EXHIBIT 2A

Test Report Provided by Nortel Networks

Applicant: Nortel Networks

For Original Equipment Certification on:

FCC: AB6NT1900V303X
IC: 332D-1G9V303X

Test Report for FCC Equipment Authorization

FCC ID : AB6NT1900VBTS CDMA BTS3030 1900MHz

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Publication History

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Ratifier

The following have ratified this document prior to its release and have recommended its approval:

Printed Name	Function	Department
Brad Carlson	PDC System Manager	2U20

List of Consultants

The following people have reviewed this document prior to its release and have recommended its approval:

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Brad Carlson	PDC Systems Manager	2U20

Revision History

Stream/issue	Revision Date	Reason for Change	Author
00/01	26/10/2006	Initial test report	Fabian Wong

Change bars are not used in this document.

Acronyms and Abbreviations

ASIC	Application Specific Integrated Circuit
BBW	Breathing, Blossoming and Wilting
BPF	Bandpass Filter
BTS	Base Station Transceiver Subsystem
BW	Bandwidth
CDMA	Code Division Multiple Access
dBFS	dB relative to Full Scale
DDS	Direct Digital Synthesizer
DPM	Duplexer Preselector Module
EEPROM	Electrically Erasable and Programmable ROM
EC	Engineering Change
ERLCE	Excess Reverse Link Capacity Estimate
HSSPC	High-Speed Serial Protocol Controller
HW	Hardware
IF	Intermediate Frequency
IIC	Inter-Integrated Circuit Bus
IS	Interim Standard
LO	Local Oscillator
LPF	Lowpass Filter
MCPA	Multi-Carrier Power Amplifier
MFRM	Multi-carrier Flexible Radio Module
NF	Noise Figure
OCNS	Orthogonal Channel Noise Source
OH	OverHead
PA	Power Amplifier
PC	Personal Computer
PPR	Peak Power Reduction
PSA	Product Specification Agreement
RBW	Resolution BandWidth
RF	Radio Frequency

Rx	Receive
SA	Spectrum Analyzer
SFRM	Single Carrier Flexible Radio Module
SW	Software
TBD	To Be Determined
TM	Triplexer Module
TPTL	Transmit Power Tracking Loop
TRM	Transmitter Receiver Module
Tx	Transmit
uP	Microprocessor
XCVR	Transceiver

1 Introduction

This test report is submitted in accordance with the FCC Rules and Regulations, Part 2, Subpart J, Sections 2.1046 through 2.1057 for equipment authorization of Northern Telecom's (Nortel Networks) CDMA BTS3030 1900 MHz.

The BTS3030 1900 MHz is intended for use in the Domestic Public Cellular Radio Telecommunications Service and is designed in accordance with the following standards:

- *CFR 47, Part 24, Subpart E, Broadband Personal Communications Service [1]*
- *CFR 47, Part 2, Subpart J, Equipment Authorization Procedures - Equipment Authorization[2]*

1.1 Test Result Summary

Table 1 summarizes the measurement results[1] for the CDMA BTS 3030 1900 MHz.

Table 1 : Test Results Summary

FCC Measurement Specification	FCC Limit Specification	Description	Results
2.1046	24.232	RF Power Output	Compliant
2.1047		Modulation Characteristics	Not Applicable
2.1049		Occupied Bandwidth	Compliant
2.1051, 2.1057	24.238	Spurious Emissions at Antenna Terminals	Compliant
2.1055	24.235	Frequency Stability	Compliant

1. This report presents measurement results for tests performed by Nortel Networks. Field Strength of Spurious Emissions measurement results along with requirements specified in 2.1033 are covered in a separate test report.

2 Engineering Declaration

The CDMA BTS3030 1900MHz has been tested in accordance with the requirements contained in the Federal Communications Commission Rules and Regulations Part 2 and 24.

To the best of my knowledge, these tests were performed in accordance with good engineering practices using measurement procedures consistent with industry or commission standards or previous Commission correspondence or guidance and demonstrate that this equipment complies with the appropriate standards. All tests were conducted on a representative sample of the equipment for which equipment authorization is sought.

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3 Equipment Authorization Application Requirements

3.1 Standard Test Conditions and Test Equipment

The MFRM was tested under the following standard test conditions unless otherwise noted:

- Ambient Temperature: 20 to 35 degrees C
- Ambient Humidity: 20 to 40%
- DC Supply Voltage: -48 Vdc (nominal)

3.2 EUT Identification List

Table 2 shows the identification of the components tested in this report.

Table 2 : EUT Identification List

Equipment Description	Model / Part Number	Release Number	Serial Number
Radio Module	NTDV30DA	R8	NNTMEEBP1035
Digital Module	NTDV25BA	P2	NNTM7860CNDA
Fan Module	NTDV22BA	P4	NNTM536G4D0A
A/D Band Duplexer	NTDV41AA	P2	CLWVWW103JGL
B/E Band Duplexer	NTDV41BA	P1	CLWVWW103JH0
C/F Band Duplexer	NTDV41CA	P1	CLWVWW103H8W
Customer Alarm Module	NTDV21CA	P3	NNTM74XL65V0
XCEM 64[a]	NTBW70BA	14	NNTM538DLMVM
DOM A[b]	NTBW89DA	08	NNTM74X1LMF0
DOM A	NTBW89DA	08	NNTM74X1LMDJ

a. One carrier used channel element in Digital Module. Two XCEM carriers: One carrier used channel element in digital module while the other carrier used external XCEM.
b. One carrier used channel element in DOM (external slot). Three mixed carriers: One carrier used channel element in digital module while the other two carriers used external DOMs.

3.3 Test Equipment List

Table 3 shows the identification of the test equipment used in this report.

Table 3 : Test Equipment List

Description	Manufacturer	Model	Serial Number	Cal. Due Date
20Hz to 26.5GHz Spectrum Analyzer	Rohde & Schwarz	FSEK 30		Nov-28-06
30dB Attenuator	Weinschel	66-30-34	BT2915	Verified
RF Cable	Utiflex	Mico-Coax	N/A	Verified
RF Power Meter	HP	EPM-442	GB37170187	Dec-13-06
RF Power Sensor Head	HP	8482A	827603003	Dec-17-06

4 Transmitter Test and Measurement Results

4.1 PA DC Current Draw

4.1.1 PA DC Current Draw Requirements

FCC Part 2.1033 Application for certification.

(c) Applications for equipment other than that operating under parts 15 and 18 of the rules shall be accompanied by a technical report containing the following information:

(8) The dc voltages applied to and dc currents into the several elements of the final radio frequency amplifying device for normal operation over the power range.

4.1.2 Test Method

The BTS3030 was setup to blossom at maximum power. The RF output power was measured using the power meter. The softfail current registers were read with the BTS controller when the BTS3030 was fully blossomed.

4.1.3 Test Setup

The set-up used for the BTS PA DC current draw test is illustrated in Figure 1. RF output power measurements were referenced to the BTS PA output.

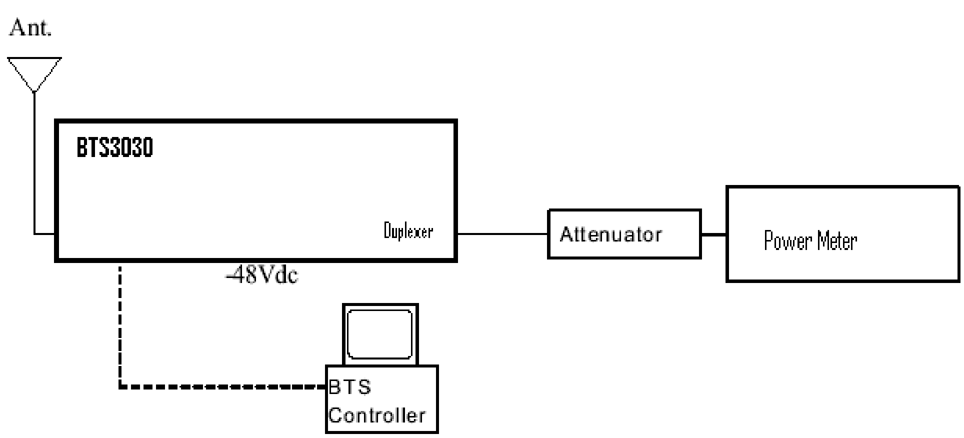


Figure 1 : Test Setup for PA DC current draw measurement

4.1.4 Test Result

The final amplifying dc voltage is 27.0 Vdc. The final dc current is shown in Table 4.

Table 4: Average Current Values @ Pout = 48.75dBm

	Average Current Values @ Pout = 48.75dBm (mean Ampere)
Main	5.41
Aux	1.73

4.2 RF Power Output

4.2.1 RF Power Output Requirements

FCC Part 2.1046

(a) For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune -up procedure to give the values of current and voltage on the circuit elements specified in 2.983(d)(5). The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

FCC Limit (Part 24.232)

The maximum RF power from a base station must not exceed 100 Watts.

4.2.2 Test Method

The DE was setup via the BTS controller to enable to transmit at maximum power. Measurements were made in one, two, and three carrier configurations. The RF output power was measured using the power meter.

4.2.3 Test Setup

The set-up used for the RF output power test is illustrated in Figure 2. RF output power measurements were referenced to the main antenna port of the duplexer.

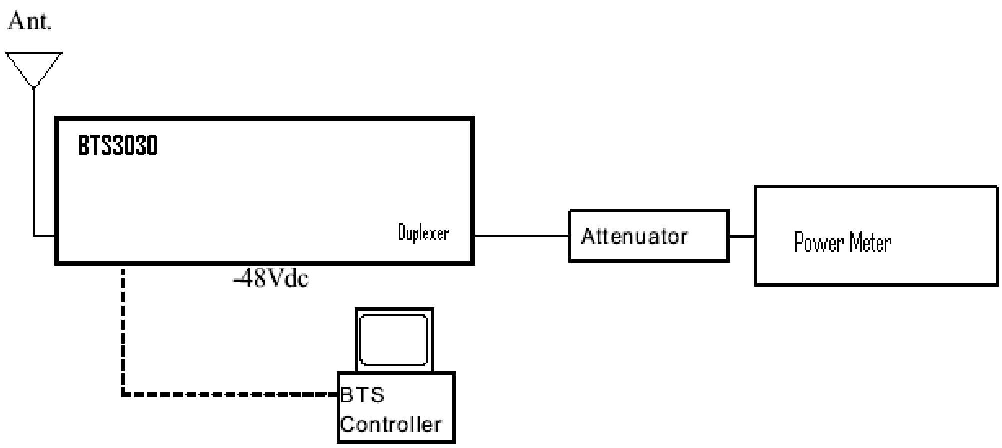


Figure 2 : Test Setup for RF Power Output Measurement

4.2.4 Test Results

The BTS3030 1900 MHz complies with the requirement. The maximum measured RF output power from the BTS3030 was 47.3 dBm.

Table 5 : RF Output Power of BTS3030 1900 MHz, 1 Carrier Mode

Channel Number (Band)	Modulation	Frequency (MHz)	Measured RF Output Power (dBm)	Typical Maximum Rated Power (dBm)	FCC Limit (dBm)
25 (A)	IS-97	1931.25	47.30	47.3	50
25 (A)	QPSK	1931.25	47.34	47.3	50
1175 (C)	IS-97	1988.75	47.40	47.3	50
1175 (C)	QPSK	1988.75	47.23	47.3	50
425 (B)	16QAM	1951.25	47.31	47.3	50
775 (E)	16QAM	1968.75	47.24	47.3	50

Table 6 : RF Output Power of BTS 3030 1900 MHz, 2 Carrier Mode

Channel Number (Band)	Modulation	Frequency (MHz)	Measured RF Output Power (dBm)	Typical Maximum Rated Power (dBm)	FCC Limit (dBm)
425, 450 (B)	8PSK	1951.25, 1952.50	47.25	47.3	50
750, 775 (E)	8PSK	1967.5, 1968.75	47.30	47.3	50

Table 7 : RF Output Power of BTS3030 1900 MHz, 3 Carrier Mode

Channel Number (Band)	Modulation	Frequency (MHz) (centre chanel)	Measured RF Output Power (dBm)	Typical Maximum Rated Power (dBm)	FCC Limit (dBm)
25, 50, 75 (A)	IS-97	1932.5	47.33	47.3	50
1125, 1150, 1175 (C)	IS-97	1987.5	47.30	47.3	50
425, 450, 475 (B)	IS-97 and 2 16QAM	1952.5	47.30	47.3	50
725, 750, 775 (E)	IS-97 and 2 16QAM	1967.5	47.30	47.3	50

4.3 Occupied Bandwidth

4.3.1 Occupied Bandwidth Requirements

FCC Part 2.1049

The OBW, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable:

(g) Transmitter in which the modulating baseband comprises not more than three independent channels - when modulated by the full complement of signals for which the transmitter is rated. The level of modulation for each channel should be set to that prescribed in rule parts applicable to the services for which the transmitter is intended. If specific modulation levels are not set forth in the rules, the tests should provide the manufacturer's maximum rated condition.

(h) Transmitters employing digital modulation techniques - when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated. The signal shall be applied through any filter networks, pseudo-random generators or other devices required in normal service. Additionally, the occupied bandwidth shall be shown for operation with any devices used for modifying the spectrum when such devices are optional at discretion of the user.

4.3.2 Test Method

The DE was setup via the BTS controller to enable the BTS3030 to transmit at maximum power. The occupied bandwidth was measured using the 99% channel power feature of the spectrum analyzer.

4.3.3 Test Setup

The set-up used for the BTS3030 Occupied bandwidth test is illustrated in Figure 3.

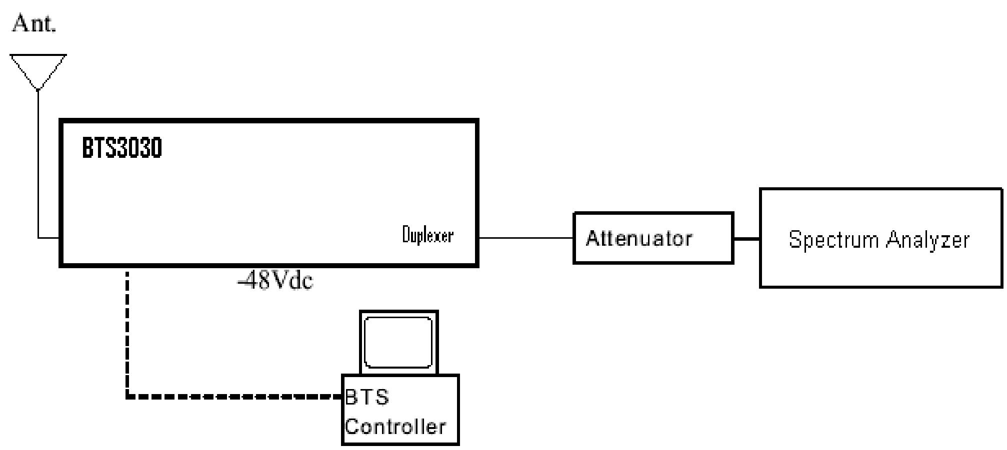


Figure 3 : Test Setup for Occupied Bandwidth Measurement

4.3.4 Test Results

The BTS 3030 1900 MHz complies with the requirement. The occupied bandwidth measured in one, two, and three carrier configurations for each licensed band is shown in Table 7. The plots that follow show the occupied bandwidth in one, two, and three carrier configurations. (Although plots were recorded for all channels tested, only one sample plot per carrier configuration is provided reduce the number of figures).

Table 8 : Occupied Bandwidth, BTS3030 1900 MHz, Single Carrier Mode

Channel Number (Band)	Modulation	Frequency (MHz)	Measured Occupied Bandwidth (MHz)
25 (A)	IS-97	1931.25	1.2625
1175 (C)	IS-97	1988.75	1.2725
425 (B)	16-QAM	1951.25	1.2725
775 (E)	16-QAM	1968.75	1.2725

Table 9 : Occupied Bandwidth, BTS3030 1900 MHz, 2 Carrier Mode

Channel Number (Band)	Modulation	Frequency (MHz)	Measured Occupied Bandwidth (MHz)
425, 450 (B)	8PSK	1951.25, 1952.50	2.4850
750, 775 (E)	8PSK	1967.5, 1968.75	2.4850

Table 10 : Occupied Bandwidth, BTS3030 1900 MHZ, 3 Carrier Mode

Channel Number (Band)	Modulation	Frequency (MHz) (centre channel)	Measured Occupied Bandwidth (MHz)
25, 50, 75 (A)	IS-97	1932.5	3.7034
1125, 1150, 1175 (C)	IS-97	1987.5	3.7314
425, 450, 475 (B)	1 - IS-97 & 2 - 16QAM	1952.5	3.7314
725, 750, 775 (E)	1 - IS-97 & 2 - 16QAM	1967.5	3.7314

Figure 4 : Occupied Bandwidth - Single Carrier Channel 25

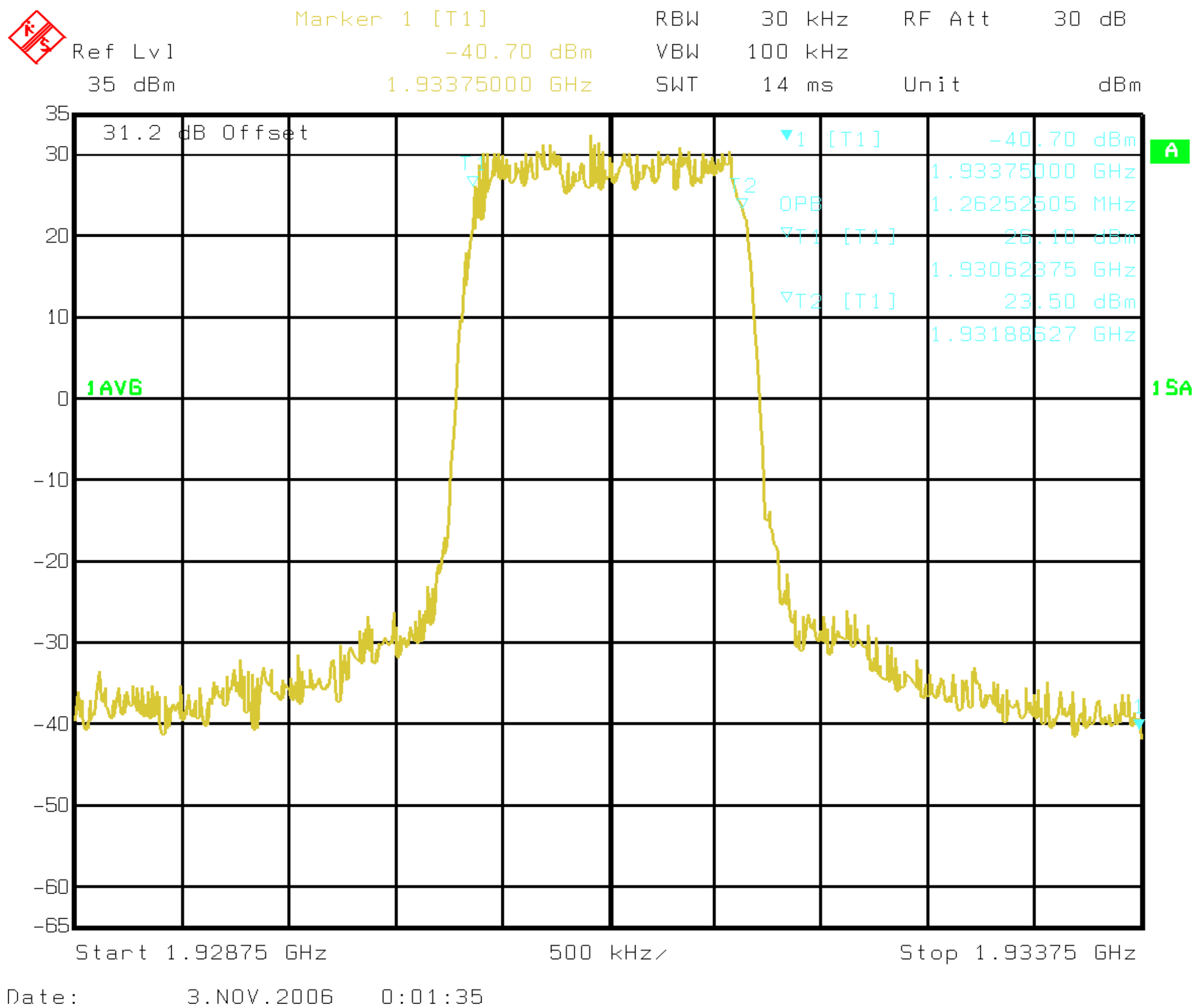


Figure 5 : Occupied Bandwidth - 2 Carrier Channel 425, 450

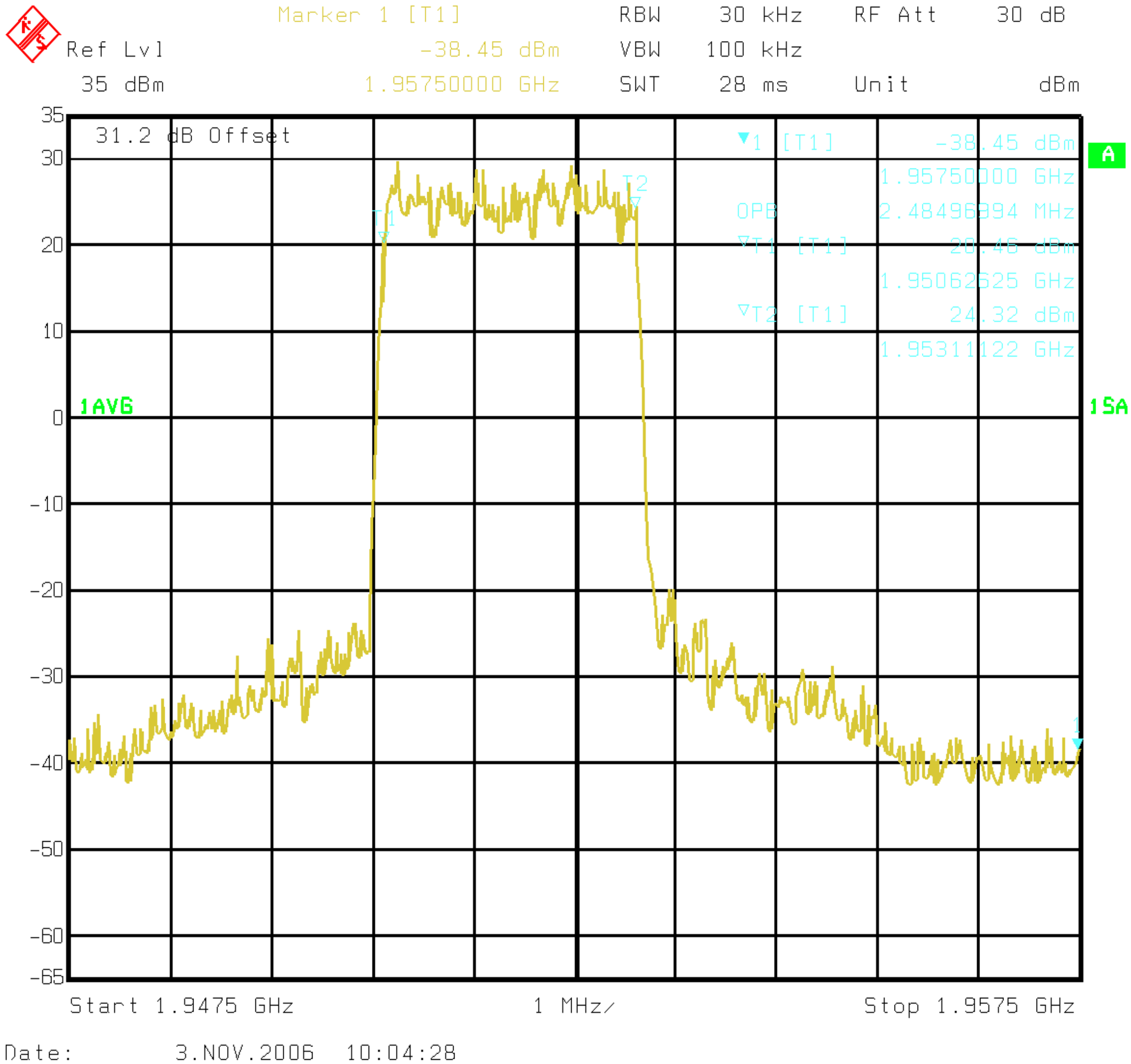
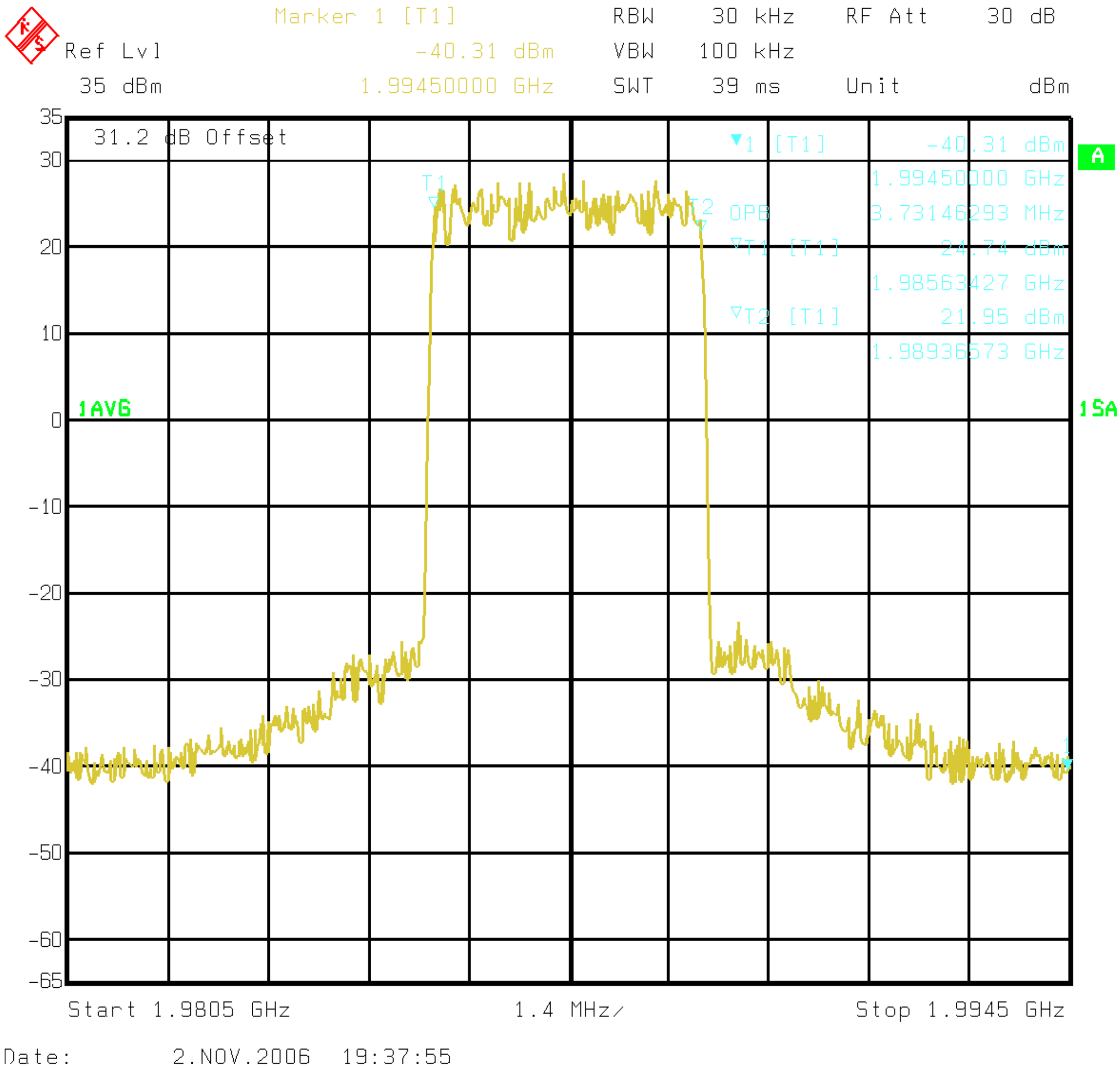


Figure 6 : Occupied Bandwidth - 3 Carrier Channel 1125, 1150, 1175



4.4 Spurious Emissions at Antenna Terminals

4.4.1 Spurious Emissions Requirements

FCC Part 2.1051

The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in 2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

FCC Part 2.1057 - Frequency Spectrum to be investigated

The spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency or to the highest frequency practicable in the present state of the art of measuring techniques, whichever is lower. Particular attention should be paid to harmonics and subharmonics of the carrier frequency. Radiation at the frequencies of multiplier stages should be checked. The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

FCC Part 24.238 Limit

(a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmit power (P) by at least 43 + 10 log (P) dB.

(b) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(c) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

(d) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

4.4.2 Test Method

The BTS digital enclosure was configured via the BTS controller to enable the BTS3030 to transmit at maximum power. Measurements were made on IS-97 and IS-864 channels at the bottom and top of the licensed sub-bands in one, two and three carrier configurations. The following spectrum analyzer settings were used for the measurement of the antenna port spurious emissions:

Adjacent 1MHz to indicated cellular band (Upper and Lower)

Resolution Bandwidth:	20 kHz (1 carrier), 30kHz (2 carrier), 50kHz (3 carrier)
Video Bandwidth:	50 kHz (1 carrier), 100kHz (2 carrier), 200kHz (3 carrier)
Video Average:	10 Averages
Span:	1 MHz
Attenuation:	30 dB
Ref. Level:	35 dBm
Ref. Level Offset:	31.2 dB

All spectrum analyzer settings were coupled as per the manufacturers recommendations to improve measurement time, without compromising data.

All other Spurious Emissions up to 20 GHz

Resolution Bandwidth:	1 MHz (1 carrier, 2 carrier, 3 carrier)
Video Bandwidth:	3 MHz (1 carrier, 2 carrier, 3 carrier)
Video Average:	10 Averages
Span:	Set accordingly
Attenuation:	30 dB
Ref. Level:	variable
Ref. Level Offset:	variable

Calibrated the cables and attenuator losses from 50MHz to 20GHz using a network analyzer with 401 sample points. The calibrated loss is the reference level offset on the spectrum analyzer.

4.4.3 Test Setup

The set-up used for the BTS3030 Antenna Port Spurious Emission test is illustrated in Figure 7.

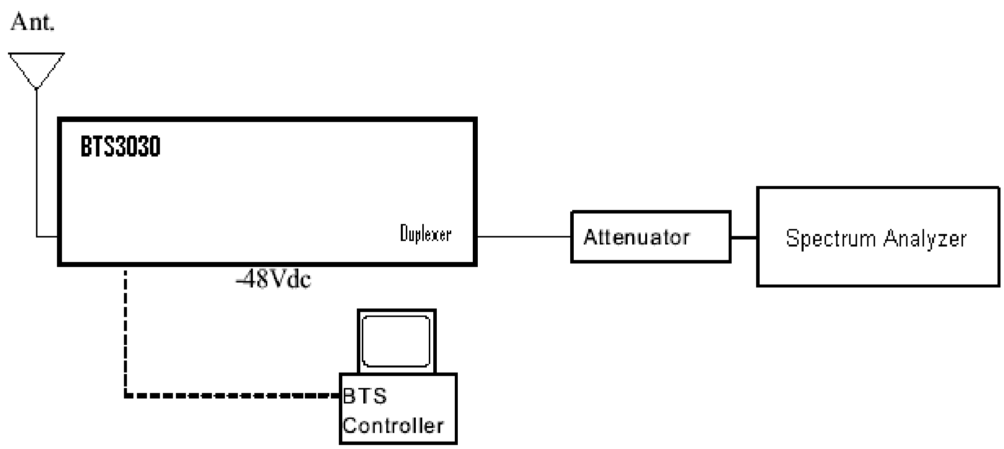


Figure 7 : Test Setup for Spurious Emissions Measurement

4.4.4 Test Results

The frequency spectrum from 50 MHz to 20 GHz was scanned for emissions using the spectrum analyzer settings outlined in the test method (Section 4.4.2). The BTS3030 complies with the limit of -13 dBm. Table 10 shows the spurious emissions at the antenna port of the BTS3030 for 1 , 2 and 3 IS-97 and IS-864 carrier modes. The plots that follow show the spurious emissions in one, two, and three carrier configuration. (For each configuration, only some samples of one, two and three carriers are shown to reduce the number of figures).

Table 11 : Spurious Emissions at the BTS3030 1900 MHz Antenna Port

Frequency (MHz)	Spurious Emissions Level (dBm)			Margin to FCC Limit of -13 dBm (dB/1MHz)		
	1 carrier (20 kHz RBW)	2 carrier (30 kHz RBW)	3 carrier (50 kHz RBW)	1 carrier	2 carrier	3 carrier
1929-1930[a] (lower adjacent 1MHz of band A)	-35.6	N/A	-30.4	22.6	N/A	17.4

Frequency (MHz)	Spurious Emissions Level (dBm)			Margin to FCC Limit of -13 dBm (dB/1MHz)		
	1 carrier (20 kHz RBW)	2 carrier (30 kHz RBW)	3 carrier (50 kHz RBW)	1 carrier	2 carrier	3 carrier
1949-1950[a] (lower adjacent 1MHz of band B)	-37.4	-30.0	-30.3	24.4	17.0	17.3
1990-1991[a] (upper adjacent 1MHz of band C)	-33.2	N/A	-26.6	20.2	N/A	13.6
1970-1971[a] (upper adjacent 1MHz of band E)	-32.2	-24.1	-28.8	19.2	11.1	15.8
50 - 1000[a] (RBW=1 MHz)	-32.05	-32.50	-31.67	19.05	19.50	18.67
1000 - 5000[a] (RBW=1 MHz)	-22.16	-25.53	-24.36	9.16	12.53	11.36
5000 - 10000[a] (RBW=1 MHz)	-23.13	-24.25	-24.93	10.13	11.25	11.93
10000 - 15000[a] (RBW=1 MHz)	-22.83	-22.56	-22.42	9.83	9.56	9.42
15000 - 20000[a] (RBW=1 MHz)	-19.72	-20.37	-20.53	6.72	7.37	7.53

Notes: a Emission levels given in these ranges represents the worst case value over all the tested channels

Figure 8 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 (Lower adjacent 1 MHz)

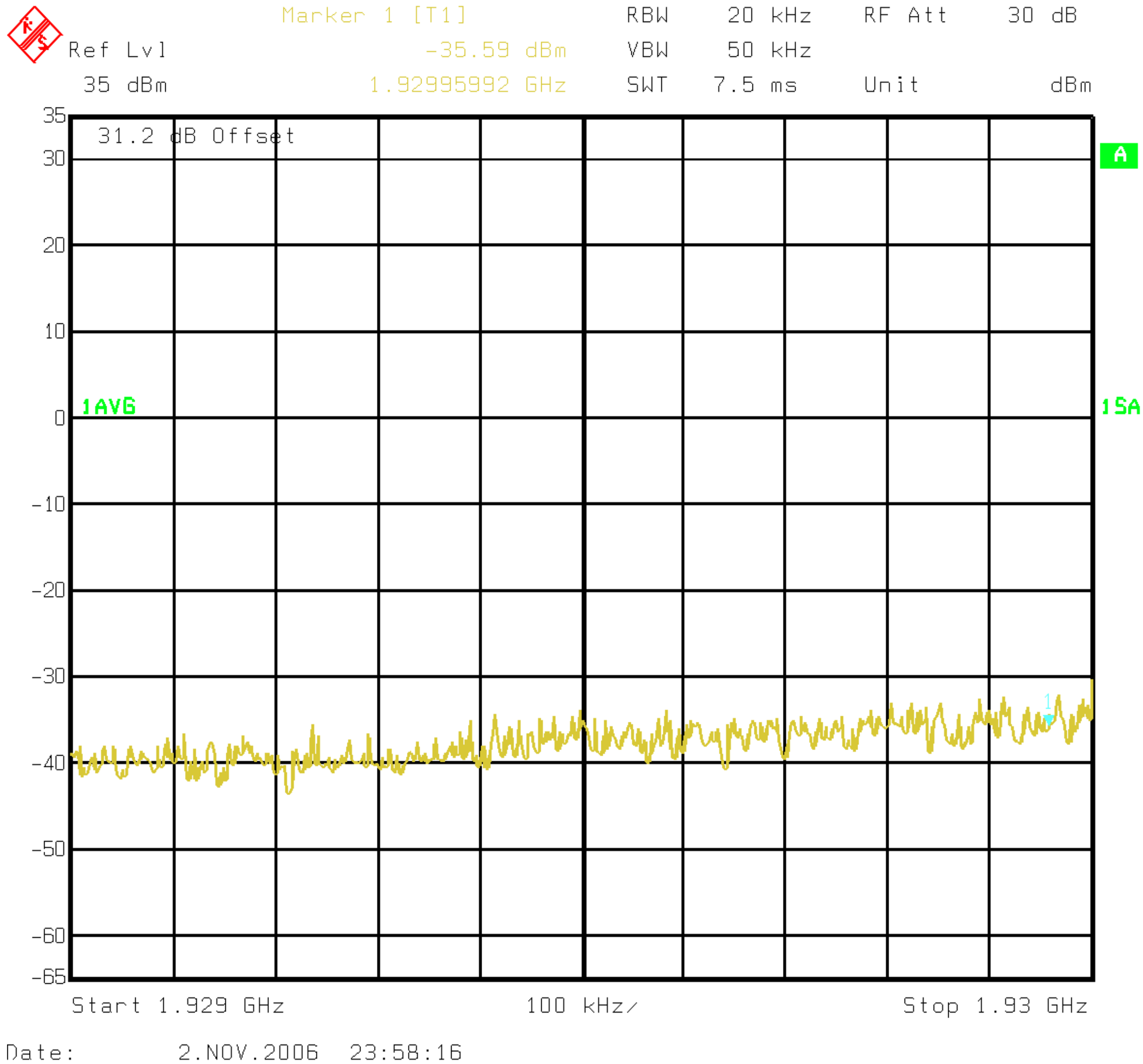


Figure 9 : Conducted Spurious Emissions - 1 Carrier, Channel 1175 IS-97 (Upper adjacent 1 MHz)

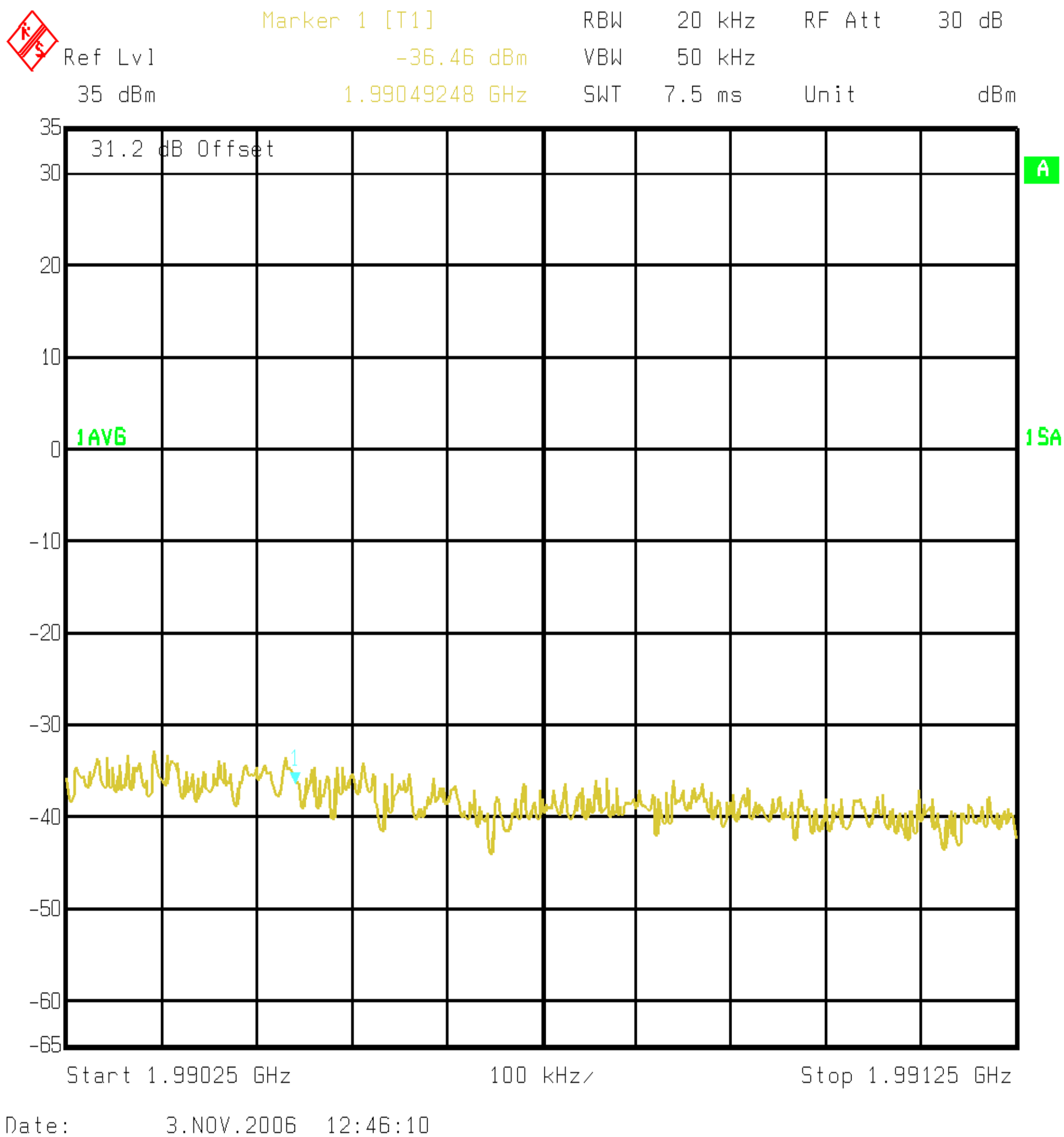


Figure 10 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 Close In

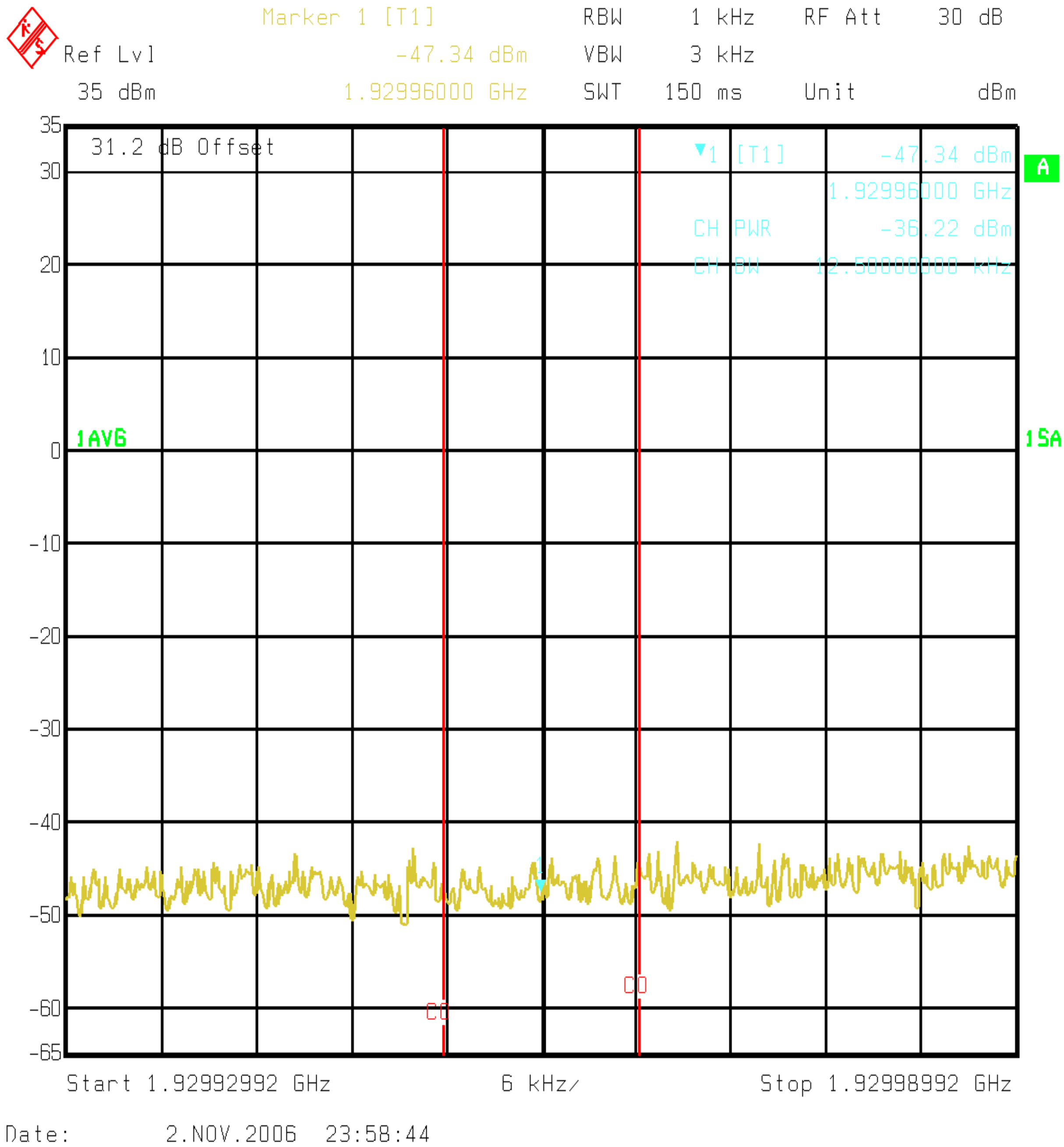


Figure 11 : Conducted Spurious Emissions - 1 Carrier, Channel 1175 IS-97 Close In

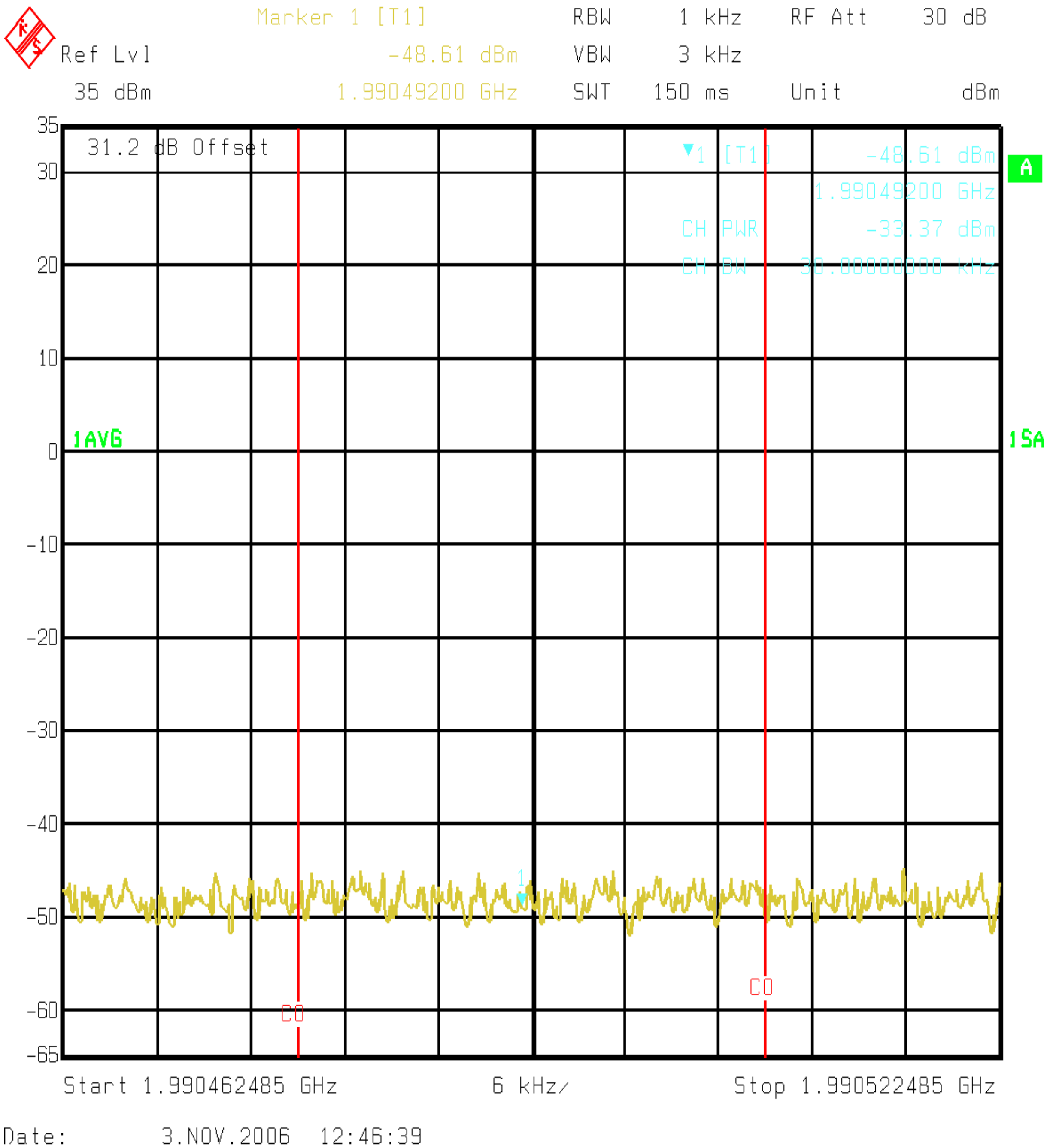


Figure 12 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 (50MHz - 1GHz)

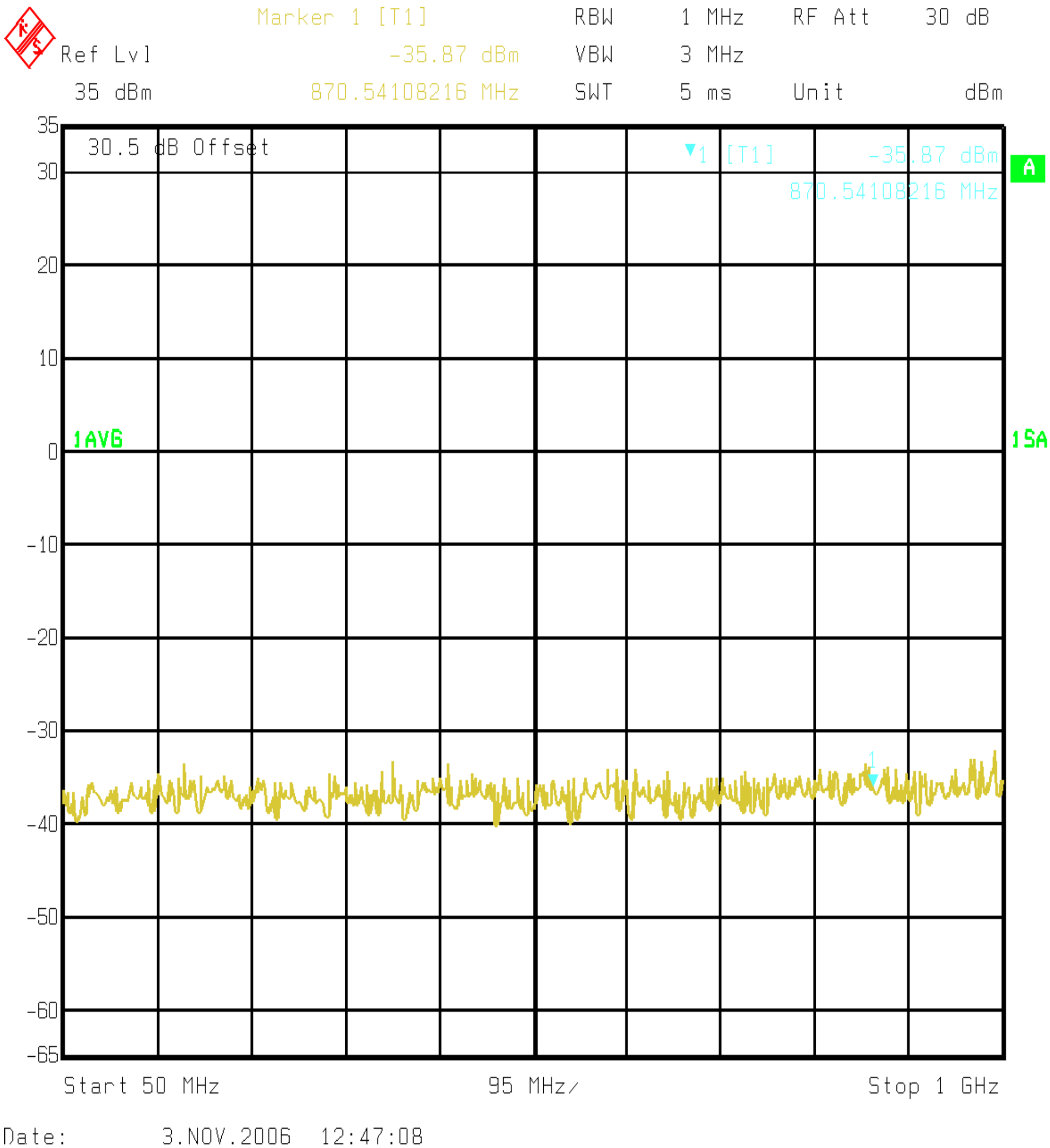


Figure 13 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 (400MHz - Upper band Emissions)

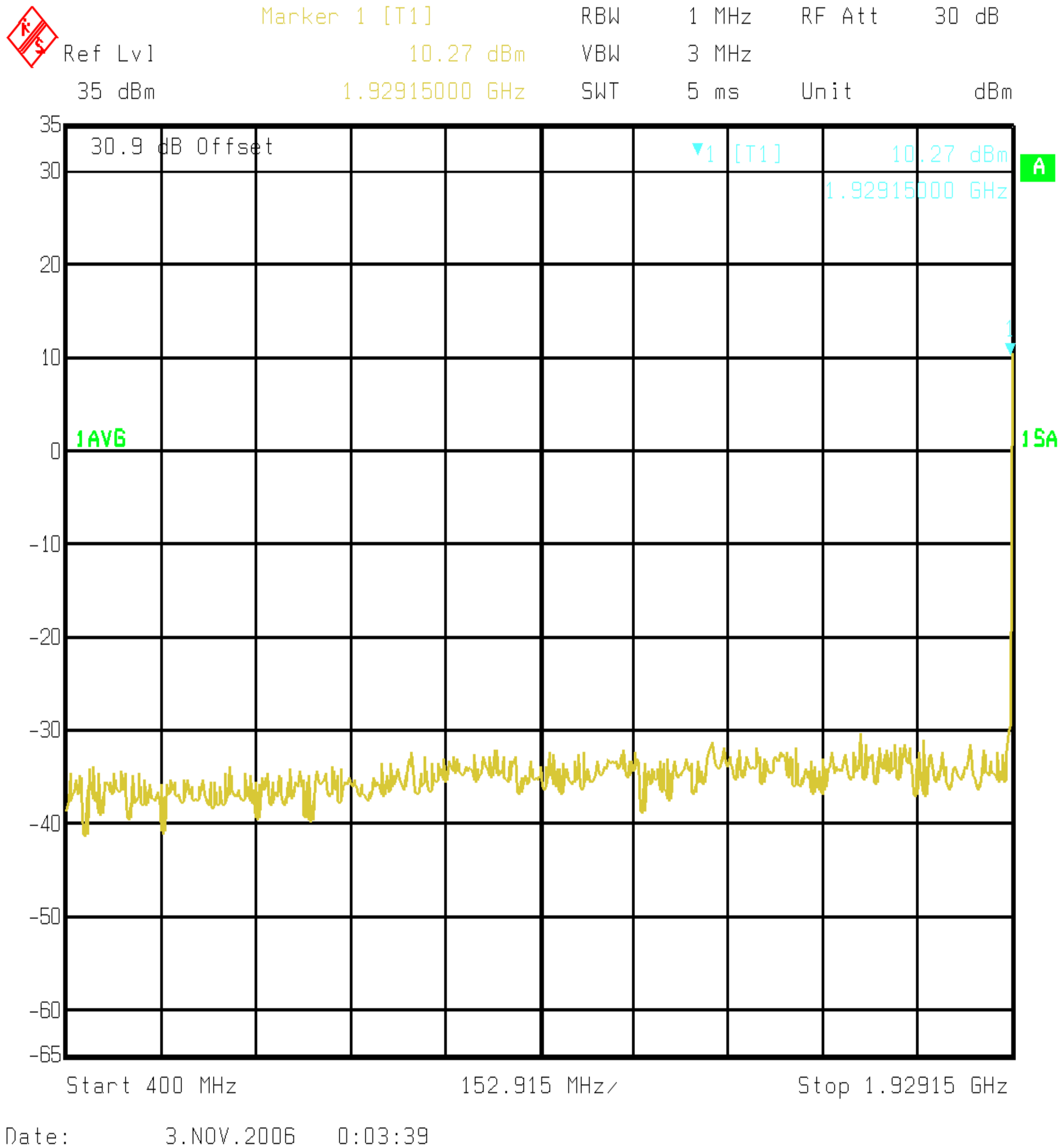


Figure 14 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 (1928-1929MHz Lower Band Emissions)

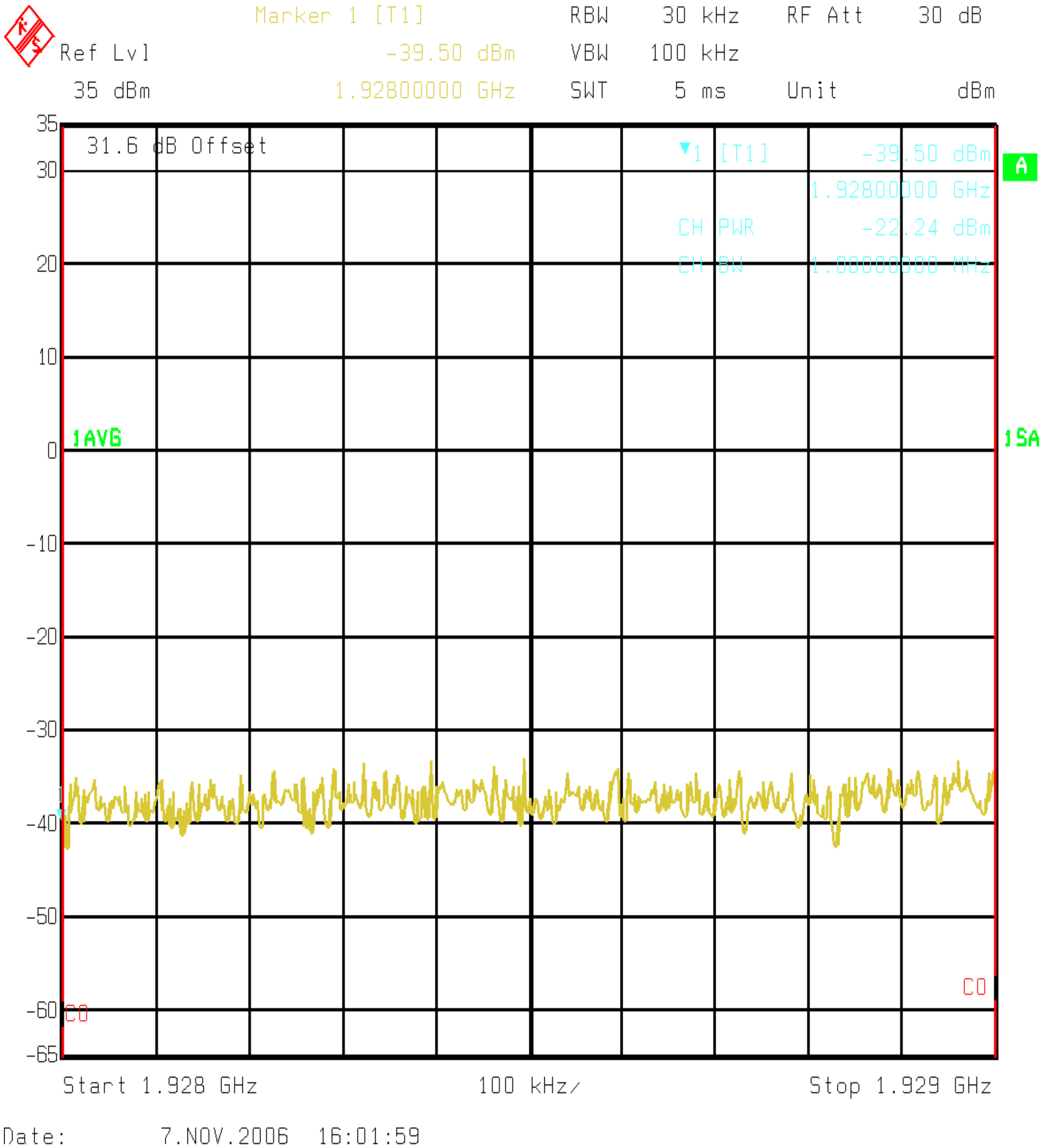


Figure 15 : Conducted Spurious Emissions - 1 Carrier, Channel 1175 IS-97 (Upper Band Emissions - 5 GHz)

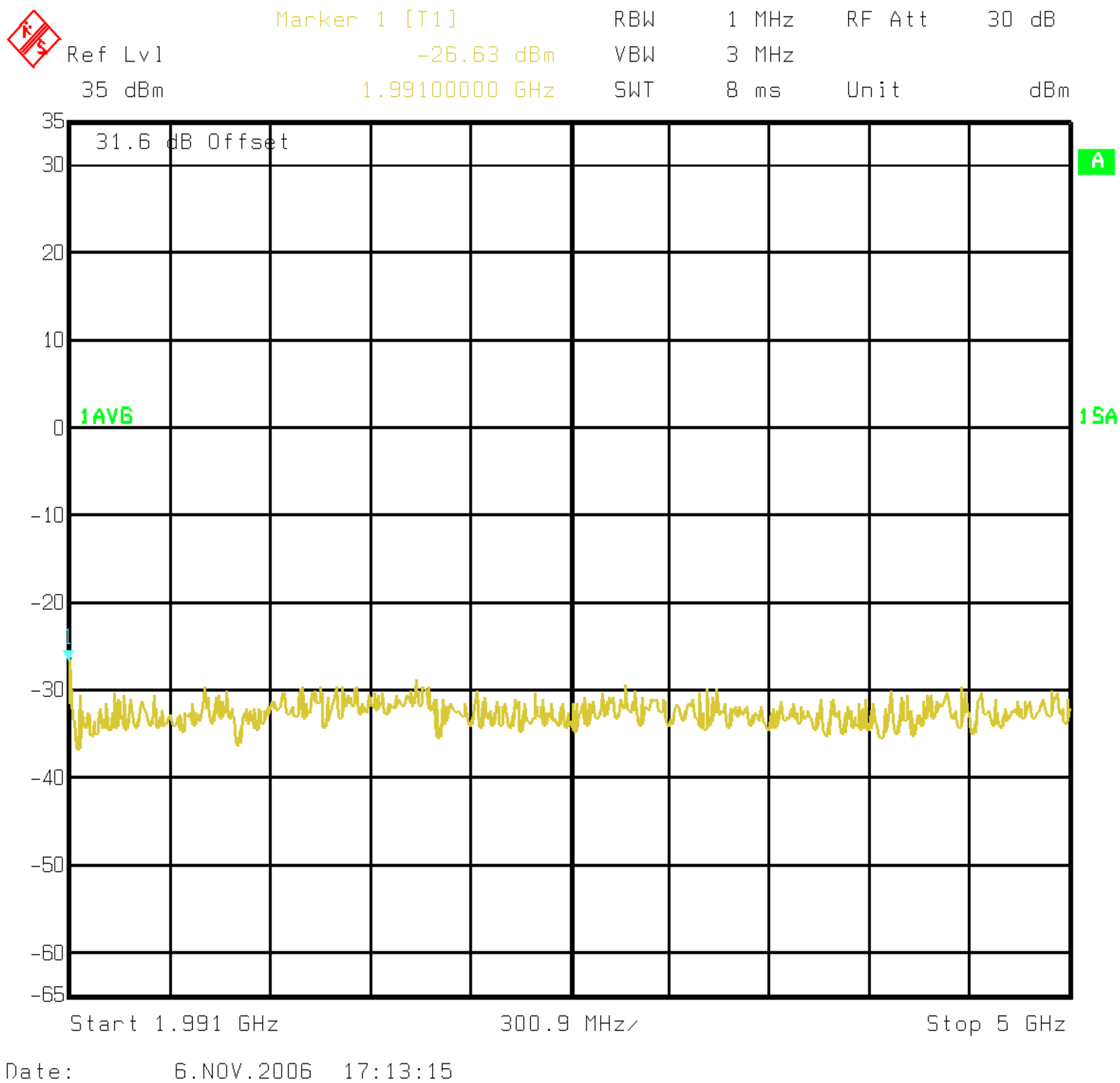


Figure 16 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 (5 - 10 GHz)

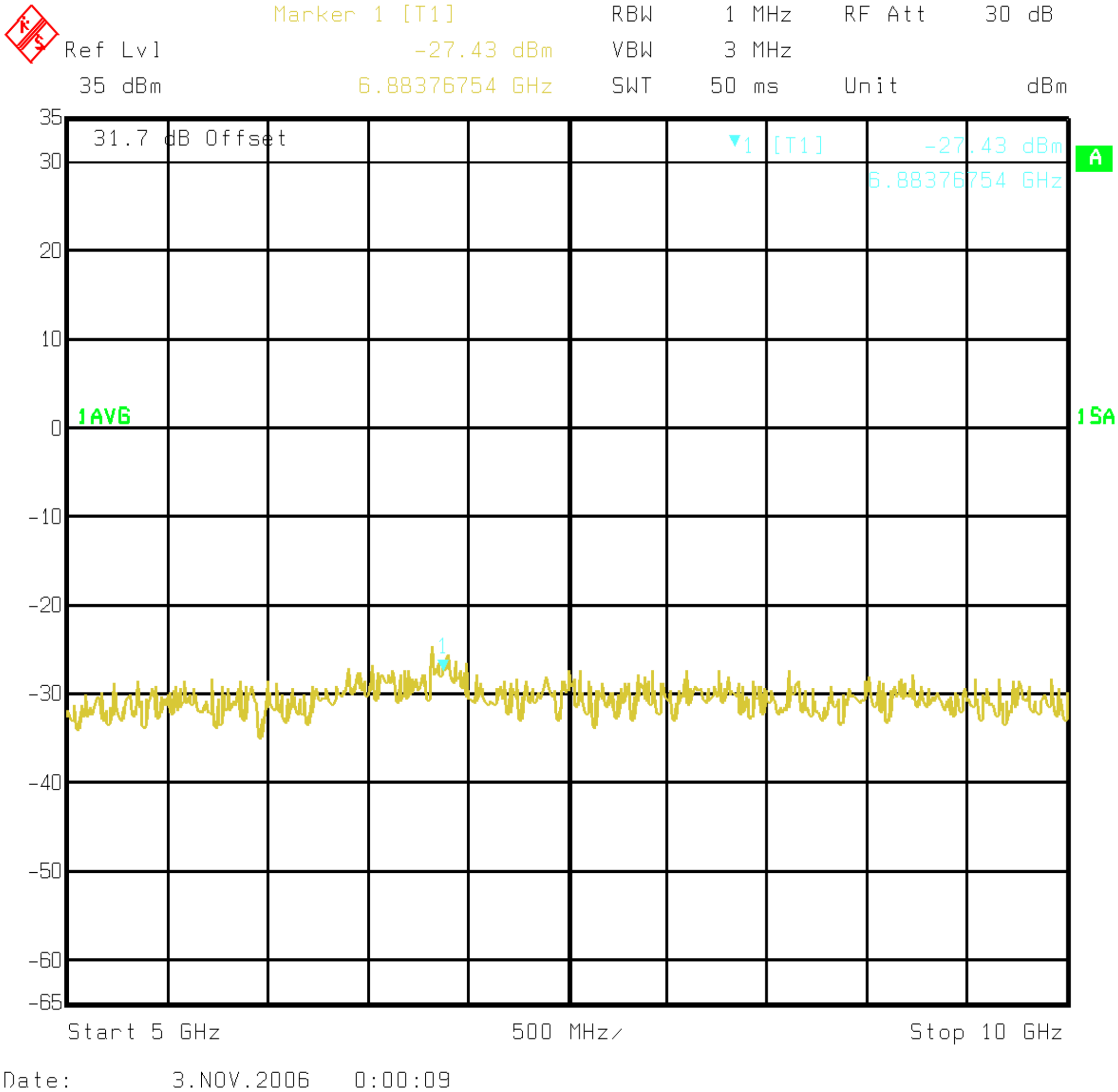


Figure 17 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 (10 - 15 GHz)

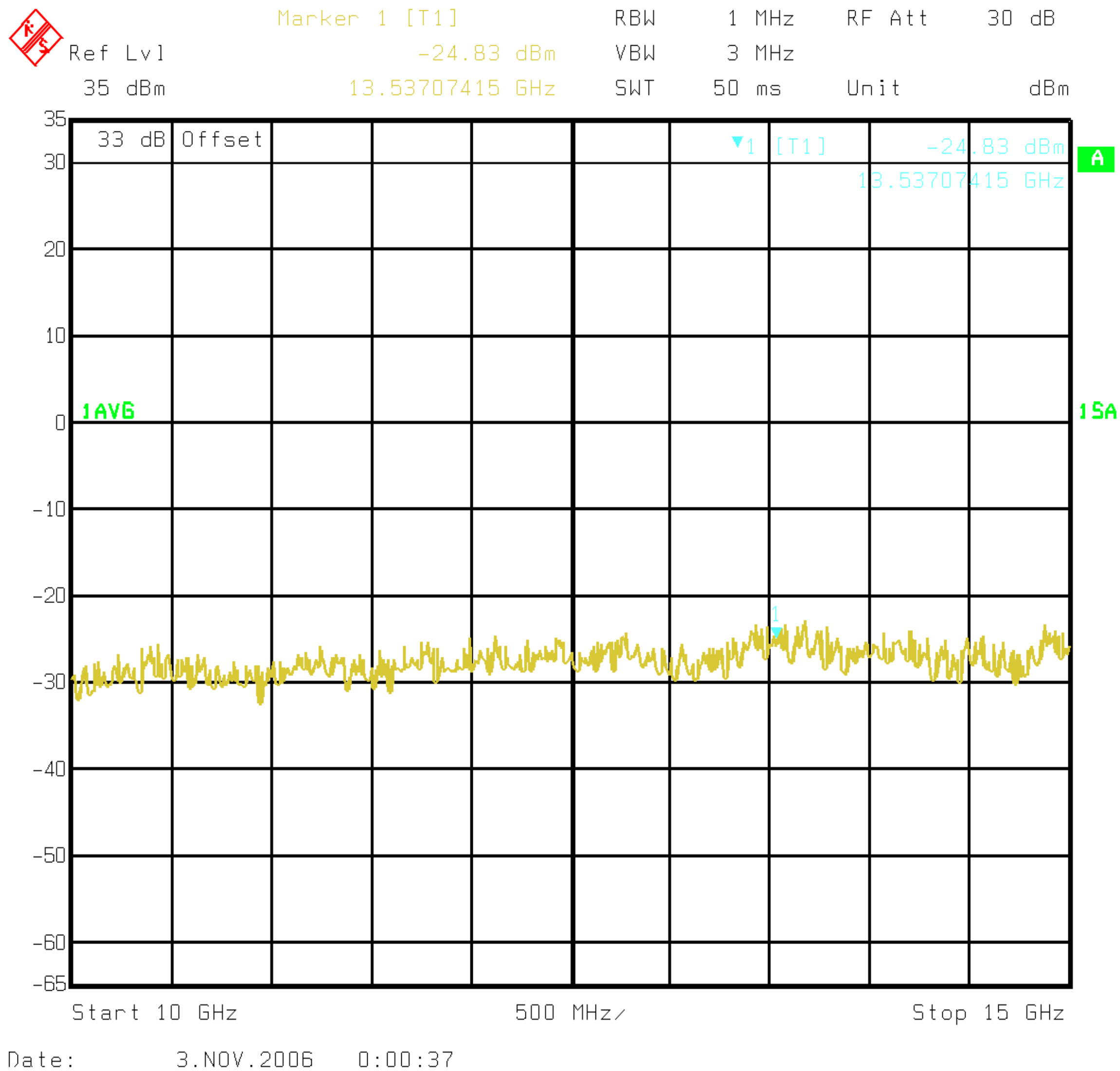


Figure 18 : Conducted Spurious Emissions - 1 Carrier, Channel 25 IS-97 (15 - 20 GHz)

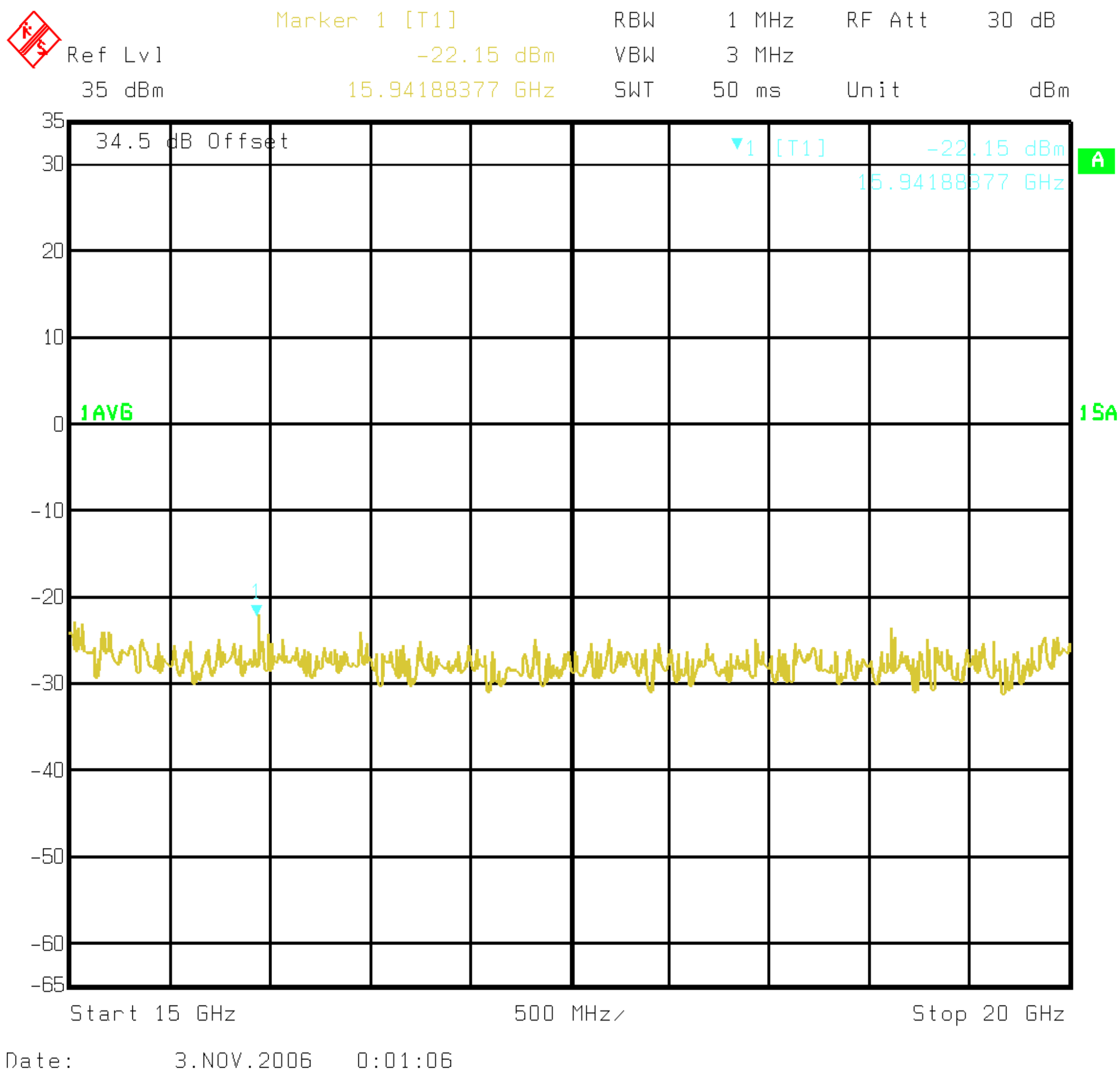


Figure 19 : Conducted Spurious Emissions - 3 Carrier, Chans 25, 50, 75 IS-97 (Lower adj 1MHz)

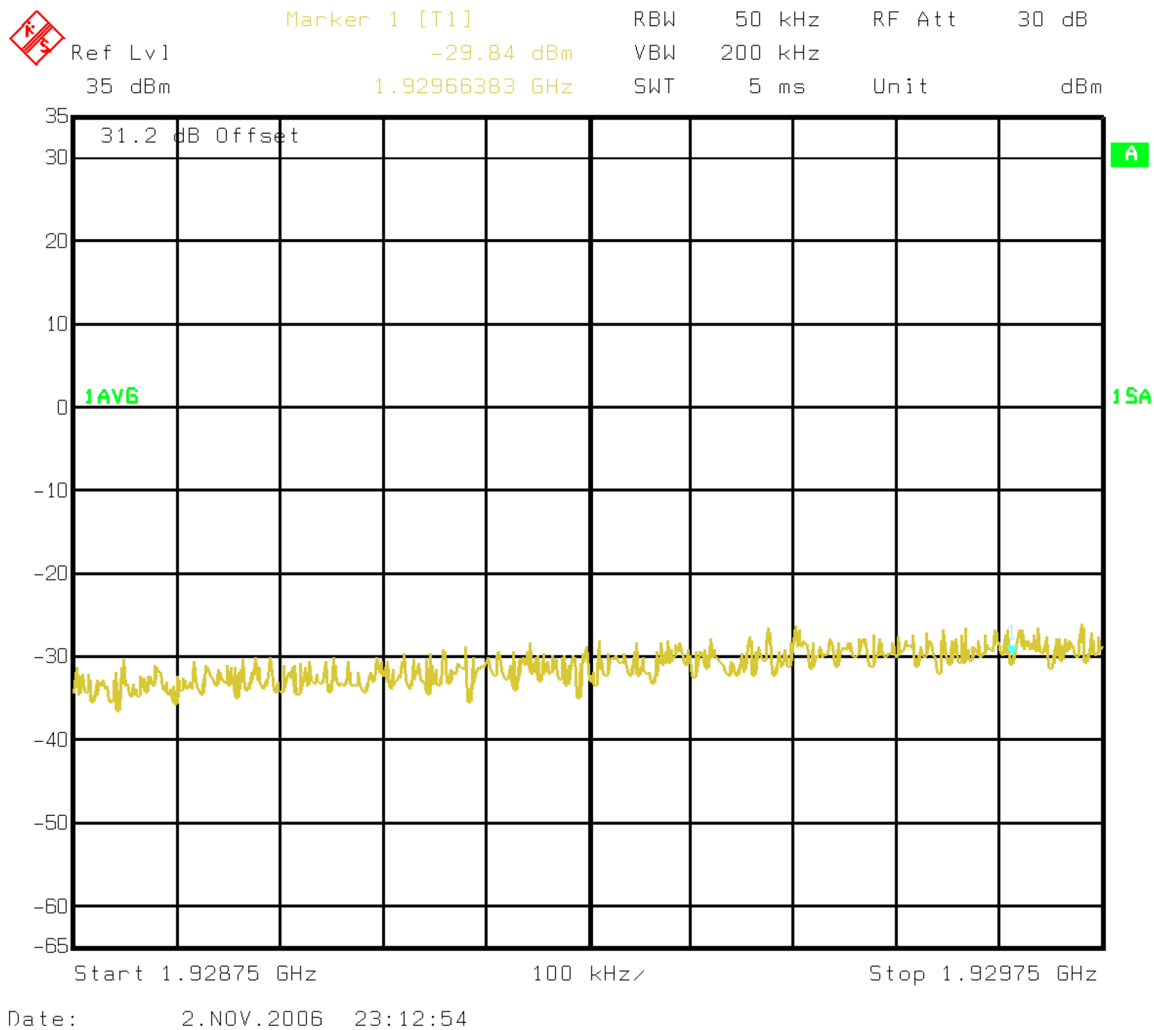


Figure 20 : Conducted Spurious Emissions - 3 Carrier, Chans 25, 50, 75 IS-97 Close In

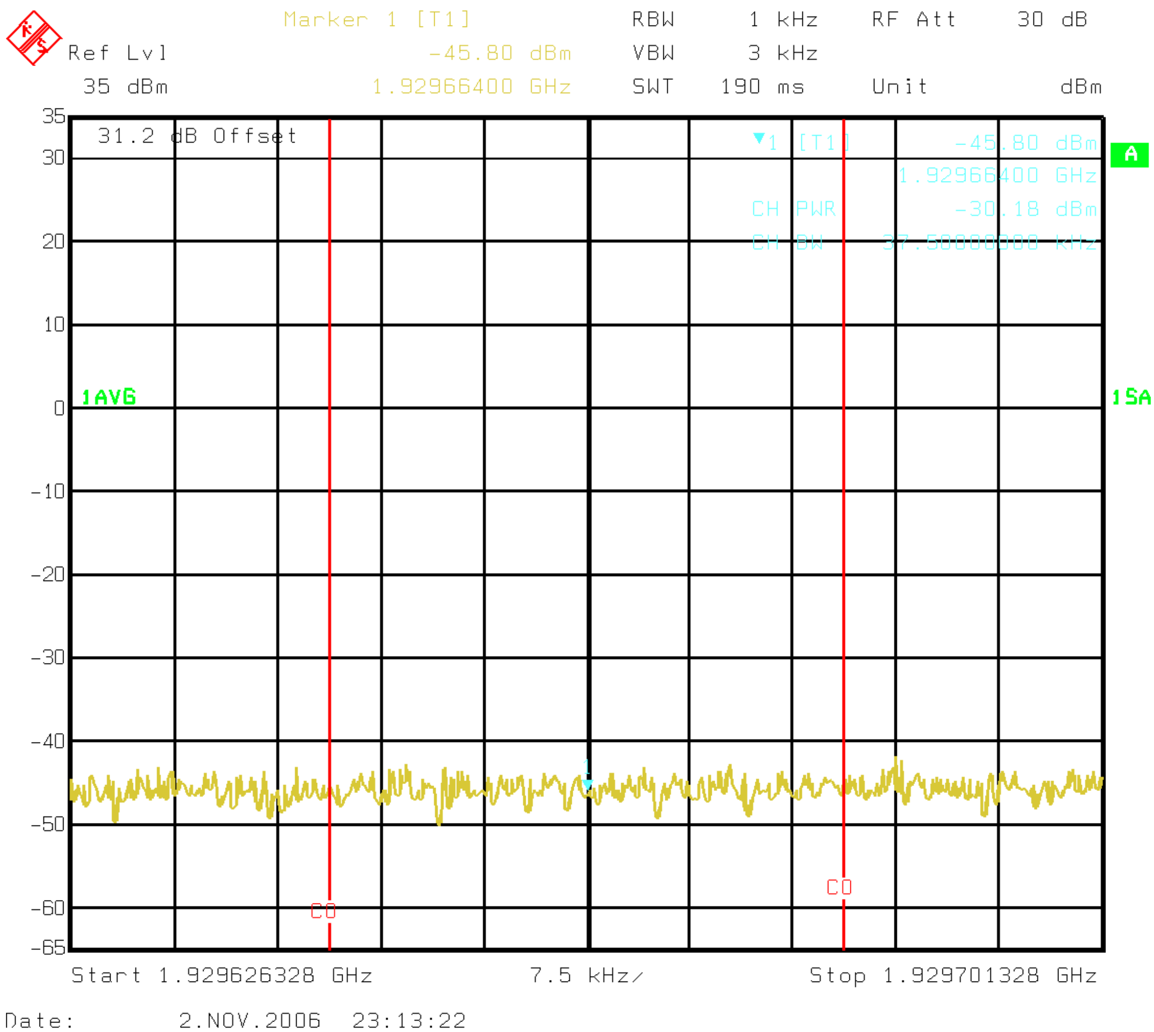


Figure 21 : Conducted Spurious Emissions - 3 Carrier, Chans 1125, 1150, 1175 IS-97 (Upper adj 1MHz)

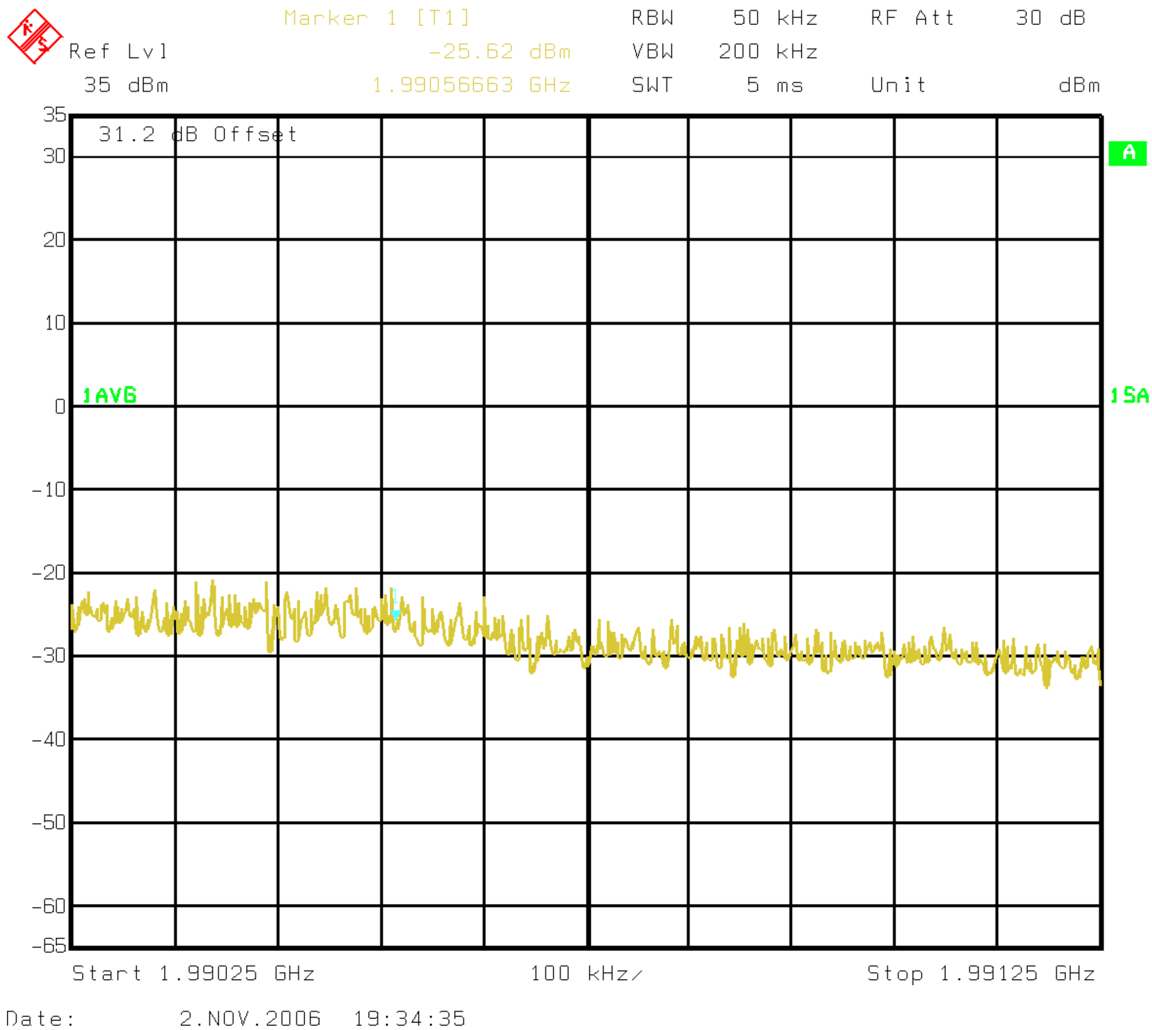


Figure 22 : Conducted Spurious Emissions - 3 Carrier, Chans 1125, 1150, 1175 IS-97 Close In

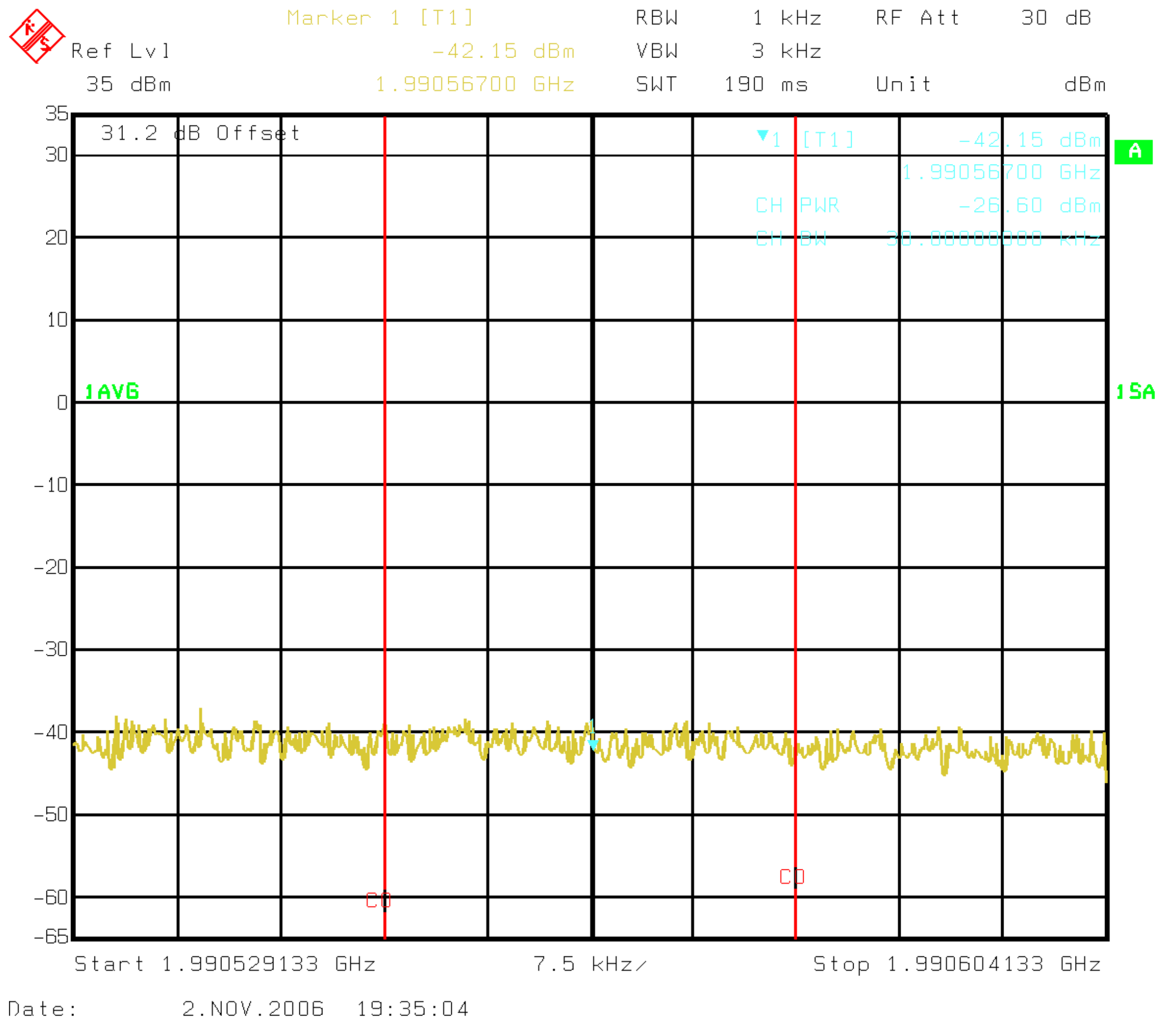


Figure 23 : Conducted Spurious Emissions - 3 Carrier, Chan 25, 50, 75 IS-97 (50 MHz - 1 GHz)

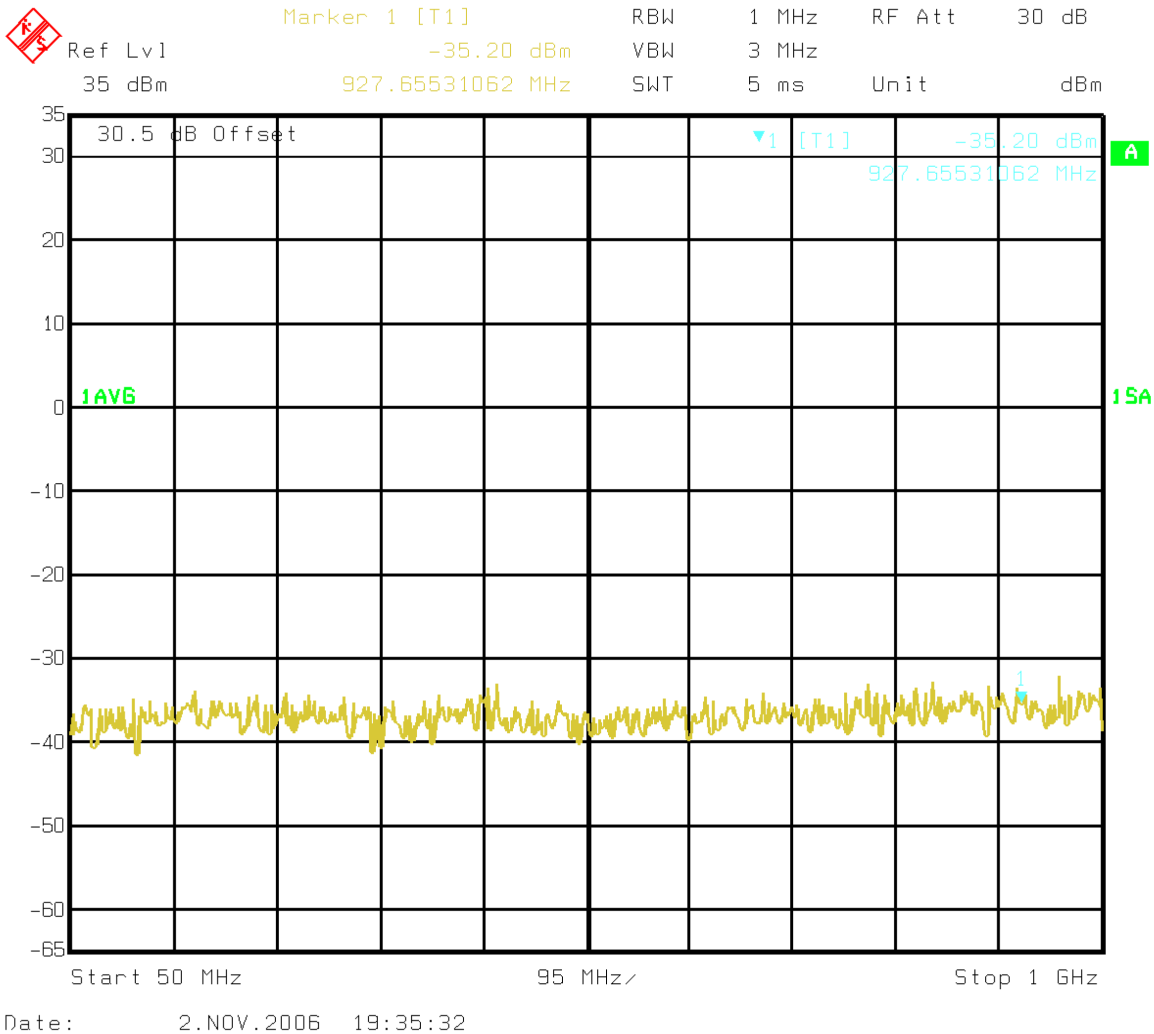


Figure 24 : Conducted Spurious Emissions - 3 Carrier, Channels 25, 50, 75 IS-97 (400MHz - Lower Band Emissions)

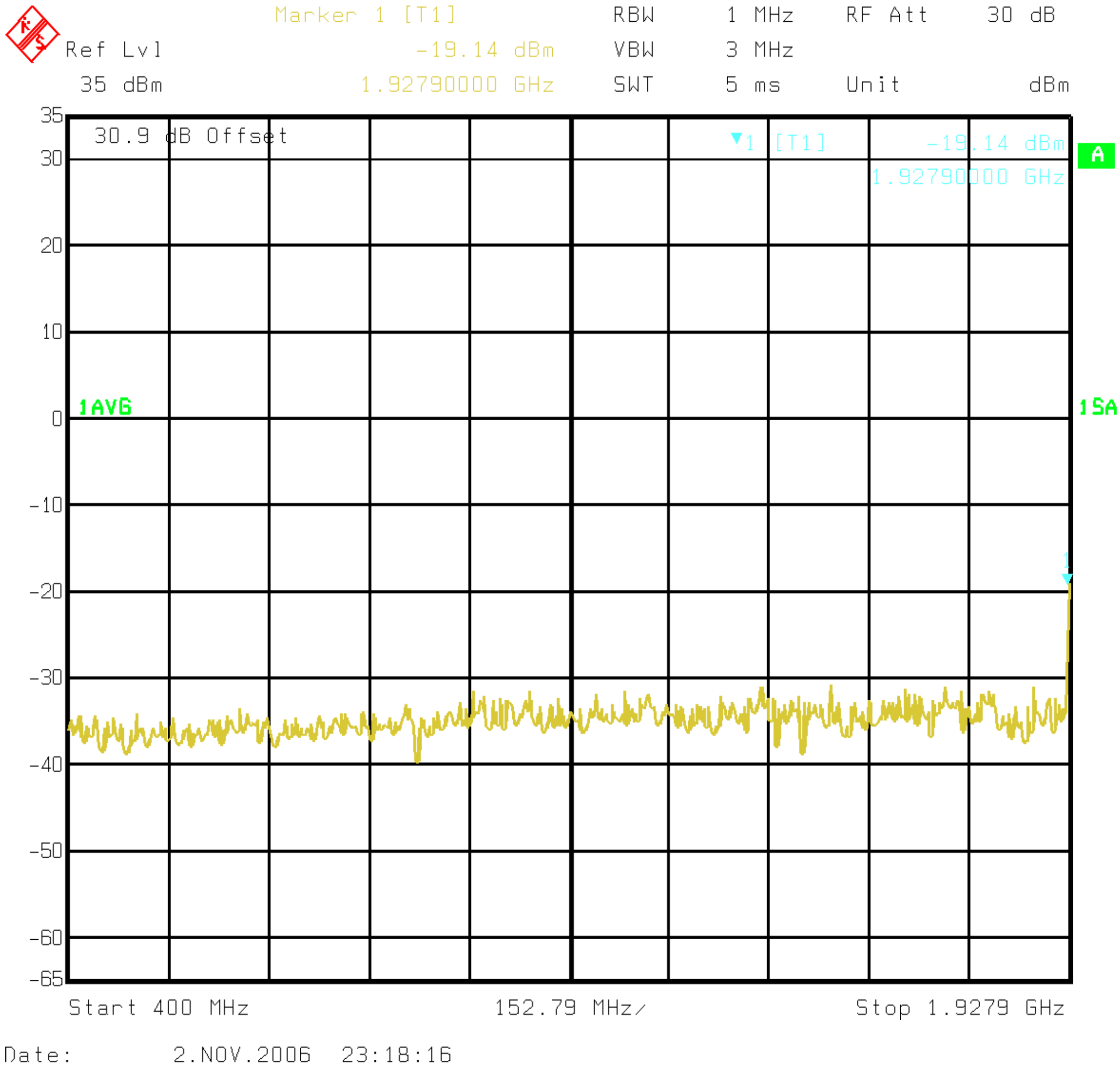


Figure 25 : Conducted Spurious Emissions - 3 Carrier, Channels 25, 50, 75 IS-97 (1928-1929MHz - Lower Band Emissions)

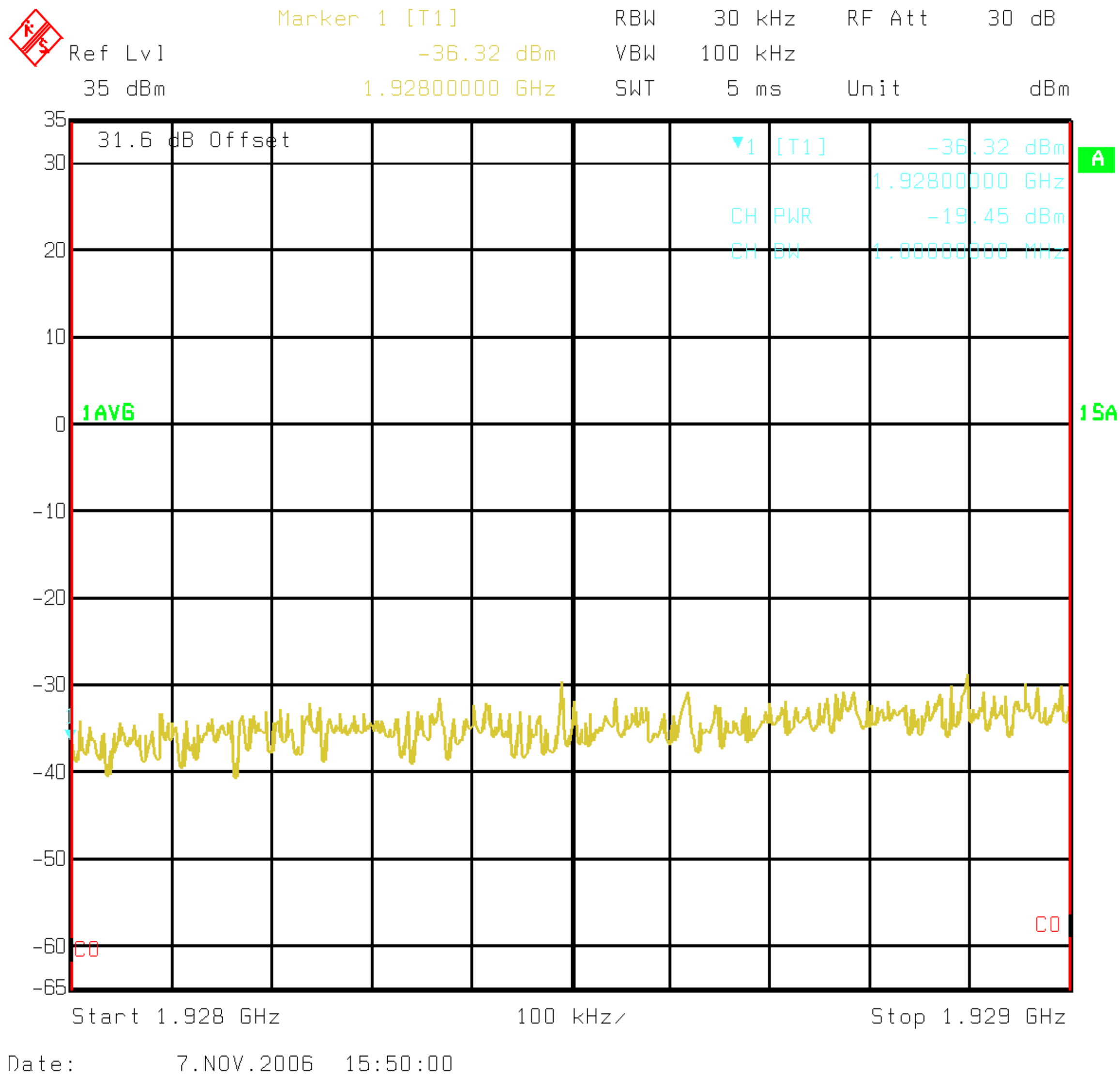


Figure 26 : Conducted Spurious Emissions - 3 Carrier, Channels 1125, 1150, 1175 IS-97 (Upper Band Emissions to 5 GHz)

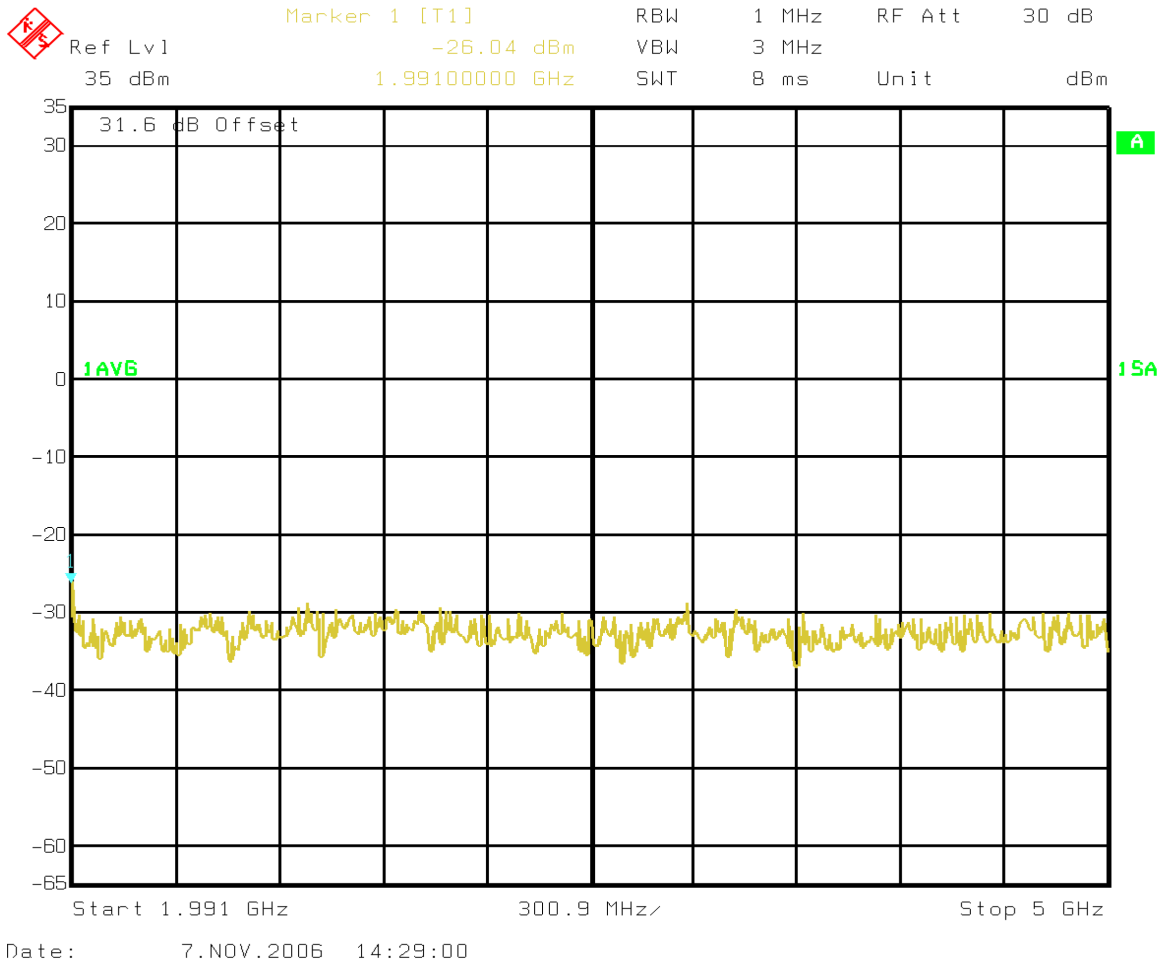


Figure 27 : Conducted Spurious Emissions - 3 Carrier, Channels 25, 50, 75 IS-97 (5 GHz -10 GHz)

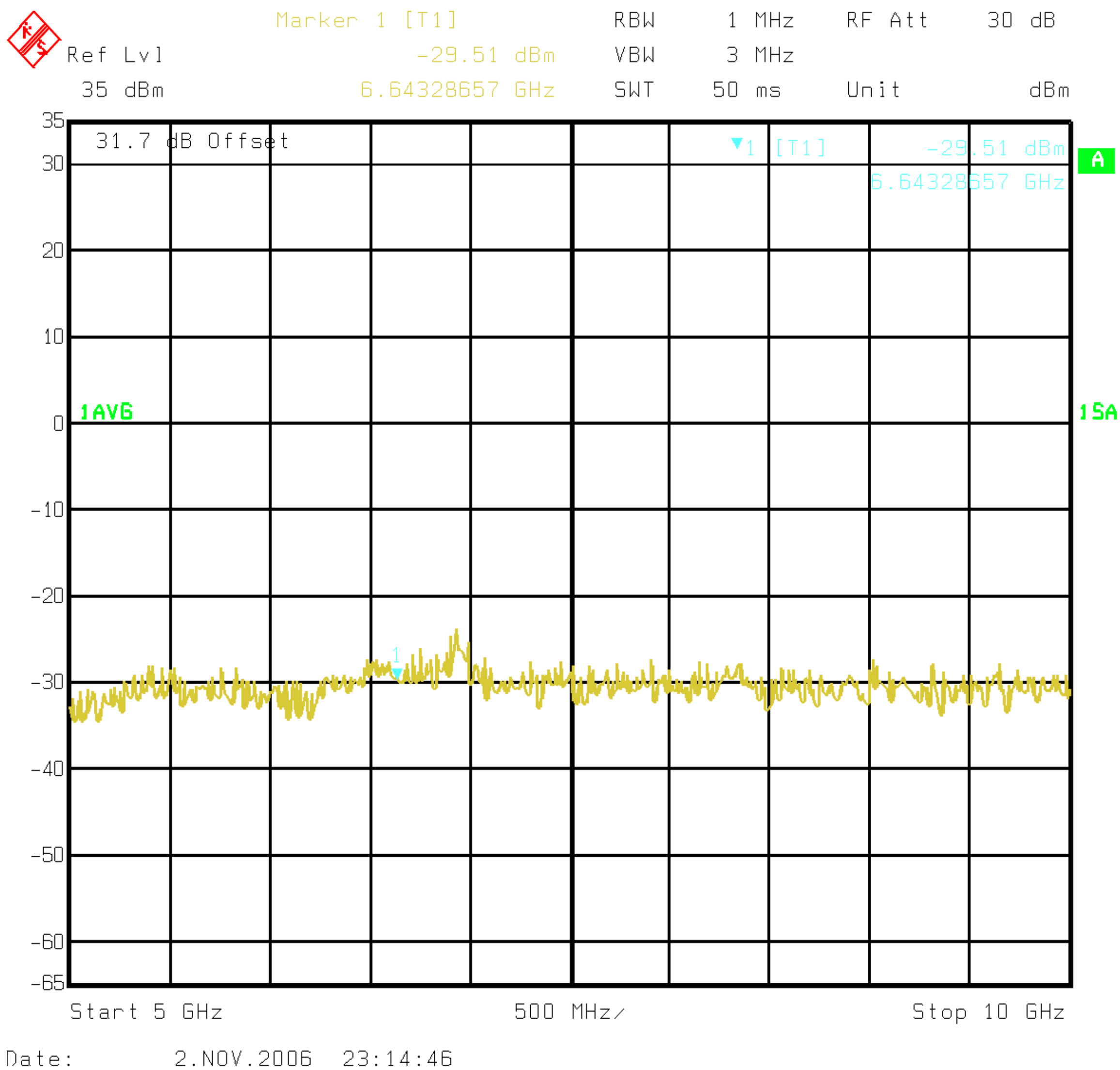


Figure 28 : Conducted Spurious Emissions - 3 Carrier, Channels 25, 50, 75 IS-97 (10-15 GHz)

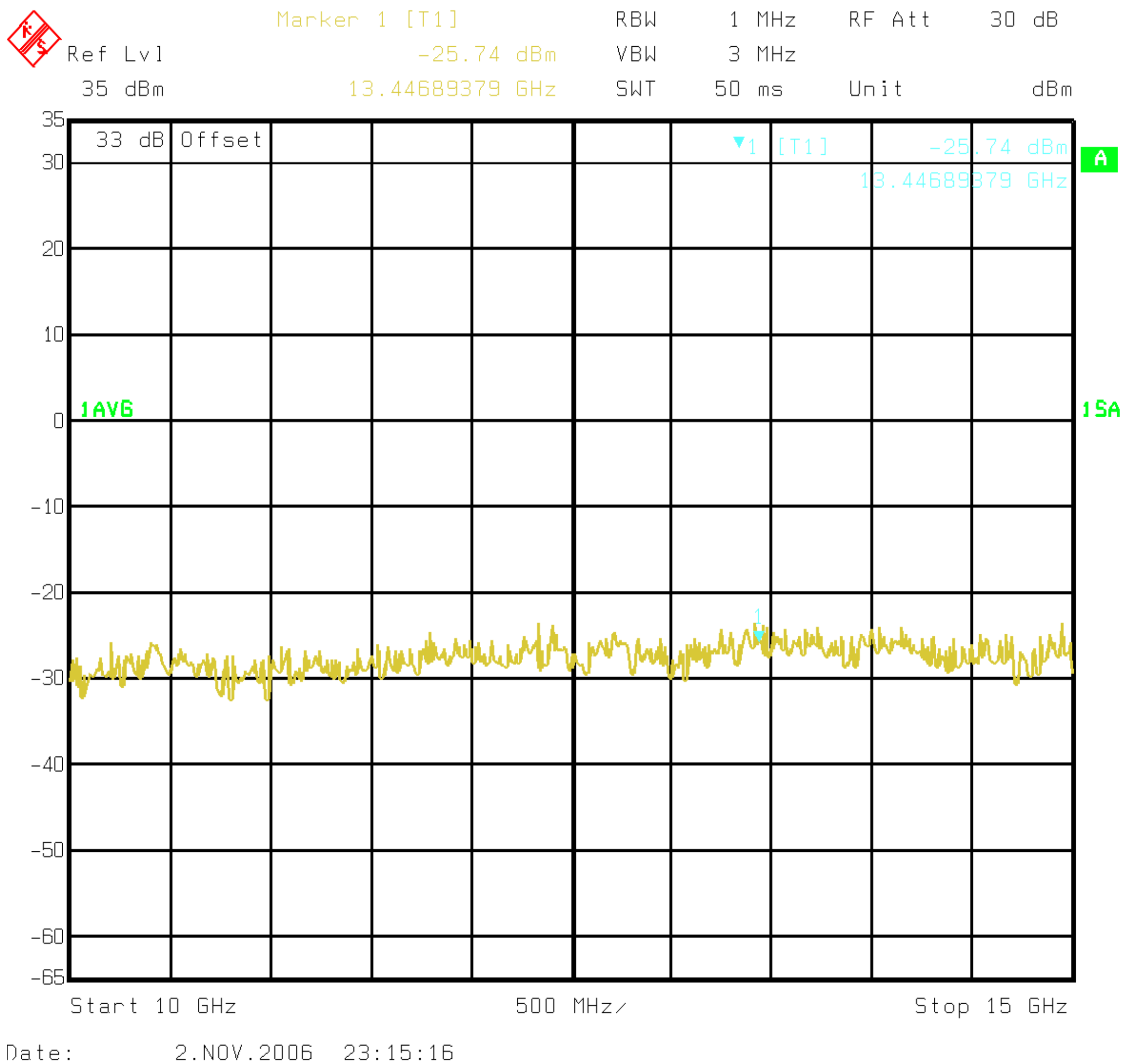
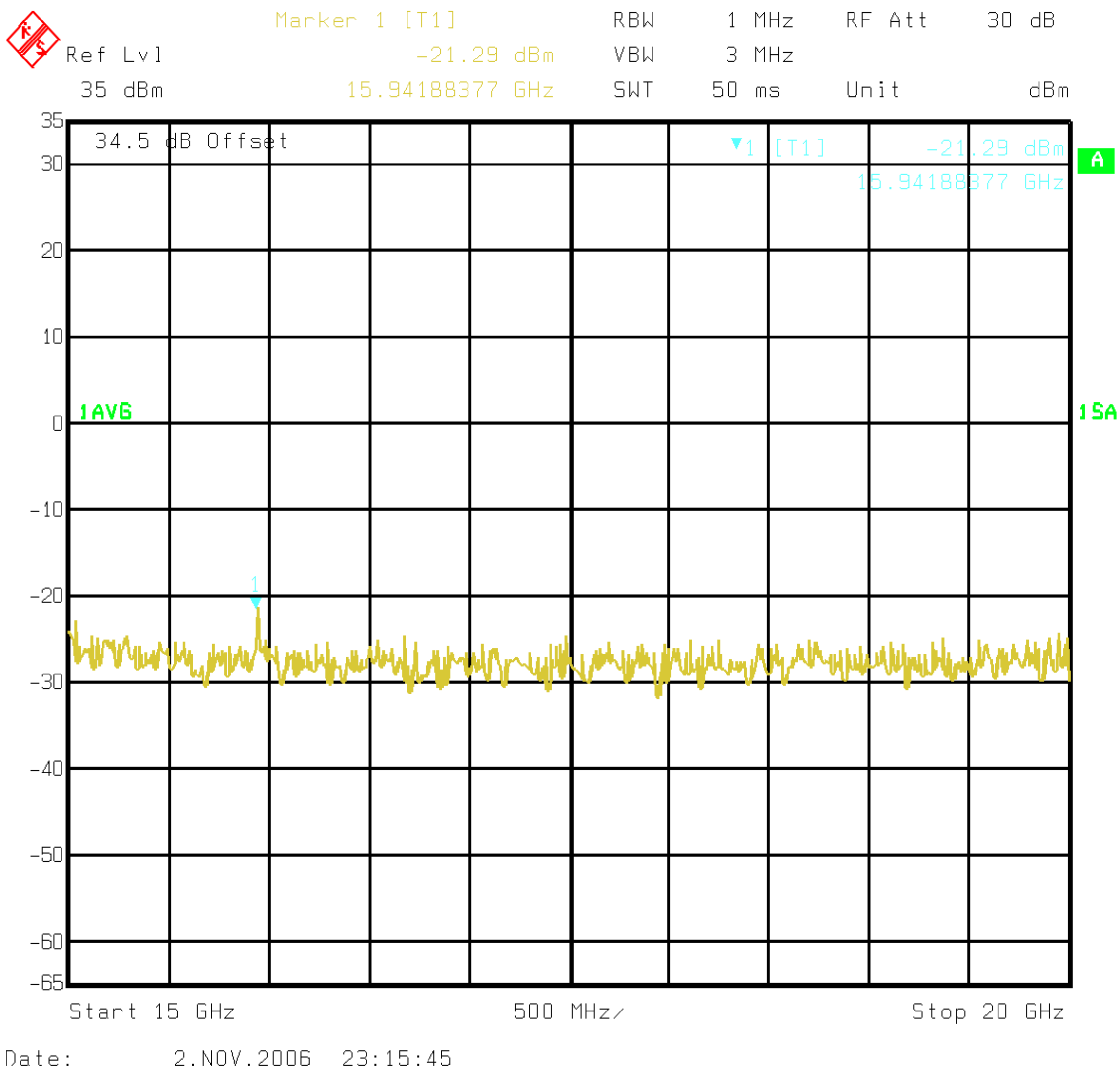


Figure 29 : Conducted Spurious Emissions - 3 Carrier, Channels 25, 50, 75 IS-97 (15-20 GHz)



4.5 Frequency Stability

4.5.1 Frequency Stability Requirements

FCC Part 2.1055

(a) The frequency stability shall be measured with variation of ambient temperature as follows:

(1) From -30 to +50 centigrade for all equipment except that specified in subparagraphs (2) and (3) of this paragraph.

(b) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10 centigrade through the range. A period of time sufficient to stabilize all of the components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement. The short term transient effects on the frequency of the transmitter due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown. Only the portion or portions of the transmitter containing the frequency determining and stabilizing circuitry need be subjected to the temperature variation test.

(d) The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.
(3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.

(e) When deemed necessary, the Commission may require tests of frequency stability under conditions in addition to those specifically set out in paragraphs (a), (b), (c) and (d) of this section. (For example, measurements showing the effect of proximity to large metal objects, or of various types of antennas, may be required for portable equipment.)

FCC Part 24.235 Limit

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

4.5.2 Test Procedure

The test equipment was configured as shown in figure 28.

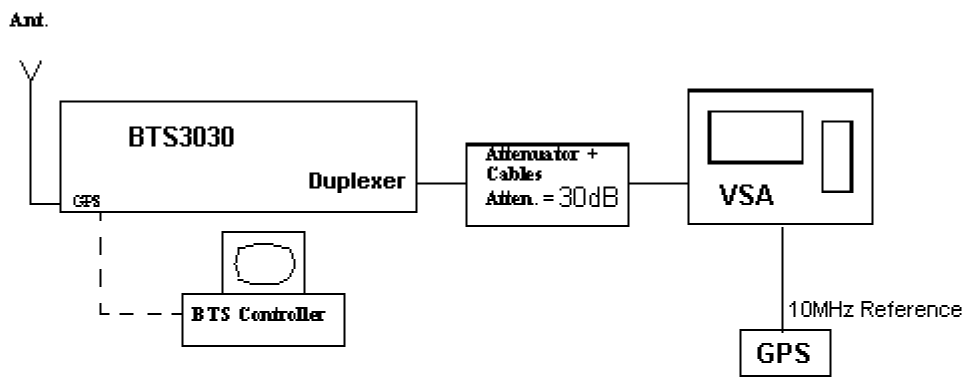


Figure 30 : Test configuration for Frequency Stability

4.5.3 Frequency Results

Operating temperature for the BTS3030 1900 MHz is from -5^{o}C to +50^{o}C as specified in NTDV6001_SDS System Design Specification. The frequency stability was measured at channel 1175 (1988.75MHz). The VSA set at 10 average.

Table 12 : Test results for Frequency Stability versus Power supply Voltage at 25C

Voltage (Vdc)	Maximum Carrier Frequency Deviation (PPM)	Maximum Carrier Frequency Deviation (Hz)
40	0.00264	2.64
48 nominal	0.00193	1.93
56	0.00162	1.62

Table 13 : Test results for Frequency Stability versus Temperature at -48V operation

Temperature (ºC)	Maximum Carrier Frequency Deviation (PPM)	Maximum Carrier Frequency Deviation (Hz)
-5	0.00590	5.90
0	0.00321	3.21
10	0.00549	5.49
20	0.00369	3.69
30	0.00392	3.92
40	0.00209	2.09
50	0.00261	2.61

References

[1] FCC Part 24 Subpart E, “Personal Communication Services”, http://www.access.gpo.gov/nara/cfr/waisidx_00/47cfr24_00.html

[2] FCC Part 2 Subpart J, “Frequency allocations and radio treaty matters; general rules and regulations”, http://www.access.gpo.gov/nara/cfr/waisidx_00/47cfr2_00.html

[3] TIA/EIA-97-D “Recommended Minimum Performance Standards for Base Stations Supporting Dual Mode Spread Spectrum Systems”, June 2001

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