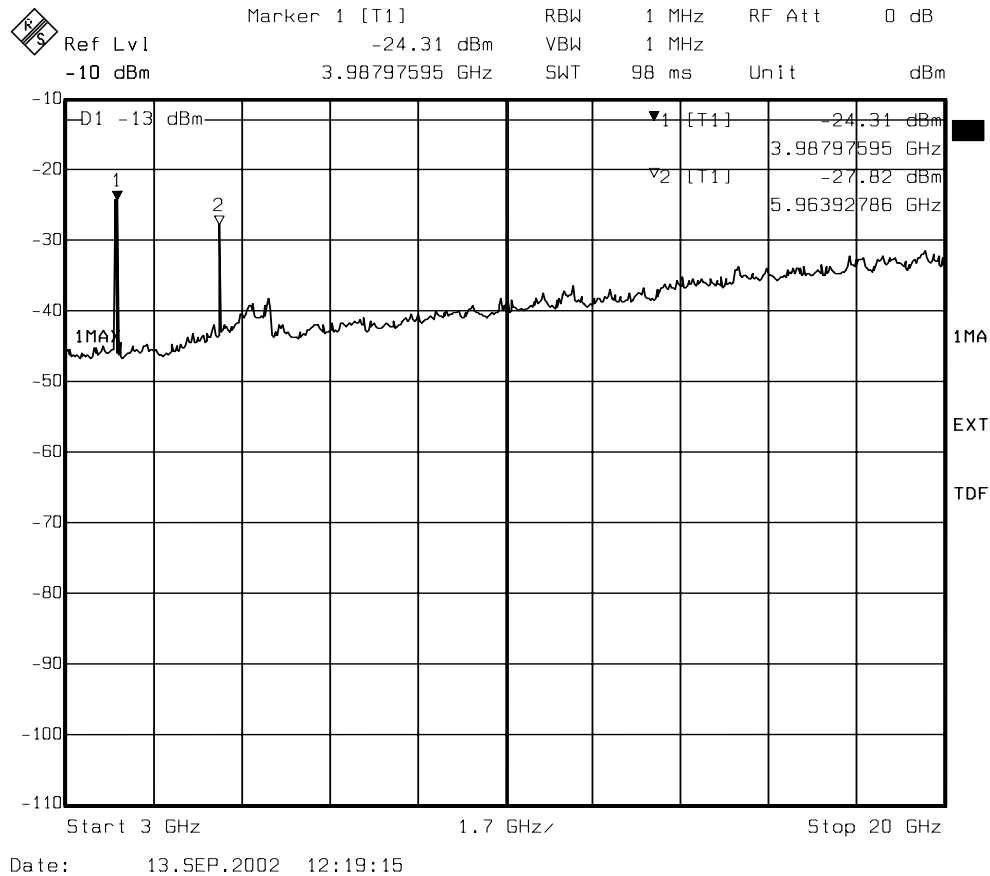
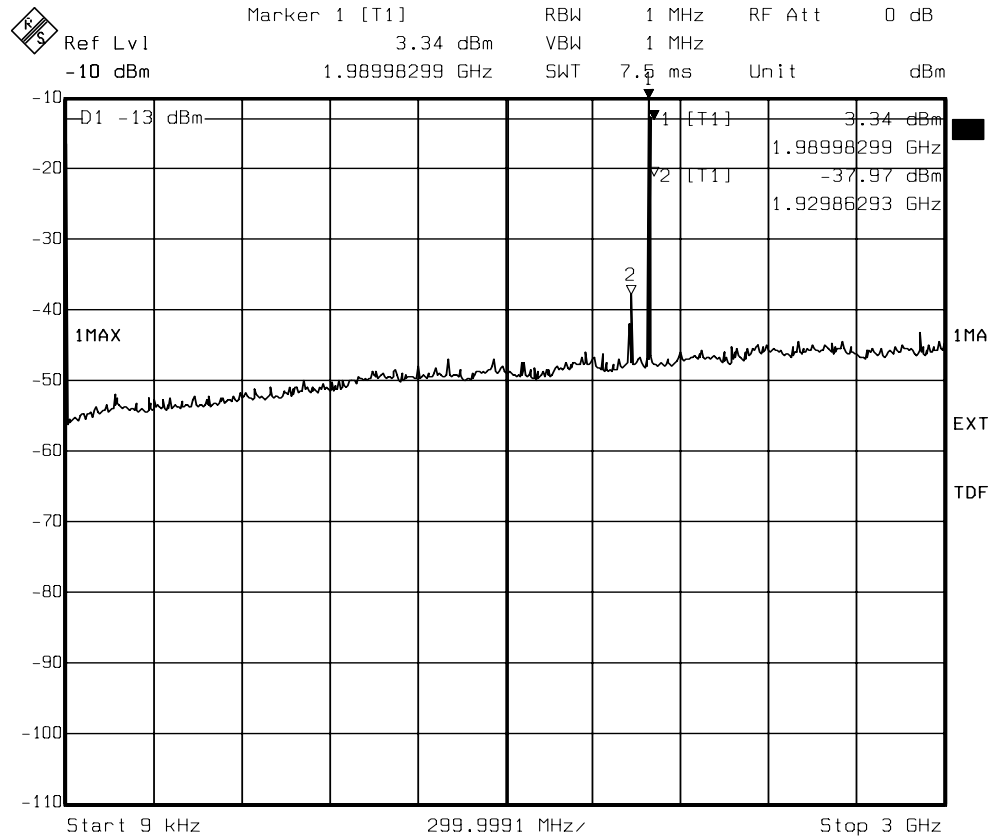
REPORT

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2002-09-11

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Diagram 8 (16)
Encl. 5.1

FCC ID: B5KAKRC1311004-2



Sign:.....

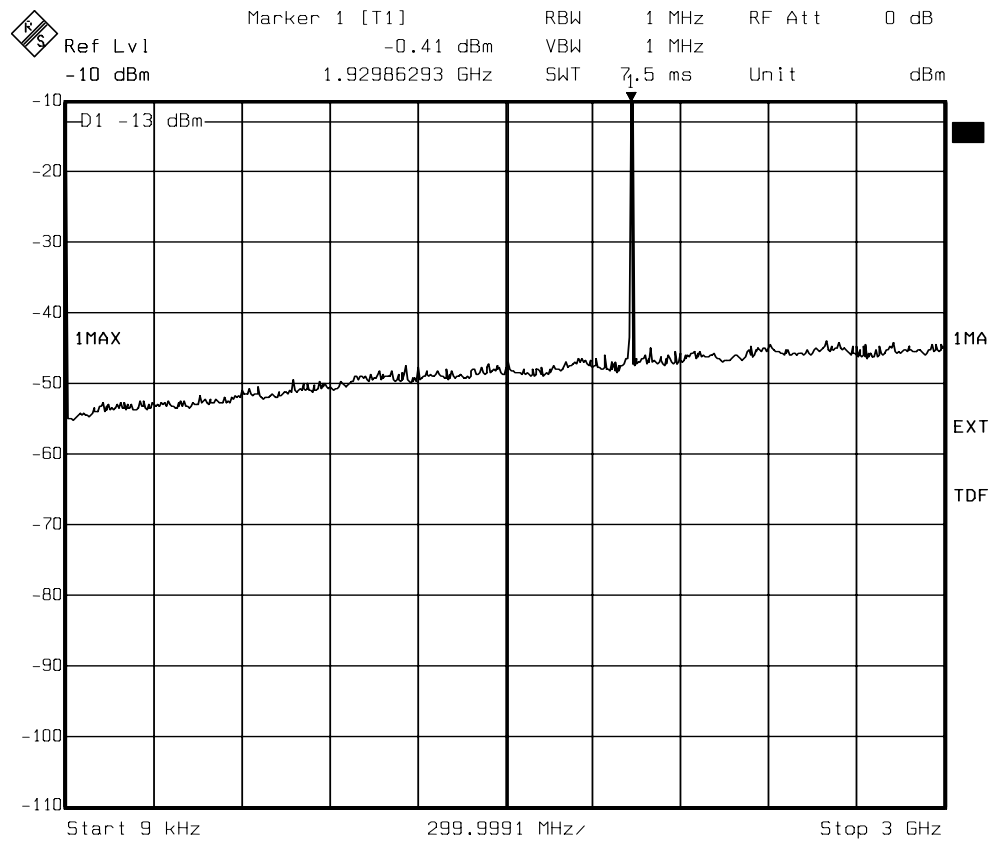
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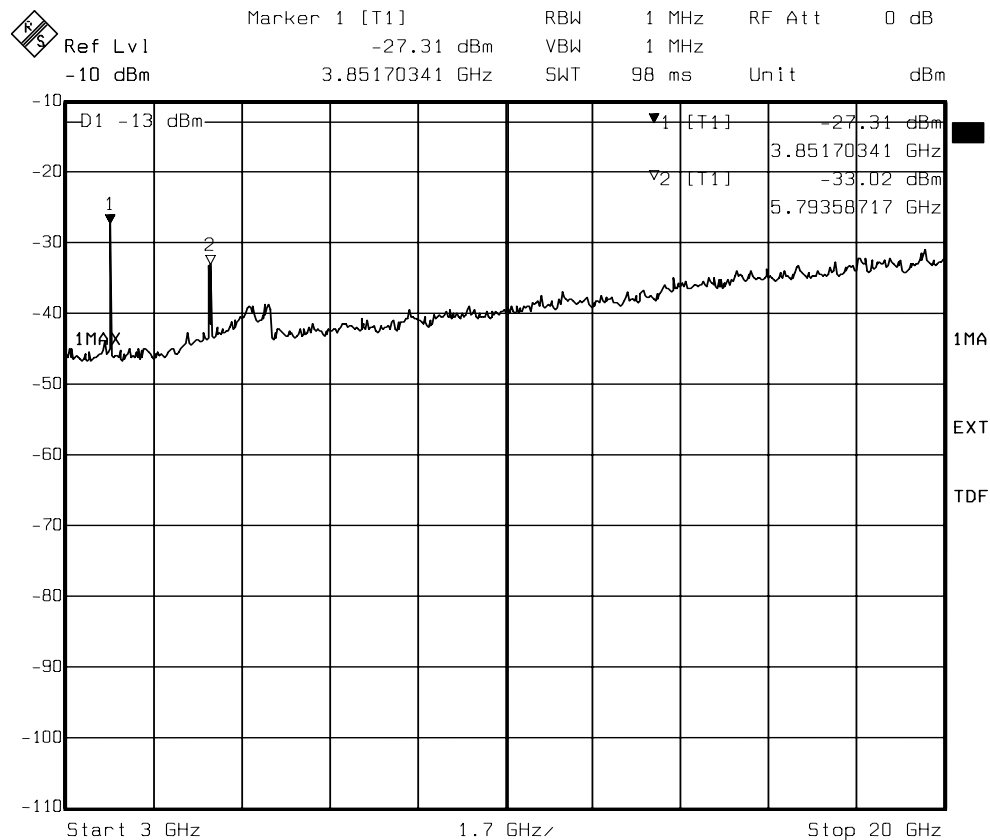
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Diagram 9 (16)
Encl. 5.1

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Date: 13.SEP.2002 08:45:56

Sign:.....

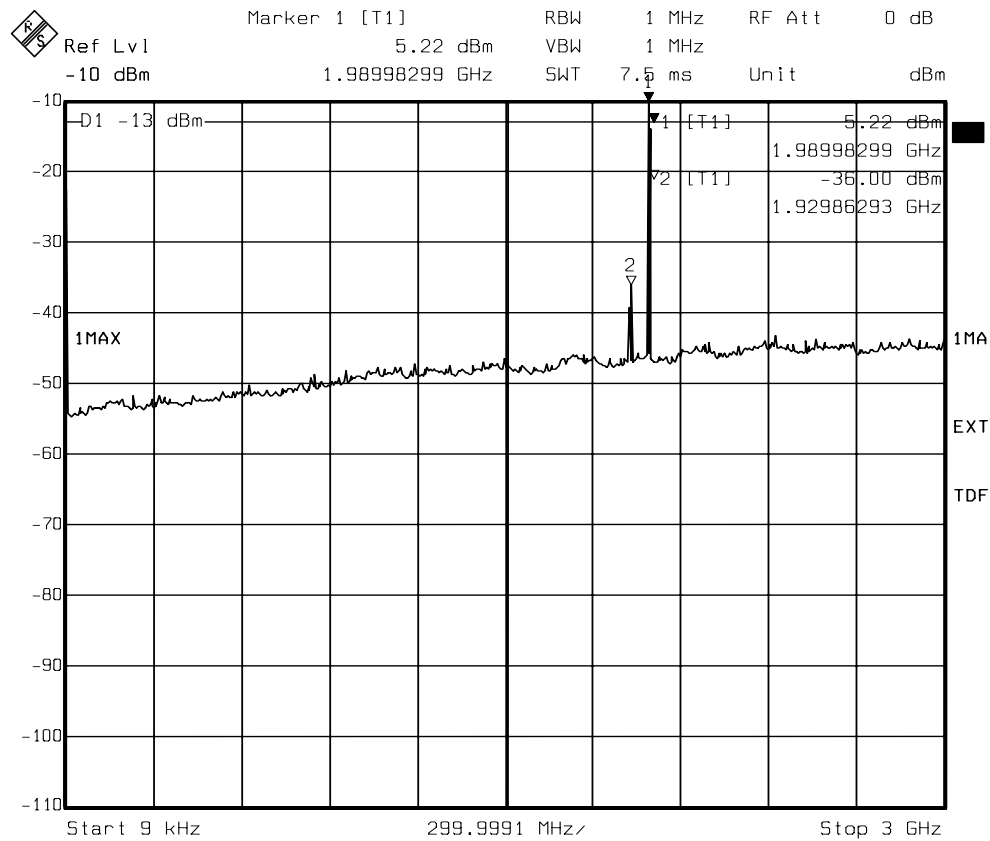
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Datum/Date
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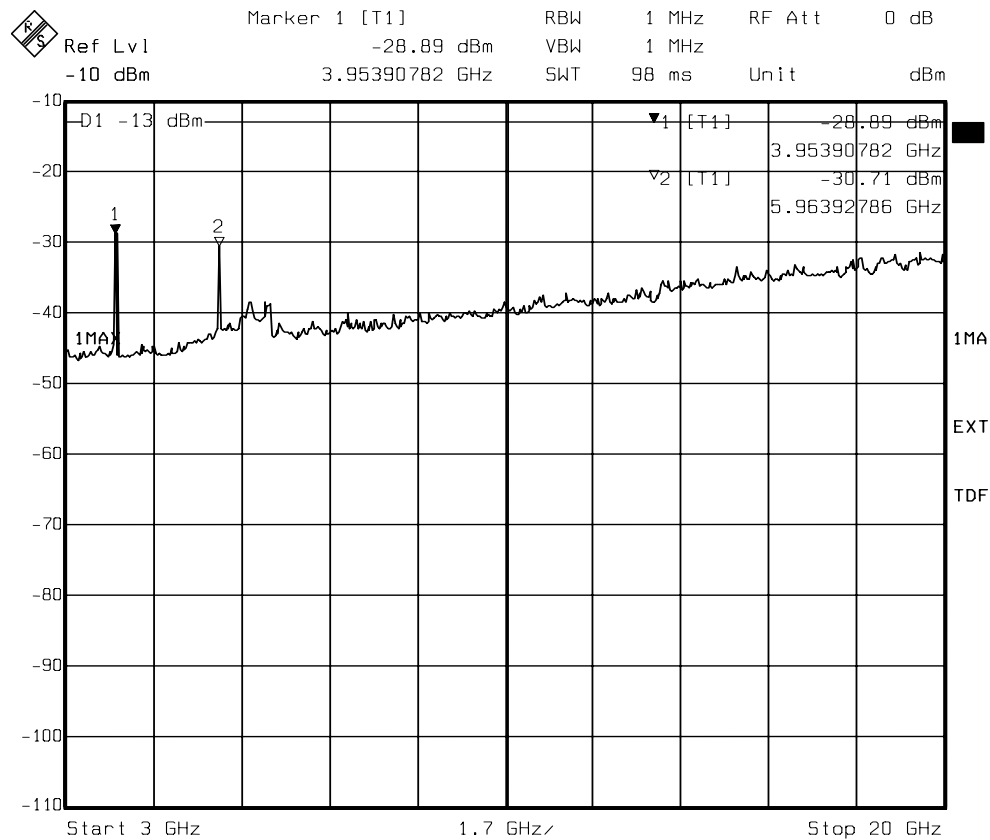
Beteckning/Reference
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Diagram 10 (16)
Encl. 5.1

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Date: 13.SEP.2002 09:08:35

Sign:.....

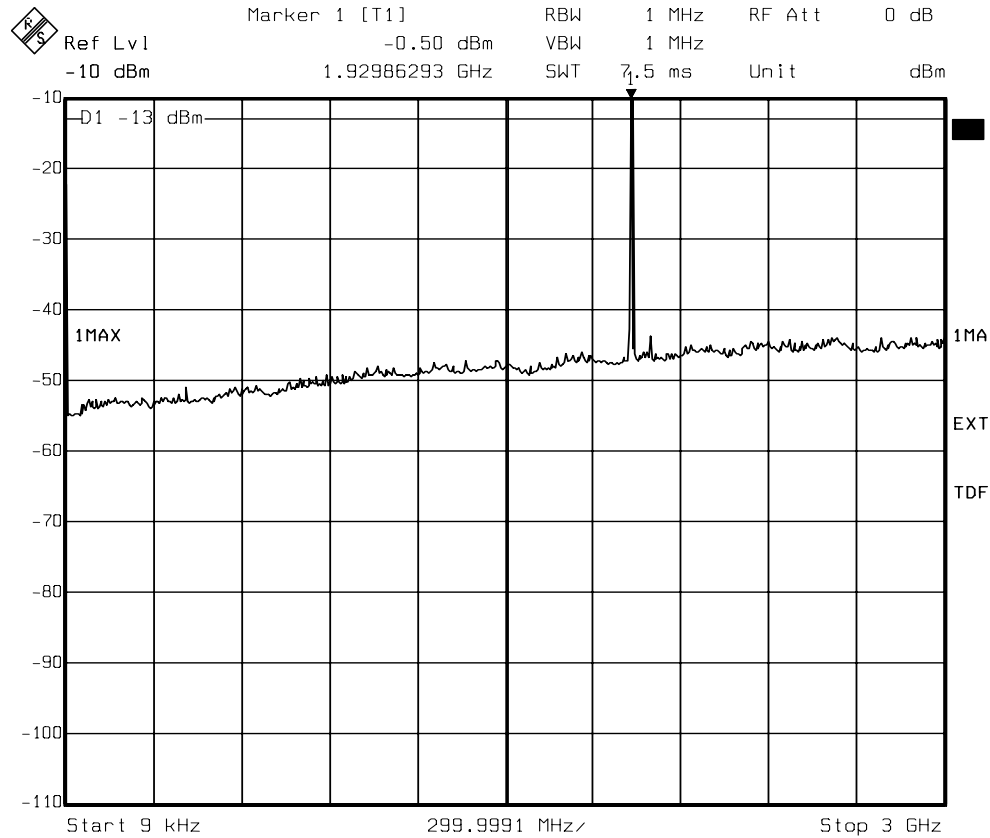
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2002-09-11

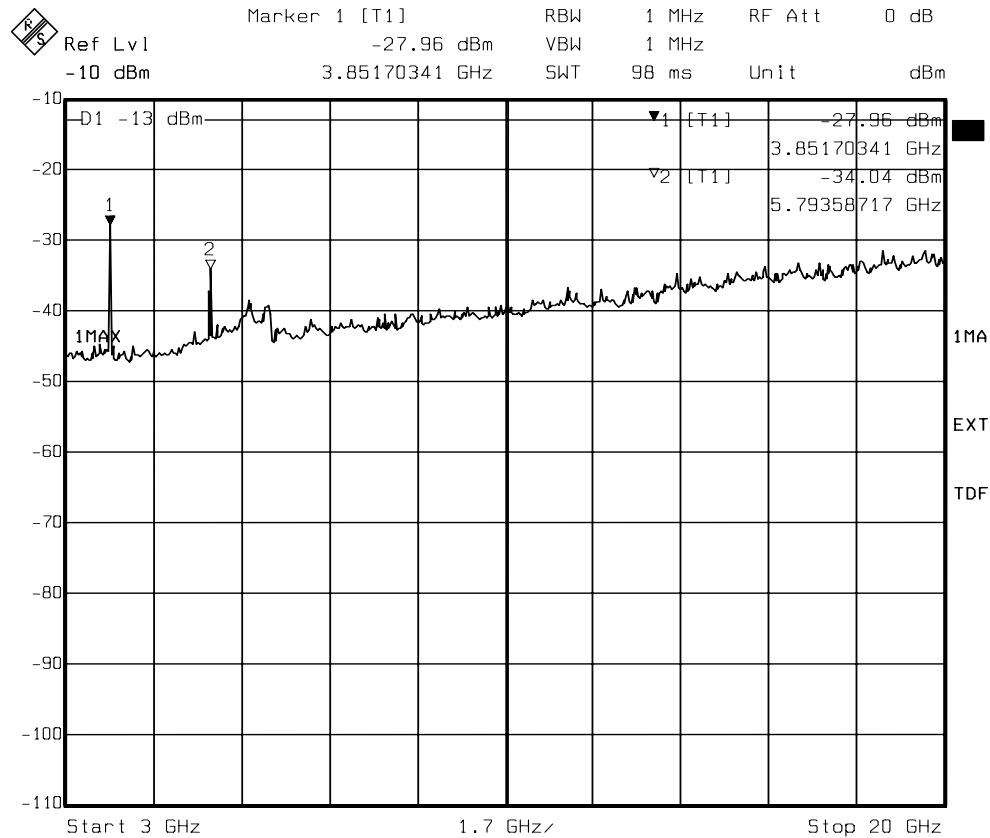
Beteckning/Reference
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Diagram 11 (16)
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FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 10:36:04



Date: 13.SEP.2002 10:39:12

Sign:.....

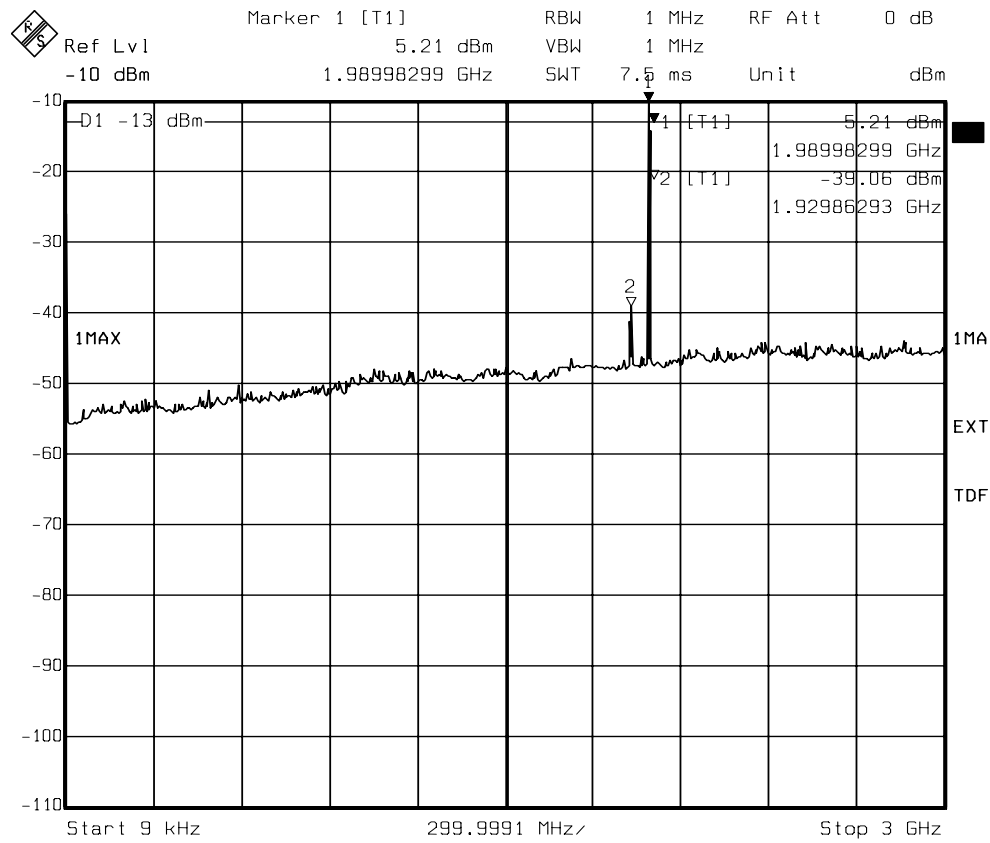
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Datum/Date
2002-09-11

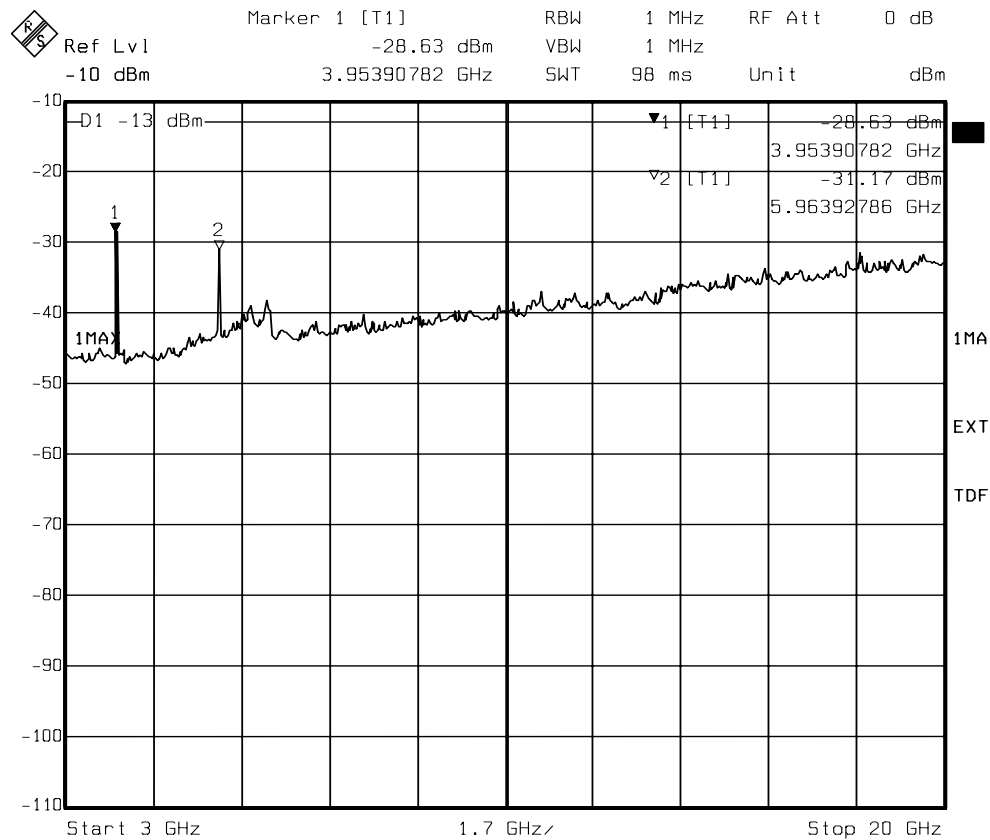
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Diagram 12 (16)
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FCC ID: B5KAKRC1311004-2



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Date: 13.SEP.2002 09:13:35

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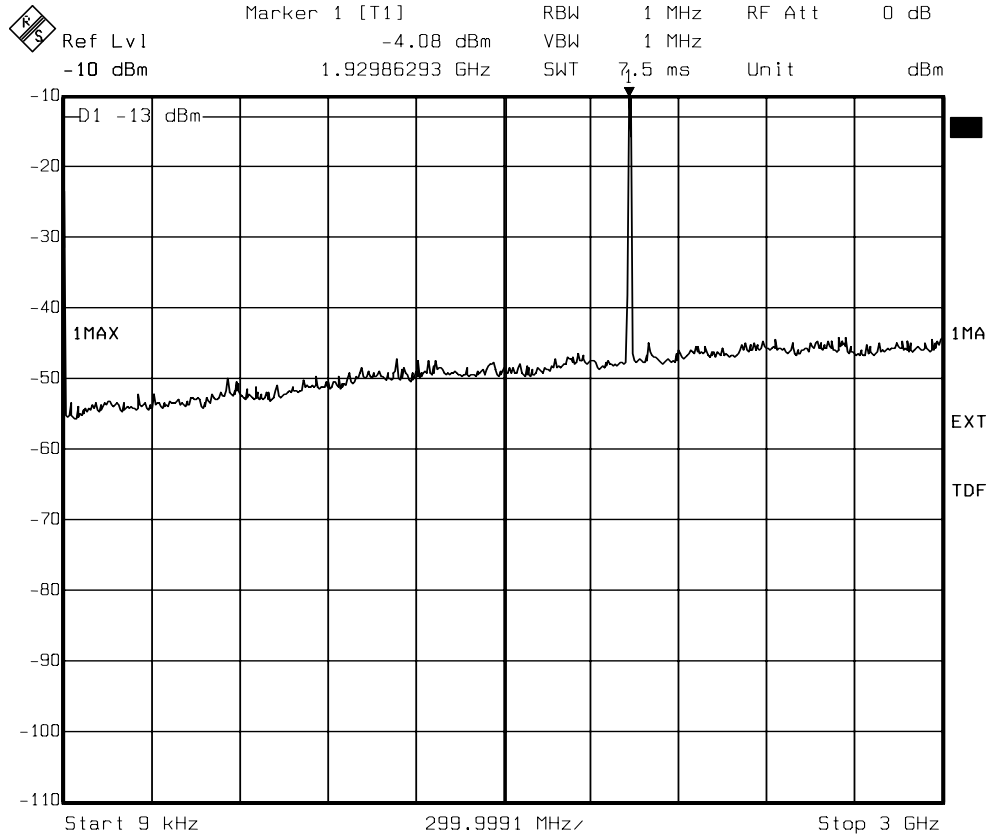
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2002-09-11

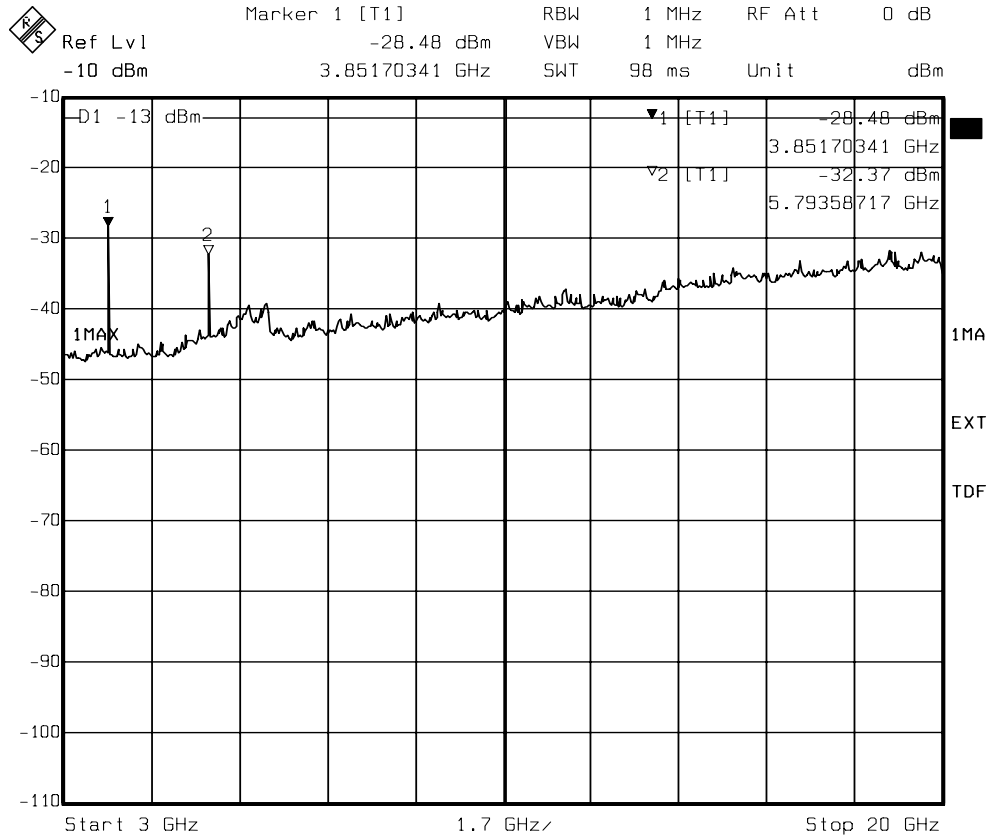
Beteckning/Reference
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Diagram 13 (16)
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FCC ID: B5KAKRC1311004-2



Date: 13.SEP.2002 10:52:13



Date: 13.SEP.2002 10:48:11

Sign:.....

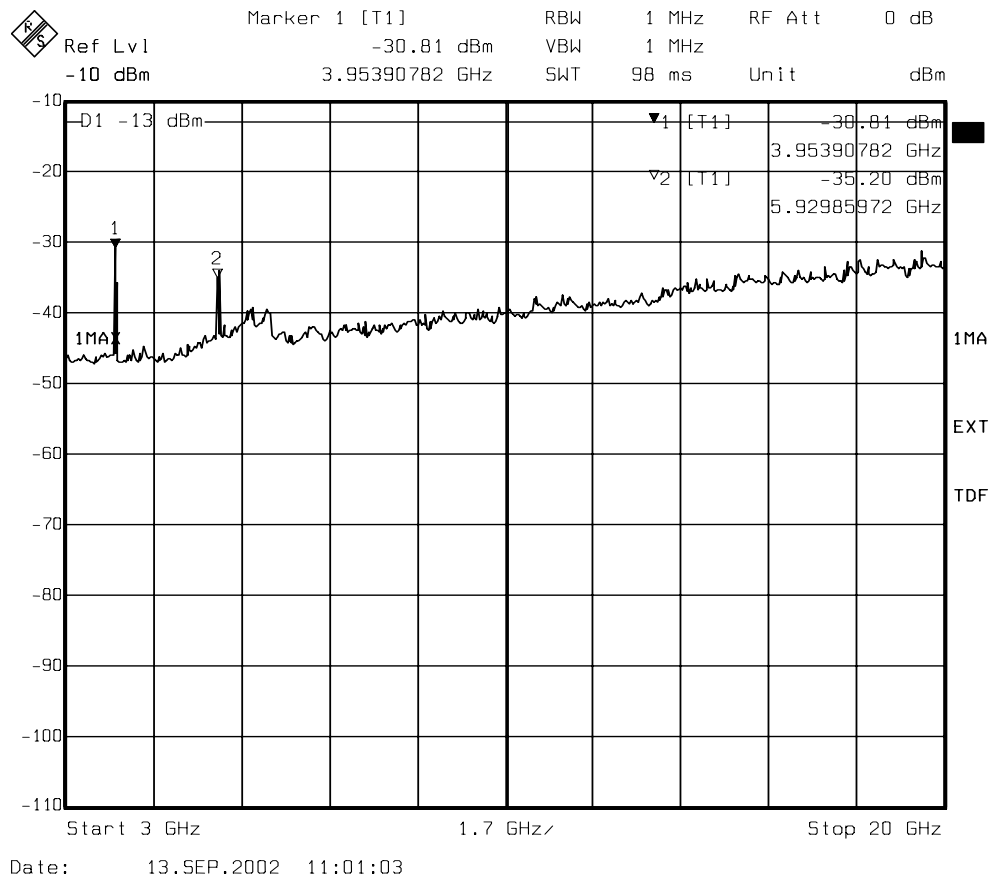
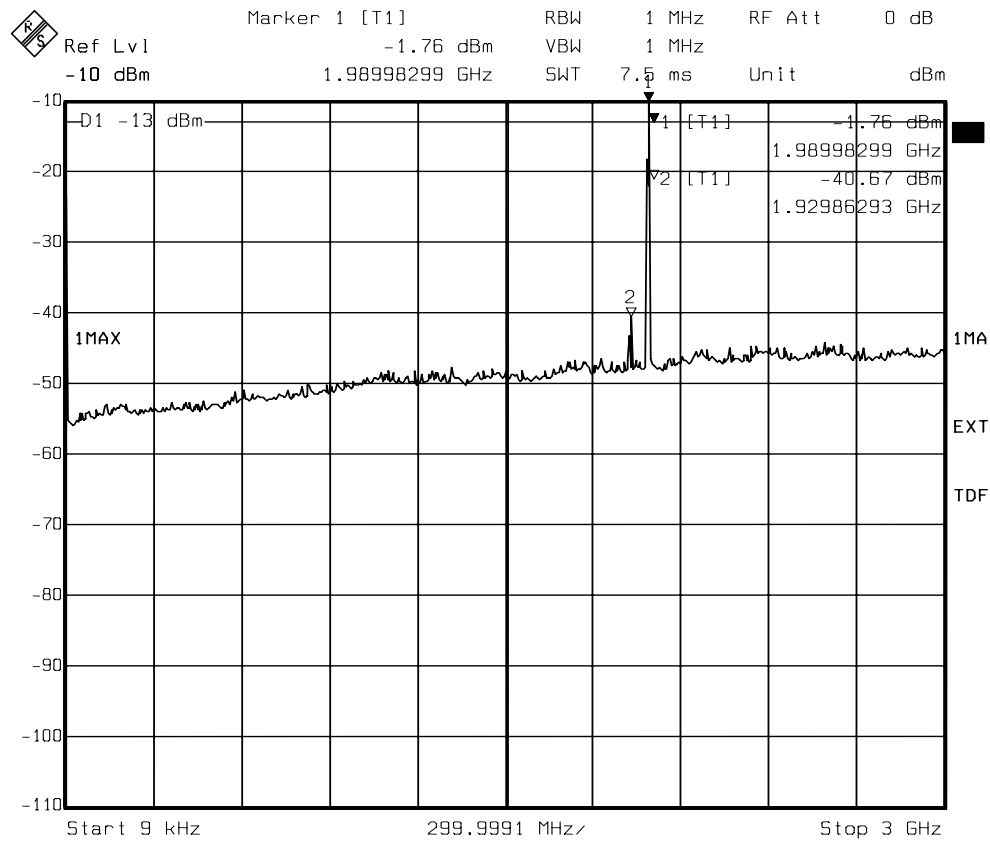
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Diagram 14 (16)
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Sign:.....

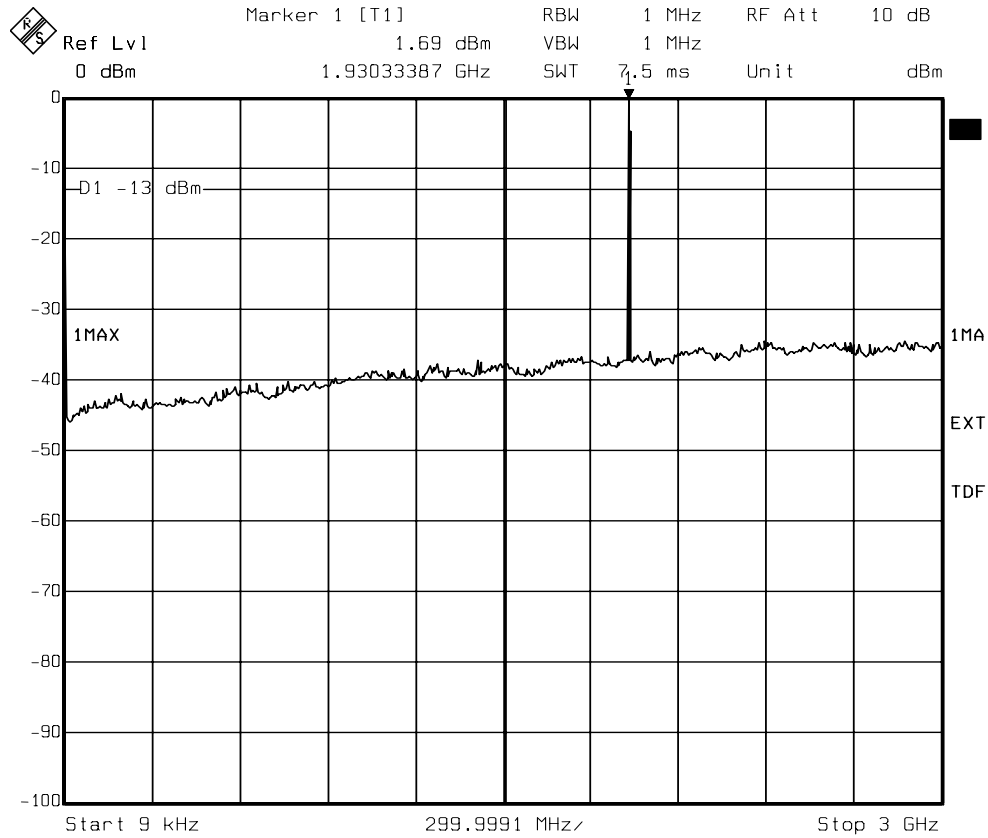
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Datum/Date
2002-09-11

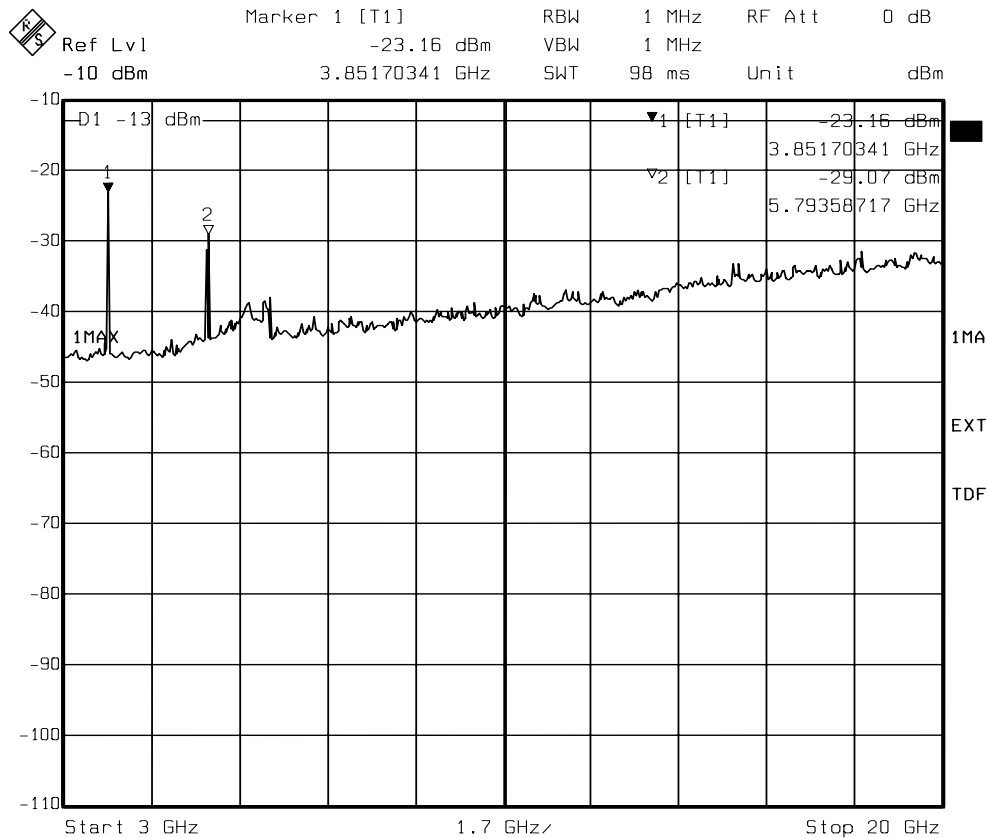
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Diagram 15 (16)
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Date: 12.SEP.2002 16:01:50



Date: 12.SEP.2002 16:21:18

Sign:.....

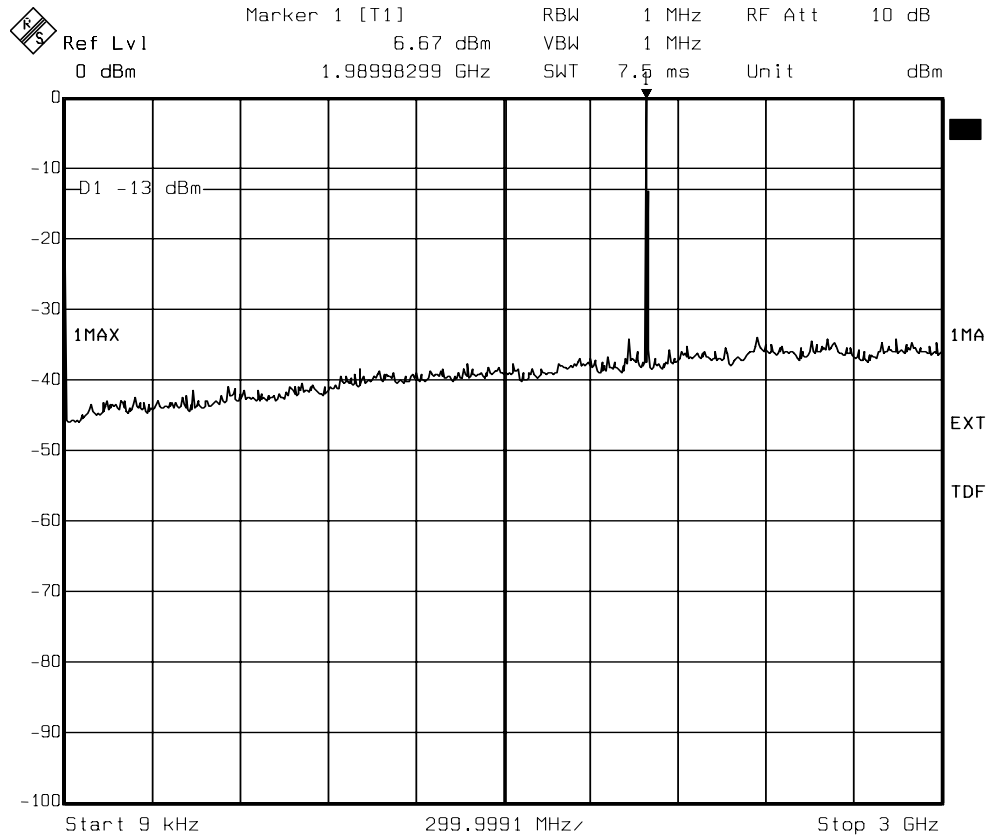
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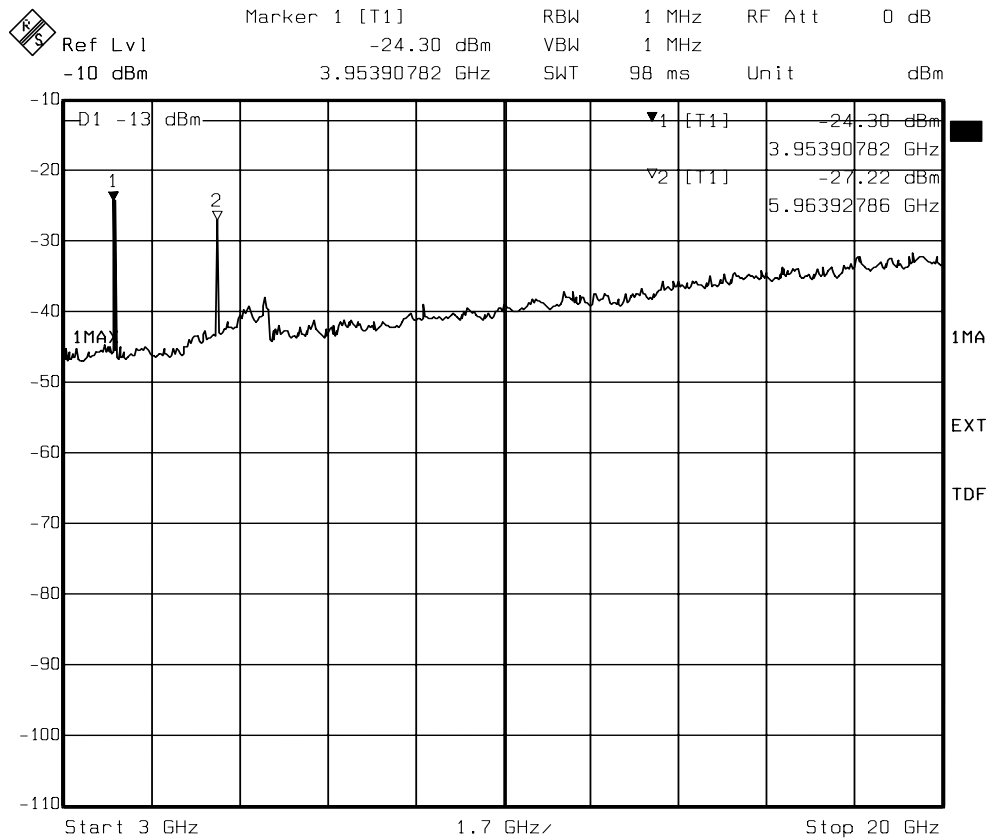
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Diagram 16 (16)
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Date: 12.SEP.2002 16:05:06



Date: 12.SEP.2002 16:18:04

Sign:.....

Field strength of spurious radiation measurements according to 47CFR 2.1053

Date	Temperature	Humidity
2002-08-22	21 °C ± 3 °C	61 % ± 5 %
2002-08-23	22 °C ± 3 °C	62 % ± 5 %
2002-08-26	22 °C ± 3 °C	59 % ± 5 %
2002-08-27	21 °C ± 3 °C	65 % ± 5 %
2002-08-30	23 °C ± 3 °C	54 % ± 5 %

Test set-up and Procedure

The measurement procedure is per ANSI/TIA/EIA-603-1992. 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.

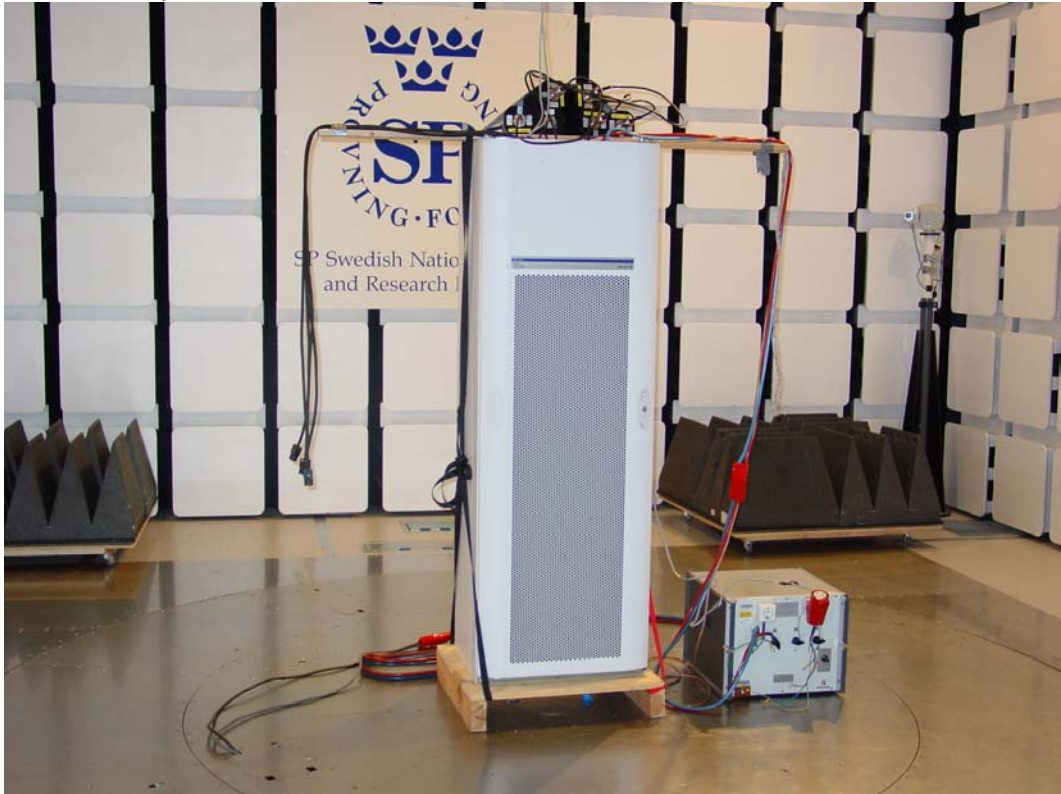
Measurements were done at 3 m distance in the frequency range 9 kHz-18 GHz and at 1 m in the range 18-20 GHz. The transmitter was modulated with 270.8 kbs pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
Anechoic chamber	-	15:115
R&S ESI 26	2003-05	503 292
Control computer	-	503 479
Software: R&S ES-K1, ver. 1.60	-	-
Chase Bilog antenna CBL 6111A	2003-12	503 182
EMCO loop antenna 6502	2004-07	502 916
EMCO Horn Antenna 3115	2004-11	502 175
EMCO Horn Antenna 3116	2003-09	503 279
MITEQ Low Noise Amplifier	2003-07	503 277
Testo 615, Temperature and humidity meter	2003-08	503 505

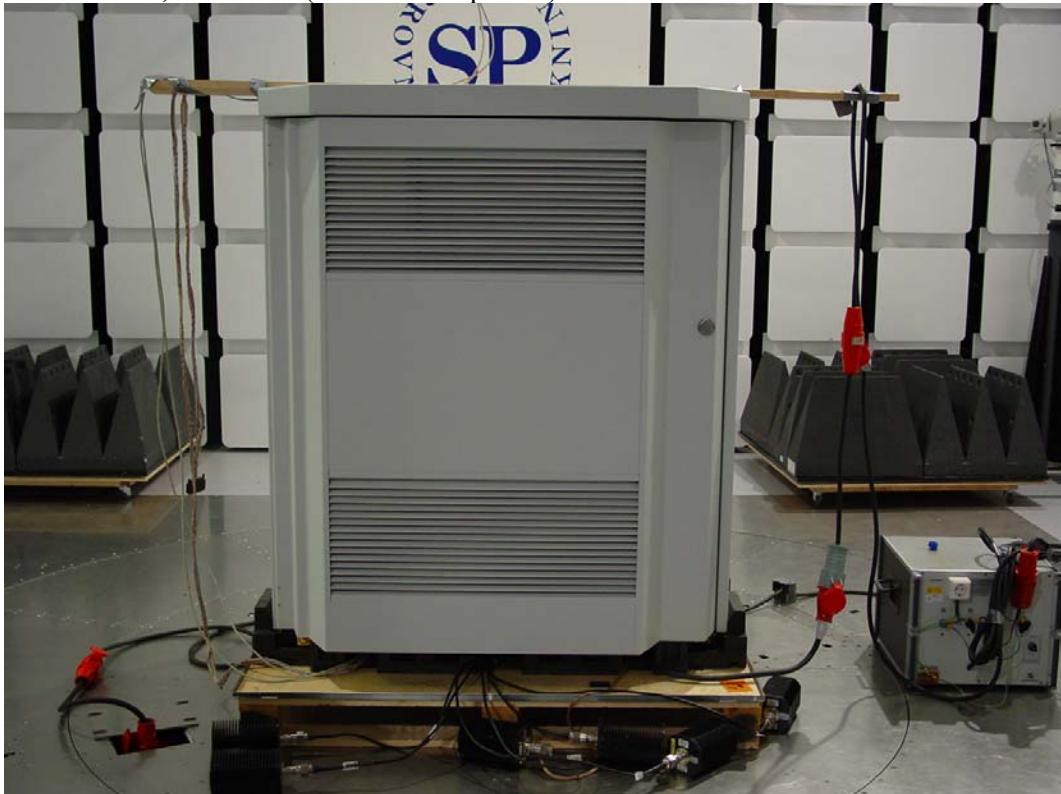
The test set-up during the spurious radiation measurements can be seen in the pictures below.

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Cabinet 2206, 24 V DC:



Cabinet 2106, 208 V AC (between two phases):



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Results

Cabinet 2206.

EDGE: one mode tested at a time: with internal combiner, without internal combiner and with internal combiner plus TCC

GMSK: the three modes mentioned above at the same time

Nominal Voltage 24 V DC

Output power TCC: +47 dBm

Output power without internal combiner: +44.5 dBm

Output power with internal combiner: +41 dBm

Mode: **GMSK**

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical (9k-30MHz: Longitudinal)	Horizontal (9k-30MHz: Perpendicular)
0.023	-31.3	-26.0
0.009-20 000	All other emission > 20 dB below limit	All other emission > 20 dB below limit
Measurement uncertainty		4.7 dB

Mode: **EDGE**

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical (9k-30MHz: Longitudinal)	Horizontal (9k-30MHz: Perpendicular)
0.023	-27.4	-26.0
0.009-20 000	All other emission > 20 dB below limit	All other emission > 20 dB below limit
Measurement uncertainty		4.7 dB

Sign:.....

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Cabinet 2106.

EDGE: one mode tested at a time: with internal combiner, without internal combiner and with internal combiner plus TCC

GMSK: the three modes mentioned above at the same time

Nominal Voltage 208 V AC (between two phases)

Output power TCC: +47 dBm

Output power without internal combiner: +44.5 dBm

Output power with internal combiner: +41 dBm

Mode: **GMSK**

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical (9k-30MHz: Longitudinal)	Horizontal (9k-30MHz: Perpendicular)
0.009-20 000	All emission > 20 dB below limit	All emission > 20 dB below limit
Measurement uncertainty		4.7 dB

Mode: **EDGE**

Frequency (MHz)	Spurious emission level (dBm)	
	Vertical (9k-30MHz: Longitudinal)	Horizontal (9k-30MHz: Perpendicular)
0.009-20 000	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
-----------	-----

Sign:.....

Frequency stability measurements according to 47CFR 2.1055

Date	Temperature	Humidity
2002-09-05	22 °C ± 3 °C	57 % ± 5 %
2002-09-06	21 °C ± 3 °C	38 % ± 5 %
2002-09-07	21 °C ± 3 °C	41 % ± 5 %
2002-09-08	21 °C ± 3 °C	39 % ± 5 %

Test set-up and Procedure

The measurement was made per J-STD-007A Vol 1 and TIA/EIA-139-280-B. Measurements were made at CDU-G output connectors. The output was connected to a spectrum analyser. The spectrum analyser was connected to an external 10 MHz reference standard during measurement.

The transmitter was modulated with 270.8 kbs pseudorandom data during the measurements.

Measurement equipment	Calibration Due	SP number
Climate chamber	2002-10	503 546
R&S ESI40	2003-08	503 125
Multimeter Fluke 85III	2003-09	503 418
Testo 610, Temperature and humidity meter	2002-11	502 658

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Results

Nominal Voltage 24 V DC

44.5 dBm output power at Channel 661 (1960.0 MHz)

Mode: **GMSK**

Test conditions		Frequency error (Hz)	
Supply voltage DC (V)	T (°C)	TRU Output 0	TRU Output 1
24.0	+20	2	2
27.6	+20	2	7
20.4	+20	5	0
24.0	+30	4	3
24.0	+40	4	5
24.0	+50	14	12
24.0	+10	16	9
24.0	0	5	11
24.0	-10	16	11
24.0	-20	21	16
24.0	-30	7	4
Maximum freq. error (Hz)		21	
Measurement uncertainty		$< \pm 1 \times 10^{-7}$	

Sign:.....

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Mode: **EDGE**

Test conditions		Frequency error (Hz)	
Supply voltage DC (V)	T (°C)	TRU Output 0	TRU Output 1
24.0	+20	6	3
27.6	+20	0	2
20.4	+20	3	7
24.0	+30	5	3
24.0	+40	3	8
24.0	+50	12	5
24.0	+10	14	12
24.0	0	4	11
24.0	-10	2	4
24.0	-20	22	21
24.0	-30	20	21
Maximum freq. error (Hz)		22	
Measurement uncertainty		$< \pm 1 \times 10^{-7}$	

Remark

dTRU with serial number AE5000HQT1 was used during the test.

Limits

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

Complies?	Yes
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Sign:.....

Intermodulation test

Date 2002-09-13	Temperature 22 °C ± 3 °C	Humidity 60 % ± 5 %
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Test set-up and Procedure

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 modulated with 270.8 kbs pseudorandom data during the measurements.

The measurements were first done on each output of the EUT without the internal combiner connected. Measurements were repeated with both outputs connected to the internal combiner.

Measurement equipment	Calibration Due	SP number
R&S FSEM s/n 1079.8500.30	2003-03	—
Testo 610, Temperature and humidity meter	2002-11	502 658

Measurement uncertainty: 3.7 dB

Results

Mode: **GMSK**

- dTRU, without TRU internal combiner:**
- Diagram 1 TRX Output 1: Ch 512, +44.5 dBm
(TRX Output 2: Ch 537, +44.5 dBm, terminated with 50 Ω)
- Diagram 2 TRX Output 1: Ch 810, +44.5dBm
(TRX Output 2: Ch 785, +44.5 dBm, terminated with 50 Ω)
- Diagram 3 TRX Output 2: Ch 512, +44.5 dBm
(TRX Output 1: Ch 537, +44.5 dBm, terminated with 50 Ω)
- Diagram 4 TRX Output 2: Ch 810, +44.5 dBm
(TRX Output 1: Ch 785, +44.5 dBm, terminated with 50 Ω)
- dTRU, with internal combiner:**
- Diagram 5 TRX Output 1: Ch 512, +41 dBm
TRX Output 2: Ch 537, +41 dBm
- Diagram 6 TRX Output 1: Ch 785, +41 dBm
TRX Output 2: Ch 810, +41 dBm
- Diagram 7 In band, 1920-2000 MHz, TRX Output 1: Ch 512, +41 dBm
TRX Output 2 Ch 537, + 41 dBm
- In band, 1920-2000 MHz, TRX Output 1: Ch 785, +41 dBm
TRX Output 2 Ch 810, + 41 dBm

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Mode: **EDGE**

dTRU, without TRU internal combiner:

Diagram 8 TRX Output 1: Ch 513, +44.5 dBm
(TRX Output 2: Ch 538, +44.5 dBm, terminated with 50 Ω)

Diagram 9 TRX Output 1: Ch 809, +44.5dBm
(TRX Output 2: Ch 784, +44.5 dBm, terminated with 50 Ω)

Diagram 10 TRX Output 2: Ch 513, +44.5 dBm
(TRX Output 1: Ch 538, +44.5 dBm, terminated with 50 Ω)

Diagram 11 TRX Output 2: Ch 809, +44.5 dBm
(TRX Output 1: Ch 784, +44.5 dBm, terminated with 50 Ω)

dTRU, with internal combiner:

Diagram 12 TRX Output 1: Ch 513, +41 dBm
TRX Output 2: Ch 538, +41 dBm

Diagram 13 TRX Output 1: Ch 784, +41 dBm
TRX Output 2: Ch 809, +41 dBm

Diagram 14 In band, 1920-2000 MHz, TRX Output 1: Ch 513, +41 dBm
TRX Output 2 Ch 538, + 41 dBm

In band, 1920-2000 MHz, TRX Output 1: Ch 784, +41 dBm
TRX Output 2 Ch 809, + 41 dBm

Remark

dTRU with serial number AE5000HQSX was used during the test.

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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Sign:.....

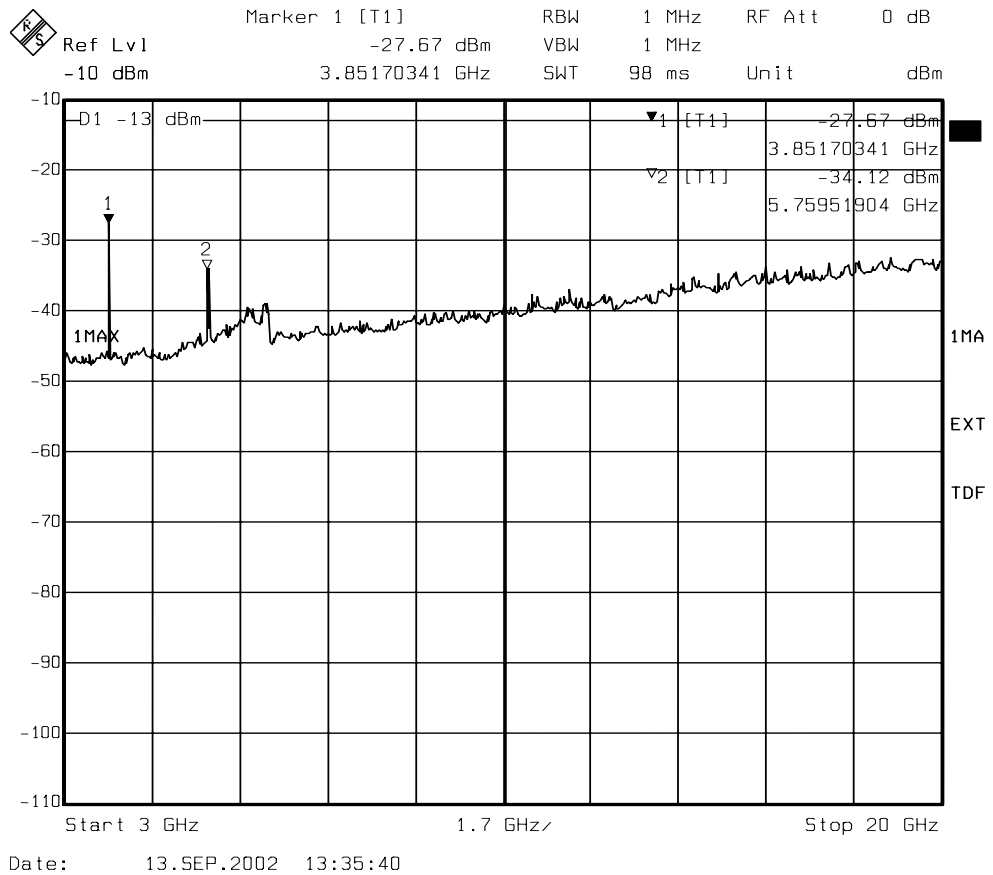
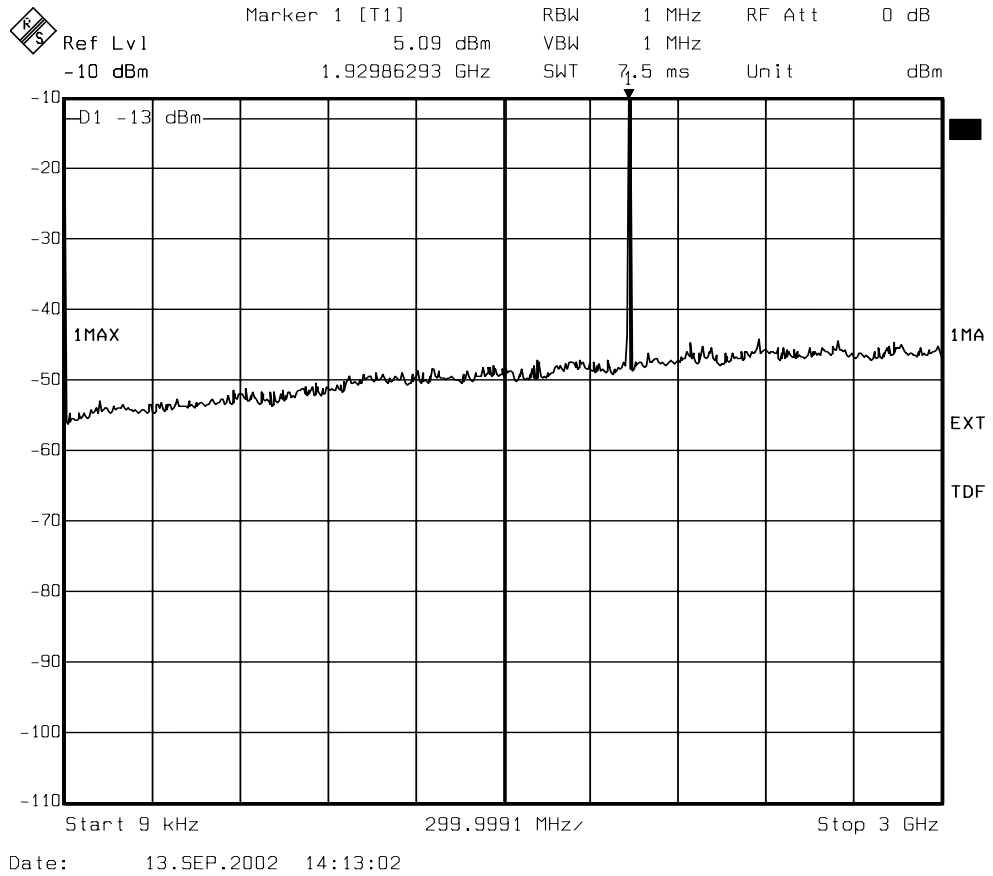
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Diagram 1 (14)
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Sign:.....

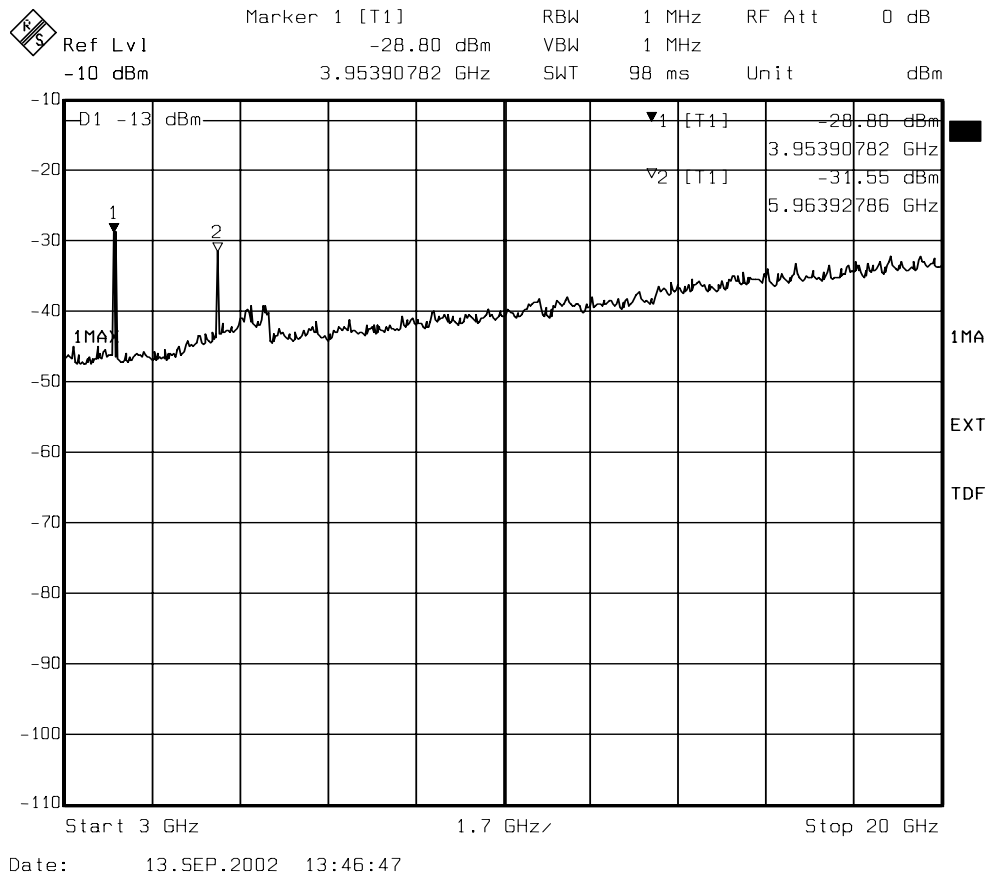
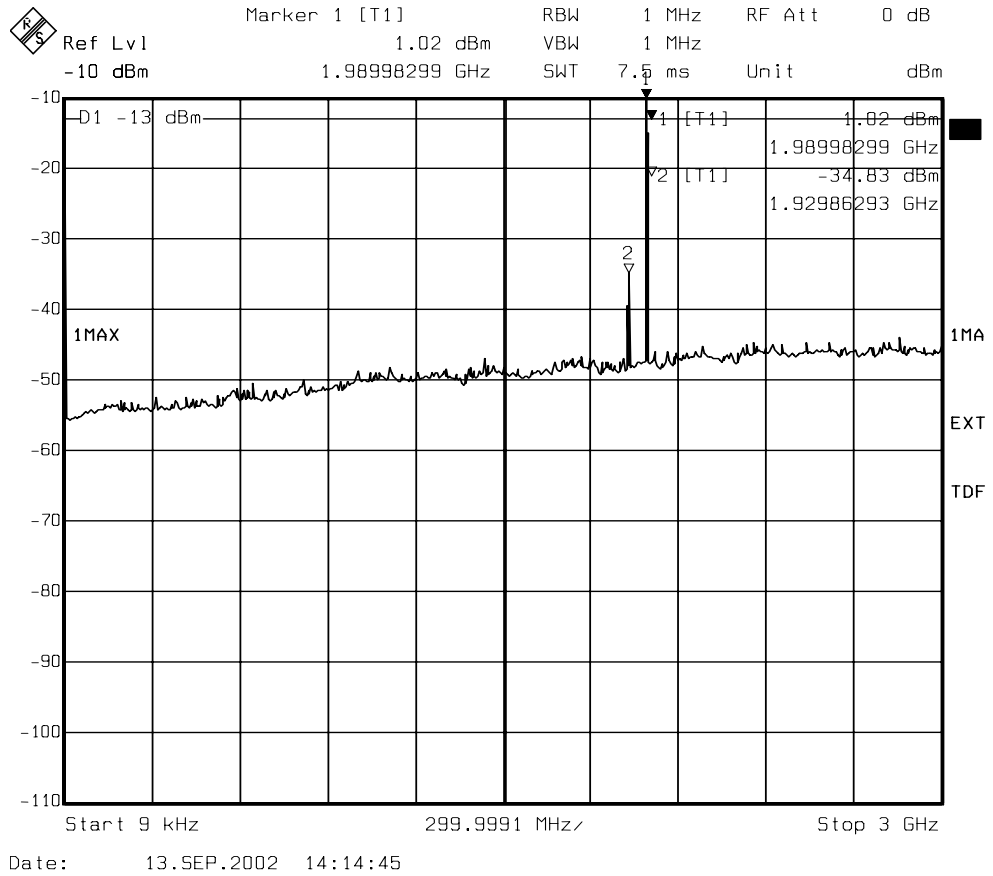
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Diagram 2 (14)
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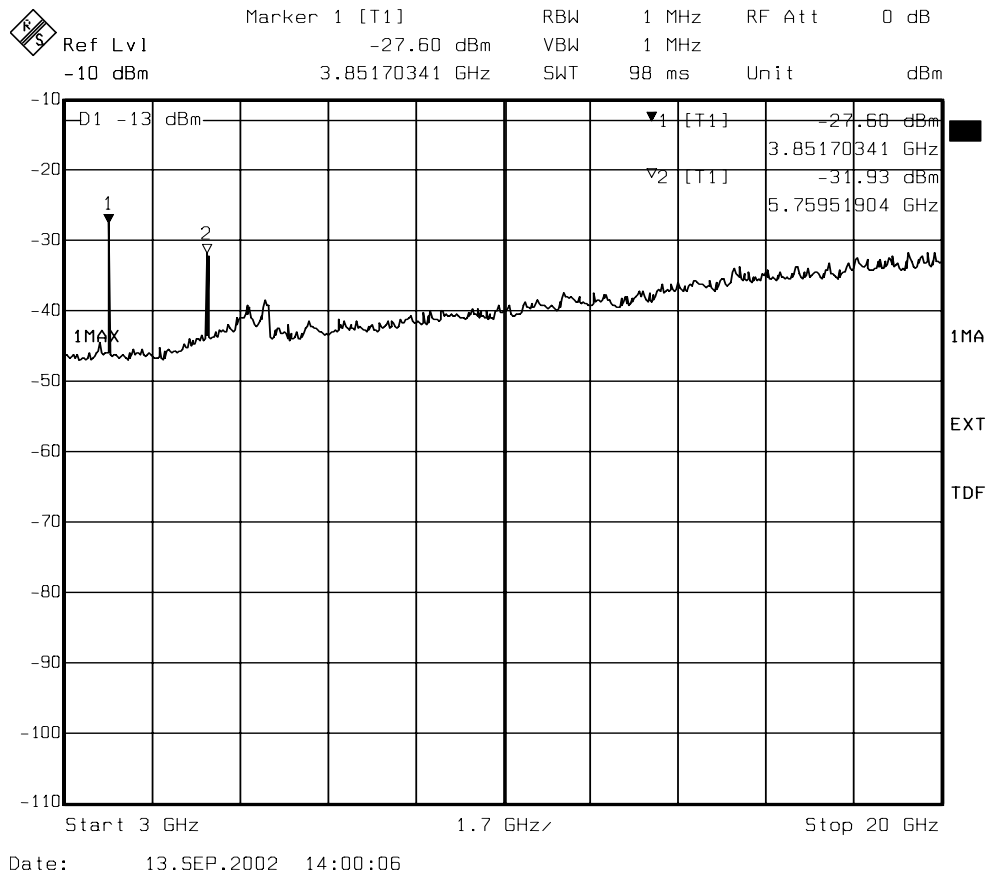
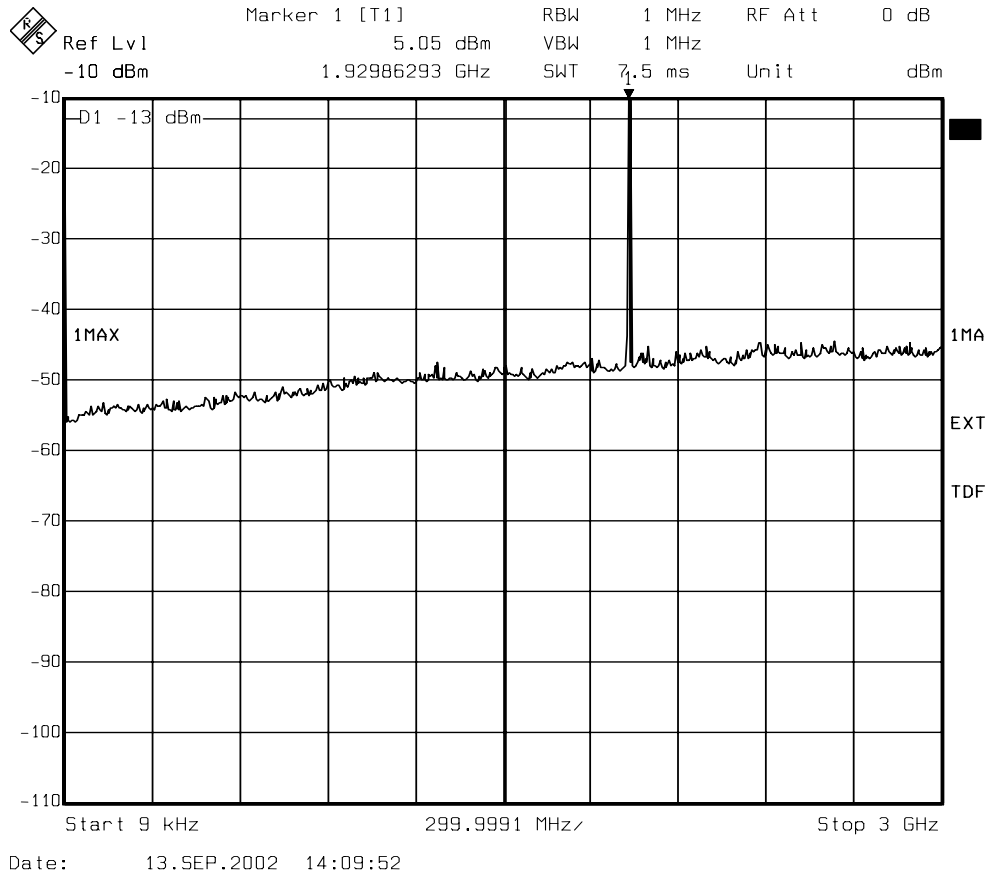
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Diagram 3 (14)
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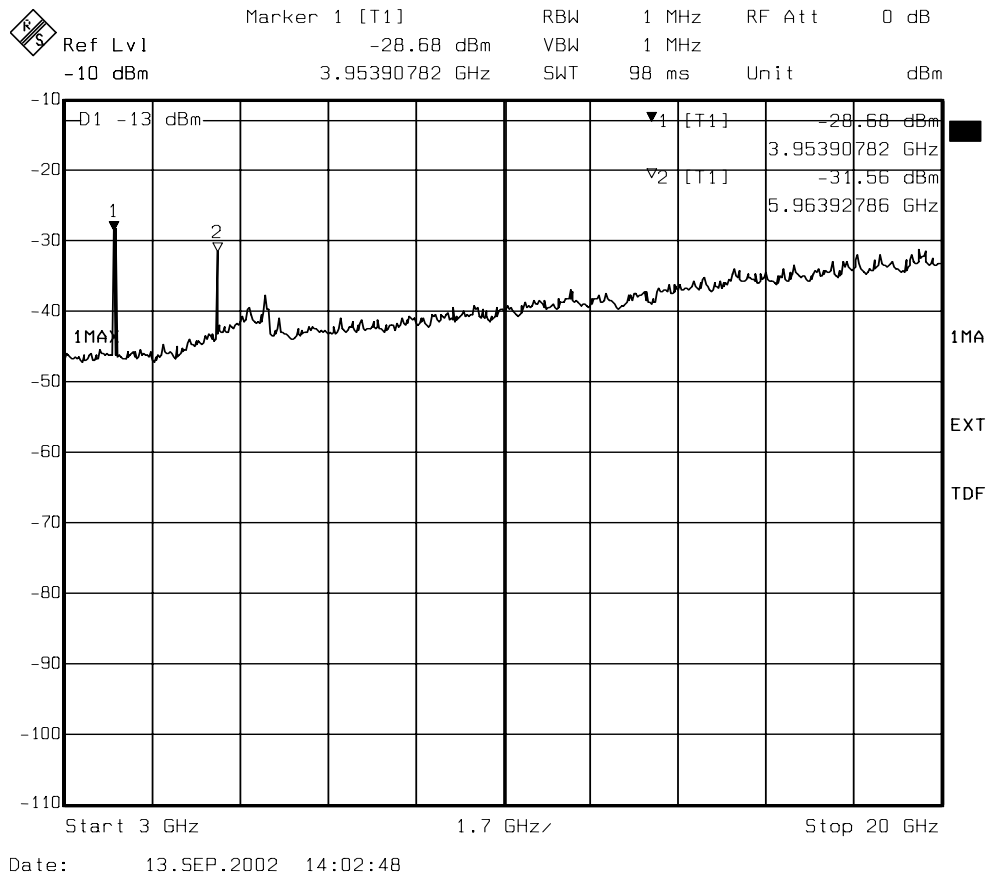
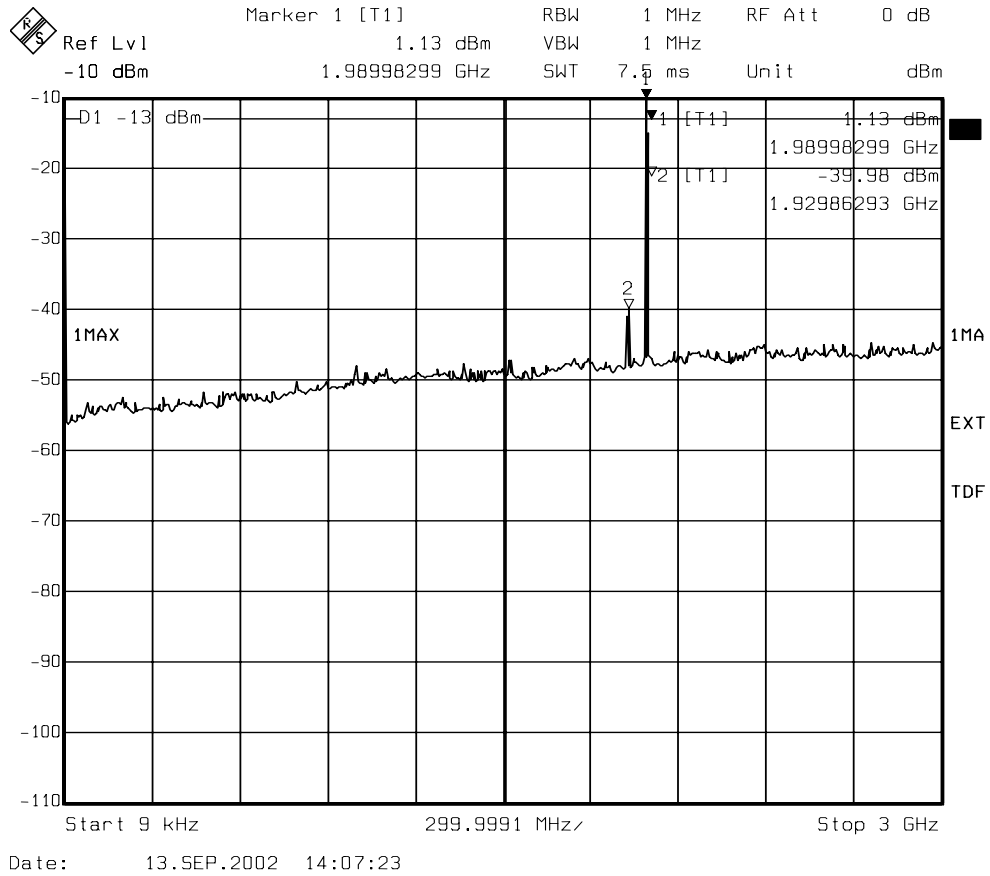
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FCC ID: B5KAKRC1311004-2



Sign:.....

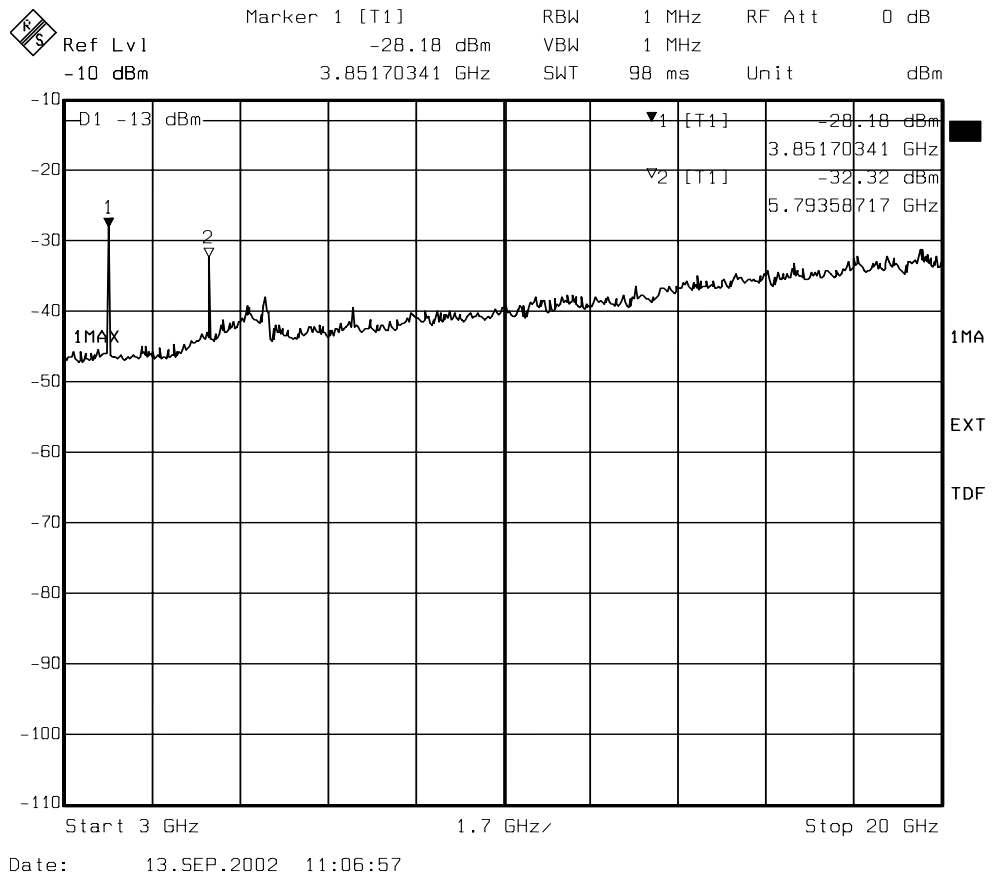
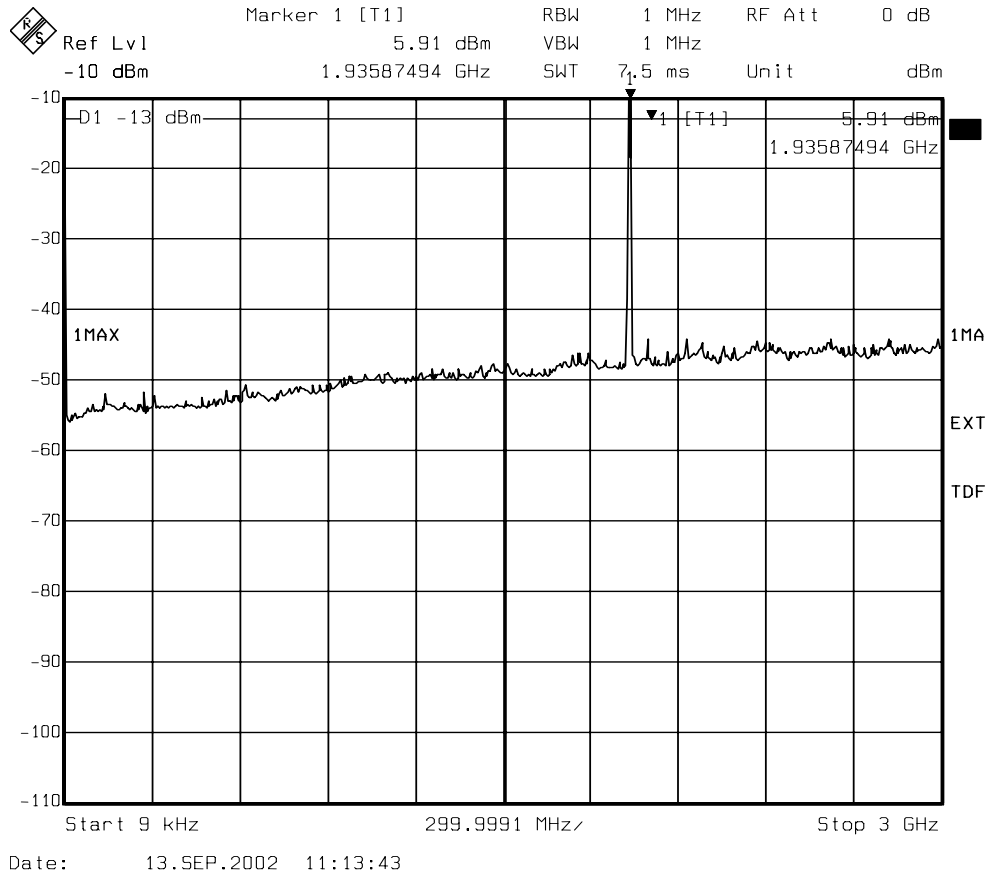
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Sign:.....

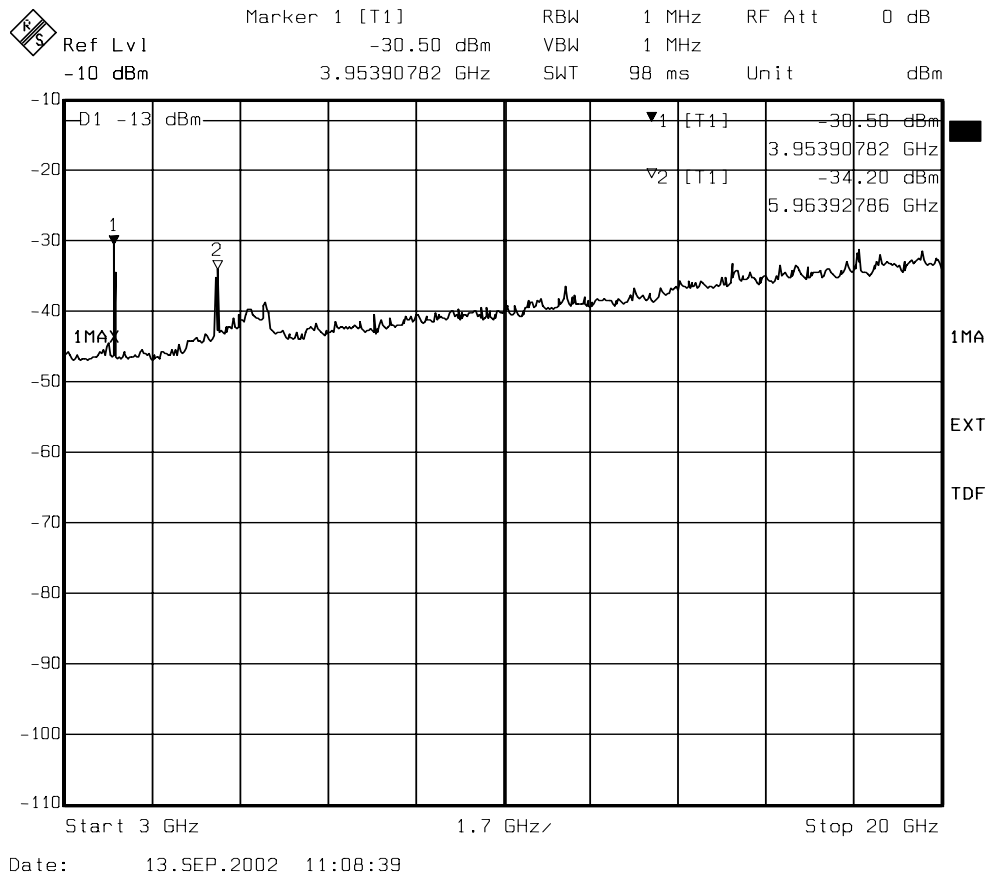
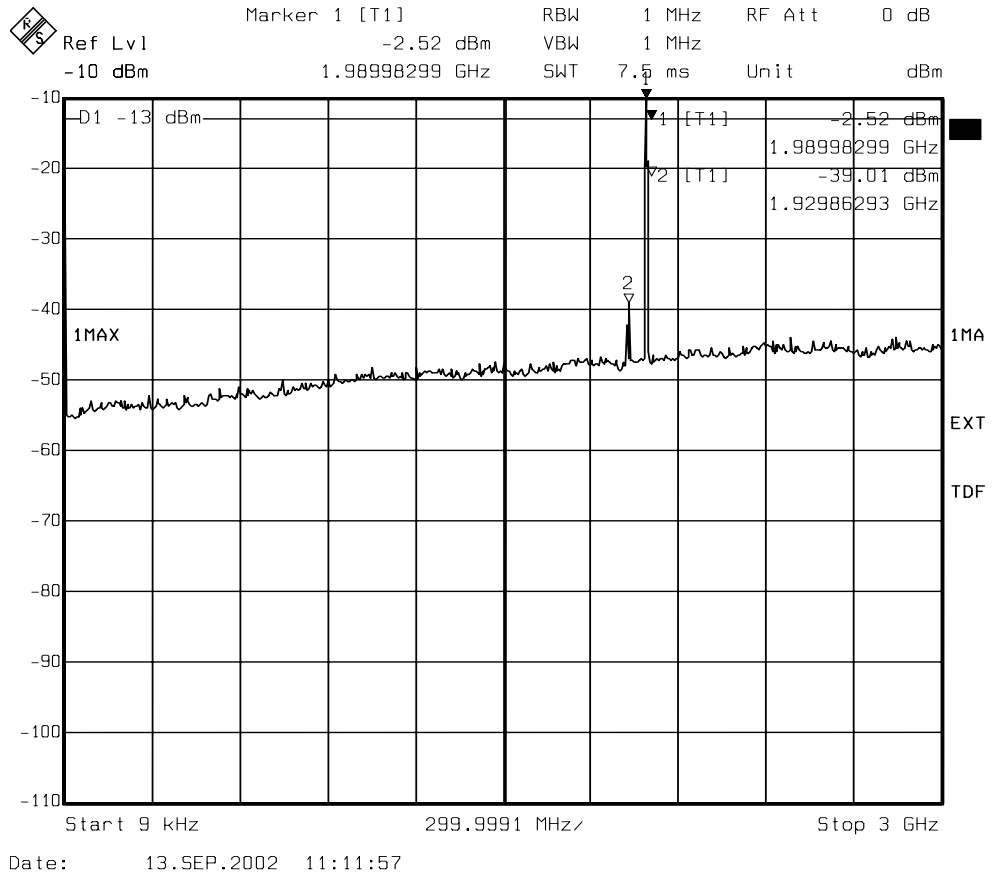
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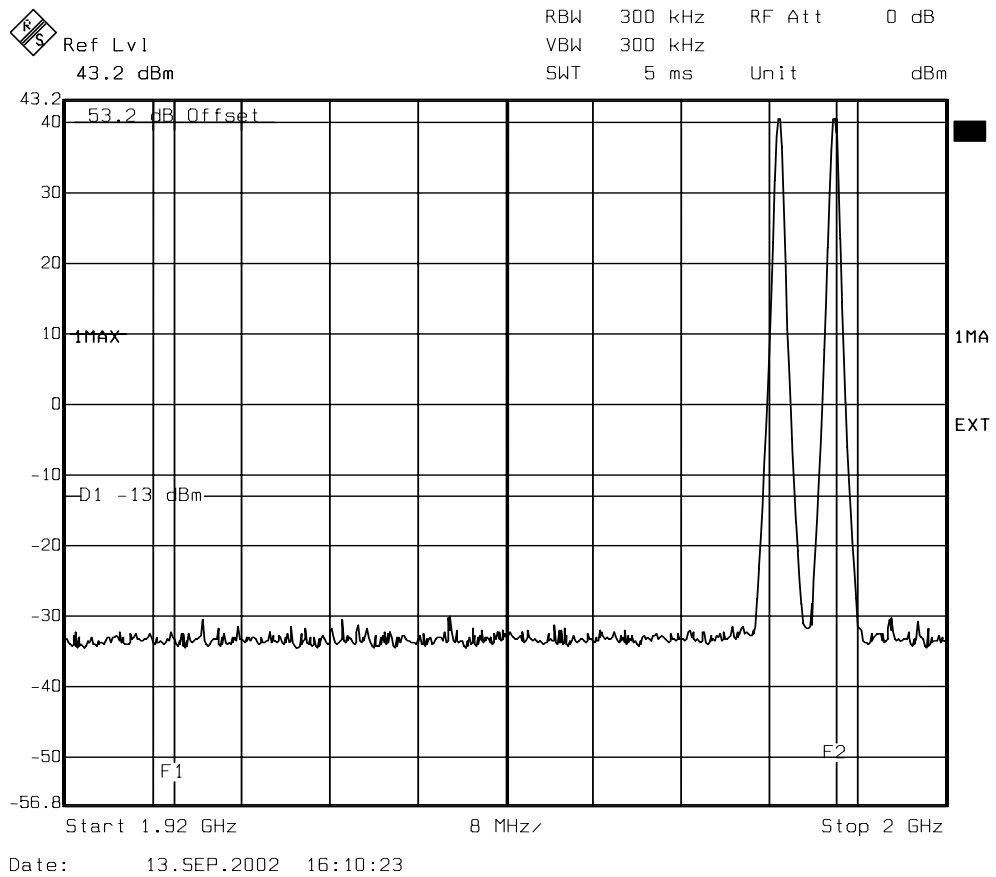
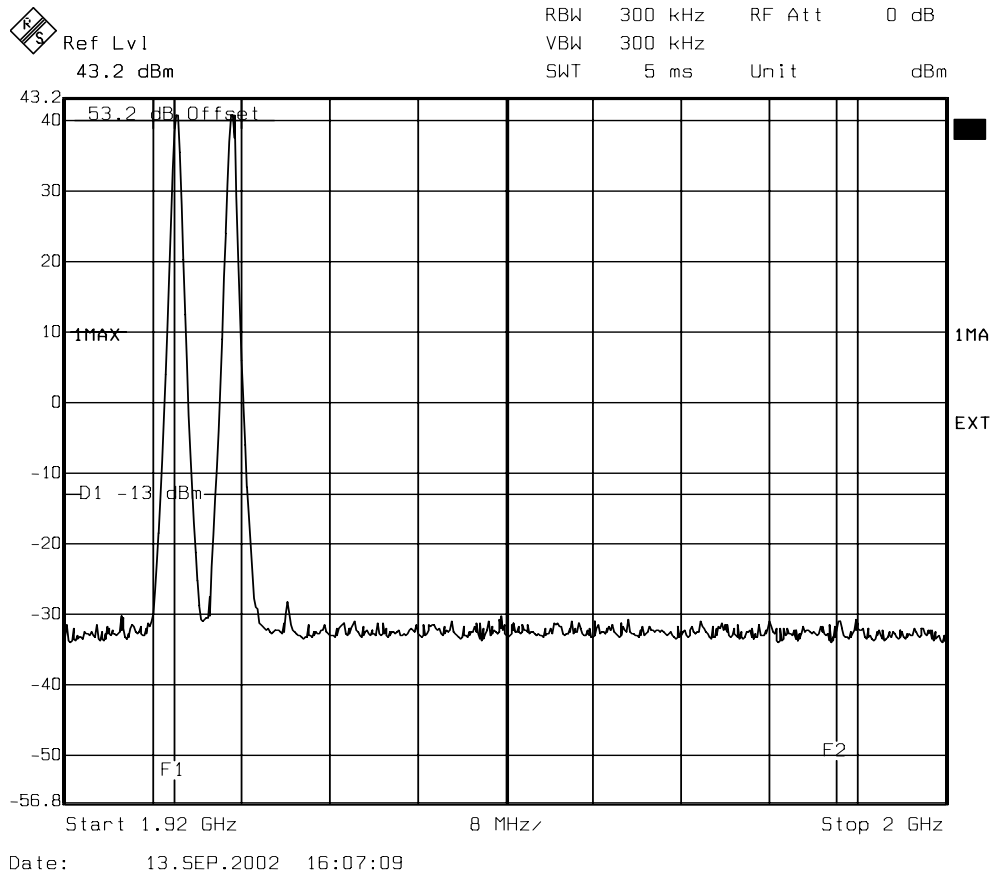
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Diagram 7 (14)
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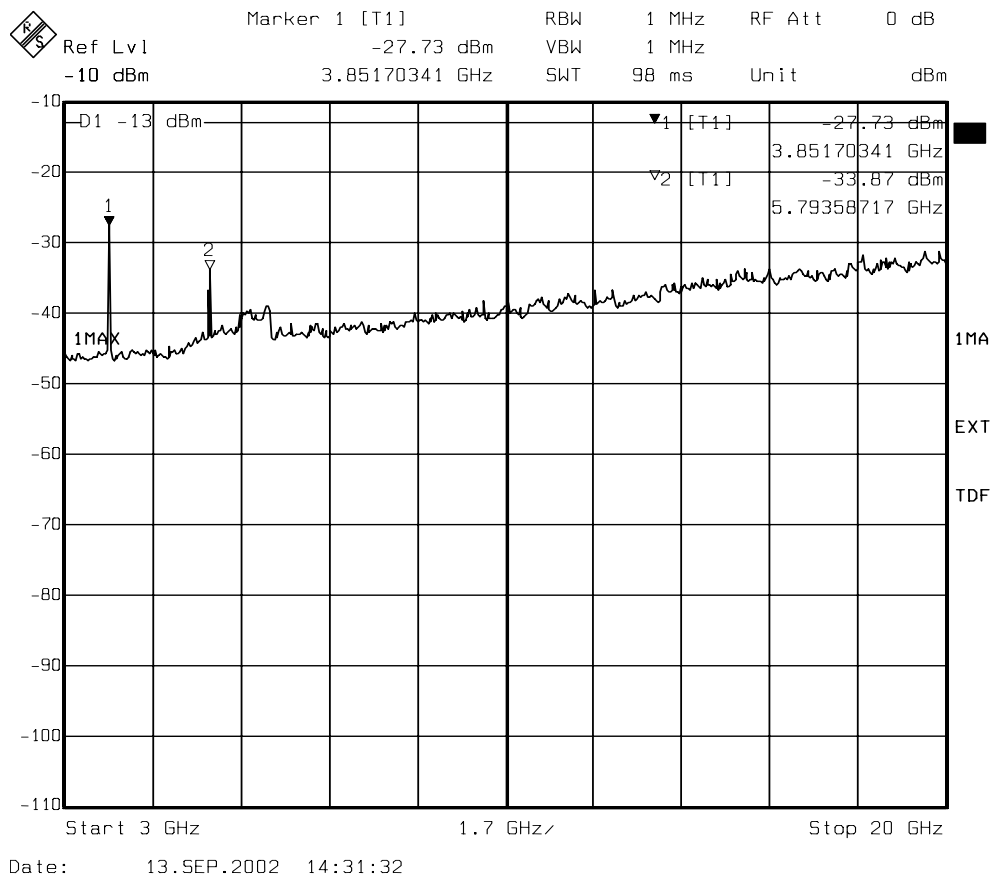
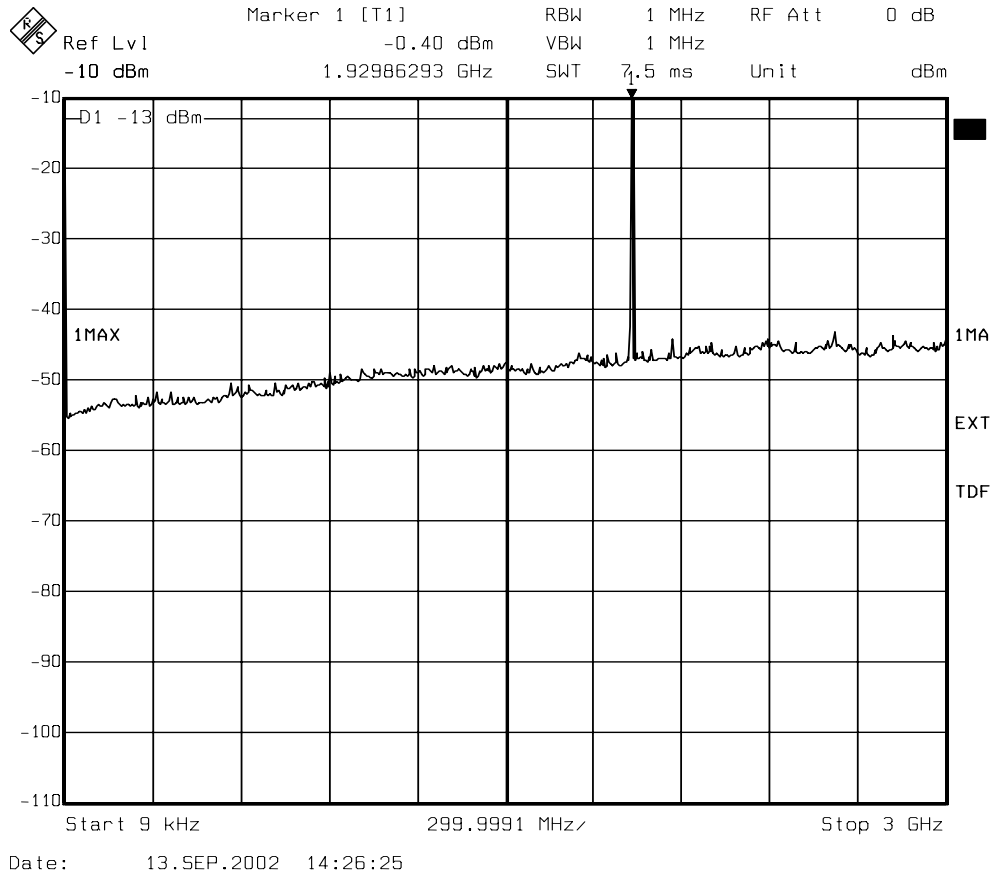
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Diagram 8 (14)
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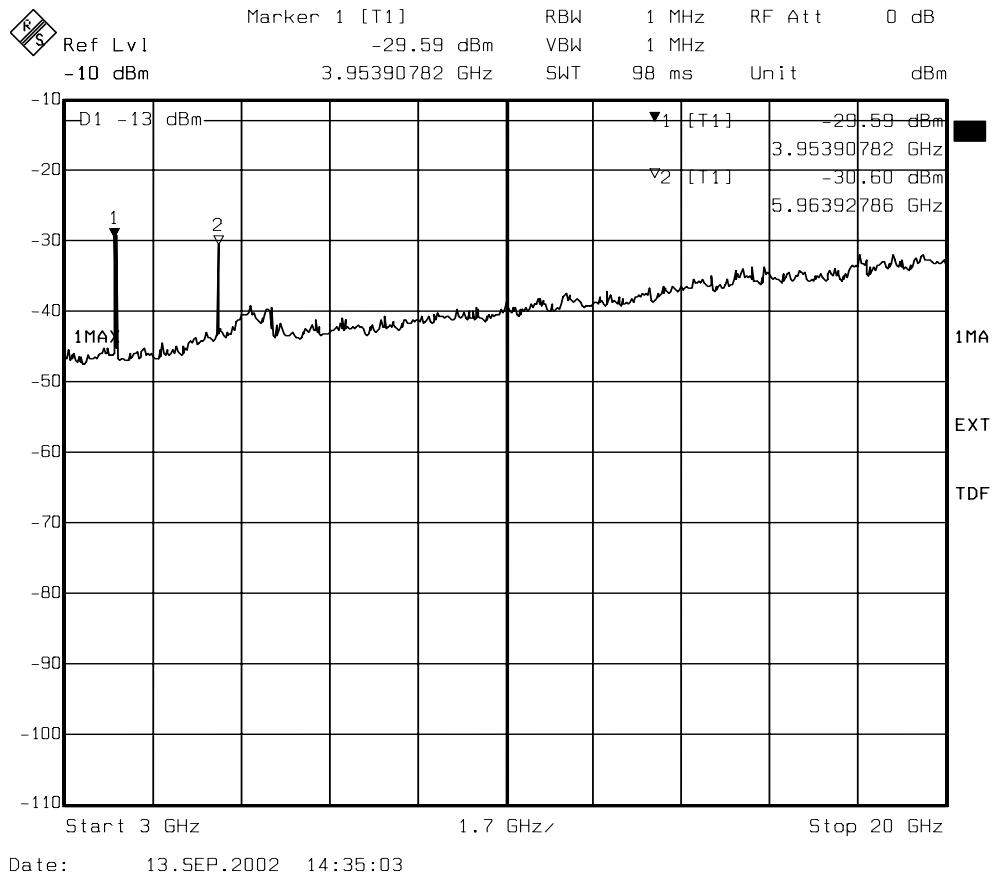
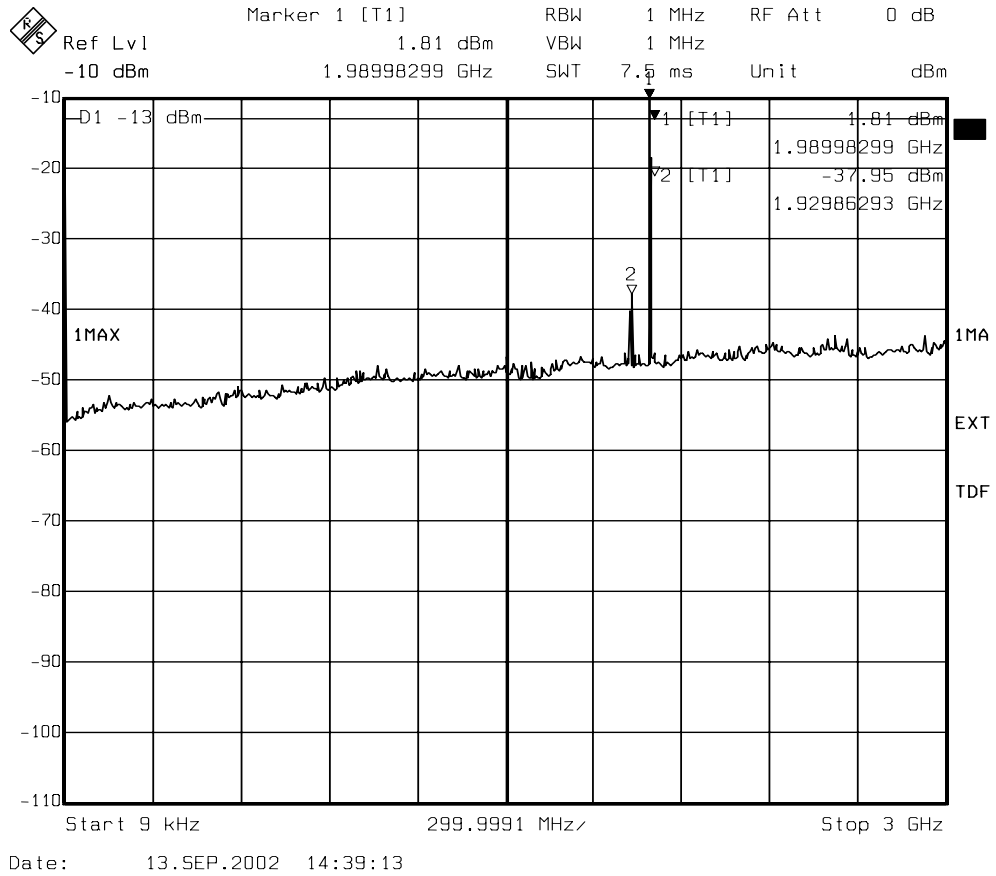
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Diagram 9 (14)
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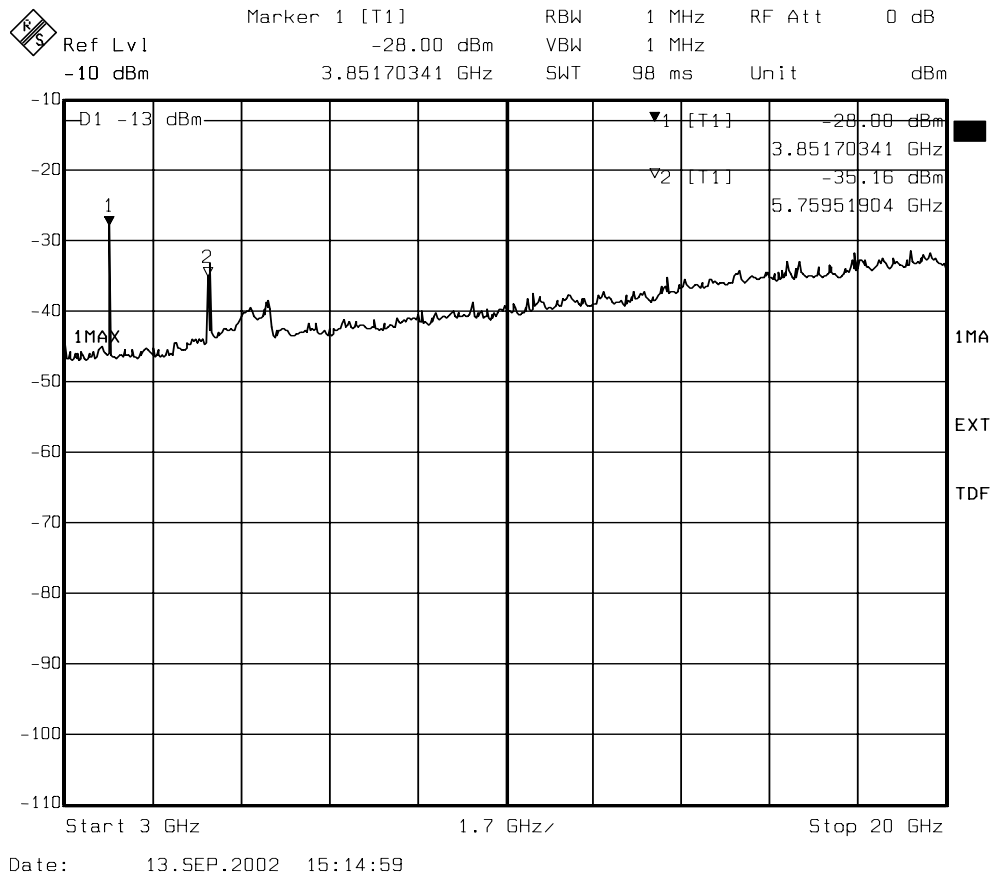
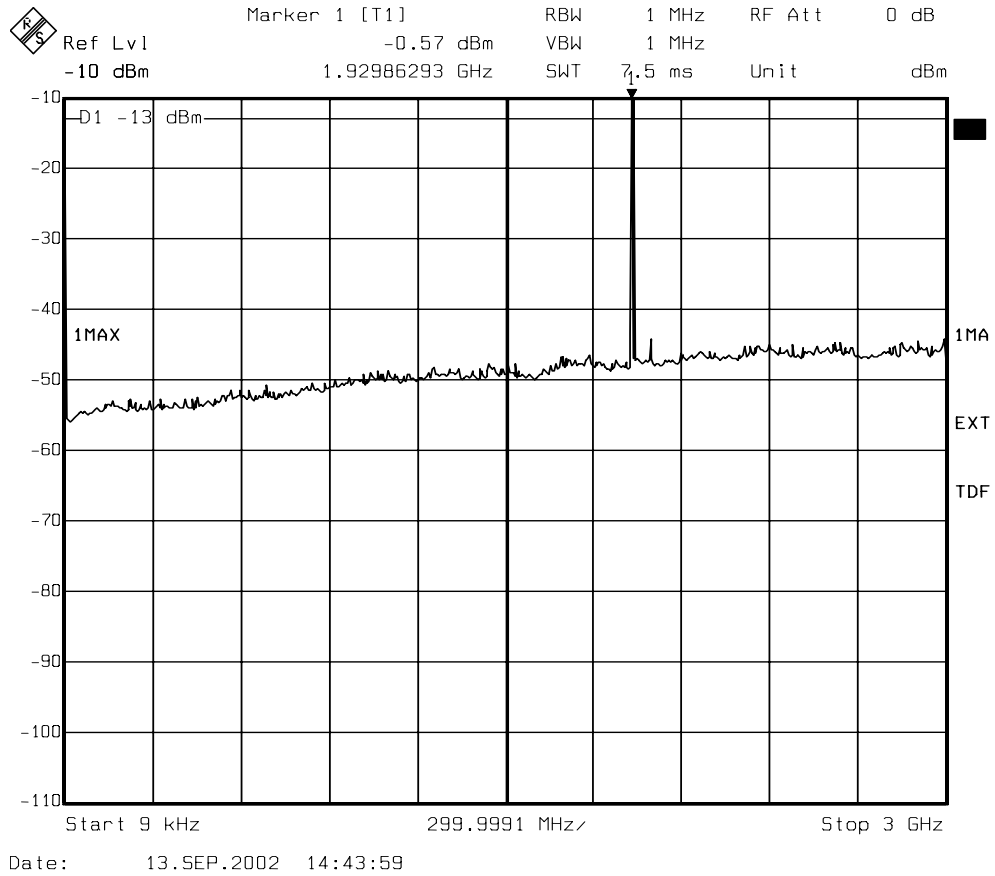
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Diagram 10 (14)
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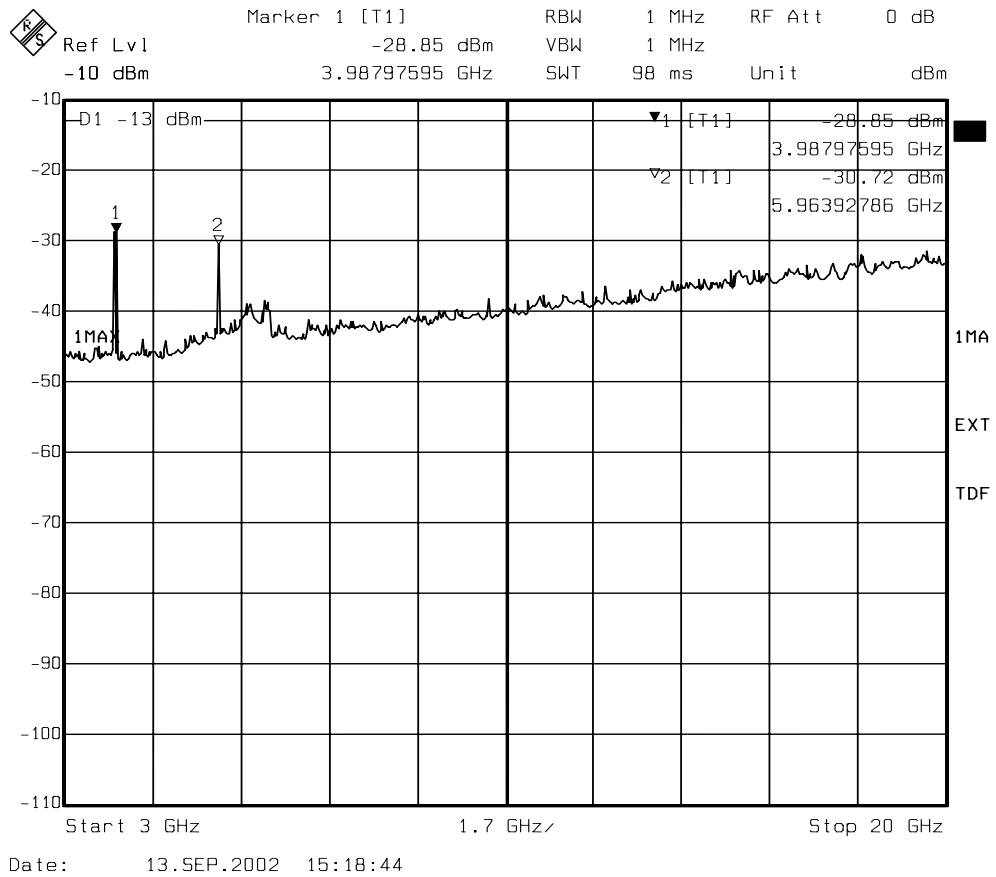
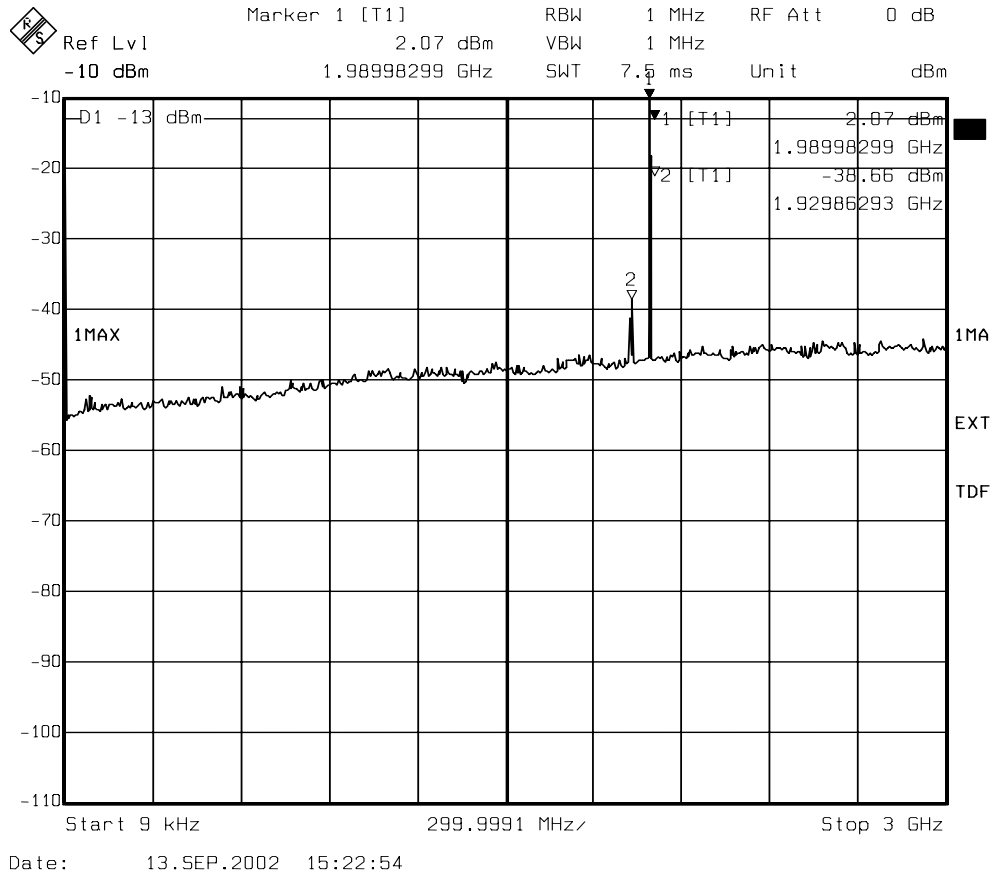
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Diagram 11 (14)
Encl. 8.1

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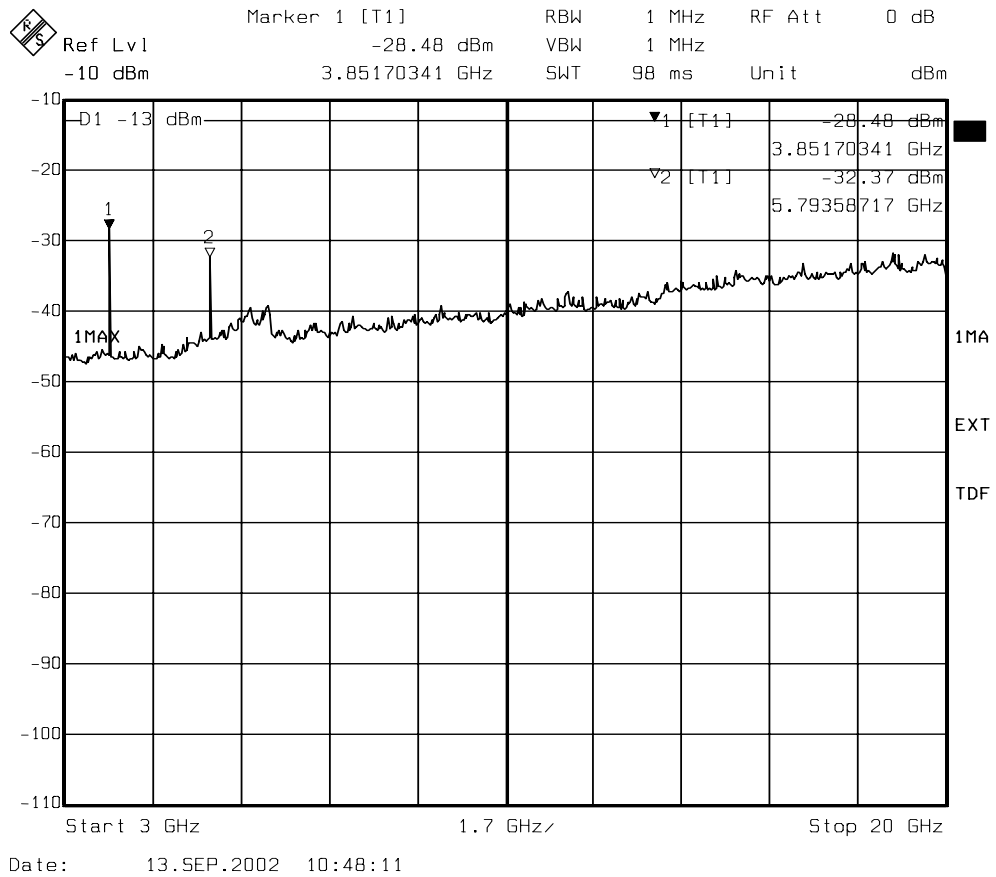
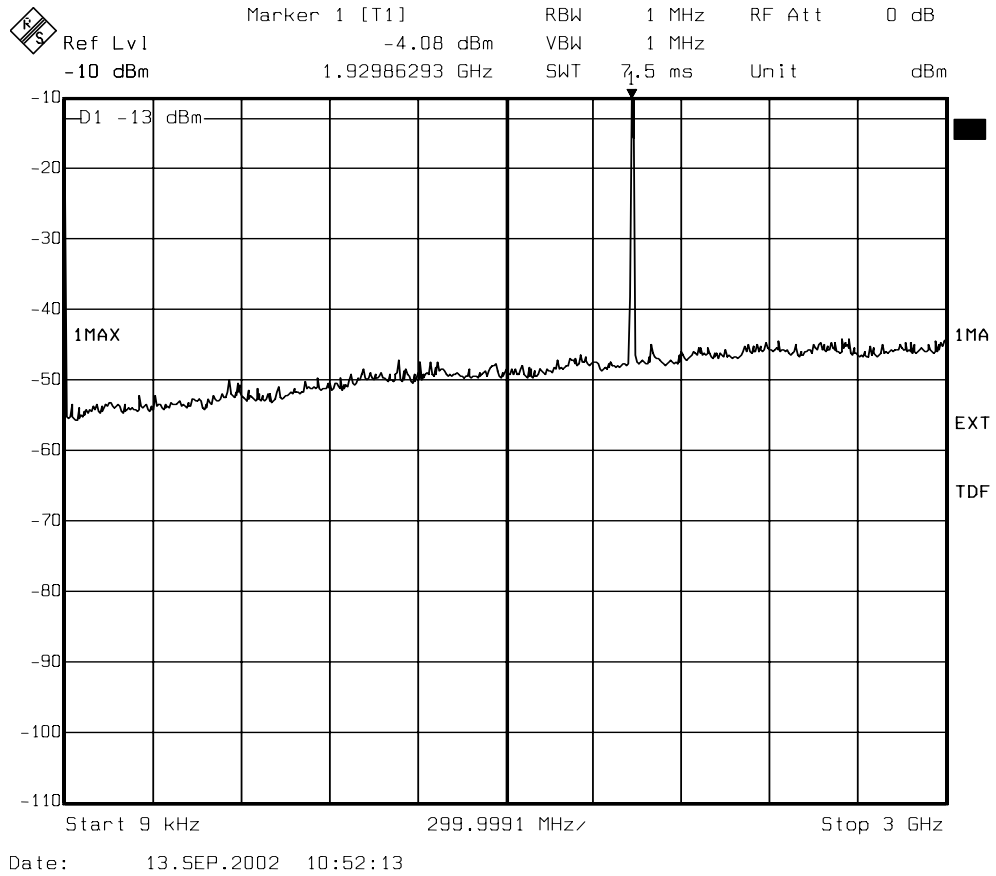
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Diagram 12 (14)
Encl. 8.1

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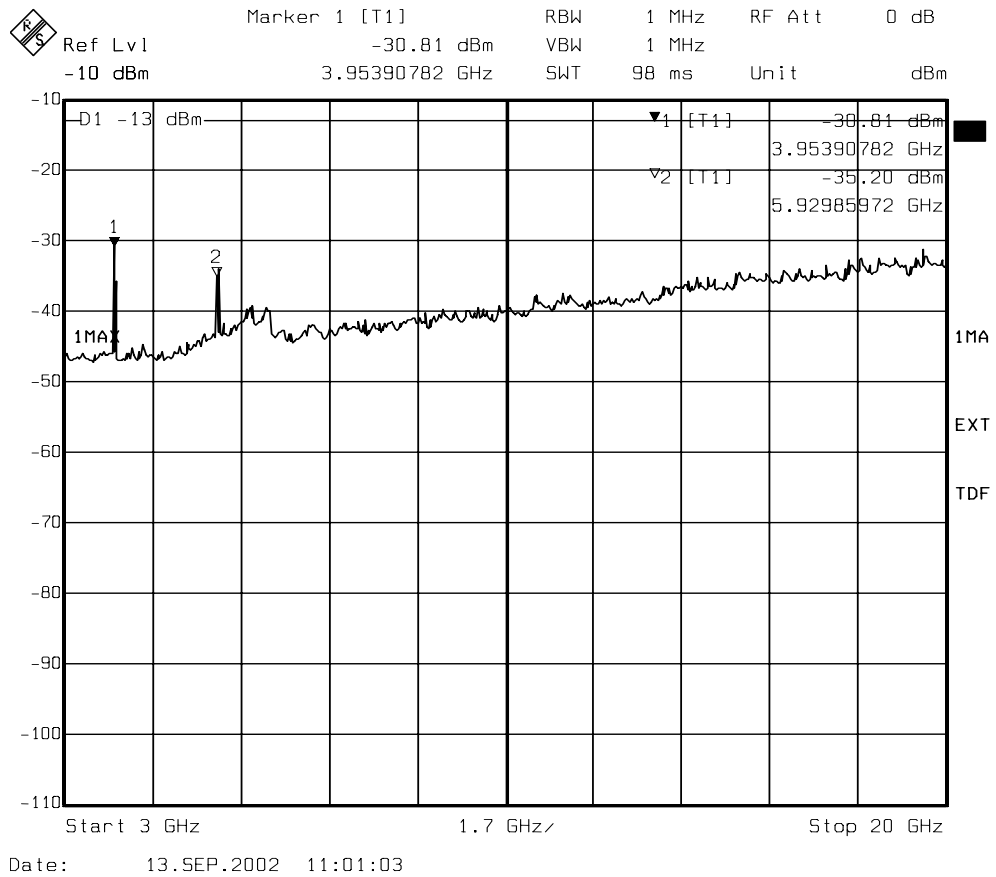
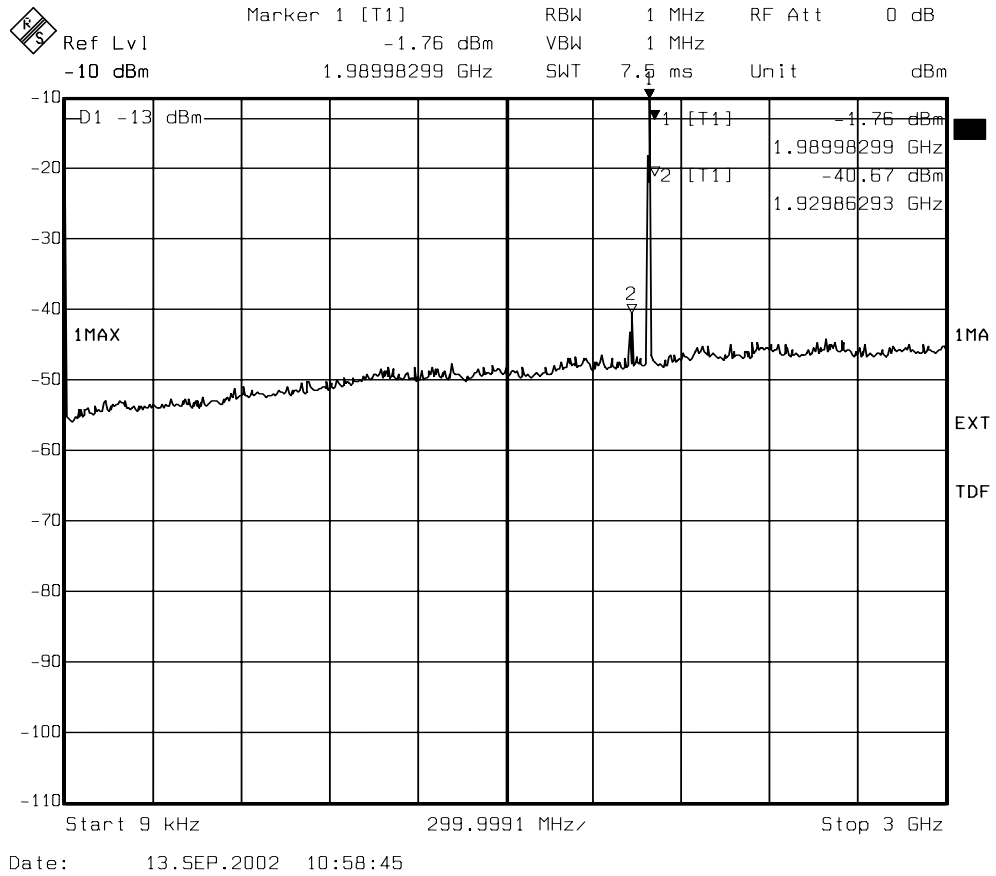
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Diagram 13 (14)
Encl. 8.1

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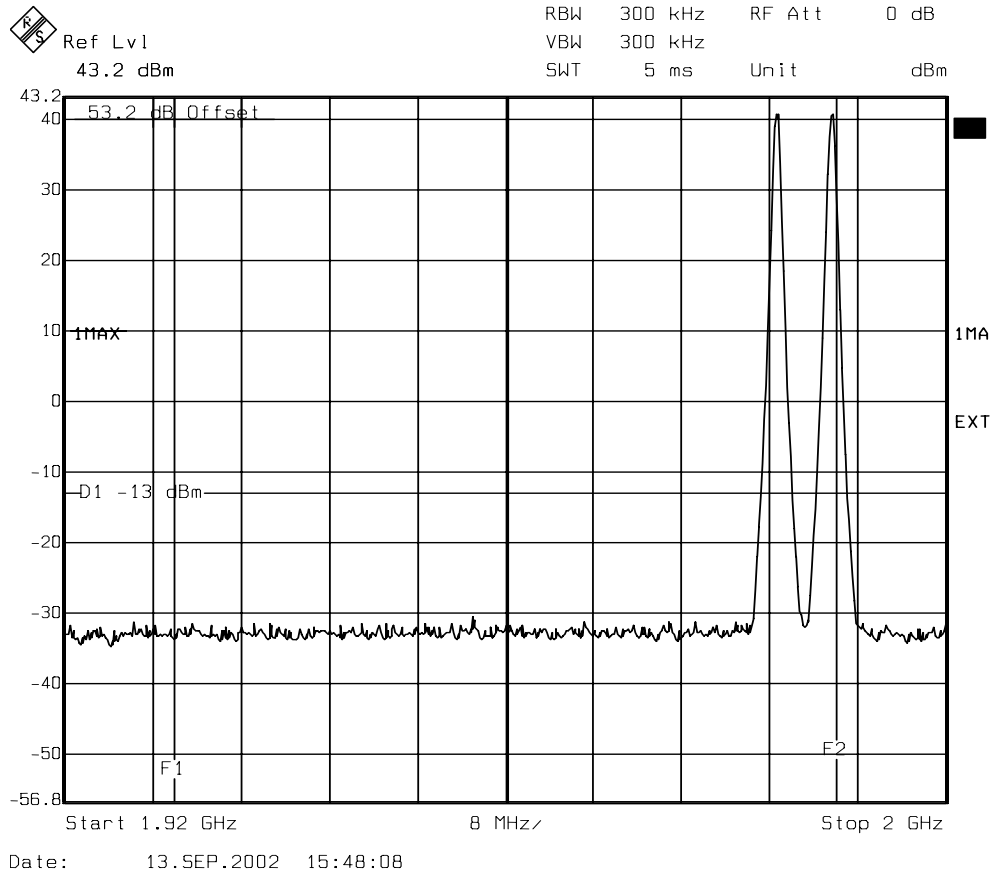
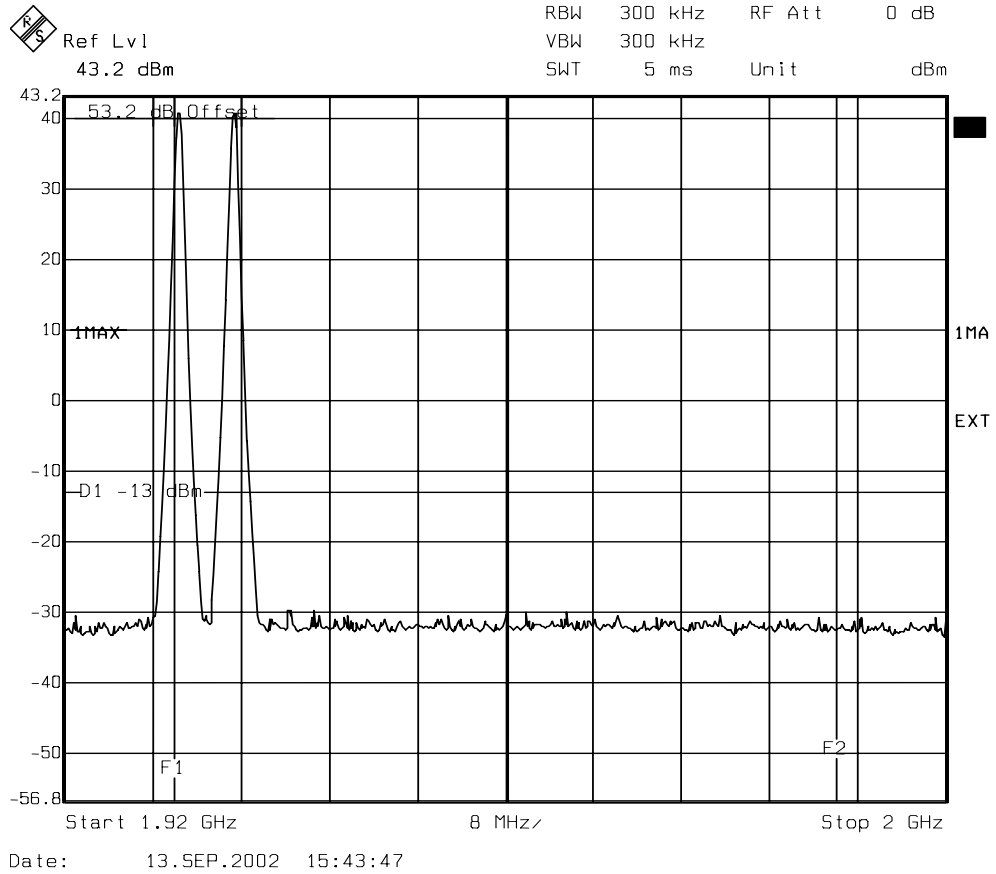
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Diagram 14 (14)
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Sign:.....

EUT Hardware configuration list RBS 2202

Unit	Product Number	Serial Number	Revision
Cabinett	SEB 112 1095/1	S763456620	R4A
CDU shelf	BFL 119 406/1	--	R2A
CDU-G19	BFL 119 153/1	A40003XCDW	R5B
CDU-G19	BFL 119 153/1	A40003XCWV	R5B
CDU-G19	BFL 119 153/1	A40003XCdT	R5B
Dummy	SXX 107 5031/1	--	R1B
Dummy	SXX 107 5031/2	--	R1B
CXU-10	KRY 101 1856/1	A40003S9YX	R3C
TRU shelf	BFL 119 407/1	--	R3B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQT1	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQWT	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQW2	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQSX	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQVN	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQSZ	R1B
IDM 01	BMG 980 06/1	--	R3A
PSU-shelf	BFL 119 408/1	--	R2A
PSU-AC	BML 231 202/1	A083322119	R2G
PSU-AC	BML 231 202/1	A083322099	R2G
PSU-AC	BML 231 202/1	A083322073	R2G
PSU-AC	BML 231 202/1	A083322110	R2G
DXU-21	BOE 602 14/1	X510054806	R6A
Dummy	SXX 107 5029/1	--	R1C
Dummy	SXX 107 5029/1	--	R1C
Dummy	SXX 107 5030/1	--	R1C
Dummy	SXX 107 5030/1	--	R1C
FCU-01	BGM 136 1001/2	A083080518	R3A
DC-filter	KFE 101 1145/1	TR2100845	R1A/A
ACCU-01	BMG 980 07/1	S792041451	R1A
Fan	BFM 107 112/1	AE5000D5PK	R1A/D

Software	Revision
LZY 213 11912/1	R9 BR18

EUT Hardware configuration list RBS 2106

Unit	Product Number	Serial Number	Revision
Cabinet 2106	SEB 112 1135/04	S77TOR6533	R2C
CDU shelf	BFL 119 406/1	--	R3A
CDU-G 19	BFL 119 153/1	A40003XJ4L	R5B
CDU-G 19	BFL 119 153/1	A40003FWM6	R5B
CDU-G 19	BFL 119 153/1	A40003XJ4C	R5B
CXU-10	KRY 101 1856/1	S6900132Y9	R3C
Dummy	SXK 107 5031/1	--	R1C
Dummy	SXK 107 5031/1	--	R1C
TRU shelf	BFL 119 407/1	--	R3B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQT1	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQWT	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQSZ	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQSX	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQVN	R1B
dTRU-19 EDGE	KRC 131 1004/2	AE5000HQP2	R1B
IDM 01	BMG 980 06/1	T671052050	R2B
PSU-AC	BML 231 202/1	A083535740	R2G
PSU-AC	BML 231 202/1	A083540120	R2G
PSU-AC	BML 231 202/1	A083535618	R2G
PSU-AC	BML 231 202/1	A083540114	R2G
DXU-21	BOE 602 14/1	X510059040	R6A
TMA-CM-01	SDK 107 881/1	SA22345109	R1B
Dummy	SXK 107 5029/1	--	R1C
Dummy	SXK 107 5029/1	--	R1C
ACCU-02-DU	BMG 980 11/1	A441367616	R2D
FCU-01	BMG 136 1001/2	A083511231	R3A
BFU-21	BMG 980 13/1	A083158468	R2A
ACCU-02-CU	2/BMG 815 073/1	A441367614	R1A
CCU	BPD 104 36/1	5781121329	R6A
LMU	KRC 161 90/1	AE500GYMM	R4D
Dummy	SXK 107 5031/2	--	R1B
Dummy	SXK 107 5031/2	--	R1B
Dummy	SXK 107 5031/2	--	R1B
Dummy	SXK 107 5031/2	--	R1B
Dummy	SXK 107 5031/2	--	R1B
Dummy	SXK 107 5031/2	--	R1B

Software	Revision
LZY 213 11912/1	R9 BR18

Description of EUT

The EUT is a dTRU that can be installed in a 1900 MHz GSM Base station configured with up to 6 double transceiver units that are designed to provide mobile telephone users with a connection to a mobile network or the PSTN.

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Photos

RBS 2206 Cabinet, 24 Volt DC system

Front view

Rear view

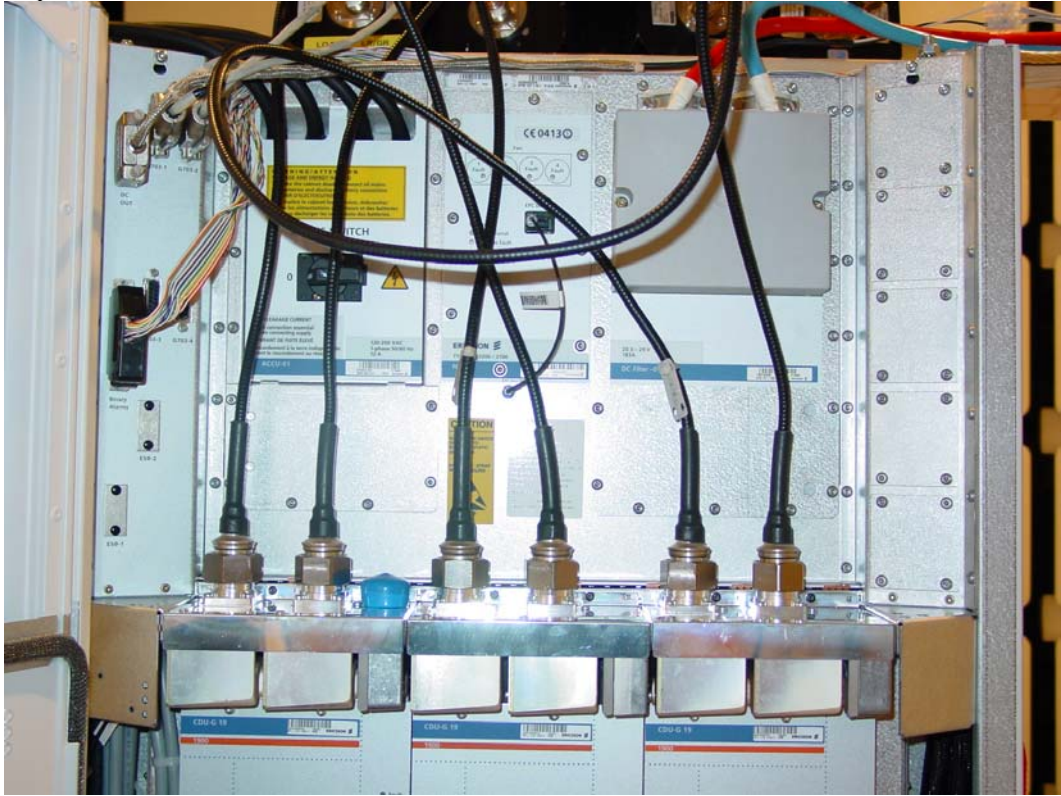


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Open door view



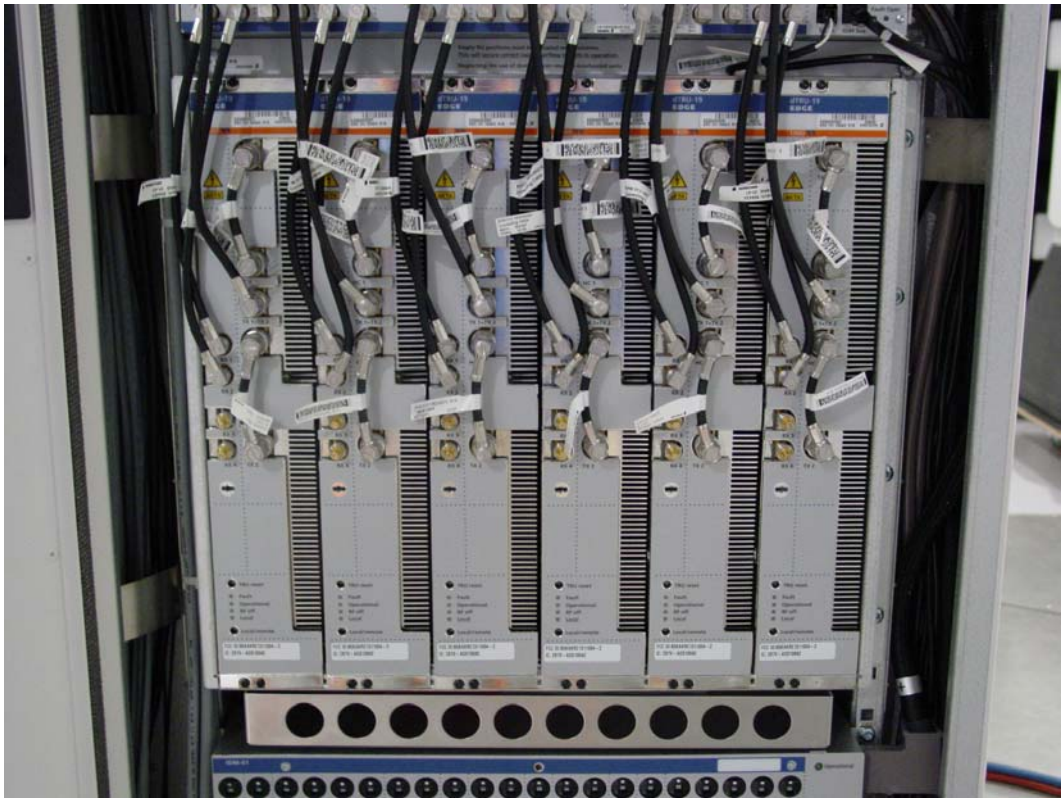
Top shelf view



Upper middle shelf view



Lower middle shelf view



Bottom shelf view



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RBS 2106 Cabinet

Front view



Rear view



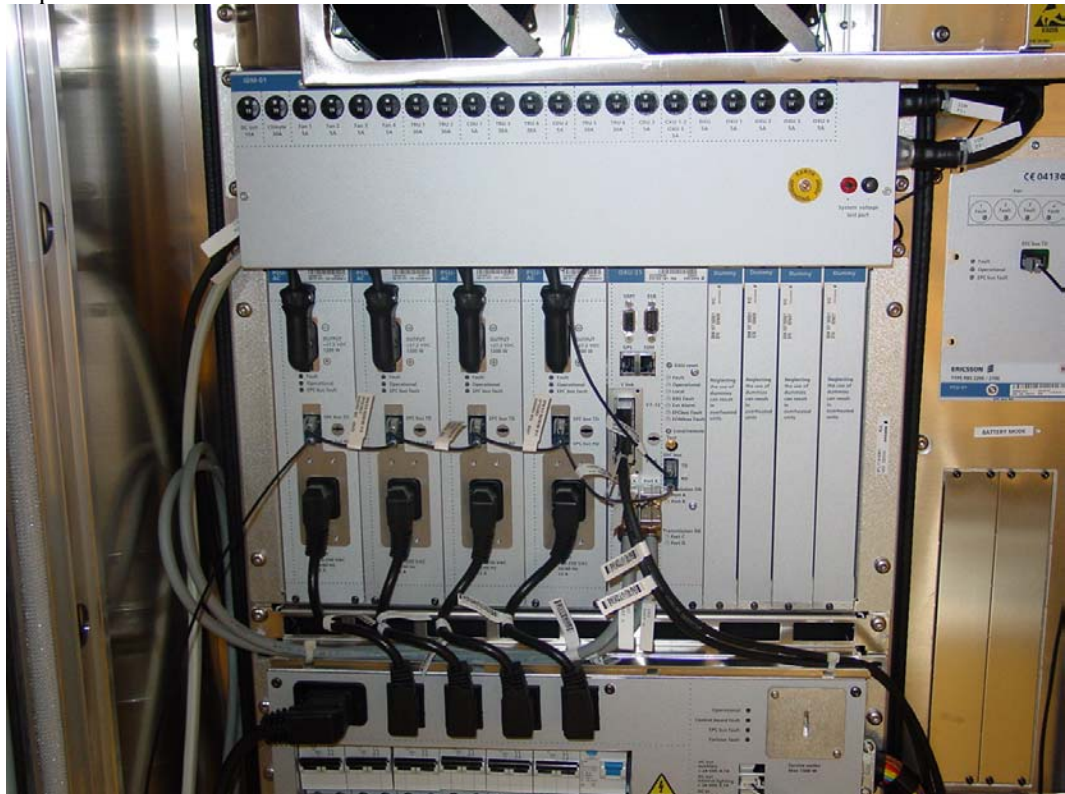
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Top right shelf view



Top left shelf view



FCC ID: B5KAKRC1311004-2

Left bottom shelf view



Right bottom shelf view



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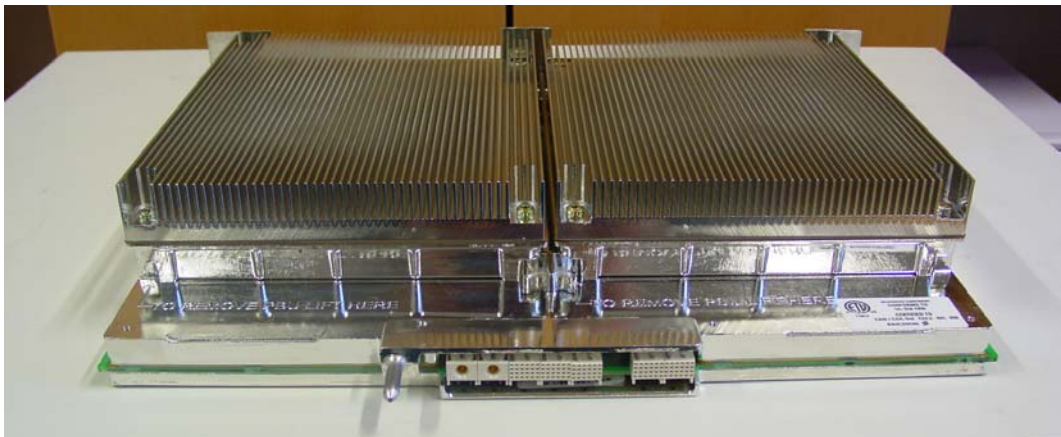
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Transceiver Unit KRC 131 1004/2, R1B

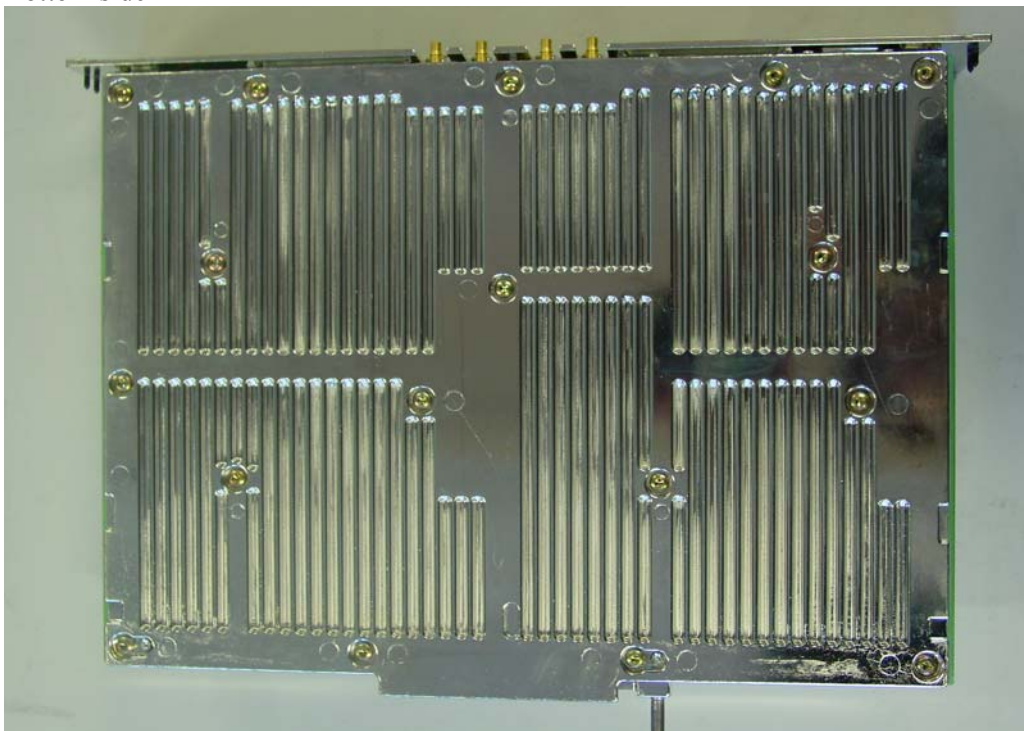
Front side



Rear side



Bottom side



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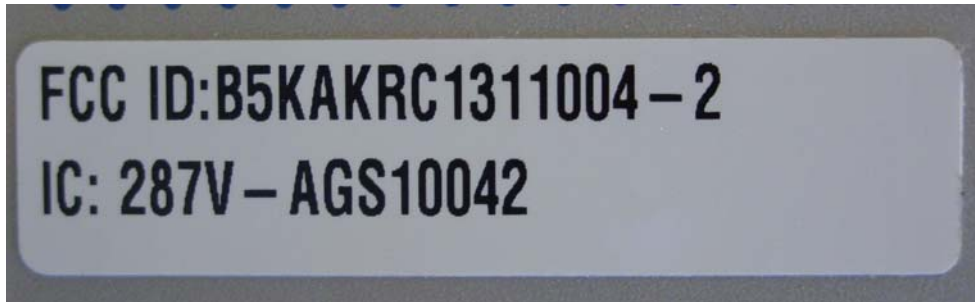
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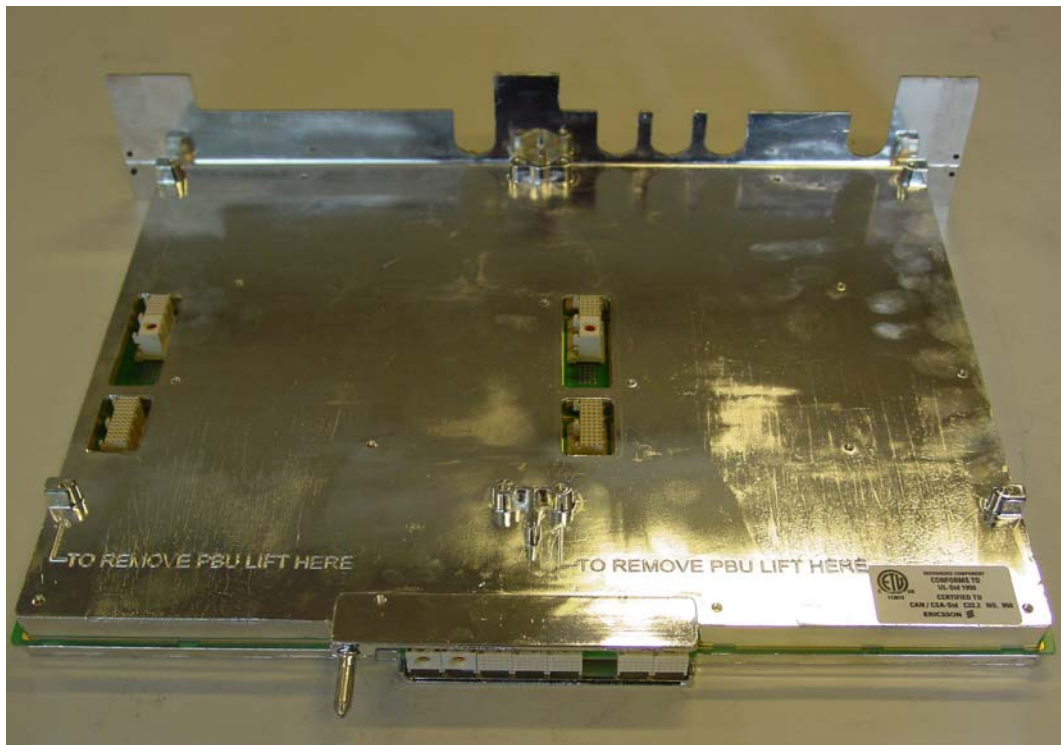
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ID Label



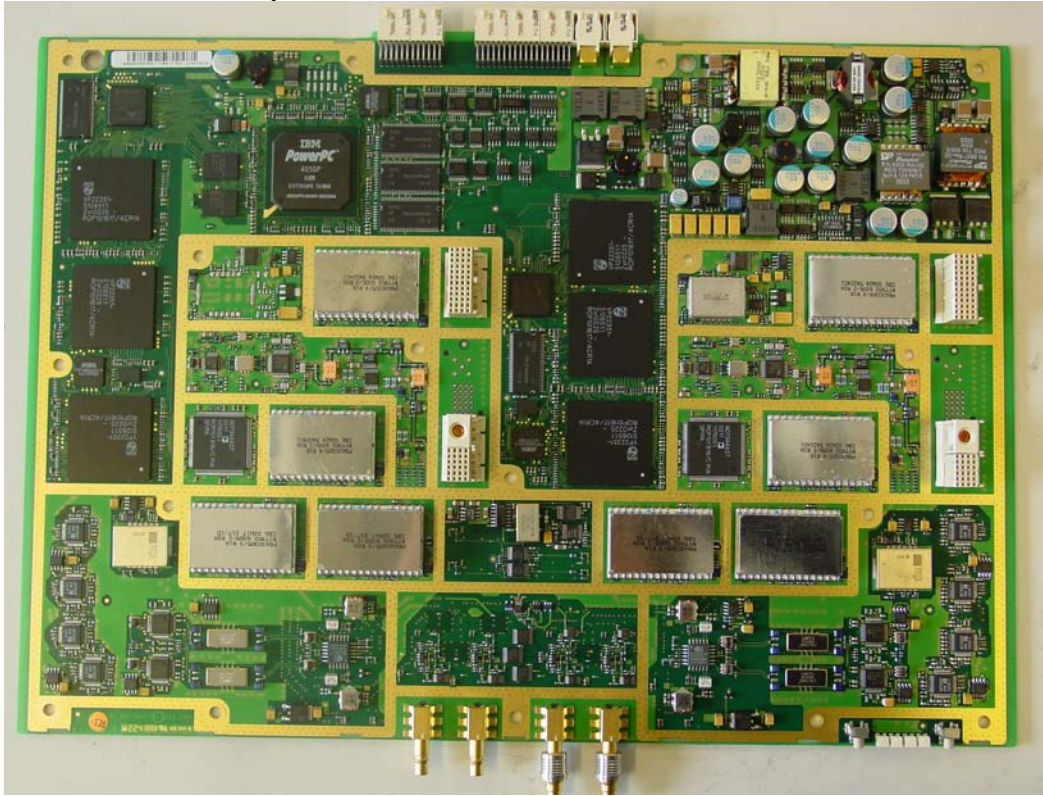
Main board



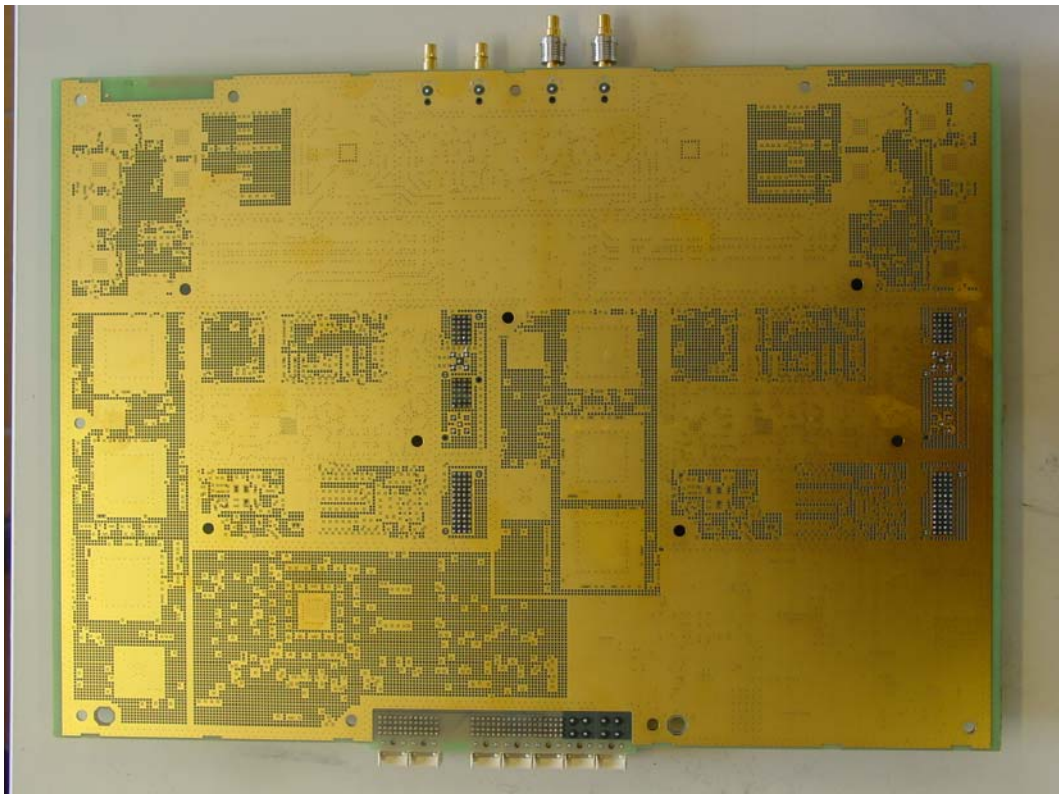
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FCC ID: B5KAKRC1311004-2

Main board- PCB component side

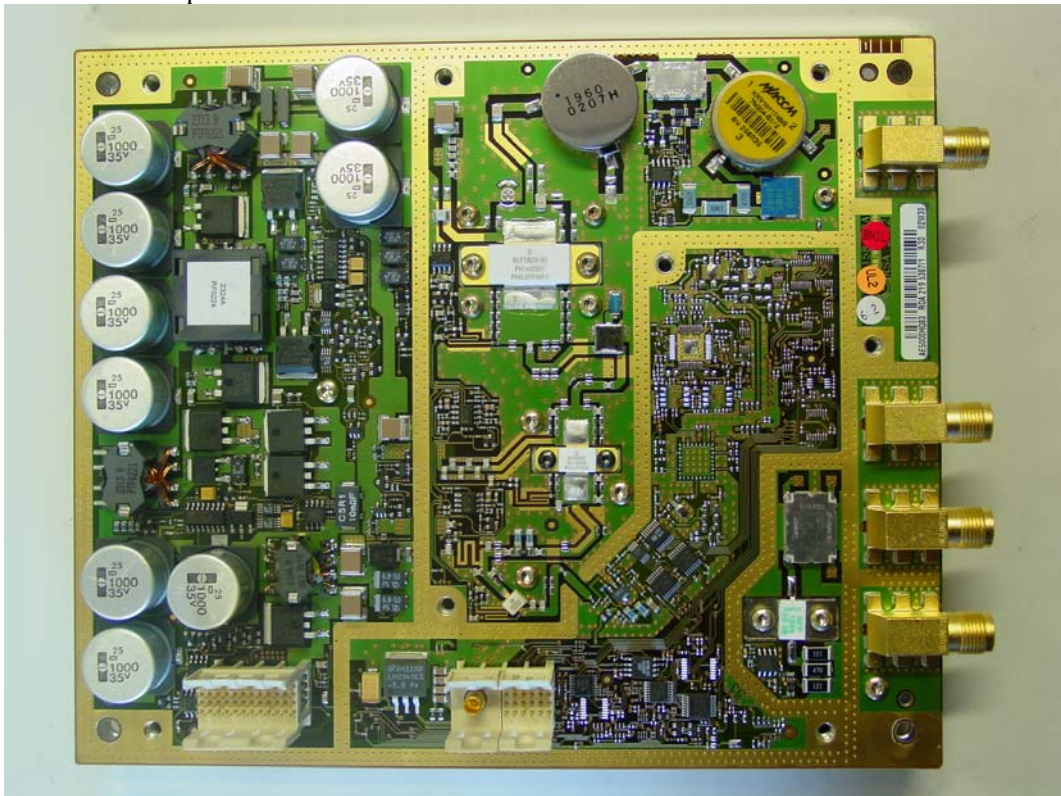


Main board- PCB rear side

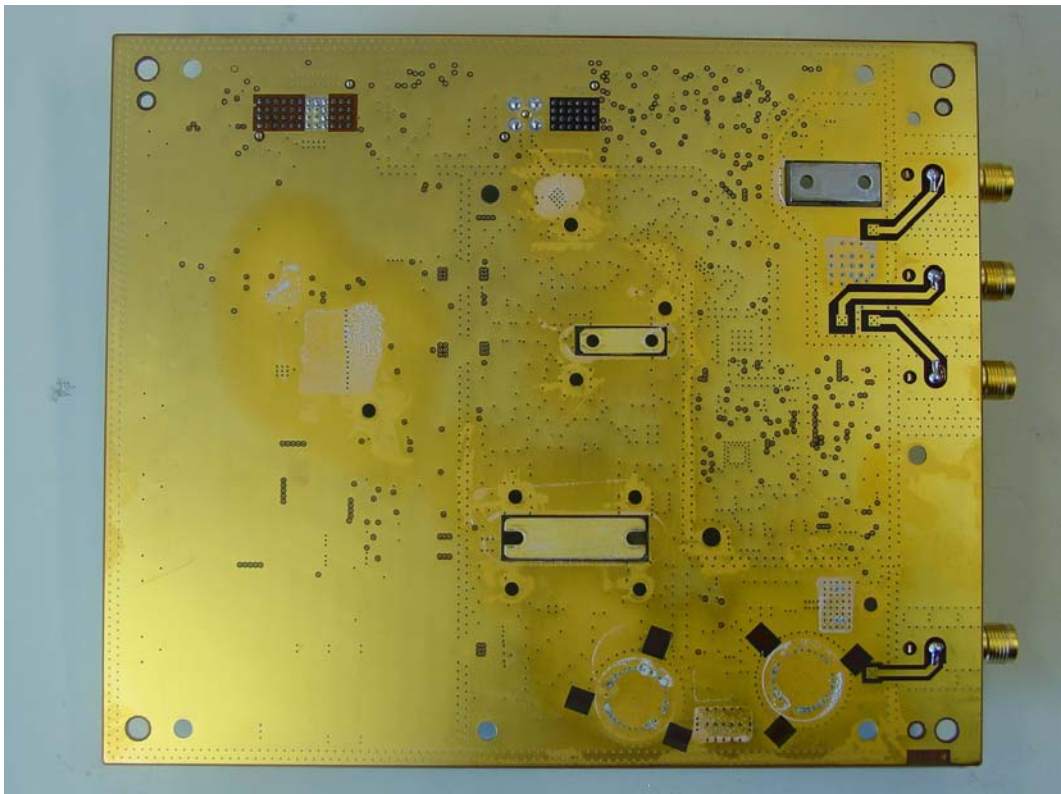


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PA1- PCB components side

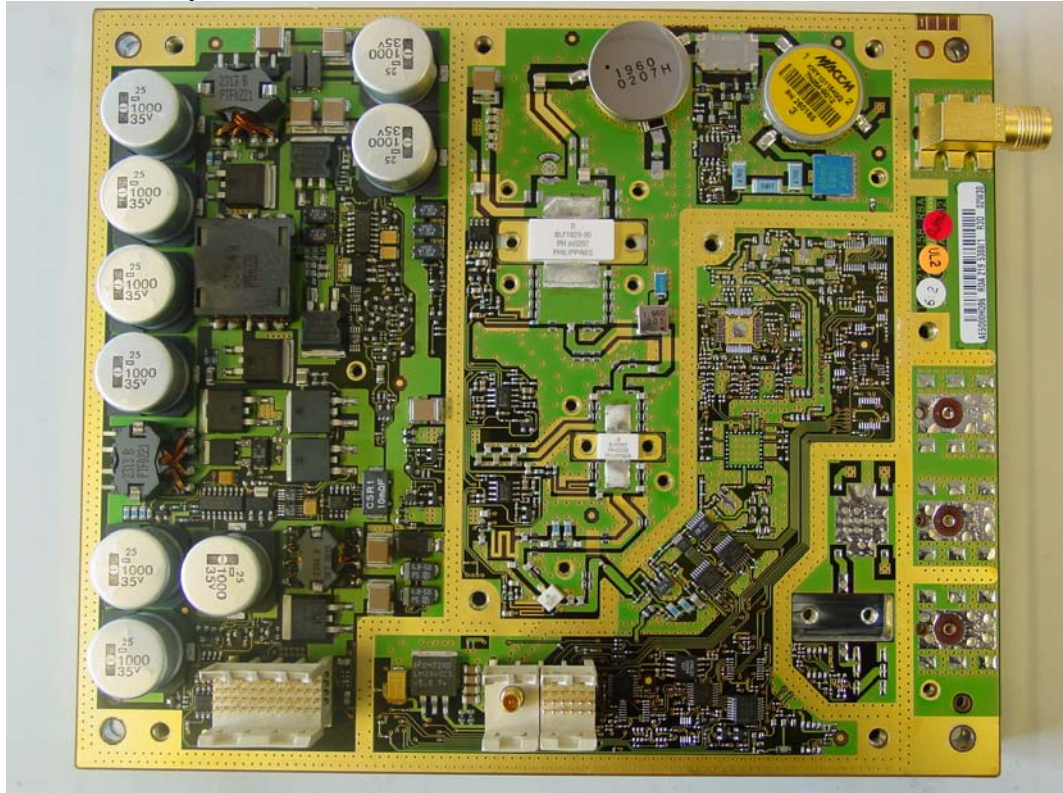


PA1- PCB rear side



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PA2- PCB components side



PA2- PCB rear side



Sign:.....