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IC RSS-119 (ISSUE 12) RSS-GEN (ISSUE 4) TEST REPORT

APPLICANT	MOTOROLA SOLUTIONS, INC.
	8000 WEST SUNRISE BLVD FT. LAUDERDALE FL 33322-9947 USA
IC CERTIFICATION	109U-89FT4949
MODEL NUMBER	BC250D-G6-4
PRODUCT DESCRIPTION	PORTABLE TRANSCEIVER
DATE SAMPLE RECEIVED	1/2/2018
DATE TESTED	2/6/2018
TESTED BY	Tim Royer
APPROVED BY	Franklin Rose
TEST RESULTS	☒ PASS ☐ FAIL

Test Report	Version Number	Description	Issue Date
6IC18TestReport_Rev1	Rev1	Initial Issue	02/16/2018
	Rev2	Revised Report	03/13/2018
	Rev3	Revised Report	03/19/2018
	Rev4	Revised Report	03/27/2018

THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL
WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.

TABLE OF CONTENTS

GENERAL REMARKS.....	5
GENERAL INFORMATION	6
TEST REPORT SUMMARY	7
RF POWER OUTPUT	8
Test Data: RF Output Power Measurement Table	8
Part 2.1033 (C) (8) DC Input into the final amplifier	8
MODULATION CHARACTERISTICS	9
Test Data: 99% Occupied Bandwidth Measurement Table, 11K0F3E	9
Test Data: 99% Occupied Bandwidth Measurement Table, 16K0F3E	9
Test Data: 99% Occupied Bandwidth Measurement Table, Digital Emissions	10
OCCUPIED BANDWIDTH (99%) 12.5kHz Analog, 406.125 MHz.....	11
OCCUPIED BANDWIDTH (99%) 12.5kHz Analog, 418.000 MHz.....	12
OCCUPIED BANDWIDTH (99%) 12.5kHz Analog, 429.975 MHz.....	13
OCCUPIED BANDWIDTH (99%) 12.5kHz Analog, 450.025 MHz.....	14
OCCUPIED BANDWIDTH (99%) 12.5kHz Analog, 460.000 MHz.....	15
OCCUPIED BANDWIDTH (99%) 12.5kHz Analog, 469.975 MHz.....	16
OCCUPIED BANDWIDTH (99%) 25kHz Analog, 406.125 MHz.....	17
OCCUPIED BANDWIDTH (99%) 25kHz Analog, 418.000 MHz.....	18
OCCUPIED BANDWIDTH (99%) 25kHz Analog, 429.975 MHz.....	19
OCCUPIED BANDWIDTH (99%) 25kHz Analog, 450.025 MHz.....	20
OCCUPIED BANDWIDTH (99%) 25kHz Analog, 460.000 MHz.....	21
OCCUPIED BANDWIDTH (99%) 25kHz Analog, 469.975 MHz.....	22
OCCUPIED BANDWIDTH (99%) Digital, 406.125 MHz	23
OCCUPIED BANDWIDTH (99%) Digital, 418.000 MHz	24
OCCUPIED BANDWIDTH (99%) Digital, 429.975 MHz	25
OCCUPIED BANDWIDTH (99%) Digital, 450.025 MHz	26
OCCUPIED BANDWIDTH (99%) Digital, 460.000 MHz	27
OCCUPIED BANDWIDTH (99%) Digital, 469.975 MHz	28
OCCUPIED BANDWIDTH (99%) Digital 7K53F1E, 435.025 MHz.....	29
OCCUPIED BANDWIDTH (99%) Digital 7K97FXE, 435.025 MHz	30
OCCUPIED BANDWIDTH (99%) Digital 7K77F1W, 435.025 MHz.....	31
OCCUPIED BANDWIDTH (99%) Digital 7K69FXD, 435.025 MHz	32
AUDIO FREQUENCY RESPONSE	33
Test Data: AUDIO FREQUENCY RESPONSE PLOT	33
AUDIO INPUT VERSUS MODULATION	34
Test data: MODULATION LIMITING PLOT.....	34
OCCUPIED BANDWIDTH.....	35
OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 406.125 MHz	36
OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 418.000 MHz	37
OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 429.975 MHz	38

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 450.025 MHz	39
OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 460.000 MHz	40
OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 469.975 MHz	41
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 406.125 MHz	42
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 418.000 MHz	43
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 429.975 MHz	44
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 450.025 MHz	45
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 460.000 MHz	46
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 469.975 MHz	47
OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 406.125 MHz	48
OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 418.000 MHz	49
OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 429.975 MHz	50
OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 450.025 MHz	51
OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 460.000 MHz	52
OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 469.975 MHz	53
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz	54
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz	55
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz	56
OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz	57
SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED).....	58
Test Data: 406.125 MHz.....	59
Test Data: 418.000 MHz.....	60
Test Data: 429.975 MHz.....	61
Test Data: 450.025 MHz.....	62
Test Data: 460.000 MHz.....	63
Test Data: 469.975 MHz.....	64
FIELD STRENGTH OF SPURIOUS EMISSIONS	65
Test Data: 406.125 MHz.....	66
Test Data: 418.000 MHz.....	67
Test Data: 429.975 MHz.....	68
Test Data: 450.025 MHz.....	69
Test Data: 460.000 MHz.....	70
Test Data: 469.975 MHz.....	71
FREQUENCY STABILITY	72
Test Data: Frequency Stability Plot	72
Test Data: Frequency Error Measurement Table	73
TRANSIENT FREQUENCY BEHAVIOR	74
Test Data: Transient Frequency Behavior, Turn On Plot, 12.5kHz Channel	75
Test Data: Transient Frequency Behavior, Turn Off Plot, 12.5kHz Channel	76
Test Data: Transient Frequency Behavior, Turn On Plot, 25kHz Channel	77
Test Data: Transient Frequency Behavior, Turn Off Plot, 25kHz Channel.....	78

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)



Statement of Measurement Uncertainty	79
EMC EQUIPMENT LIST	80

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

Summary

The device under test does:

- ☒ Fulfill the general approval requirements as identified in this test report and was selected by the customer.
- ☐ Not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669
IC Test Site Registration #: 2056A-3



Sr. EMC Engineer
EMC-003838-NE



Tested by:

Name and Title: Tim Royer, Project Manager/Testing Engineer

Date: 02/08/2018



Reviewed and approved by:

Name and Title: Franklin Rose, Project Manager/Testing Technician

Date: 02/16/2018

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

GENERAL INFORMATION

EUT Specification

EUT Description	PORTABLE TRANSCEIVER
IC Certification	109U-89FT4949
Model Number	BC250D-G6-4
Operating Frequency	406.1-430MHz & 450-470MHz
Test Frequencies	406.125, 418.0, 429.975, 435.025, 450.025, 460.00, 469.975 MHz
Type of Emission	16K0F3E ,11K0F3E, 7K41F1D,7K53F1E,7K97FXE,7K77F1W,7K69FXD
Modulation	FM
EUT Power Source	☐ 110–120Vac/50– 60Hz
	☐ DC Power
	☒ Battery Operated Exclusively
Test Item	☐ Prototype
	☒ Pre-Production
	☐ Production
Type of Equipment	☐ Fixed
	☐ Mobile
	☒ Portable
Test Conditions	The temperature was 24-26°C with a relative humidity of 50-60%.
Modification to the EUT	None
Test Exercise	The EUT was placed in continuous transmit mode.
Applicable Standards	ANSI/TIA 603-D:2010, IC RSS-119, RSS-GEN, ANSI C63.26
Test Facility	Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA – IC 2056A-3

Note: The stricter limit of $50+10 \log(p)$ was used for Spurious Emissions and antenna Terminals and Field strength of spurious emissions tests.

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

TEST REPORT SUMMARY

Rule Part No.	Scope of Work	Status Pass / Fail / NA
IC RSS-119 4.1 and 5.4, RSS-GEN 6.12	RF Power Output	Pass
	Modulation Characteristics	Pass
RSS-GEN 6.6, RSS-119 4.2	Emission Mask and Occupied Bandwidths	Pass
RSS-GEN 2.3.3	Antenna Conducted Emissions	Pass
RSS-GEN 6.13	Field Strength Spurious Emissions	Pass
RSS-119 5.3, RSS-GEN 8.8	Frequency Stability	Pass
RSS-119 5.8	Transient Frequency Behavior	Pass

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

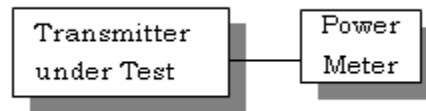
RF POWER OUTPUT

Rule Part No.: IC RSS-119 4.1 and 5.4, RSS-GEN 6.12

Test Requirements:

Method of Measurement: RF power is measured by connecting a 50-ohm, resistive wattmeter to the RF output connector. With a nominal battery voltage and the transmitter properly adjusted the RF output measures:

Test Setup Diagram:



Test Data: RF Output Power Measurement Table

Tuned Frequency (MHz)	RF POWER (dBm)
406.125	37.33
418.000	37.33
429.975	37.24
450.025	37.47
460.000	37.36
469.975	37.24

RESULT: Meets Requirements

Part 2.1033 (C) (8) DC Input into the final amplifier

INPUT POWER: (8.4v) (1.52A) = 12.76 Watts

RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

MODULATION CHARACTERISTICS

IC RSS-119 5.5

Type of Emission: **11K0F3E**

$$B_n = 2M + 2DK$$

$$M = 3000$$

$$D = 2500$$

$$K=1$$

$$B_n = 2(3000) + 2(2500) = 11.0k$$

Test Data: 99 % Occupied Bandwidth Measurement Table, 11K0F3E

Frequency (MHz)	Modulation	99 % Occupied Bandwidth (kHz)
406.125	12.5k Analog	9.77
418.000	12.5k Analog	9.77
429.975	12.5k Analog	9.54
450.025	12.5k Analog	9.61
460.000	12.5k Analog	9.61
469.975	12.5k Analog	9.77

Type of Emission: **16K0F3E**

$$B_n = 2M + 2DK$$

$$M = 3000$$

$$D = 5000$$

$$K=1$$

$$B_n = 2(3000) + 2(5000) = 16.0k$$

Test Data: 99 % Occupied Bandwidth Measurement Table, 16K0F3E

Frequency (MHz)	Modulation	99 % Occupied Bandwidth (kHz)
406.125	25k Analog	14.83
418.000	25k Analog	14.83
429.975	25k Analog	14.03
450.025	25k Analog	13.7
460.000	25k Analog	14.35
469.975	25k Analog	14.82

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

MODULATION CHARACTERISTICS

Type of Emission: 7K41F1D, 7K53F1E, 7K97FXE, 7K77F1W, 7K69FXD

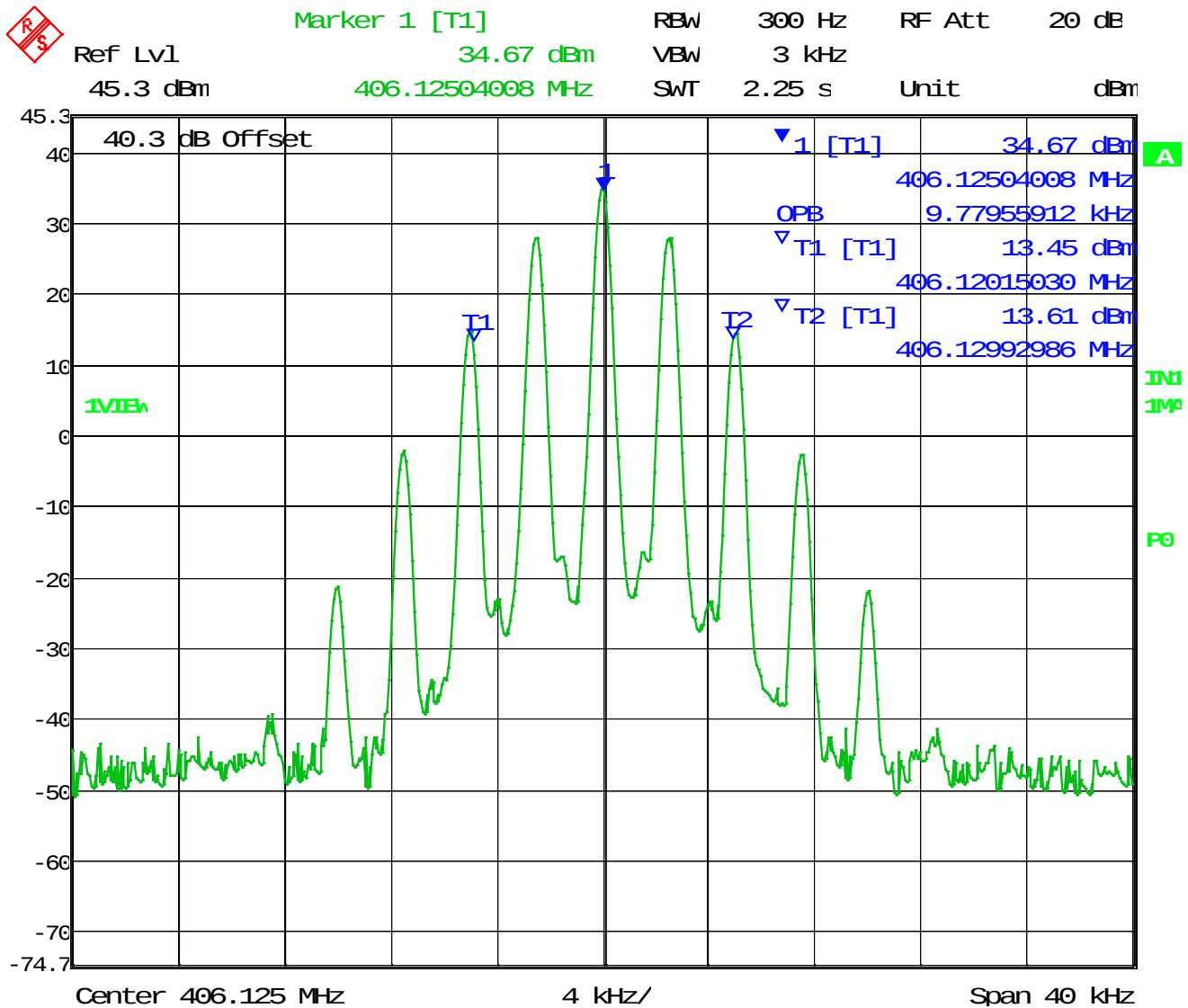
Test Data: 99 % Occupied Bandwidth Measurement Table, Digital Emissions

Frequency (MHz)	Modulation	99 % Occupied Bandwidth (kHz)
406.125	12.5k 7K41F1D	7.41
418.000	12.5k 7K41F1D	7.09
429.975	12.5k 7K41F1D	7.27
450.025	12.5k 7K41F1D	6.97
460.000	12.5k 7K41F1D	7.13
469.975	12.5k 7K41F1D	6.89
435.025	12.5k 7K53F1E	7.53
435.025	12.5k 7K97FXE	7.97
435.025	12.5k 7K77F1W	7.77
435.025	12.5k 7K69FXD	7.69

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 12.5kHz Analog, 406.125 MHz

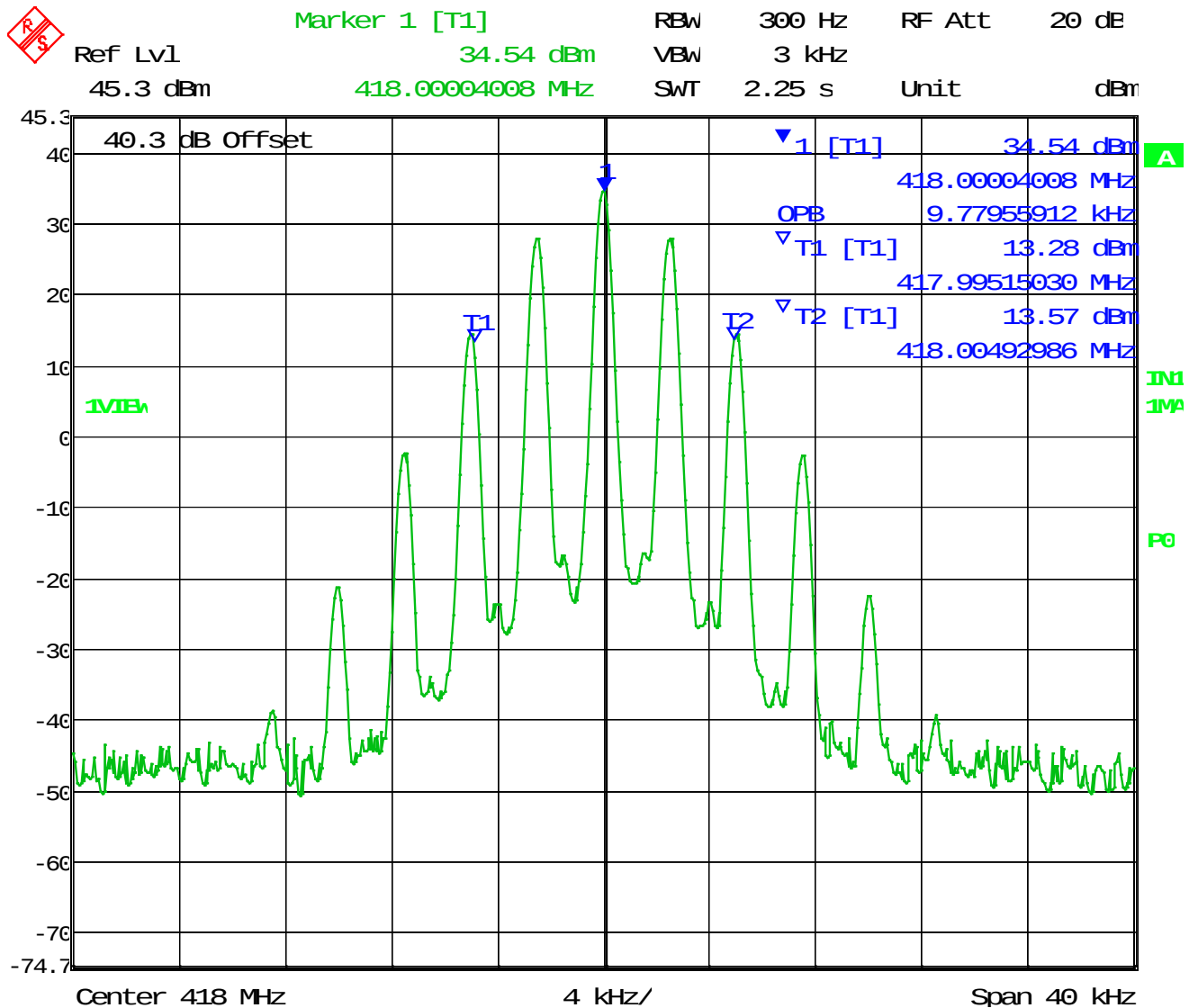


Date: 1.JAN.1997 04:00:45

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IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 12.5kHz Analog, 418.000 MHz

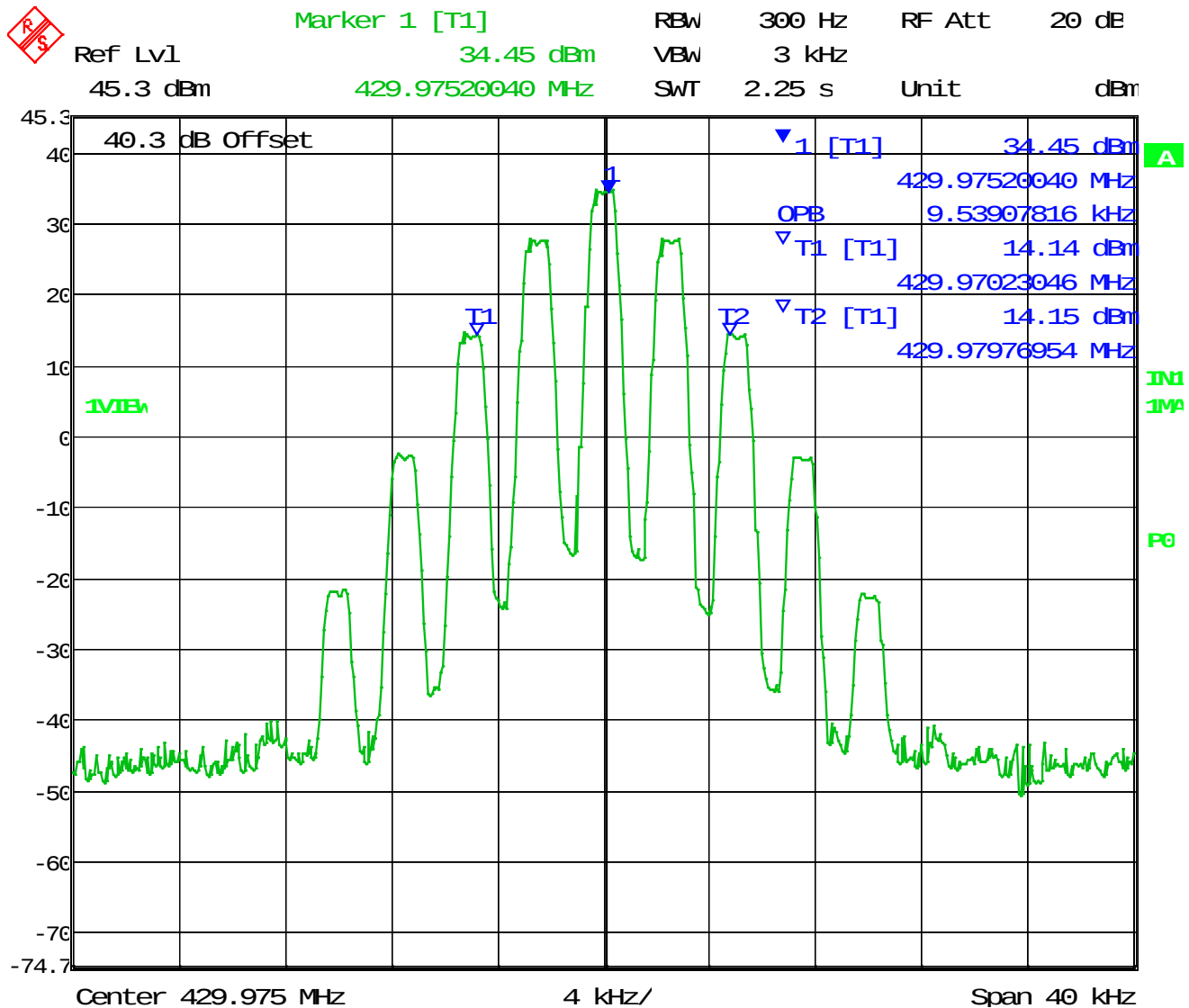


Date: 1.JAN.1997 04:00:07

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 12.5kHz Analog, 429.975 MHz

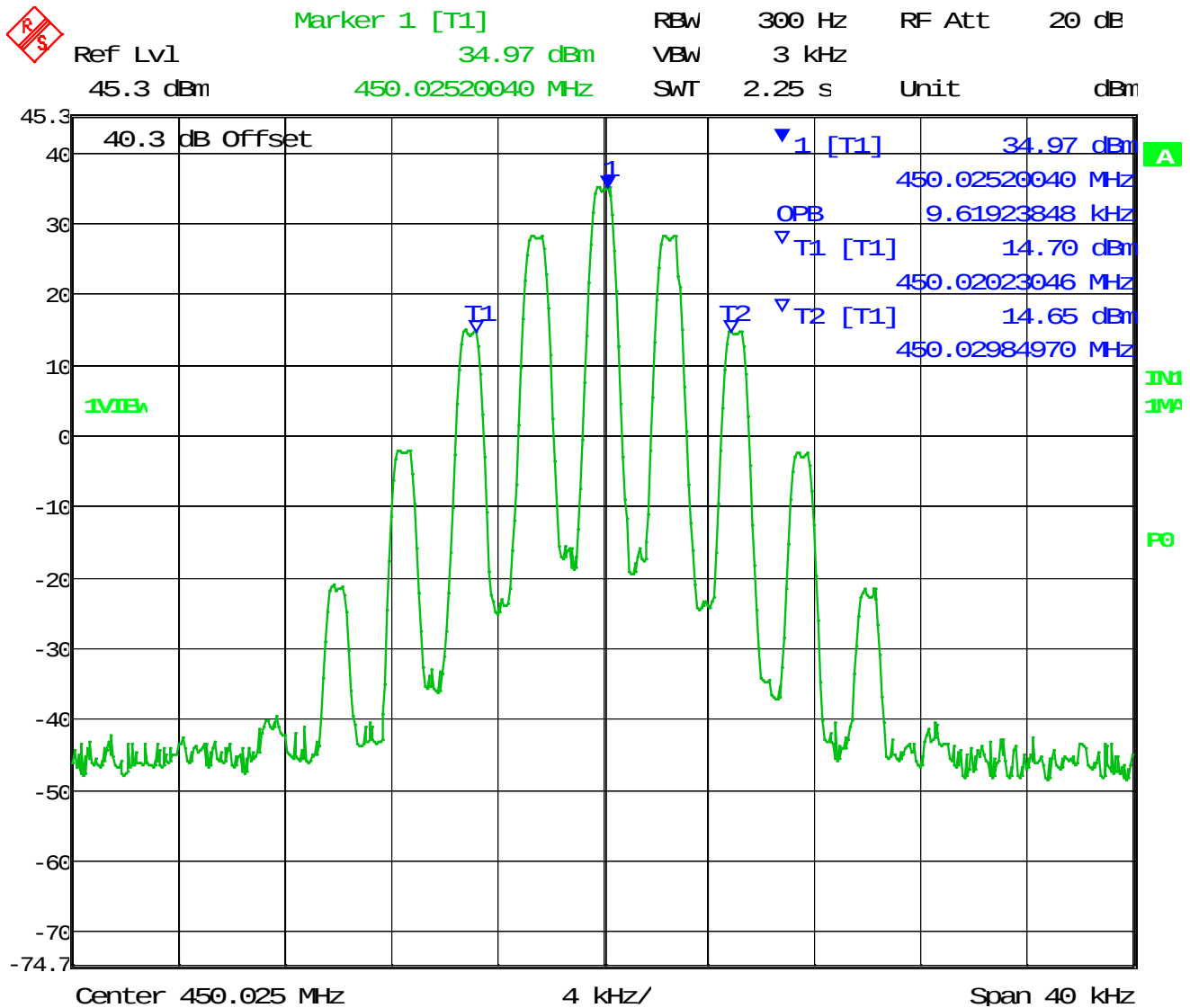


Date: 1.JAN.1997 03:59:26

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 12.5kHz Analog, 450.025 MHz

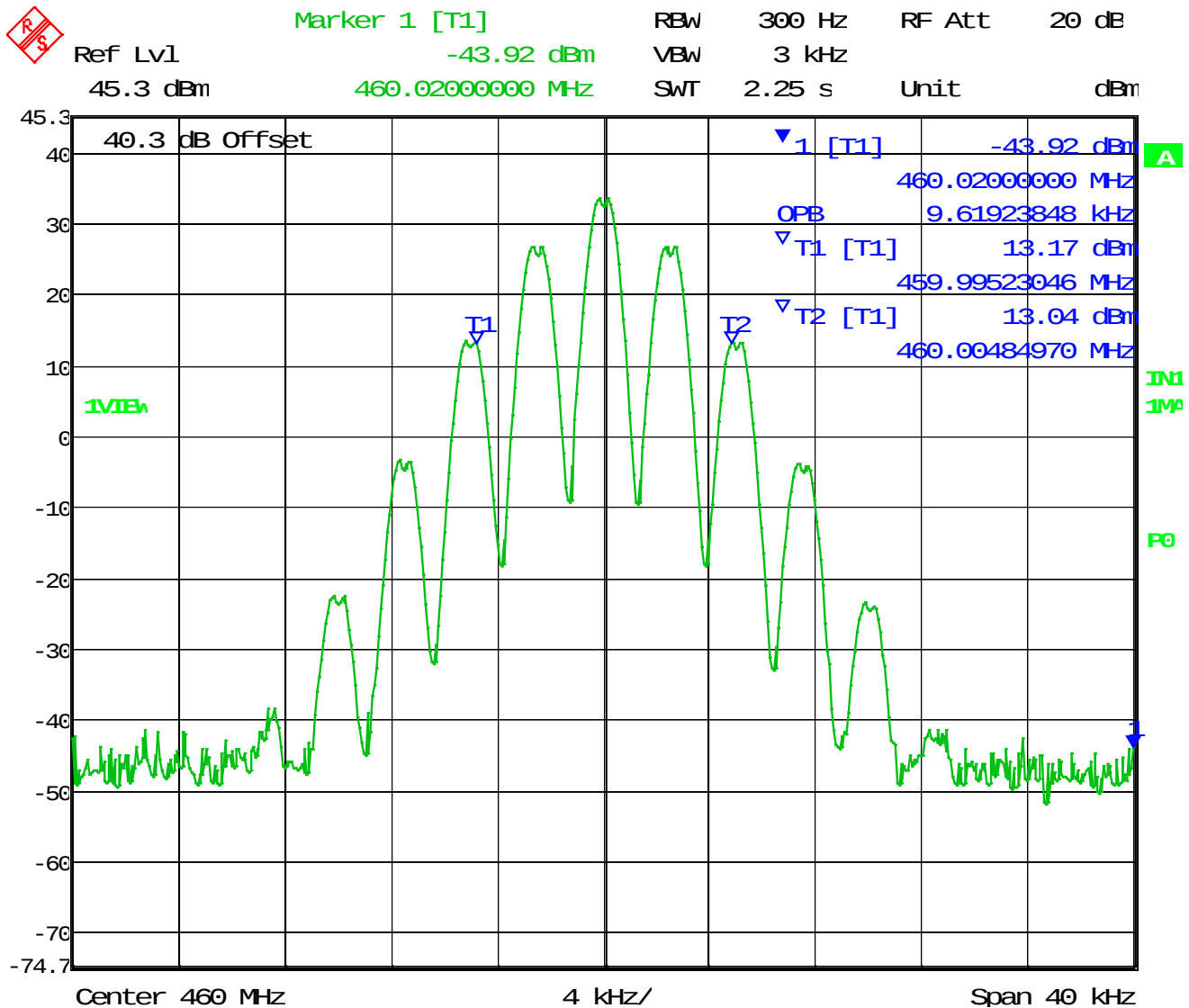


Date: 1. JAN. 1997 03:58:37

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 61C18TestReport_Rev4

Table of Contents

OCCUPIED BANDWIDTH (99 %) 12.5kHz Analog, 460.000 MHz

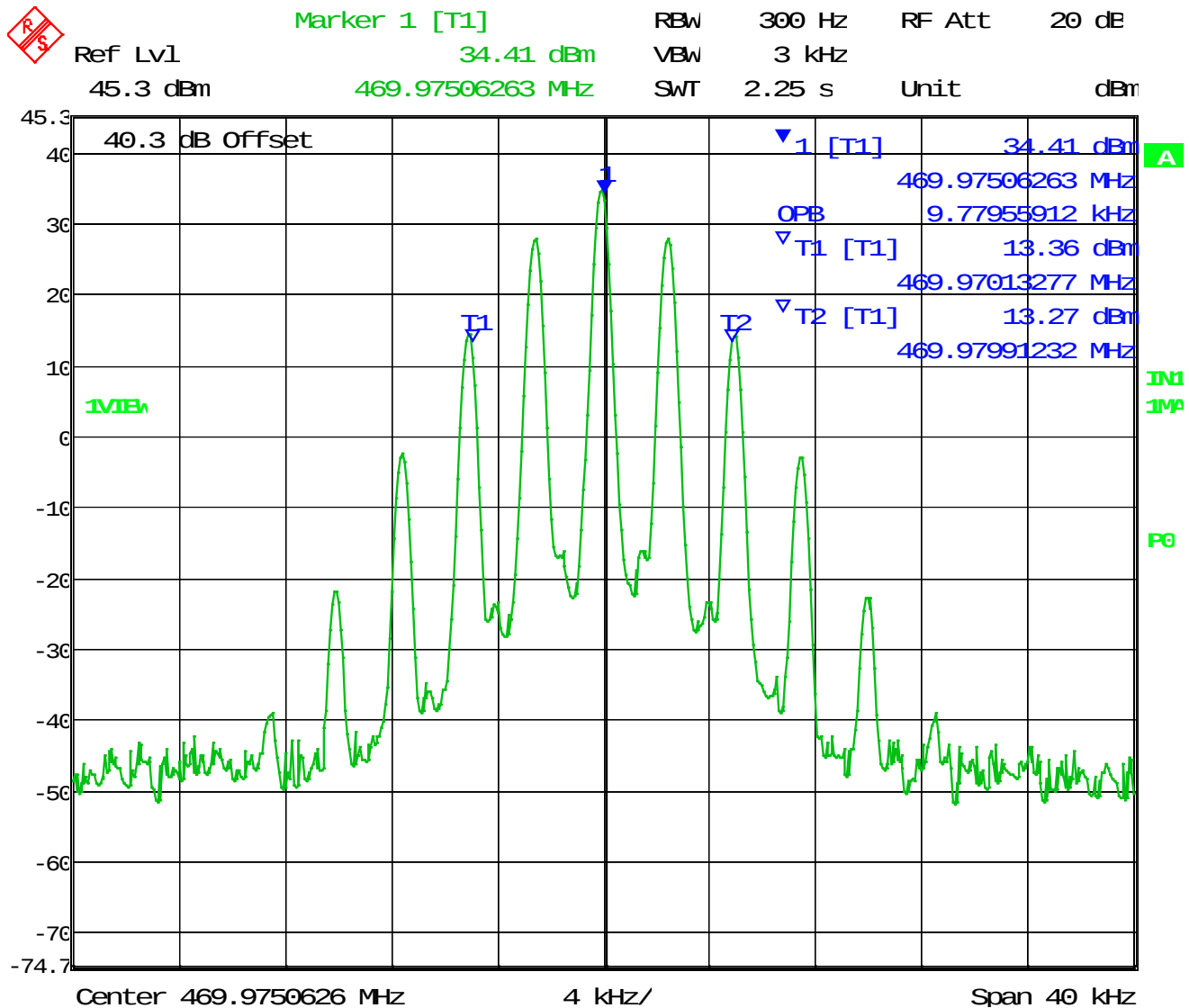


Date: 1.JAN.1997 03:57:13

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 12.5kHz Analog, 469.975 MHz

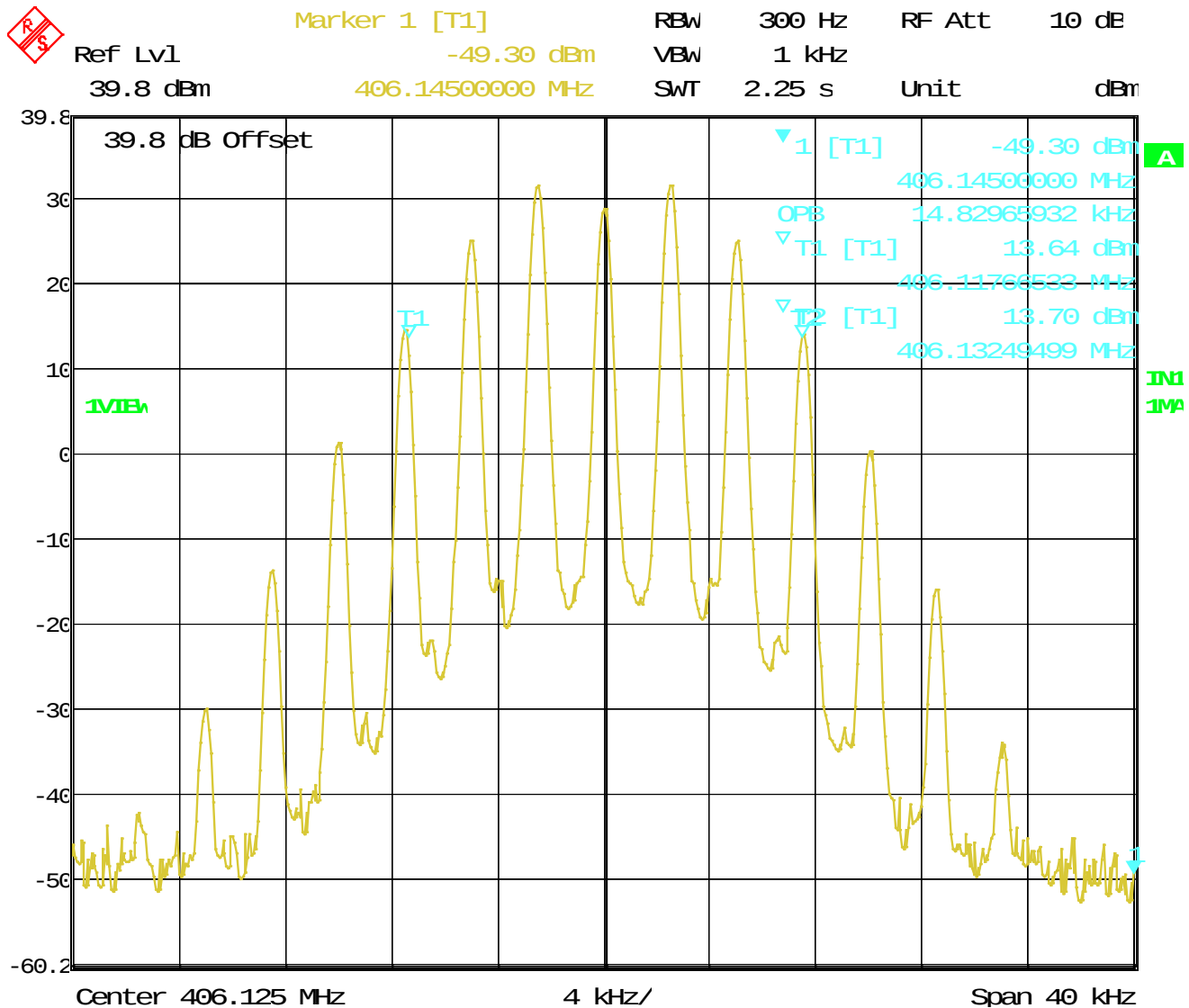


Date: 1.JAN.1997 03:56:02

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 25kHz Analog, 406.125 MHz

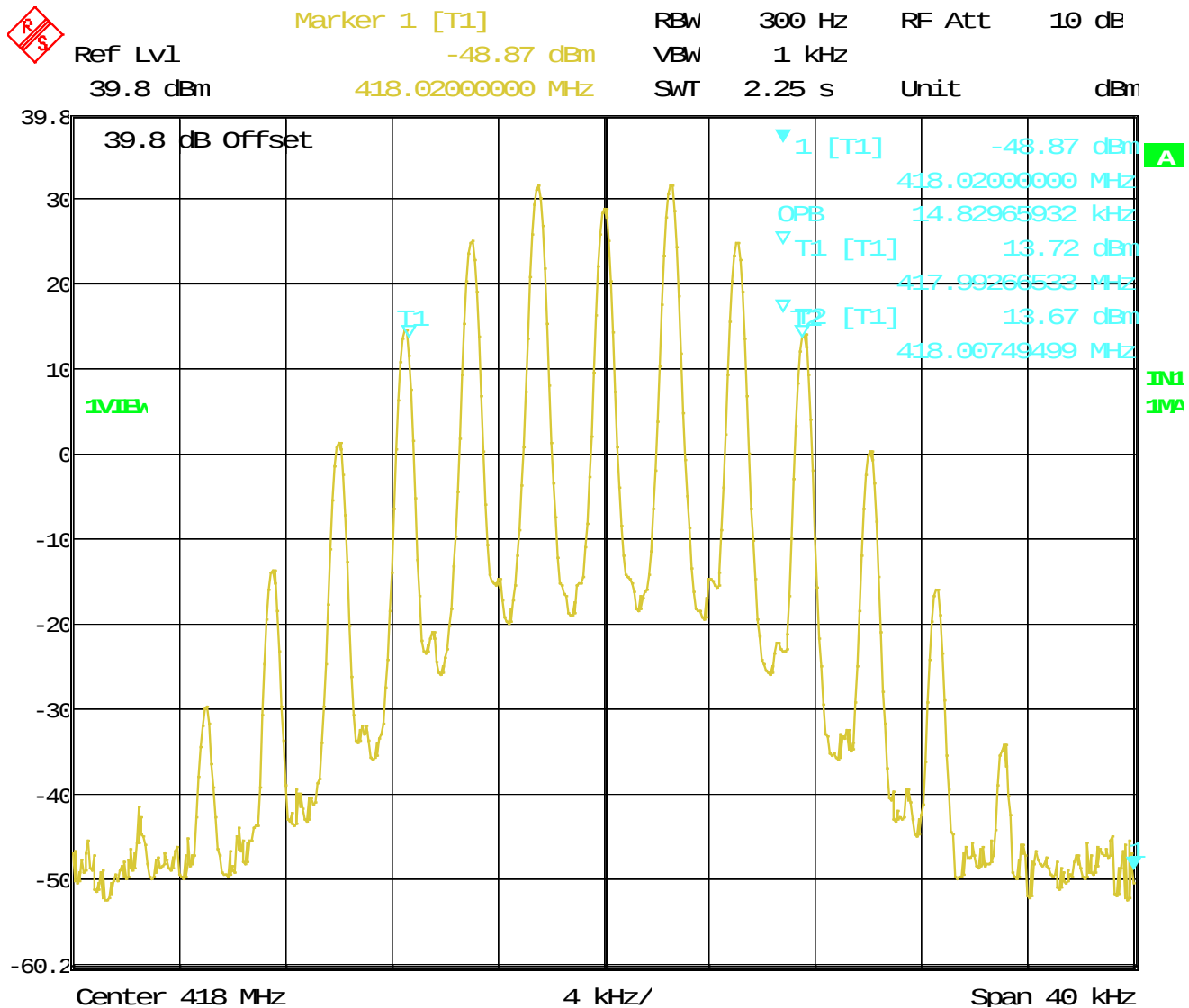


Date: 1.JAN.1997 02:40:28

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 25kHz Analog, 418.000 MHz

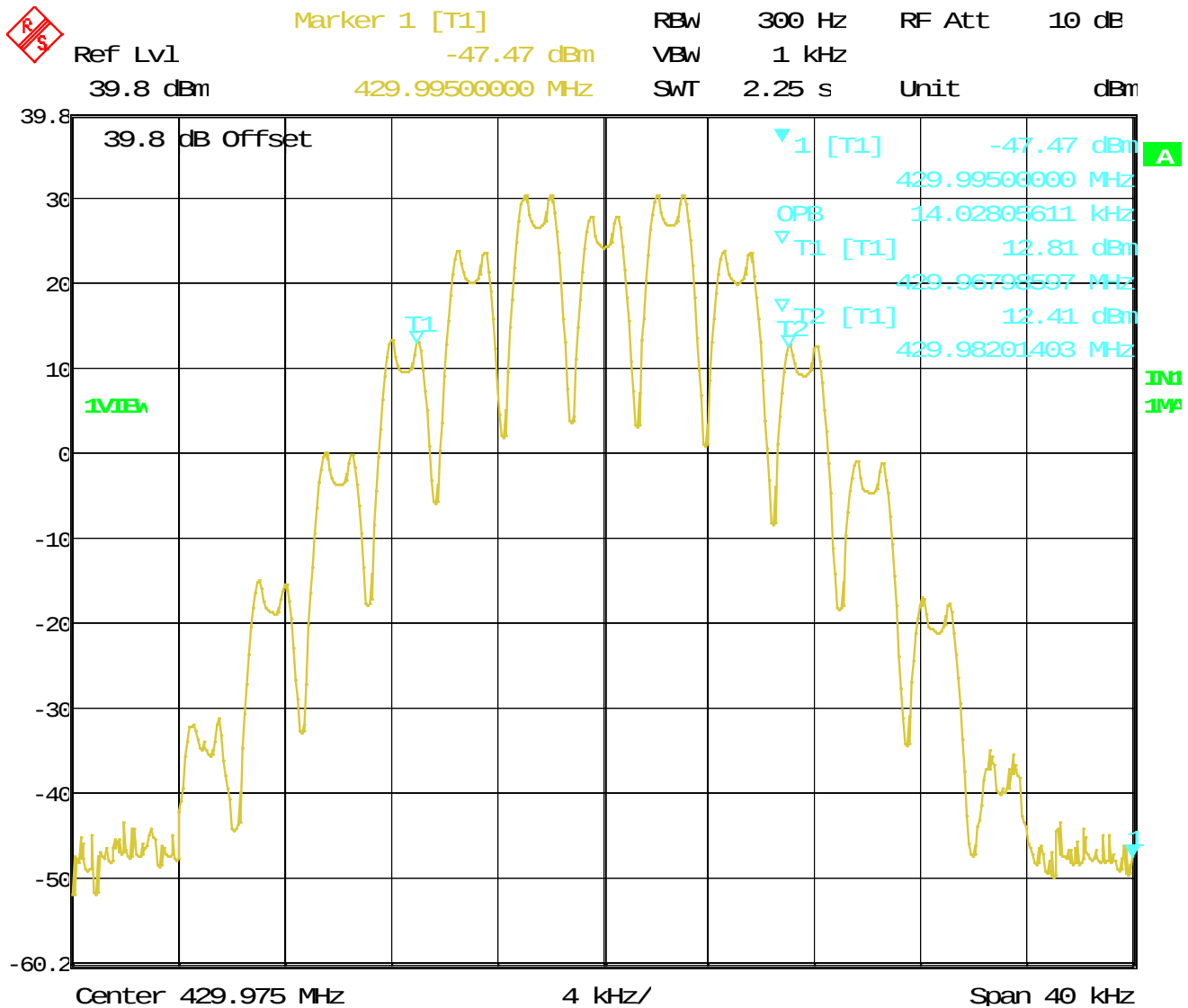


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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 25kHz Analog, 429.975 MHz



Date: 1.JAN.1997 02:38:33

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 25kHz Analog, 450.025 MHz



Date: 1.JAN.1997 05:12:21

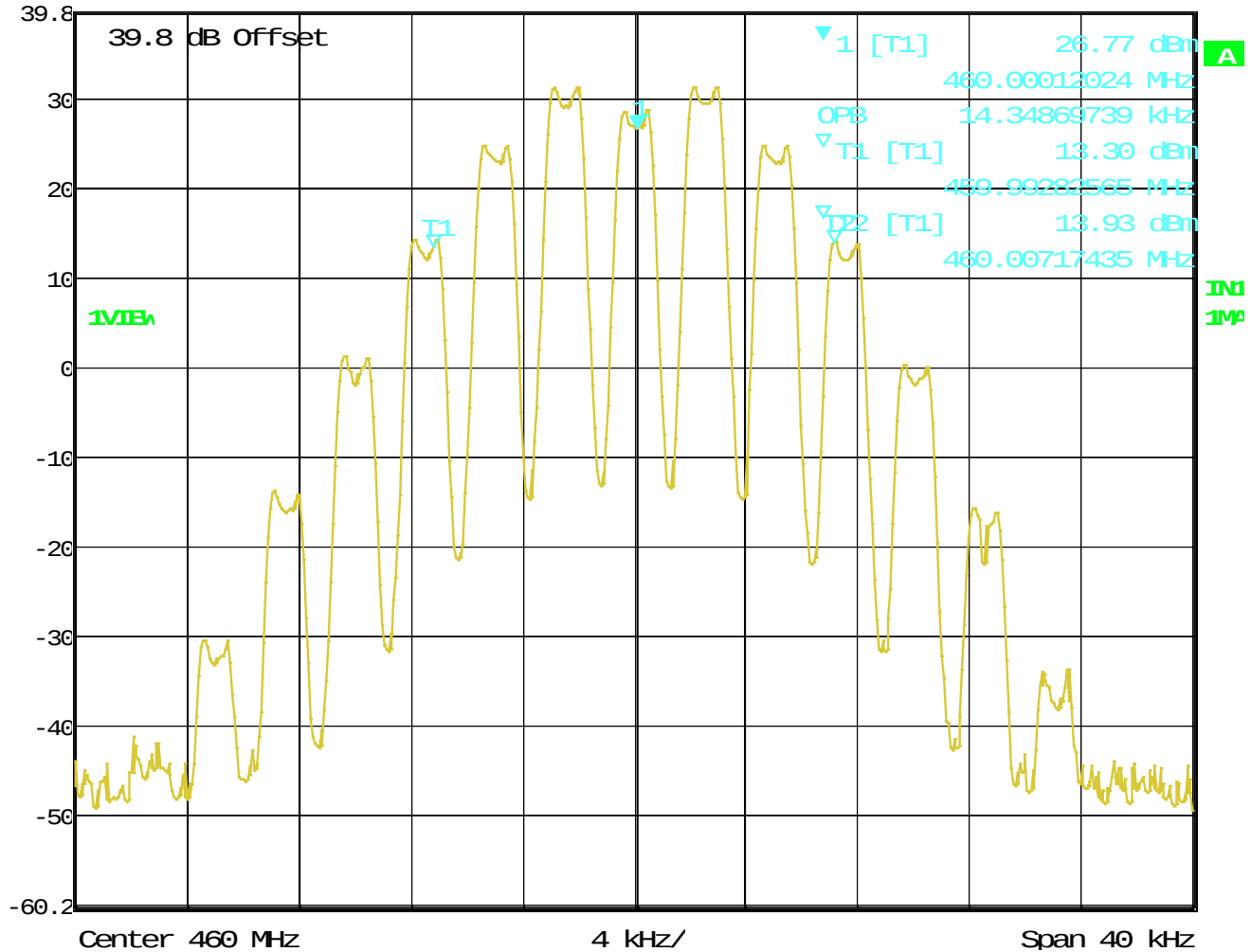
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IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

Table of Contents

OCCUPIED BANDWIDTH (99 %) 25kHz Analog, 460.000 MHz



Marker 1 [T1]
 Ref Lvl 26.77 dBm
 39.8 dBm 460.00012024 MHz
 RBW 300 Hz RF Att 10 dB
 VBW 1 kHz
 SWT 2.25 s Unit dBm

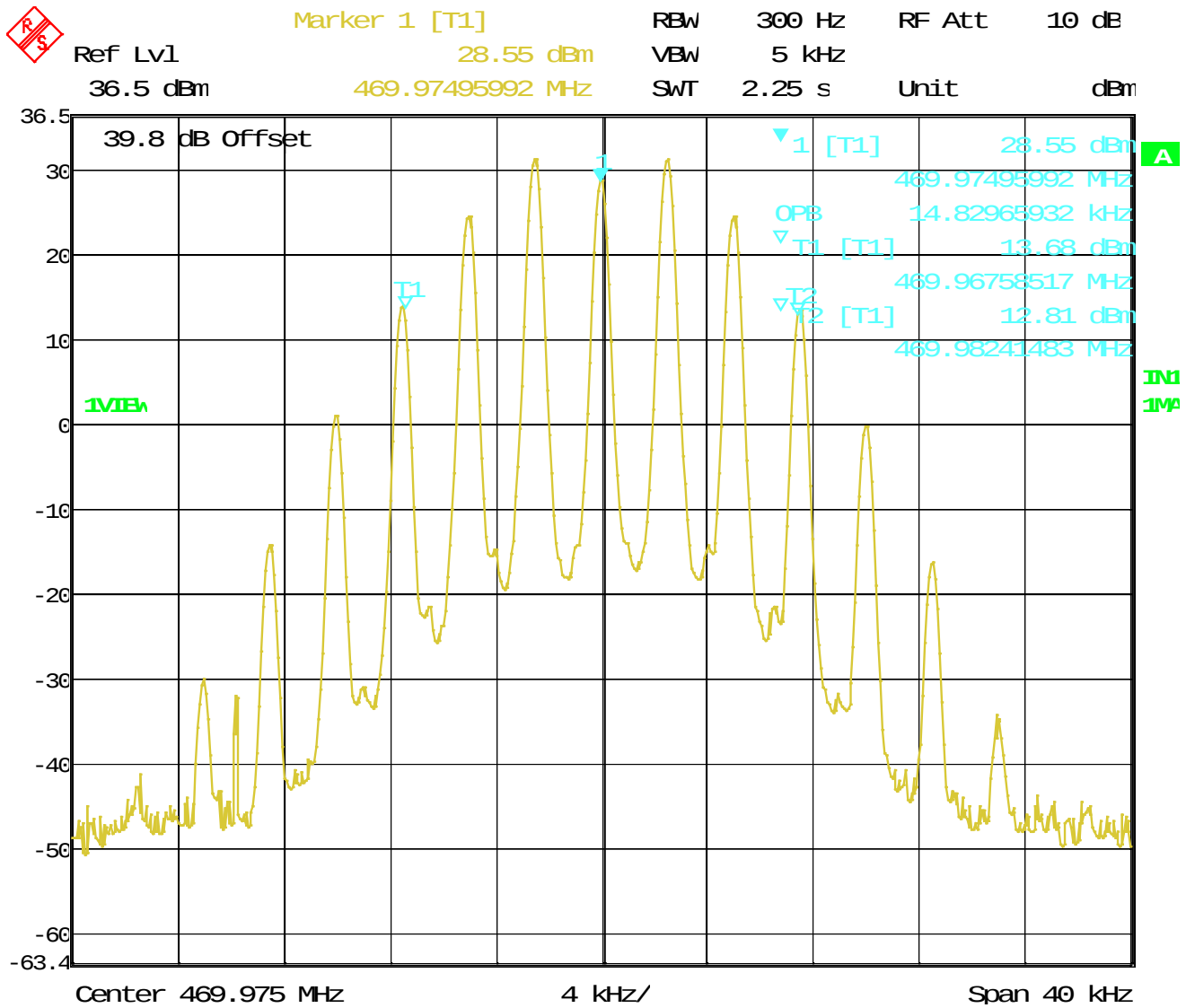


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Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) 25kHz Analog, 469.975 MHz

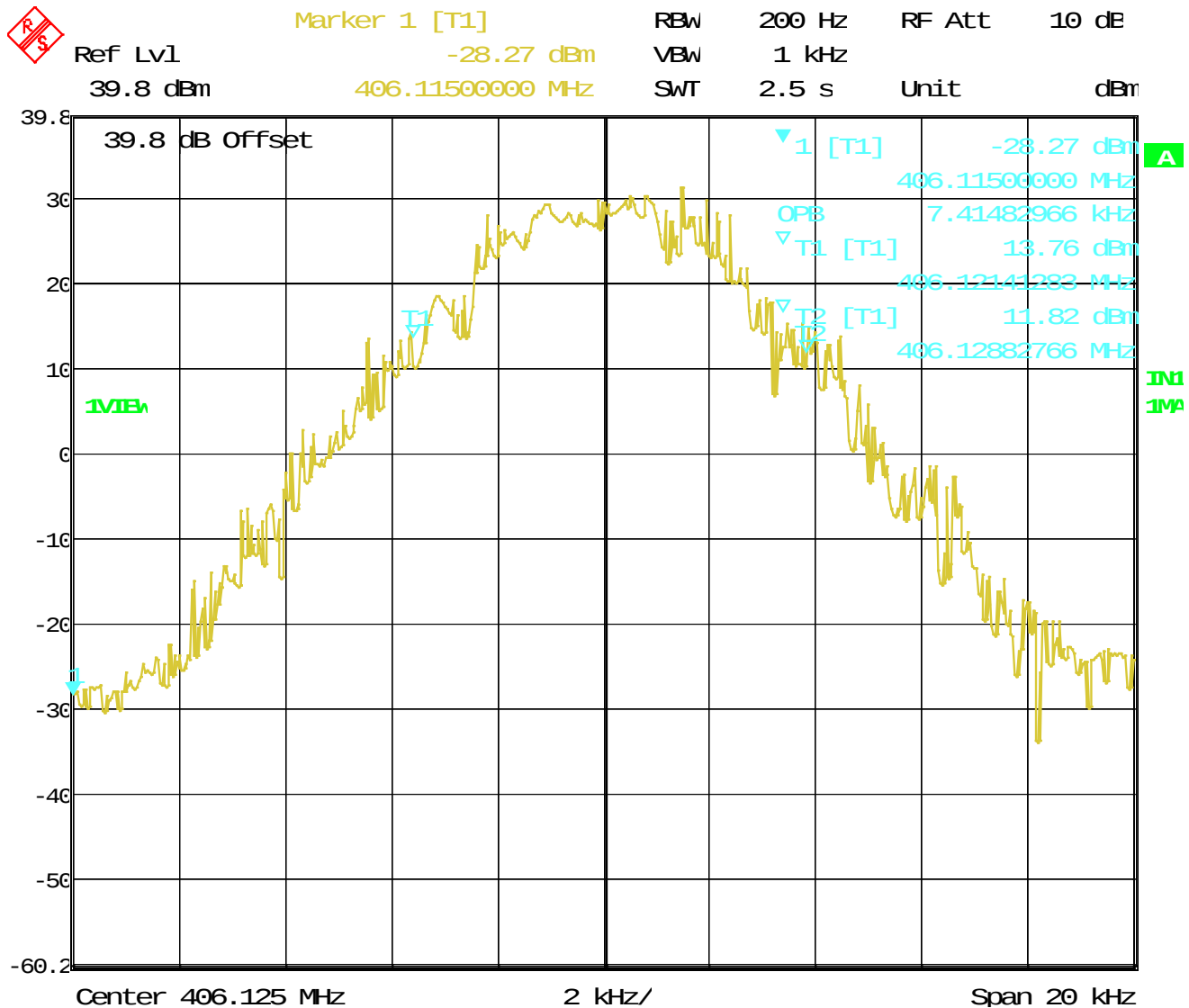


Date: 1.JAN.1997 04:14:05

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital, 406.125 MHz

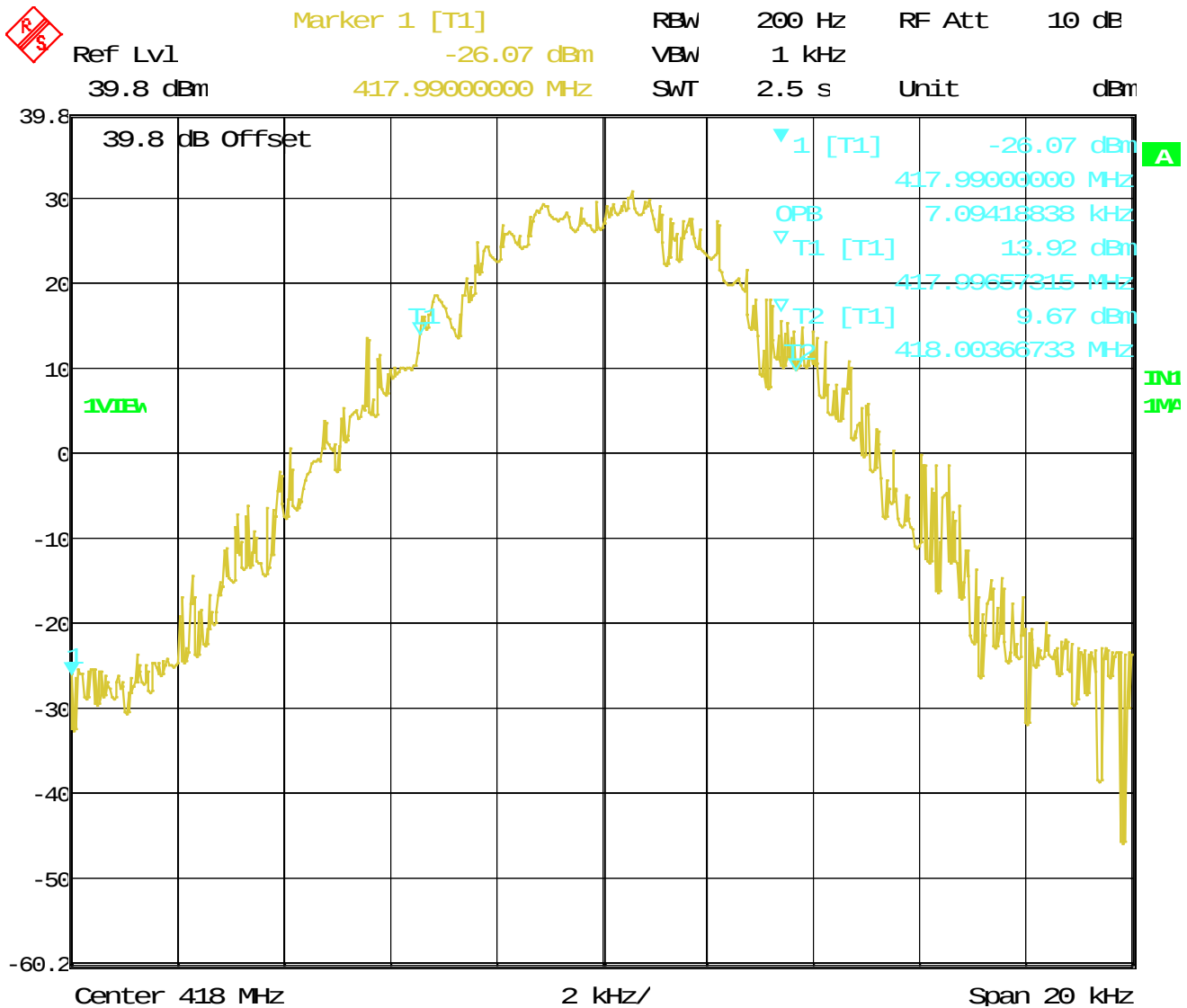


Date: 1.JAN.1997 02:27:56

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital, 418.000 MHz

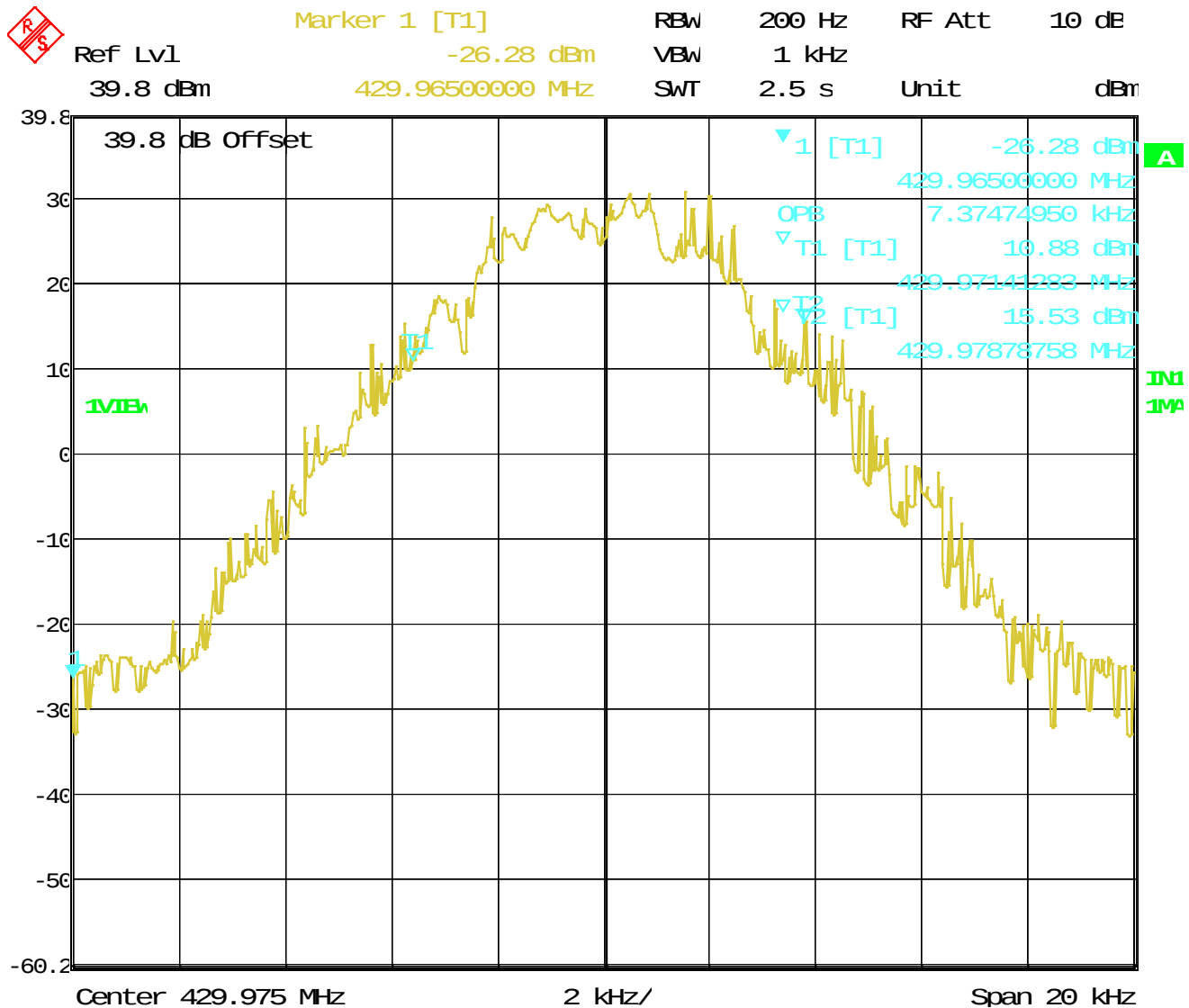


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Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital, 429.975 MHz

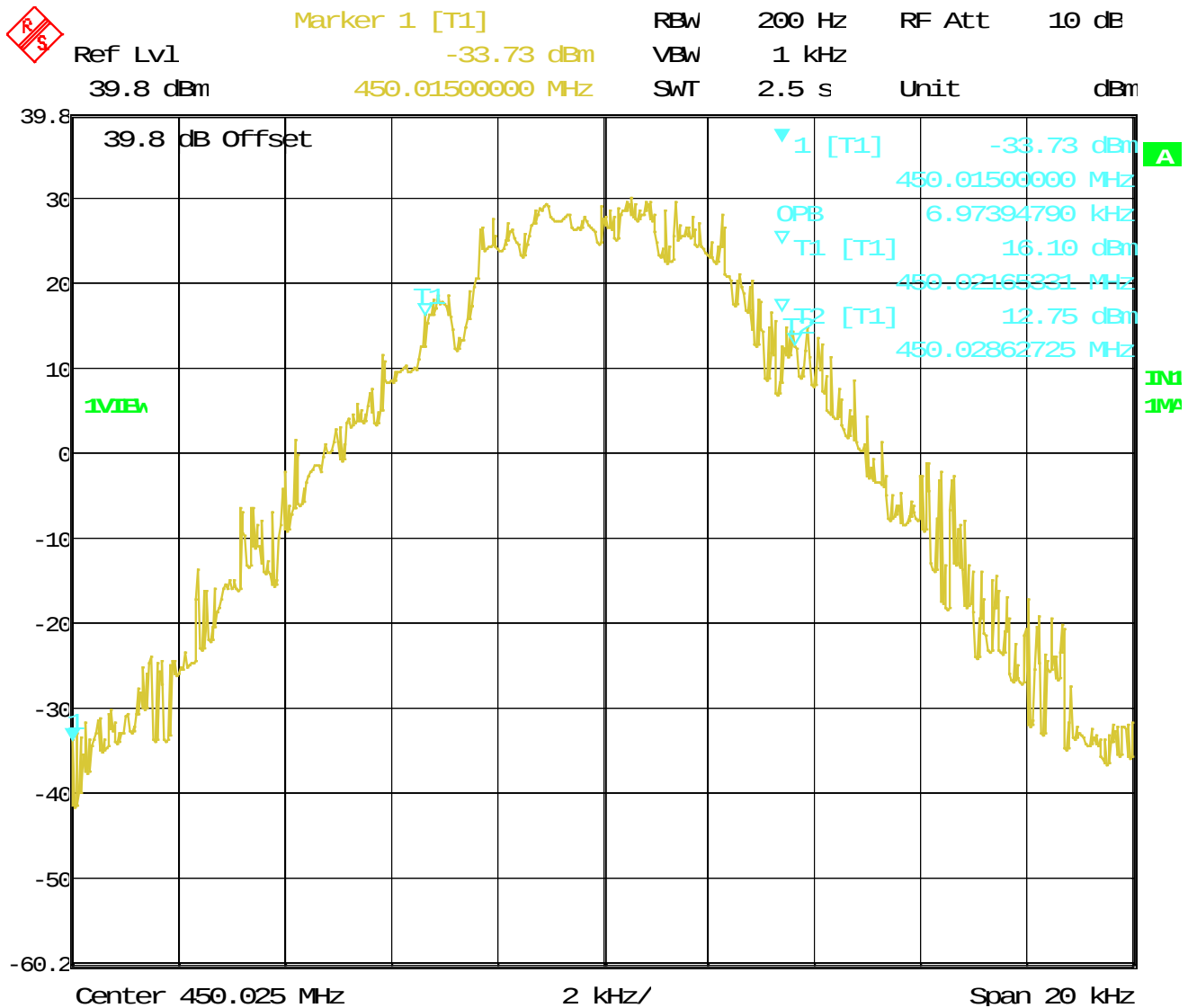


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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital, 450.025 MHz

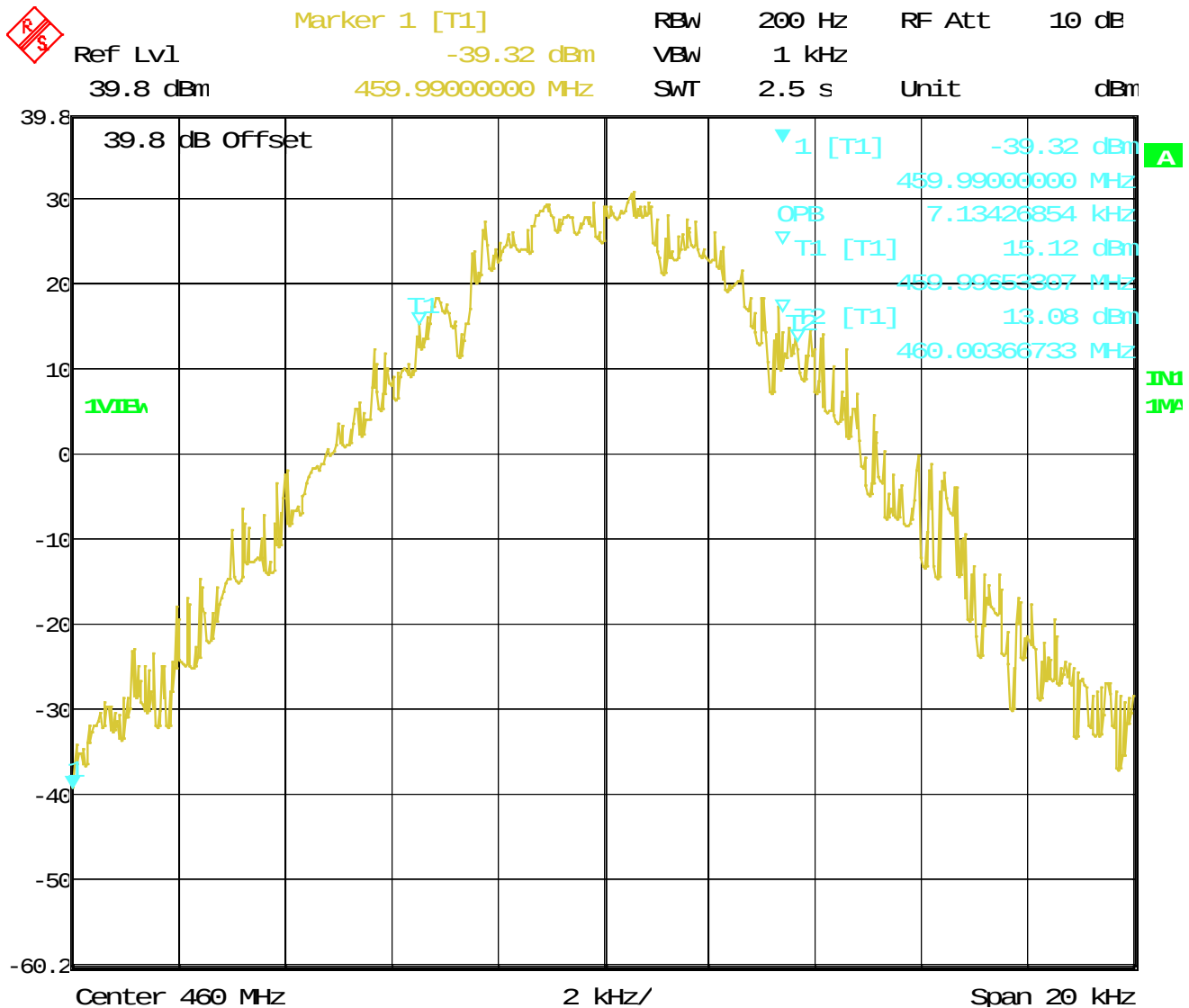


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IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital, 460.000 MHz

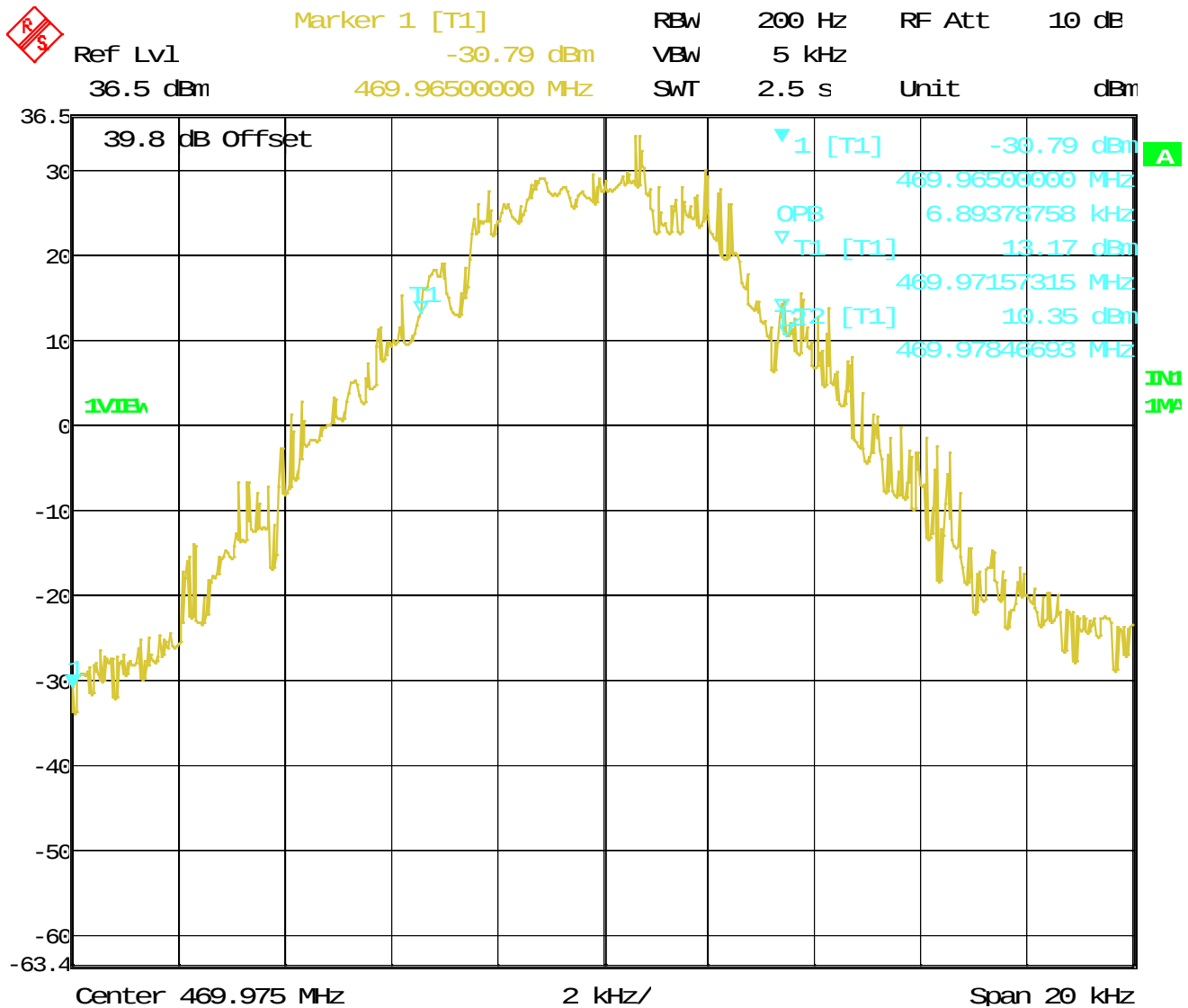


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Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital, 469.975 MHz

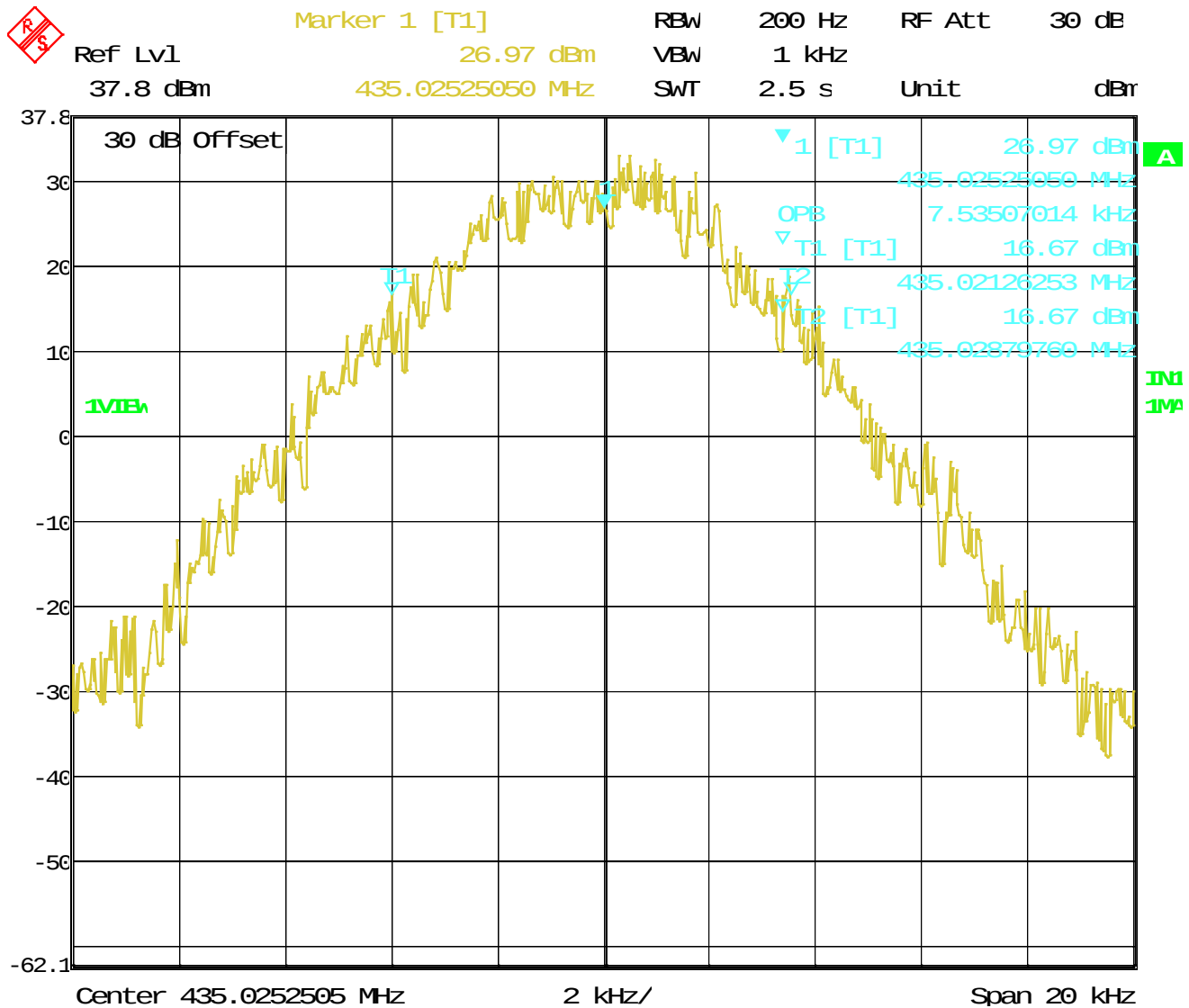


Date: 1.JAN.1997 04:12:07

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital 7K53F1E, 435.025 MHz

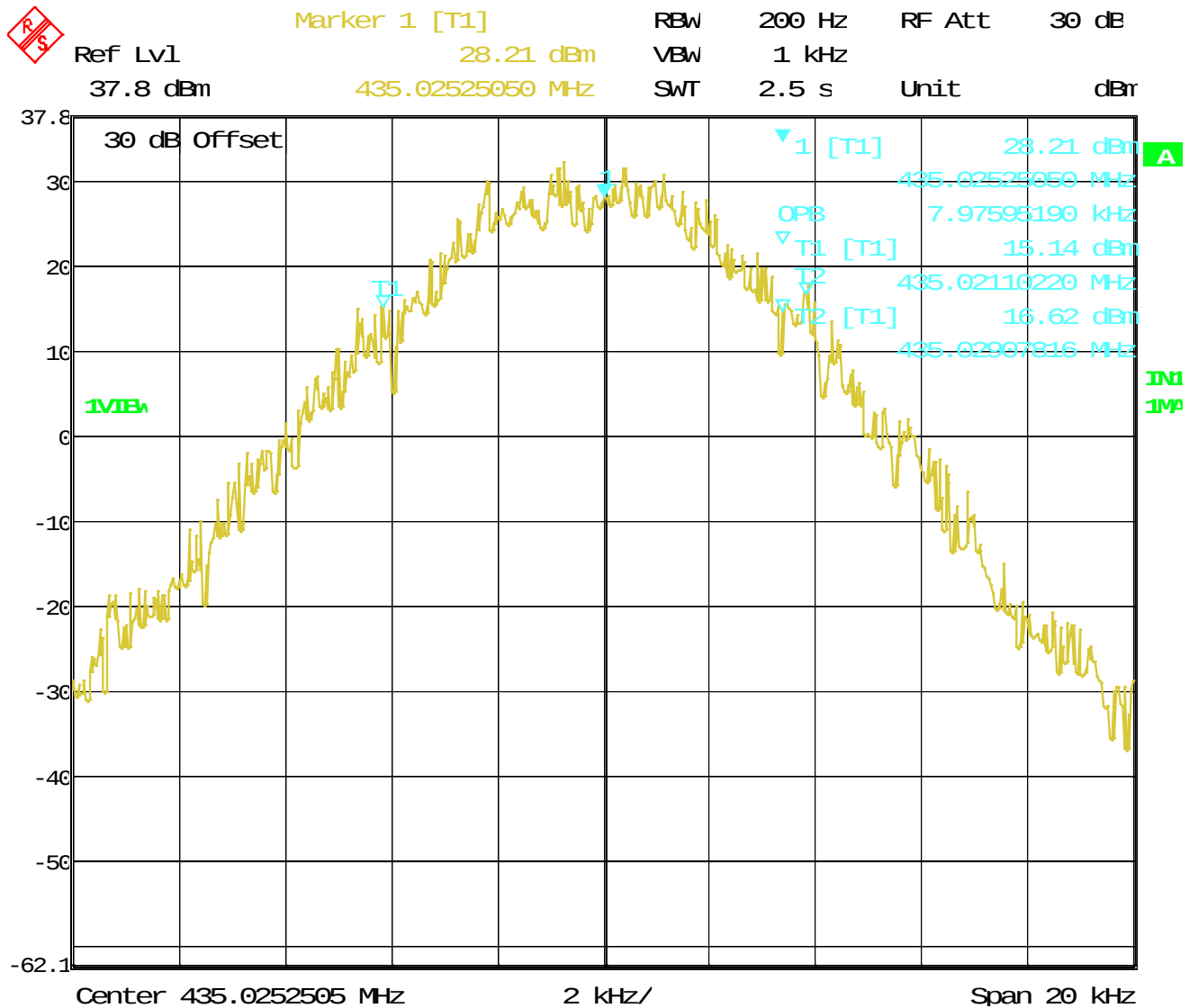


Date: 1.JAN.1997 04:28:25

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital 7K97FXE, 435.025 MHz

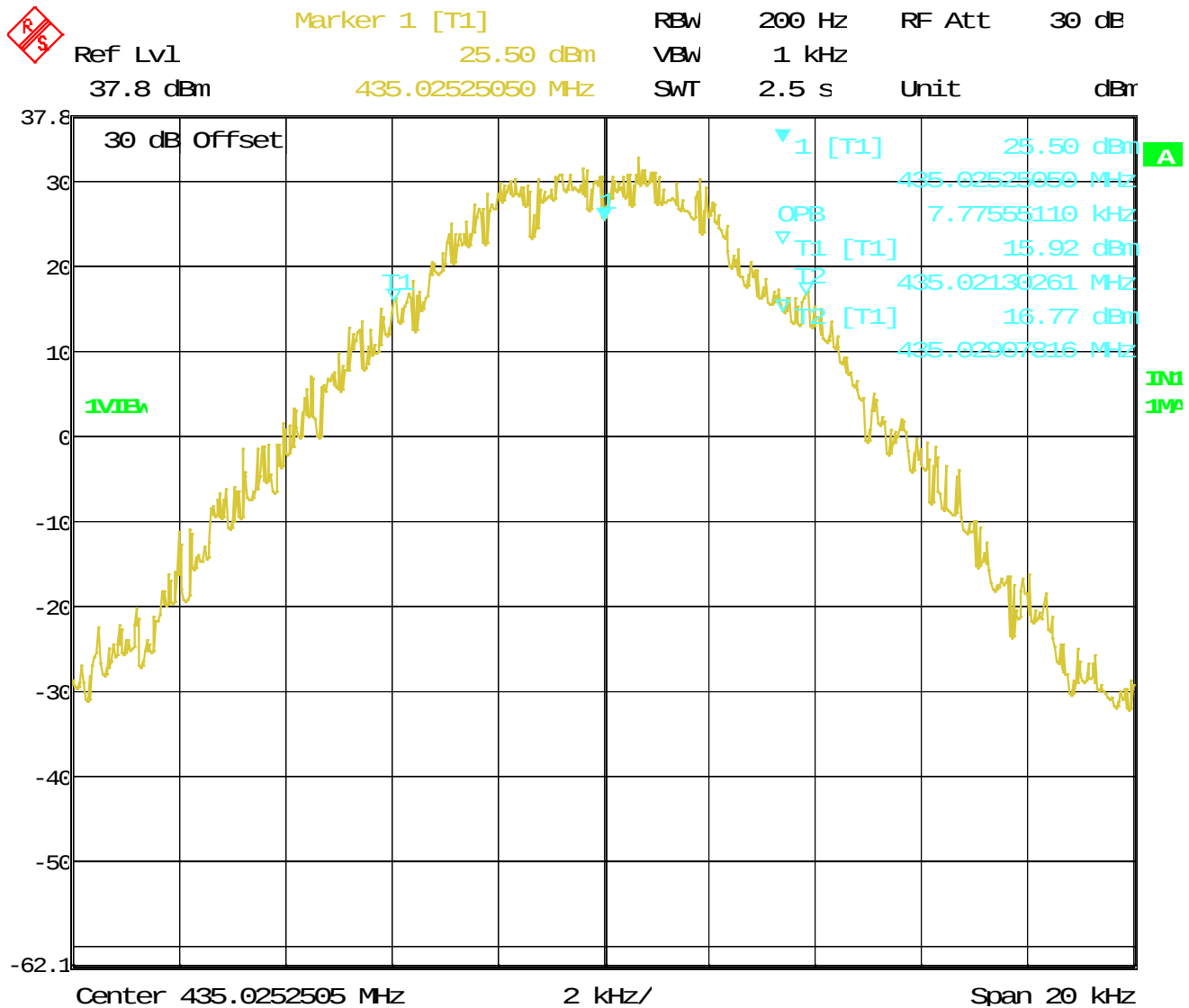


Date: 1.JAN.1997 04:27:43

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital 7K77F1W, 435.025 MHz

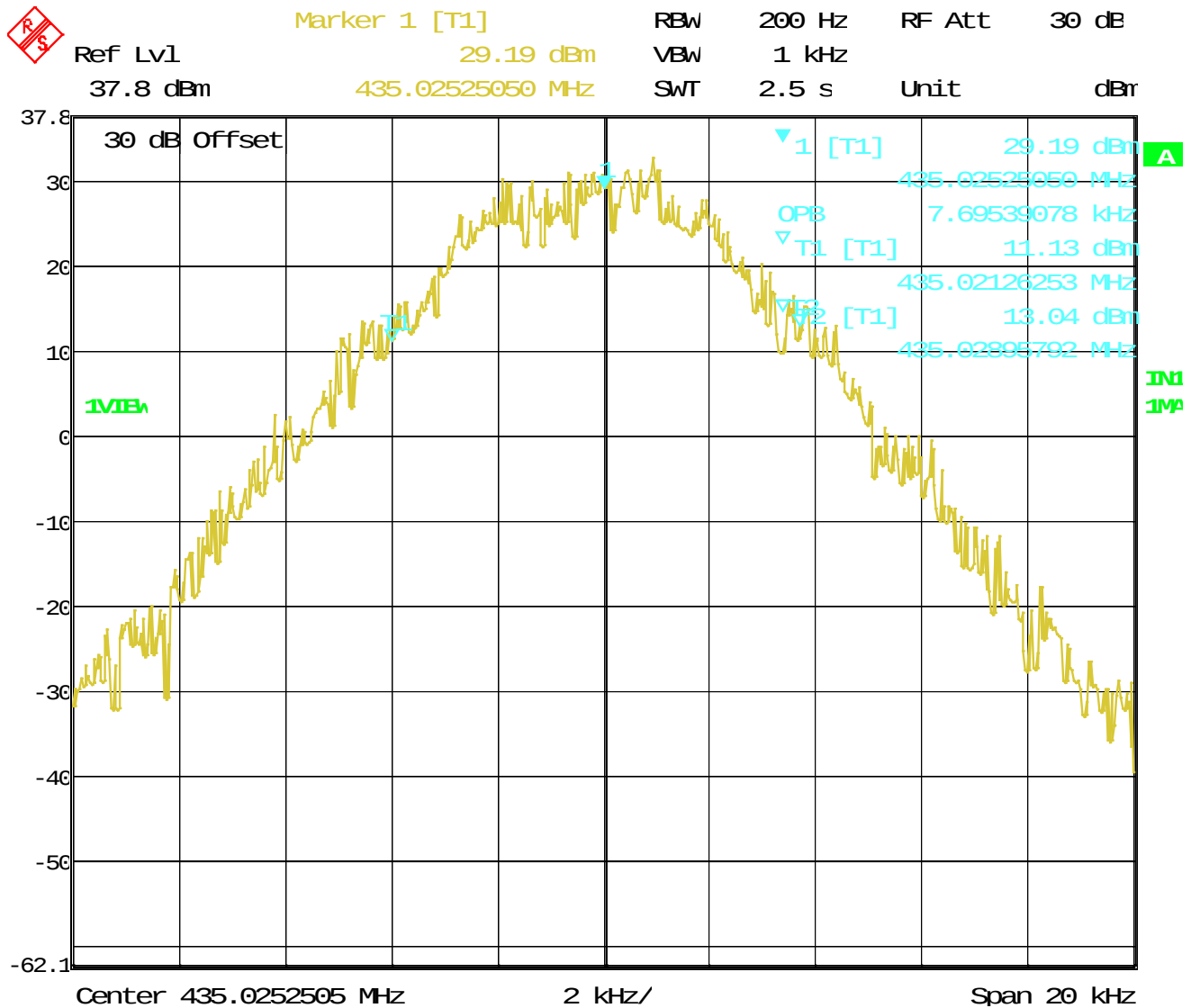


Date: 1.JAN.1997 04:26:47

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH (99 %) Digital 7K69FXD, 435.025 MHz



Date: 1.JAN.1997 04:29:07

RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

Table of Contents

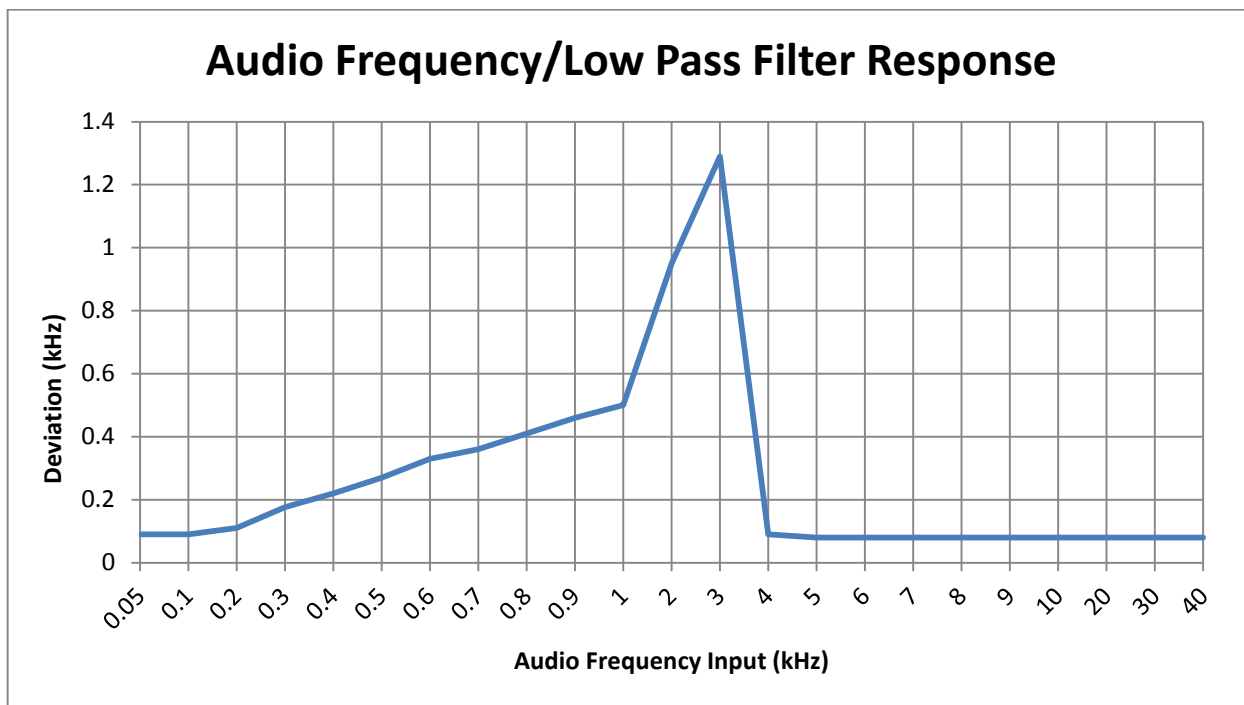
AUDIO FREQUENCY RESPONSE

Rule Part No.: ANSI C63.26 5.3.1

Method of Measurement:

The audio frequency response was measured in accordance with ANSI C63.26. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 – 5000Hz shall be submitted. The audio frequency response curve is shown below.

Test Data: AUDIO FREQUENCY RESPONSE PLOT



RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

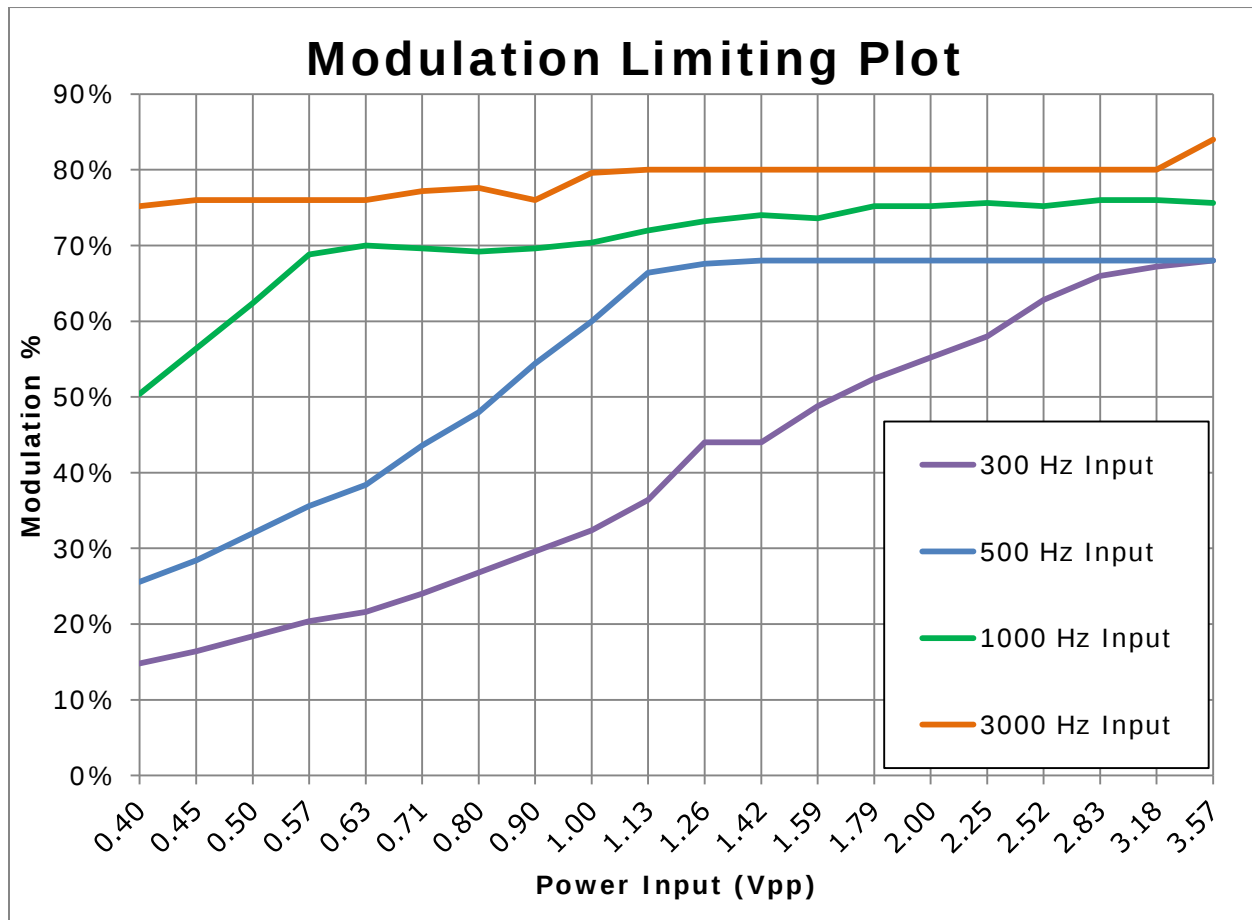
AUDIO INPUT VERSUS MODULATION

Rule Part No.: ANSI C63.26 5.3.1

Test Requirements: Modulation may not exceed 100%

Method of Measurement: The audio input level needed for a particular percentage of modulation was measured in accordance with ANSI C63.26. The audio input curves versus modulation are shown below.

Test data: MODULATION LIMITING PLOT



RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH

RSS-GEN 6.6 **EMISSION BANDWIDTH**
RSS-119 4.2

Emission Mask B 25 kHz Channel Spacing

Data in the plots show that on any frequency removed from the assigned frequency by more than 50%, but not more than 100%: At least 25dB. On any frequency removed from the assigned frequency by more than 100%, but not more than 250%: At least 35 dB. On any frequency removed from the assigned frequency by more than 250%, of the authorized bandwidth: At least $43 + 10\log(P)$ dB.

Emission Mask D 12.5kHz Channel Spacing

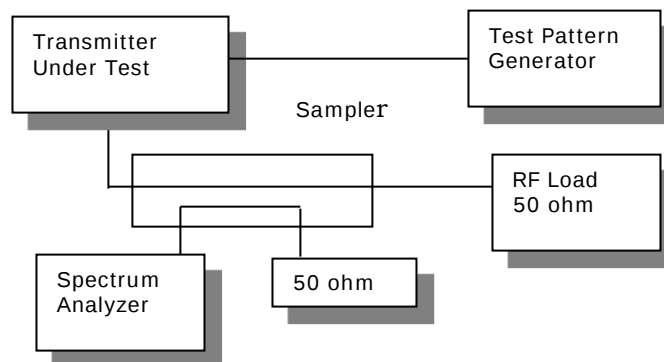
For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

- (1) On any frequency from the center of the authorized bandwidth f_0 to 5.625 kHz removed from f_0 : Zero dB.
- (2) On any frequency from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5.625 kHz but no more than 12.5 kHz: At least $7.27(f_d - 2.88 \text{ kHz})$ dB.
- (3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5 kHz: At least $50 + 10\log(P)$ dB or 70 dB, whichever is the lesser attenuation.

Test procedure: ANSI C63.26

Test Setup Diagram:

OCCUPIED BANDWIDTH MEASUREMENT

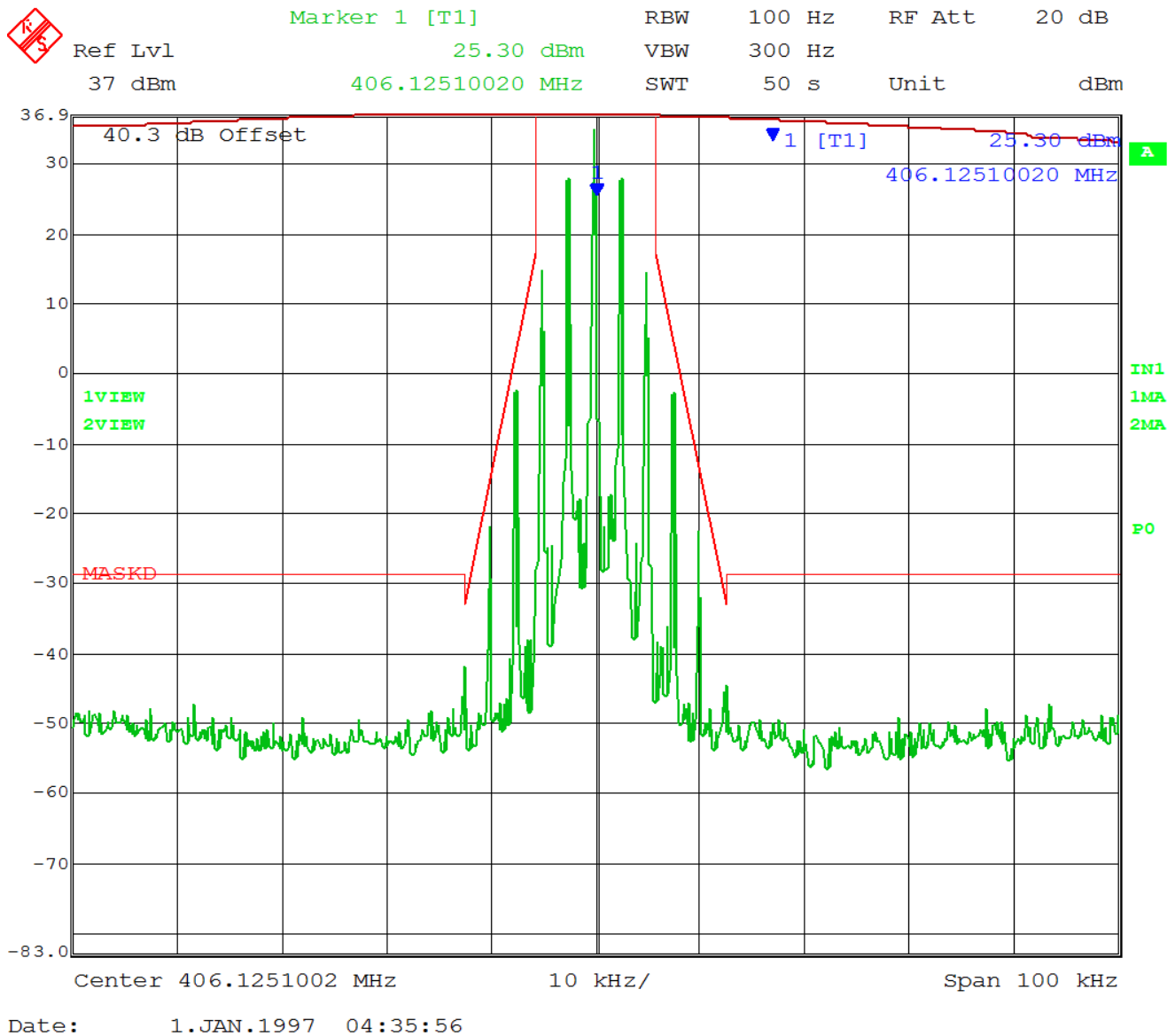


Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 406.125 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth - ANALOG

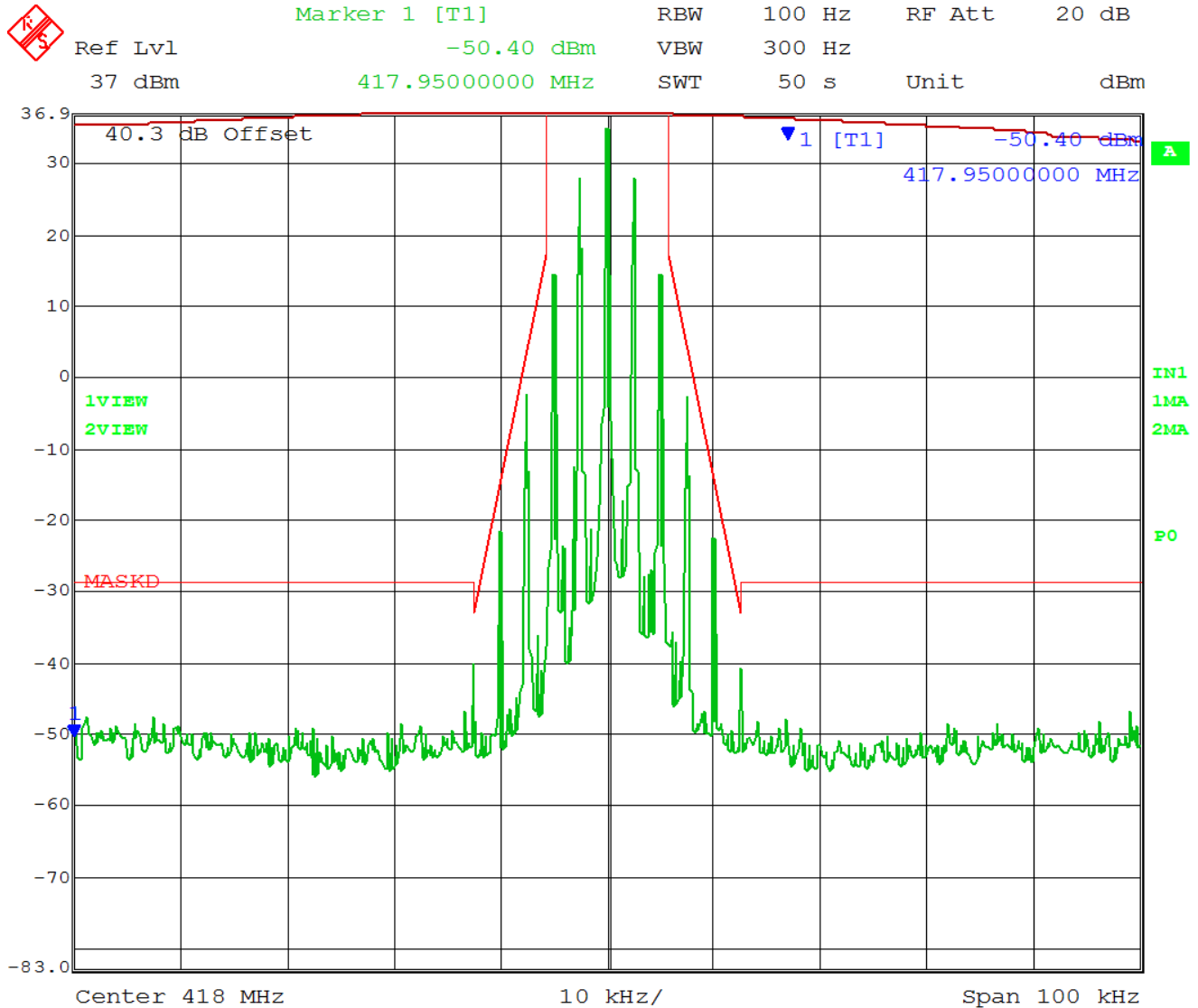


Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 418.000 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth - ANALOG



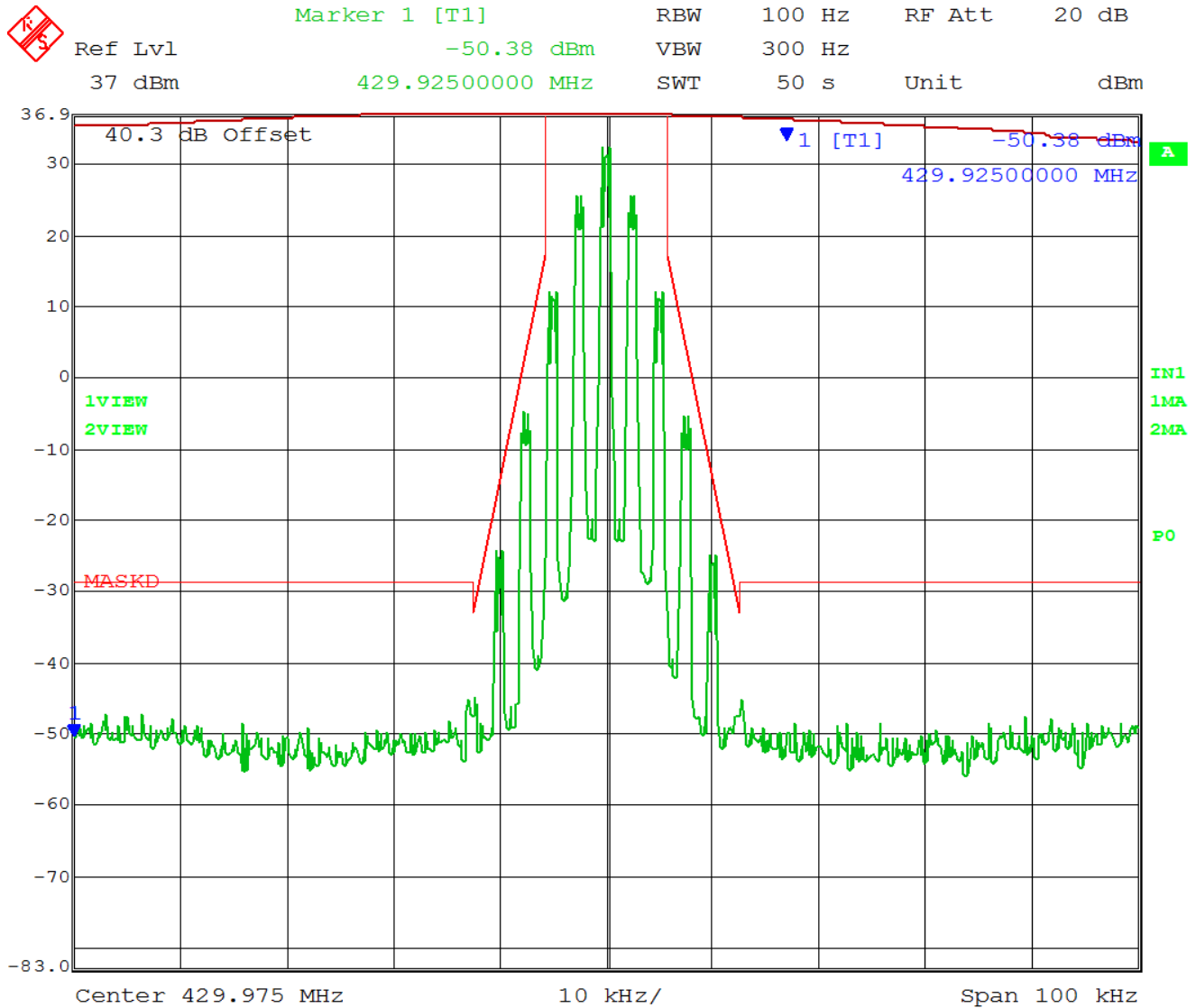
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Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 429.975 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth - ANALOG



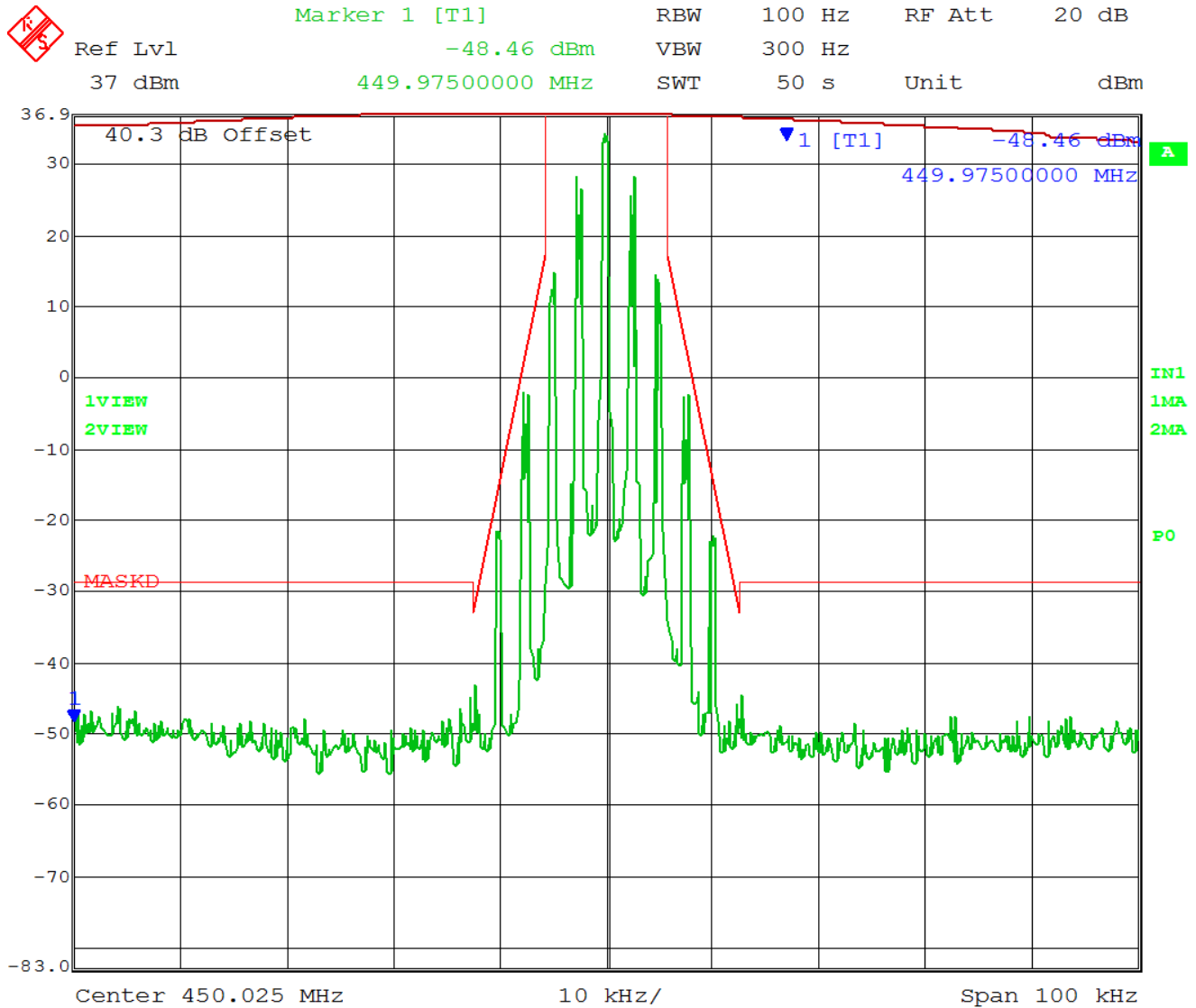
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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 450.025 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth - ANALOG



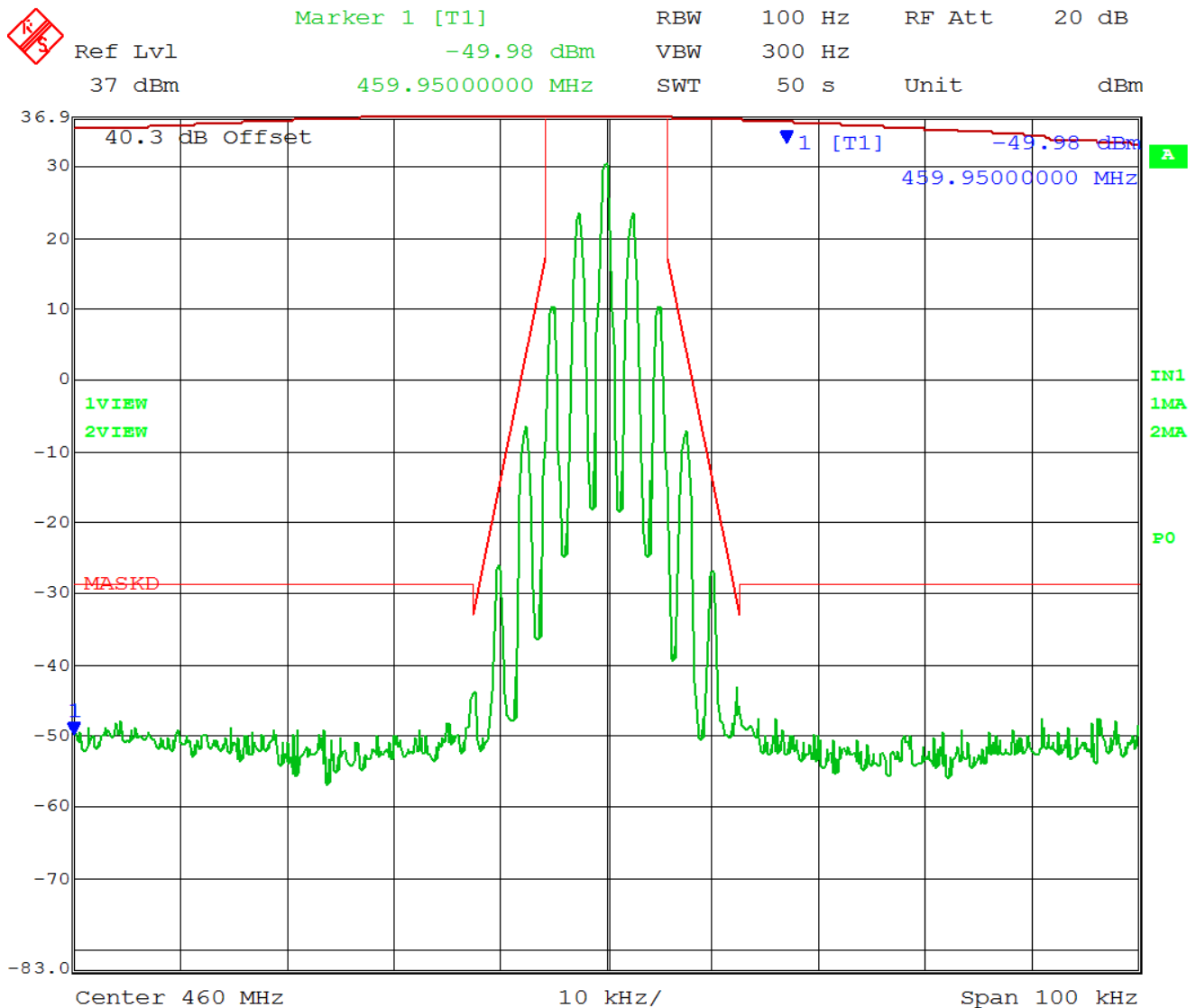
Date: 1.JAN.1997 04:40:47

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 460.000 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth - ANALOG



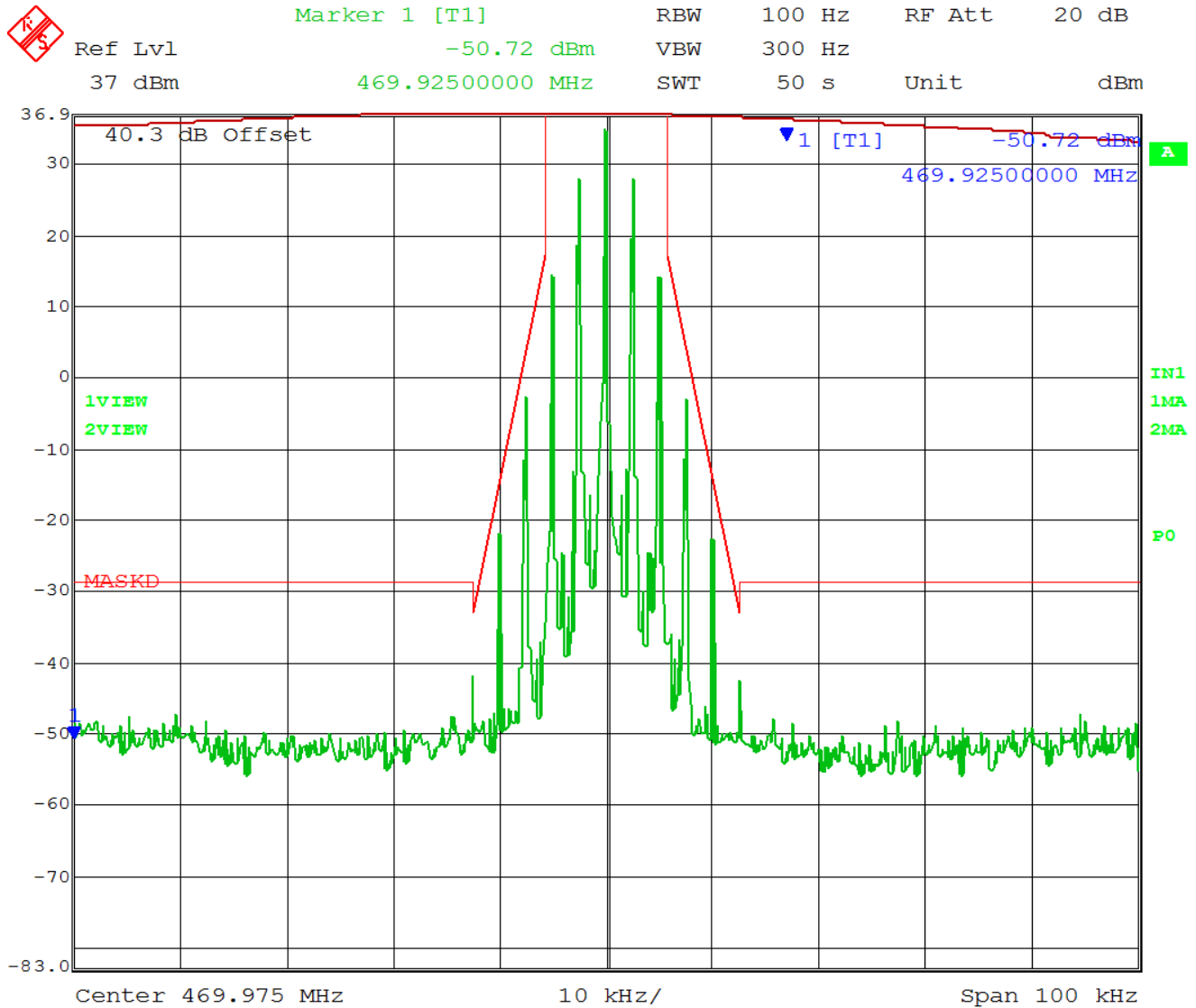
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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 12.5 kHz, 469.975 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth - ANALOG



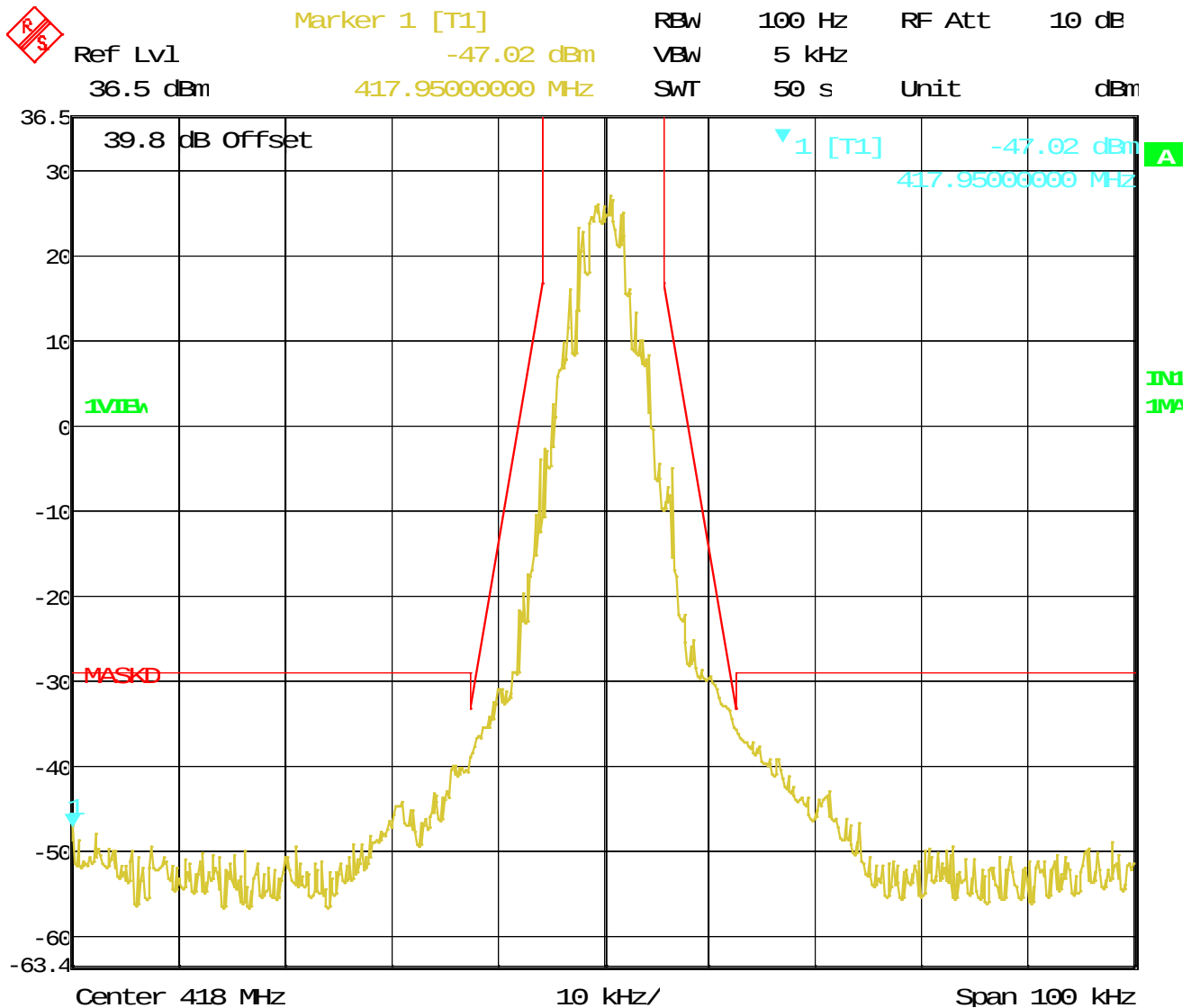
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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 418.000 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth – Digital (7K41F1D)



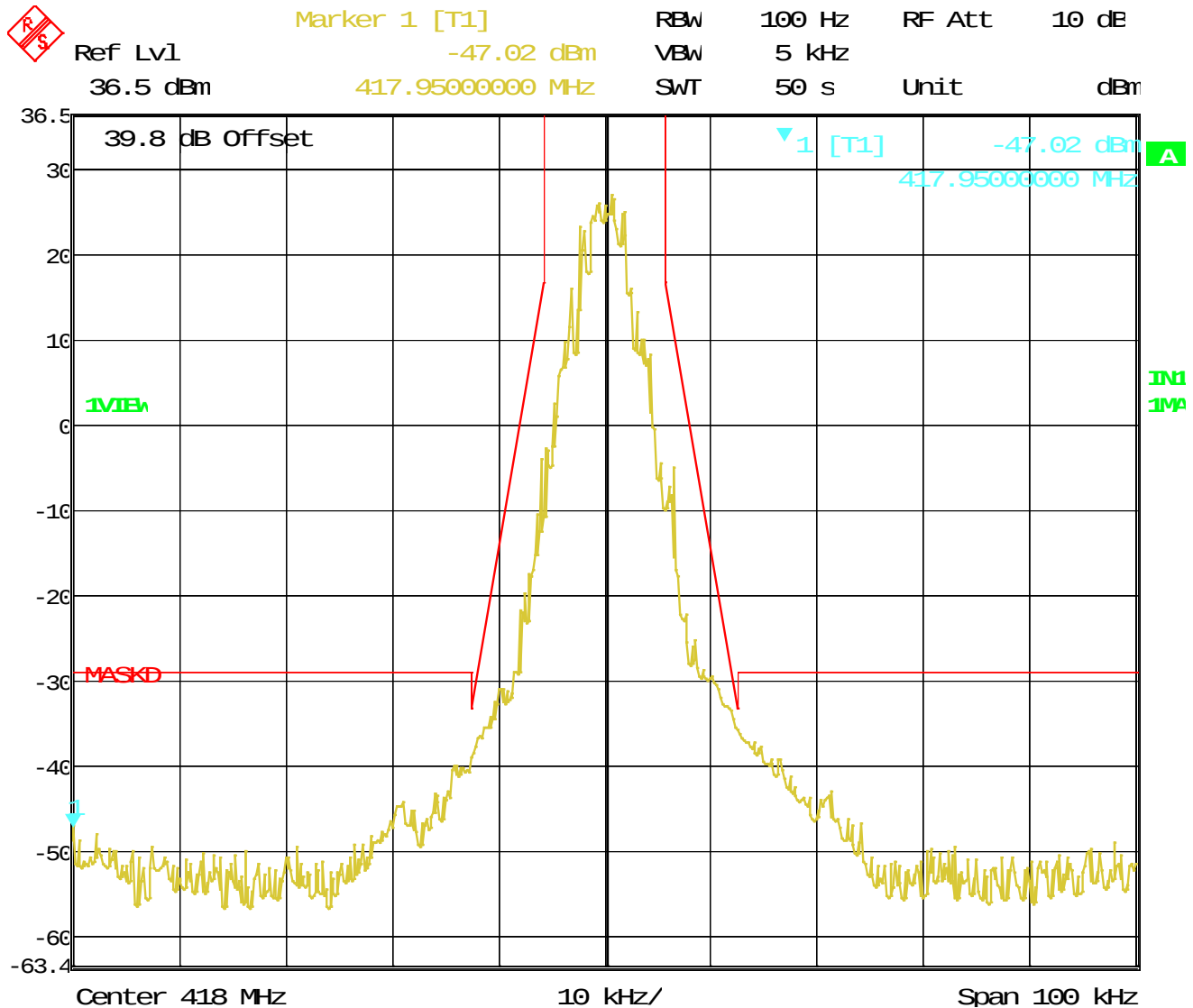
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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 429.975 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth – Digital (7K41F1D)



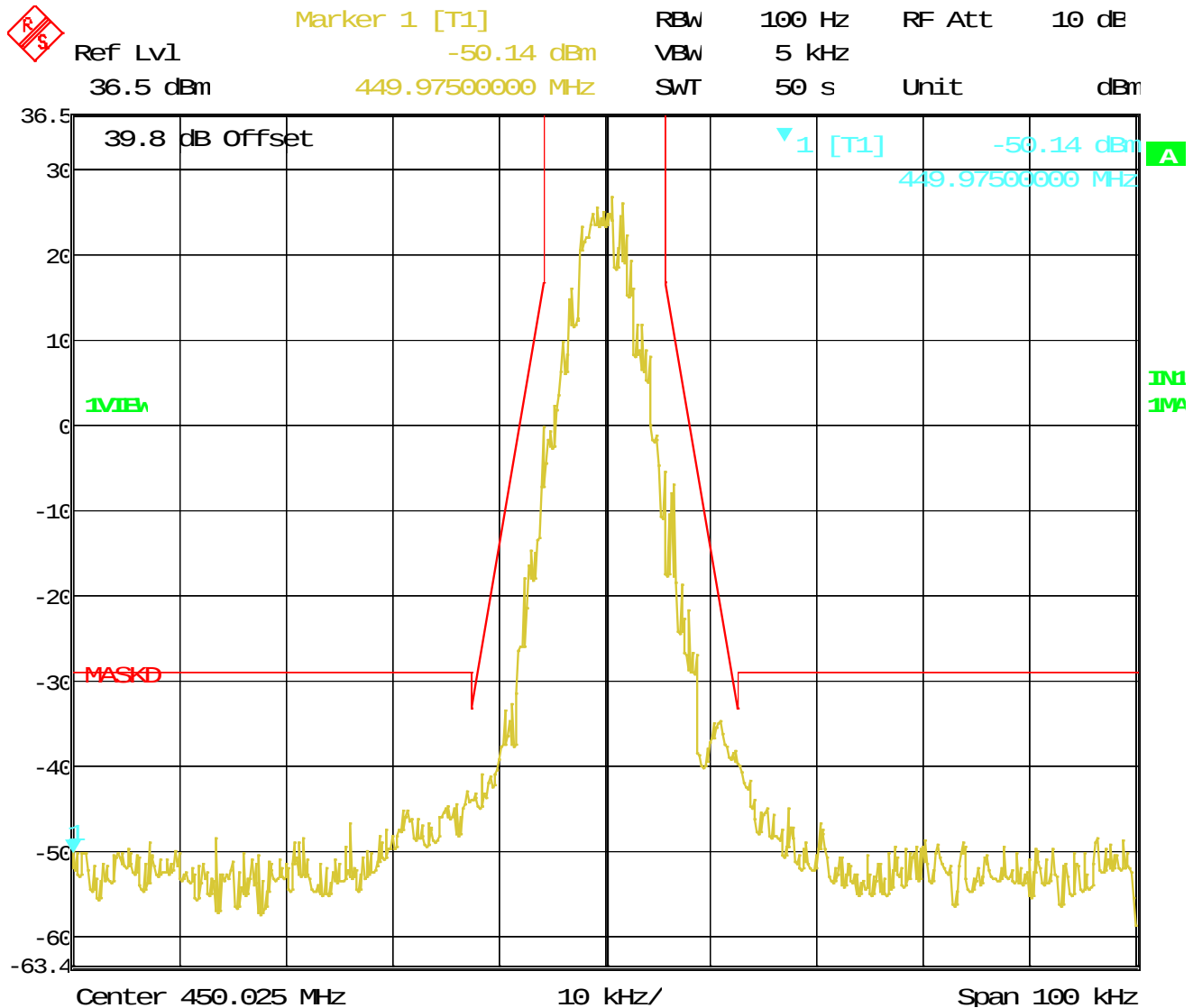
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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 450.025 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth – Digital (7K41F1D)



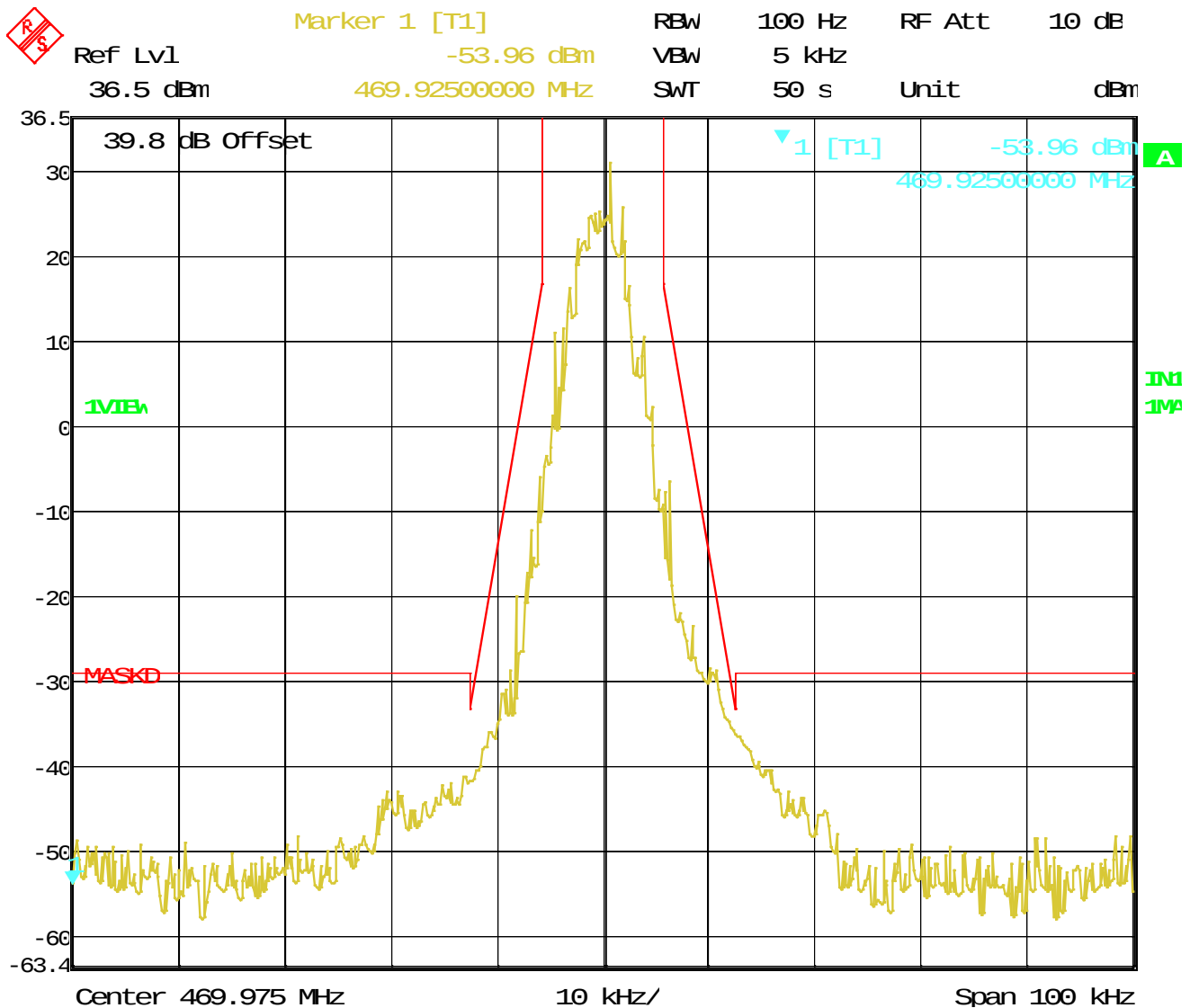
Date: 1.JAN.1997 03:58:28

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 469.975 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth – Digital (7K41F1D)



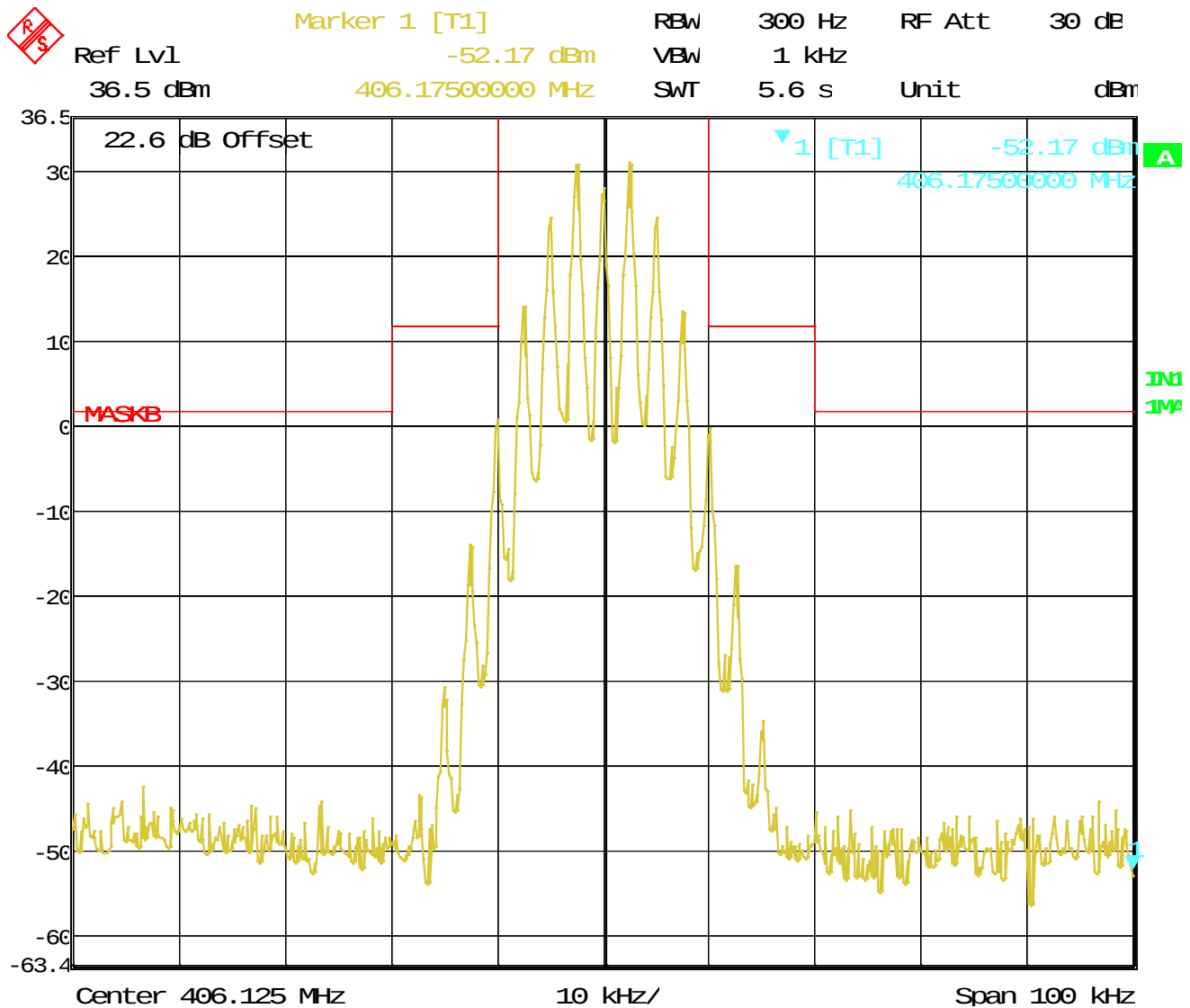
Date: 1.JAN.1997 04:08:32

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 406.125 MHz

RSS-119 sec. 5.5 Emission Mask B - 25 kHz channel bandwidth - ANALOG



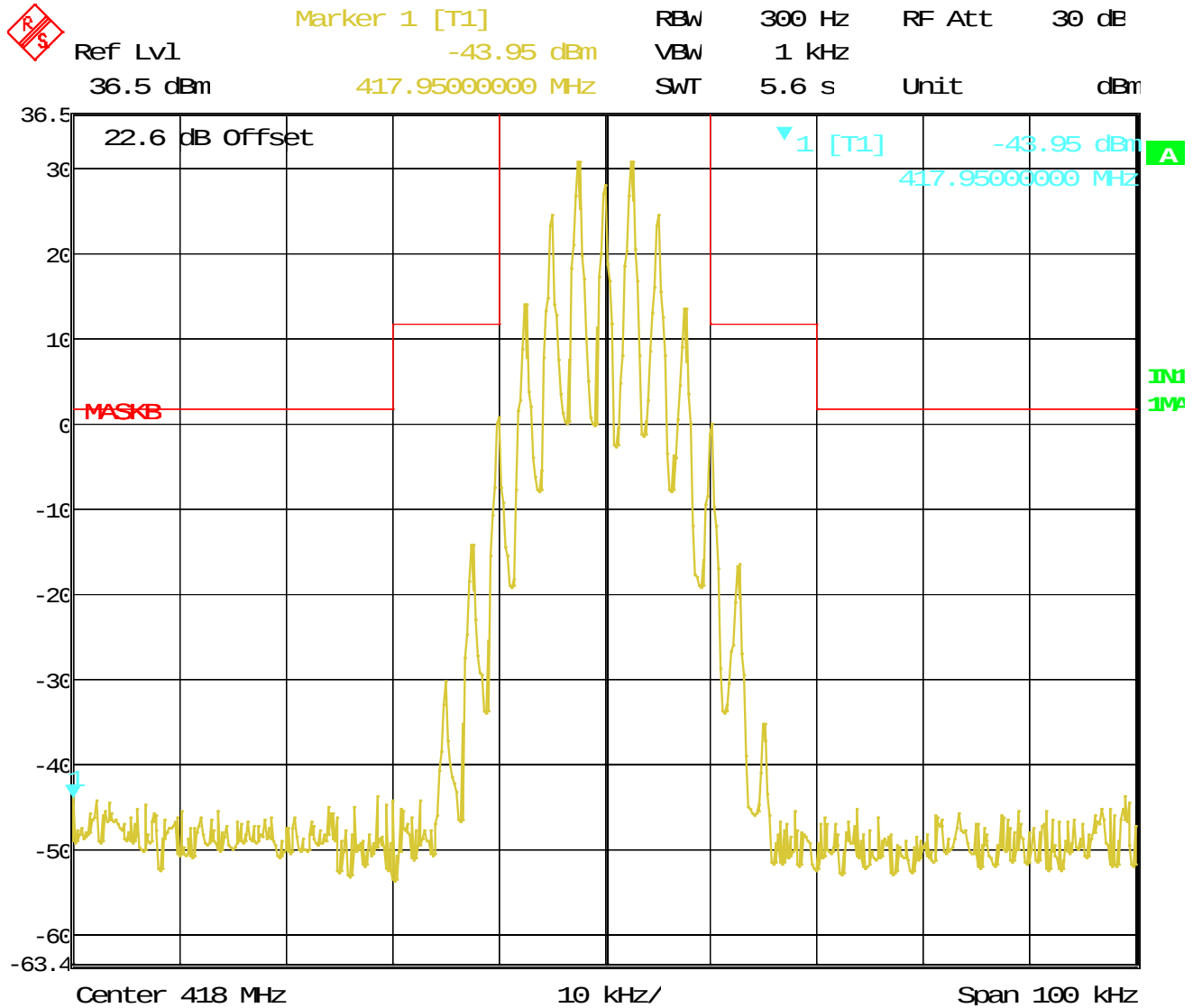
Date: 1.JAN.1997 05:36:31

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 418.000 MHz

RSS-119 sec. 5.5 Emission Mask B - 25 kHz channel bandwidth - ANALOG



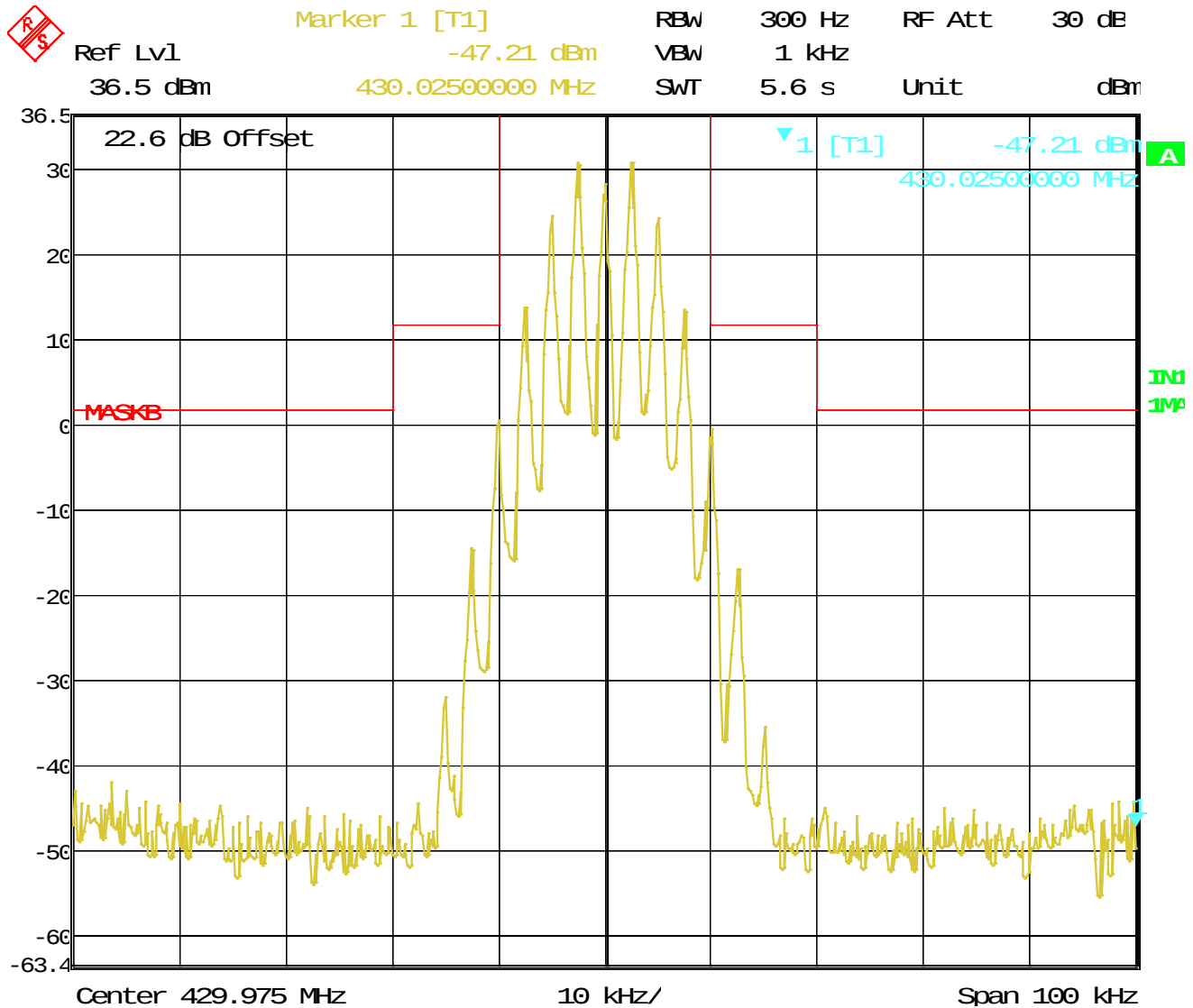
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Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 429.975 MHz

RSS-119 sec. 5.5 Emission Mask B - 25 kHz channel bandwidth - ANALOG



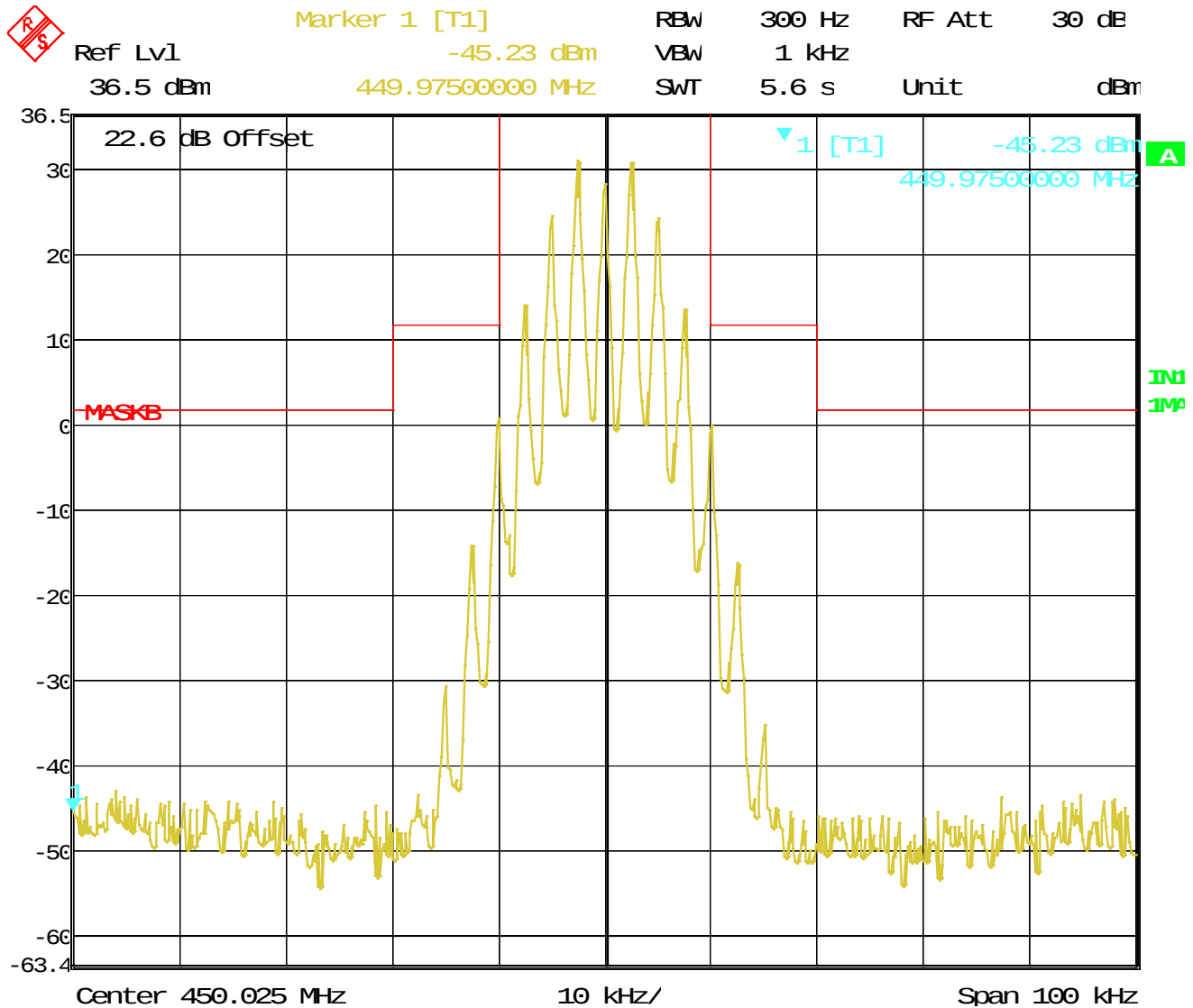
Date: 1.JAN.1997 05:37:58

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 450.025 MHz

RSS-119 sec. 5.5 Emission Mask B - 25 kHz channel bandwidth - ANALOG



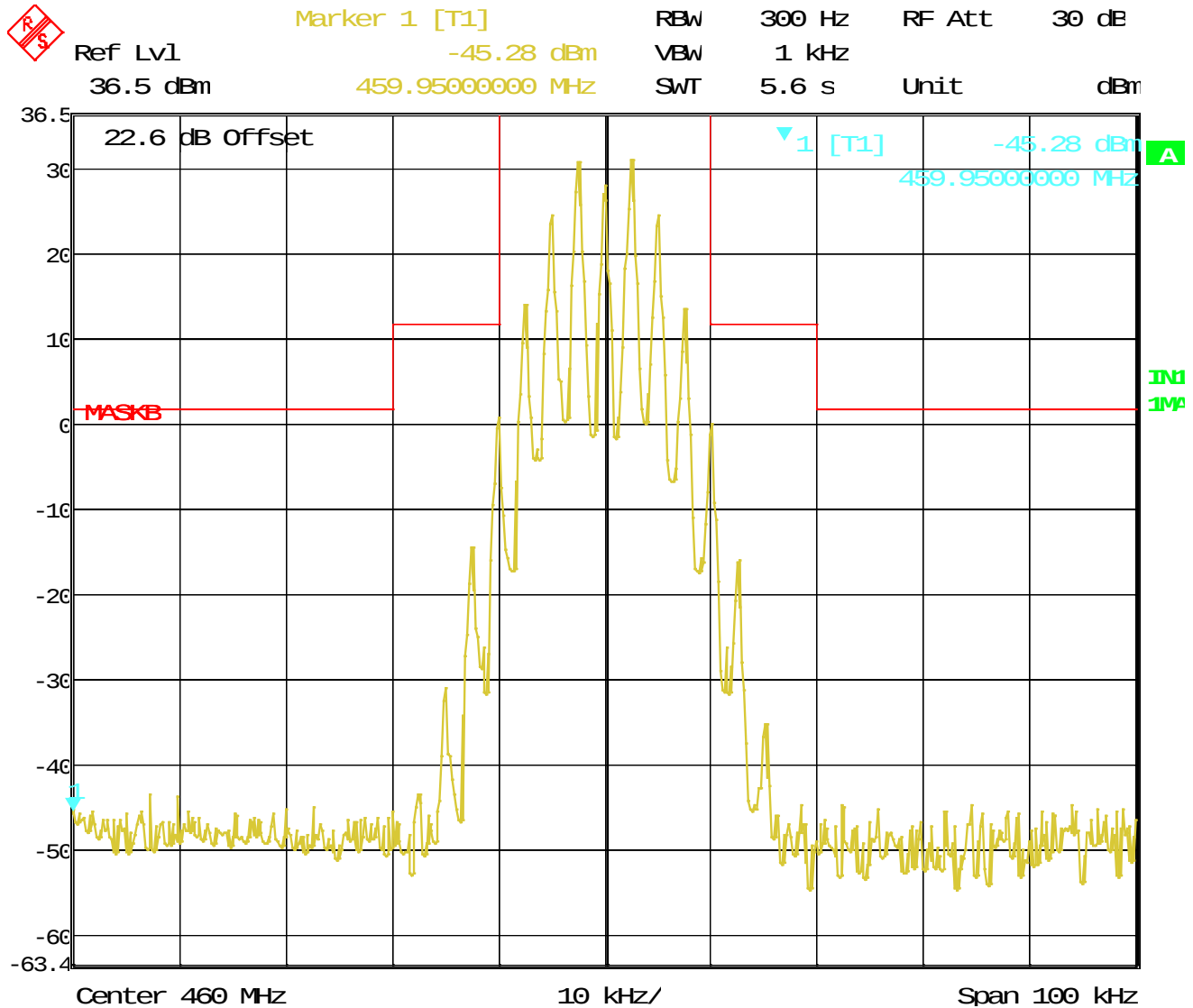
Date: 1.JAN.1997 05:38:56

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 460.000 MHz

RSS-119 sec. 5.5 Emission Mask B - 25 kHz channel bandwidth - ANALOG



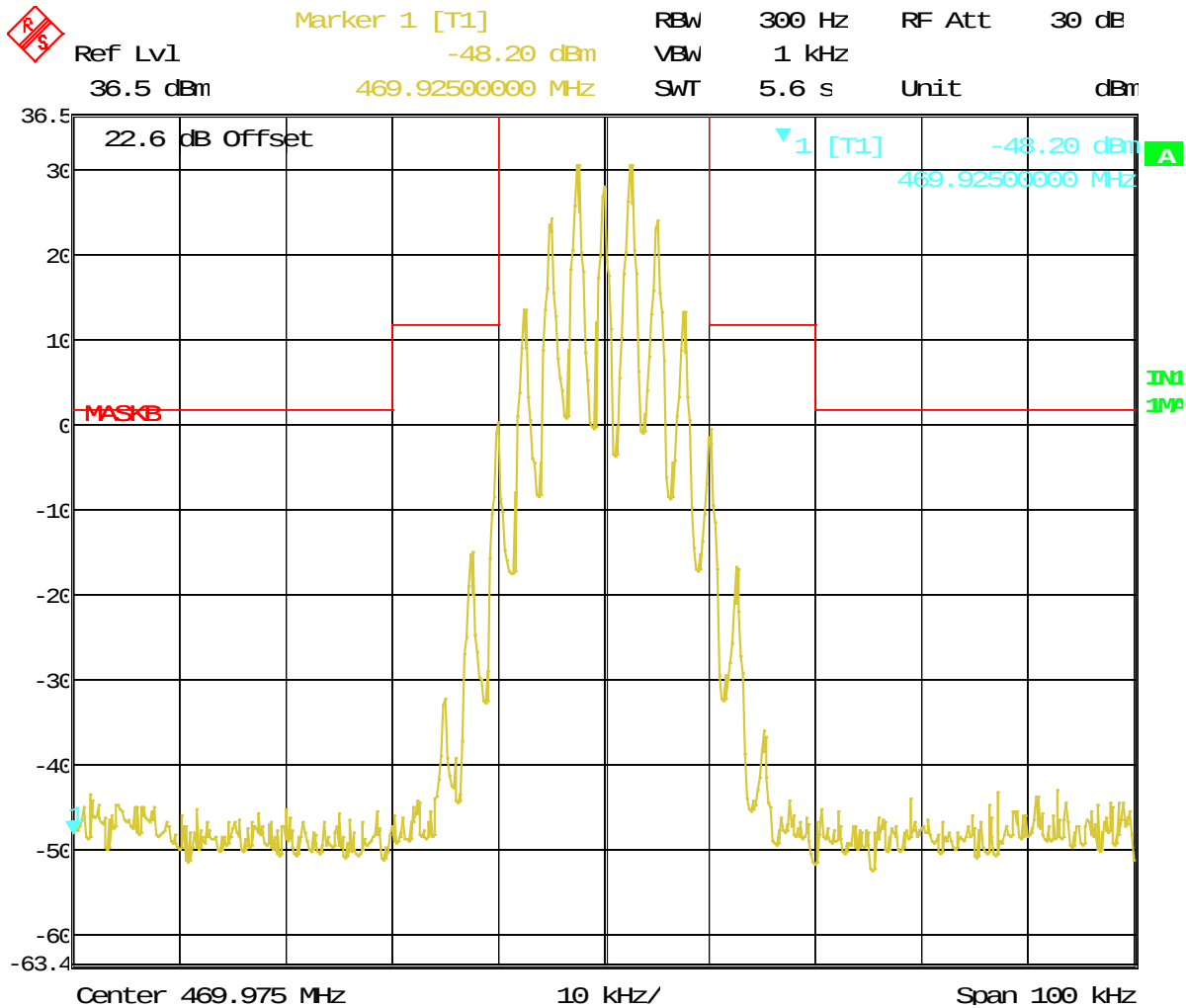
Date: 1.JAN.1997 05:39:35

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: ANALOG 25 kHz, 469.975 MHz

RSS-119 sec. 5.5 Emission Mask B - 25 kHz channel bandwidth – ANALOG



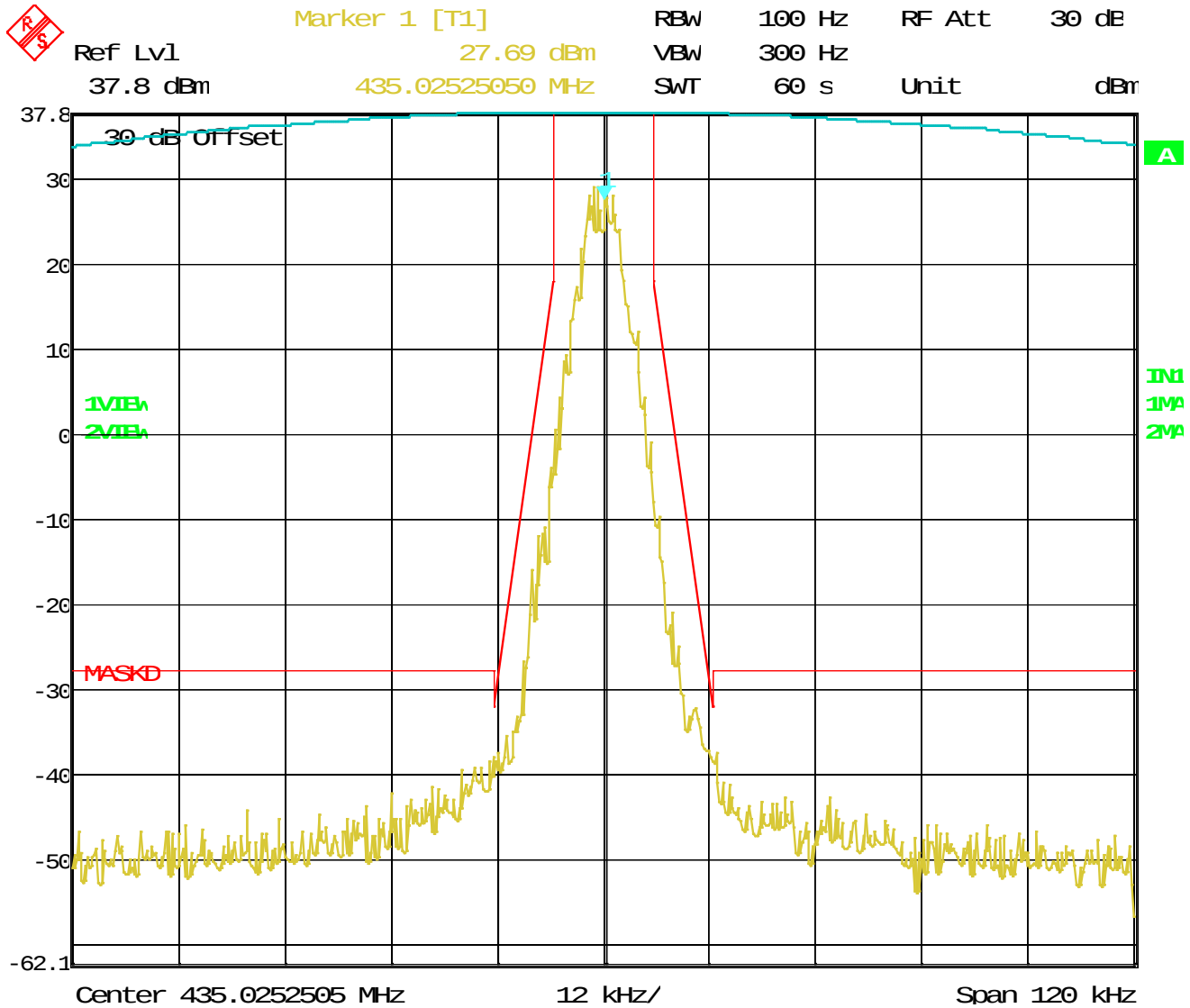
Date: 1.JAN.1997 05:35:04

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth - Digital (7K53F1E)



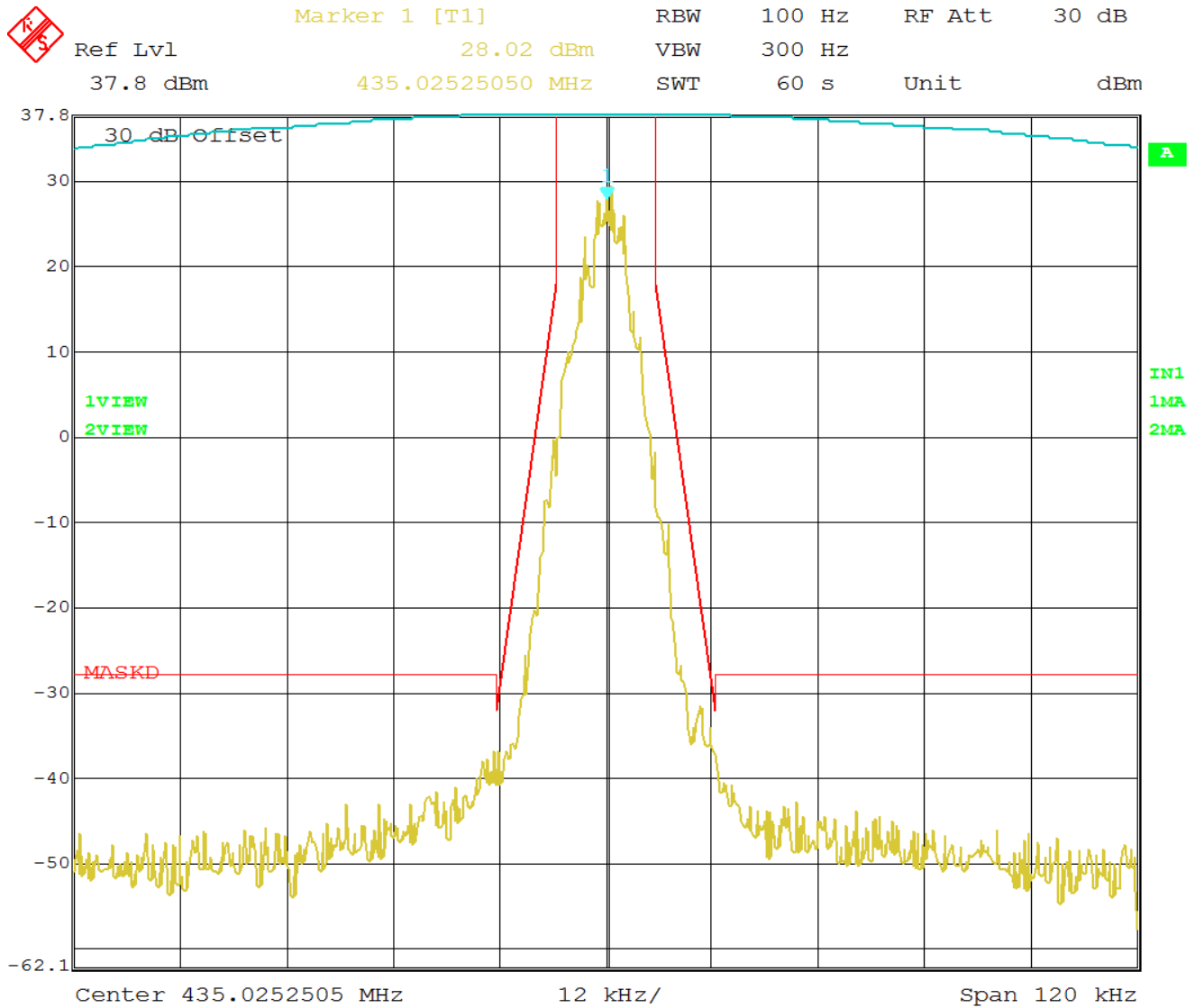
Date: 1.JAN.1997 04:21:06

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth – Digital (7K97FXE)



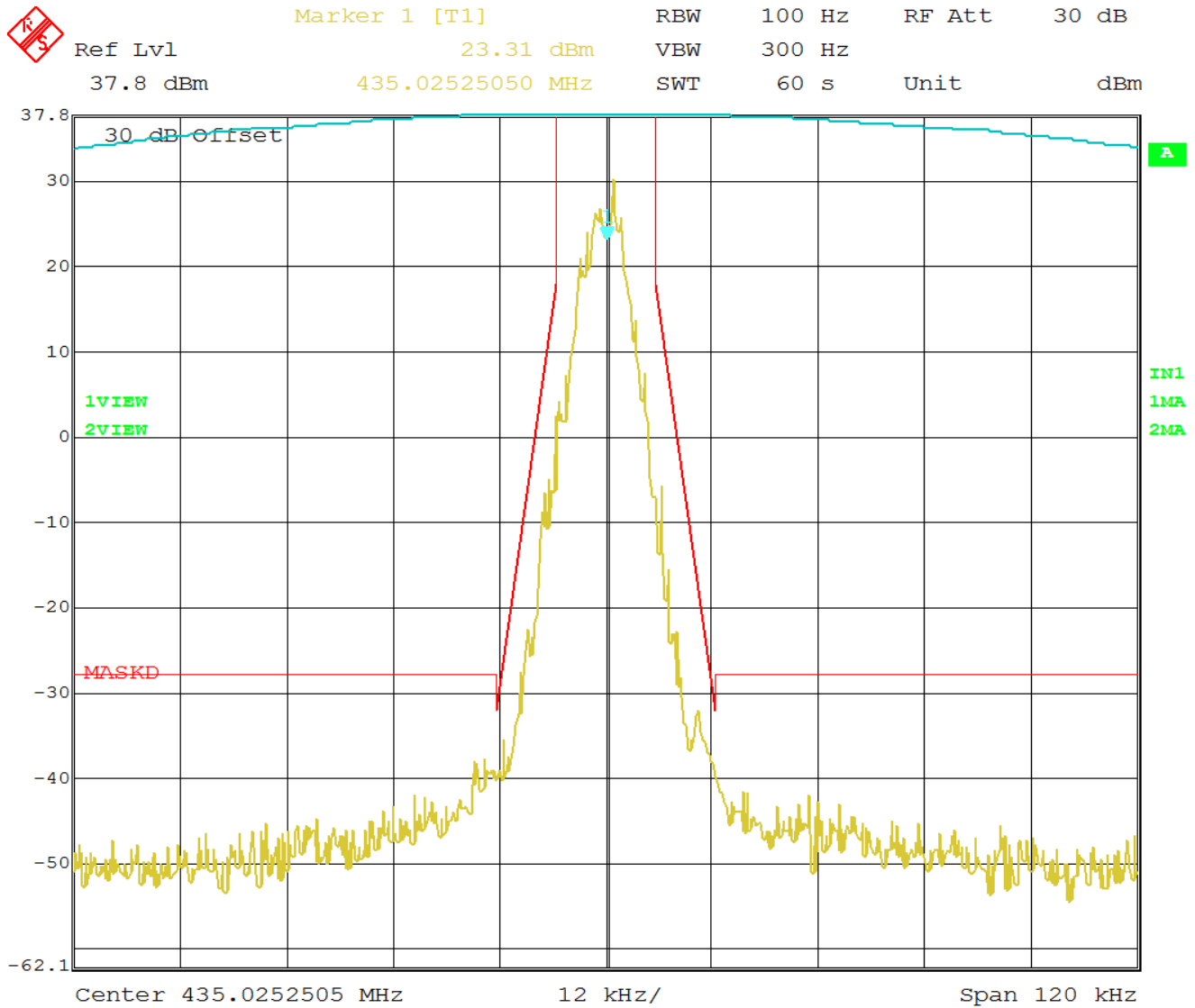
Date: 1.JAN.1997 04:23:13

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth – Digital (7K77F1W)



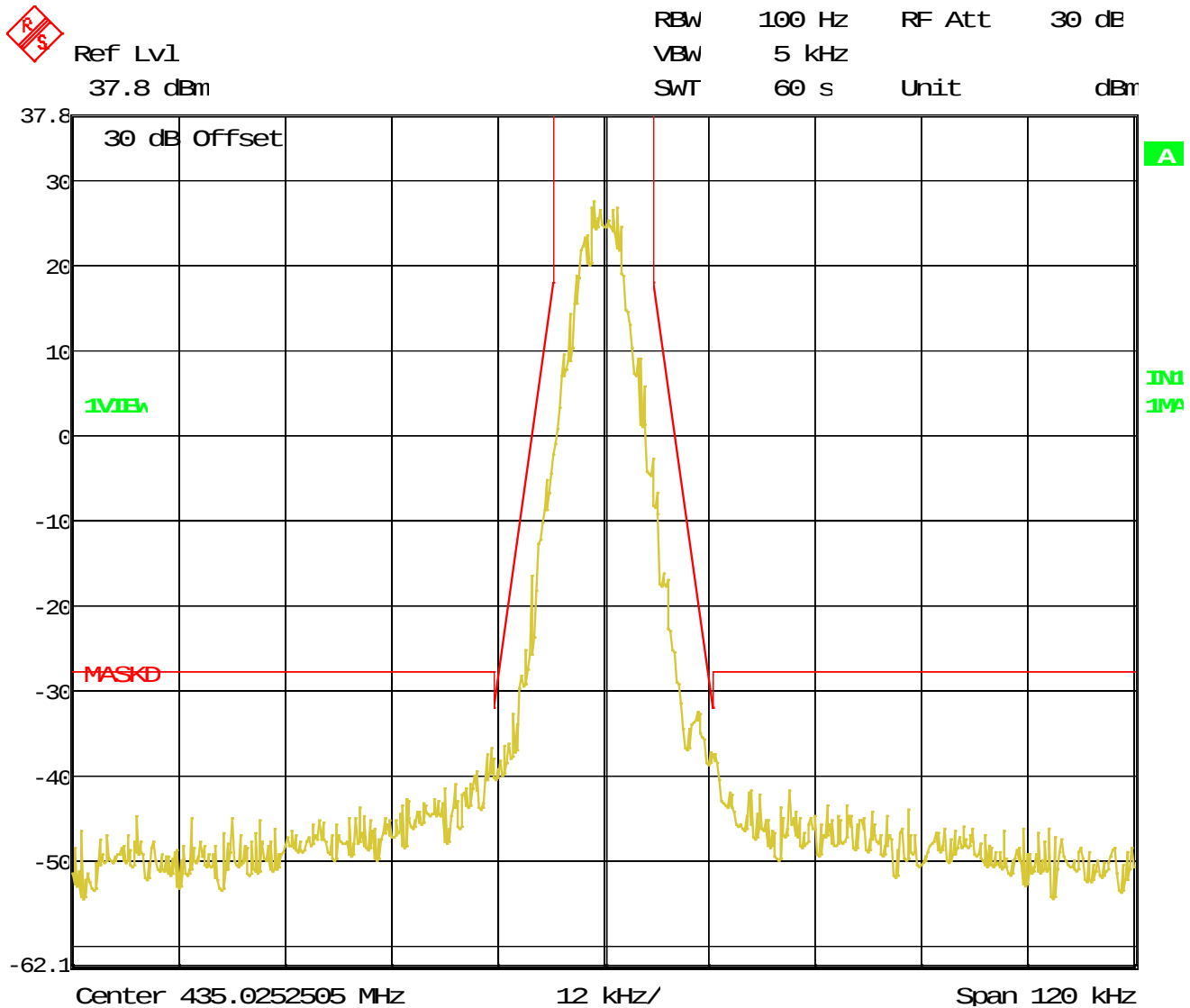
Date: 1.JAN.1997 04:24:43

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

OCCUPIED BANDWIDTH PLOTS: DIGITAL 12.5 kHz, 435.025 MHz

RSS-119 sec. 5.5 Emission Mask D - 12.5 kHz channel bandwidth – Digital (7K69FXD)



Date: 1.JAN.1997 04:32:26
RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

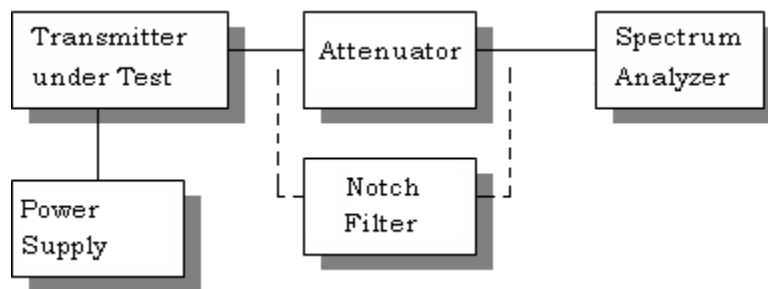
SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Rule Part No.: RSS-GEN 2.3.3

Requirements: 12.5 kHz Channel Spacing = $50 + 10 \log(p)$ = dBc
 25 kHz Channel Spacing = $43 + 10 \log(p)$ = dBc

Method of Measurement: The carrier was modulated 100% using a 2500 Hz tone. The spectrum was scanned from 0.4 to at least the 10th harmonic of the fundamental. The measurements were made in accordance with standard ANSI C63.26. The measurements were made at **TIMCO ENGINEERING INC. 849 N.W. State Road 45, Newberry, Florida 32669**

Method of Measuring Conducted Spurious Emissions



Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Test Data: 406.125 MHz

	(dBm)	(Watts)	Limit (dBc)
Peak Power (dBm)	37.33	5.41	57.33

			High Power	
Frequency			Peak (dBm)	Margin (dB)
(fundamental)		406.125	0.00	0.00
2nd Harmonic		812.250	-45.82	25.82
3rd Harmonic		1218.375	-26.76	6.76
4th Harmonic		1624.500	-47.21	27.21
5th Harmonic	*	2030.625	-59.68	39.68
6th Harmonic	*	2436.750	-59.68	39.68
7th Harmonic		2842.875	-49.56	29.56
8th Harmonic	*	3249.000	-59.68	39.68
9th Harmonic		3655.125	-49.21	29.21
10th Harmonic		4061.250	-27.13	7.13

* Indicates Noise Floor of Measurement

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Test Data: 418.000 MHz

	(dBm)	(Watts)	Limit (dBc)
Peak Power (dBm)	37.33	5.41	57.33

			High Power	
Frequency			Peak (dBm)	Margin (dB)
(fundamental)		418.000	0.00	0.00
2nd Harmonic		836.000	-47.43	27.43
3rd Harmonic		1254.000	-33.32	13.32
4th Harmonic		1672.000	-51.32	31.32
5th Harmonic		2090.000	-59.63	39.63
6th Harmonic		2508.000	-52.81	32.81
7th Harmonic		2926.000	-58.02	38.02
8th Harmonic	*	3344.000	-64.02	44.02
9th Harmonic		3762.000	-55.00	35.00
10th Harmonic		4180.000	-48.18	28.18

* Indicates Noise Floor of Measurement

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Test Data: 429.975 MHz

	(dBm)	(Watts)	Limit (dBc)
Peak Power (dBm)	37.24	5.30	50.24

			High Power	
Frequency			Peak (dBm)	Margin (dB)
(fundamental)		429.975	0.00	0.00
2nd Harmonic		859.950	-48.50	35.50
3rd Harmonic		1289.925	-30.16	17.16
4th Harmonic	*	1719.900	-62.46	49.46
5th Harmonic	*	2149.875	-62.46	49.46
6th Harmonic		2579.850	-57.92	44.92
7th Harmonic	*	3009.825	-62.46	49.46
8th Harmonic	*	3439.800	-62.46	49.46
9th Harmonic		3869.775	-57.33	44.33
10th Harmonic		4299.750	-40.22	27.22

* Indicates Noise Floor of Measurement

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Test Data: 450.025 MHz

	(dBm)	(Watts)	Limit (dBc)
Peak Power (dBm)	37.47	5.58	57.47

			High Power	
Frequency			Peak (dBm)	Margin (dB)
(fundamental)		450.025	0.00	0.00
2nd Harmonic		900.050	-47.79	27.79
3rd Harmonic		1350.075	-44.05	24.05
4th Harmonic		1800.100	-54.52	34.52
5th Harmonic		2250.125	-55.74	35.74
6th Harmonic		2700.150	-48.94	28.94
7th Harmonic		3150.175	-58.07	38.07
8th Harmonic		3600.200	-53.88	33.88
9th Harmonic		4050.225	-26.55	6.55
10th Harmonic		4500.250	-44.10	24.10

* Indicates Noise Floor of Measurement

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Test Data: 460.000 MHz

	(dBm)	(Watts)	Limit (dBc)
Peak Power (dBm)	37.36	5.45	57.36

			High Power	
Frequency			Peak (dBm)	Margin (dB)
(fundamental)		460.000	0.00	0.00
2nd Harmonic		920.000	-47.44	27.44
3rd Harmonic		1380.000	-35.35	15.35
4th Harmonic		1840.000	-40.07	20.07
5th Harmonic		2300.000	-38.45	18.45
6th Harmonic		2760.000	-31.95	11.95
7th Harmonic		3220.000	-46.13	26.13
8th Harmonic		3680.000	-38.30	18.30
9th Harmonic		4140.000	-33.97	13.97
10th Harmonic		4600.000	-36.68	16.68

* Indicates Noise Floor of Measurement

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Test Data: 469.975 MHz

	(dBm)	(Watts)	Limit (dBc)
Peak Power (dBm)	37.24	5.30	57.24

			High Power	
Frequency			Peak (dBm)	Margin (dB)
(fundamental)		469.975	0.00	0.00
2nd Harmonic		939.950	-57.47	37.47
3rd Harmonic		1409.925	-41.85	21.85
4th Harmonic		1879.900	-44.98	24.98
5th Harmonic		2349.875	-50.88	30.88
6th Harmonic		2819.850	-39.31	19.31
7th Harmonic		3289.825	-44.57	24.57
8th Harmonic		3759.800	-43.48	23.48
9th Harmonic		4229.775	-32.24	12.24
10th Harmonic		4699.750	-51.79	31.79

* Indicates Noise Floor of Measurement

WORST-CASE CONDUCTED EMISSIONS: 406.125 MHz

RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

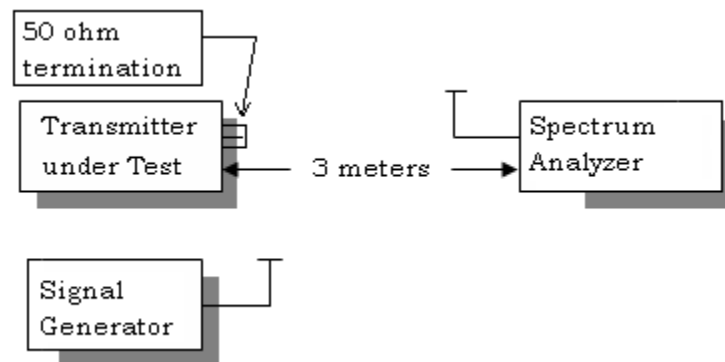
FIELD STRENGTH OF SPURIOUS EMISSIONS

Rule Parts. No.: RSS-GEN 6.13

Requirements: The FCC limits for radiated emissions are the same as previously stated for the conducted emissions.

METHOD OF MEASUREMENT: The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 MHz to at least the tenth harmonic of the fundamental. This test was conducted per ANSI C63.26 using the substitution method. Measurements were made at the test site of **TIMCO ENGINEERING, INC. located at 849 NW State Road 45, Newberry, FL 32669.**

Test Setup Diagram:



Test Data:

Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: 406.125 MHz

Power Output			Limit	
dBm	Watts		dBc	dBm
37.47	5.58		57.47	-20.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
406.12	34.08	V	-79.679	59.68
406.12	103.58	H	-77.273	57.27
406.12	812.25	V	-30.803	10.80
406.12	812.25	H	-40.933	20.93
406.12	1218.38	V	-25.686	5.69
406.12	1218.38	H	-25.006	5.01
406.12	1624.50	H	-34.969	14.97
406.12	1624.50	V	-35.919	15.92
406.12	2030.63	V	-33.980	13.98
406.12	2030.63	H	-35.040	15.04
406.12	2436.75	H	-32.280	12.28
406.12	2436.75	V	-34.540	14.54
406.12	2842.88	V	-34.740	14.74
406.12	2842.88	H	-36.290	16.29
406.12	3249.00	H	-29.128	9.13
406.12	3249.00	V	-26.308	6.31
406.12	3655.13	V	-26.063	6.06
406.12	3655.13	H	-23.543	3.54
406.12	4061.25	H	-24.432	4.43
406.12	4061.25	V	-23.622	3.62

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: 418.000 MHz

Power Output			Limit	
dBm	Watts		dBc	dBm
37.47	5.58		57.47	-20.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
418.00	61.68	H	-86.334	66.33
418.00	100.18	V	-82.477	62.48
418.00	836.00	H	-46.487	26.49
418.00	836.00	V	-40.337	20.34
418.00	1254.00	H	-32.886	12.89
418.00	1254.00	V	-29.606	9.61
418.00	1672.00	V	-35.523	15.52
418.00	1672.00	H	-36.293	16.29
418.00	2090.00	H	-31.749	11.75
418.00	2090.00	V	-34.099	14.10
418.00	2508.00	H	-31.548	11.55
418.00	2508.00	V	-32.688	12.69
418.00	2926.00	V	-35.481	15.48
418.00	2926.00	H	-33.931	13.93
418.00	3344.00	H	-22.179	2.18
418.00	3344.00	V	-24.009	4.01
418.00	3762.00	V	-23.913	3.91
418.00	3762.00	H	-27.453	7.45
418.00	4180.00	H	-22.015	2.02
418.00	4180.00	V	-23.075	3.08

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: 429.975 MHz

Power Output			Limit	
dBm	Watts		dBc	dBm
37.47	5.58		57.47	-20.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
429.98	103.92	H	-79.342	59.34
429.98	166.96	V	-79.229	59.23
429.98	859.95	V	-42.047	22.05
429.98	859.95	H	-42.787	22.79
429.98	1289.93	H	-33.265	13.27
429.98	1289.93	V	-34.655	14.66
429.98	1719.90	V	-32.308	12.31
429.98	1719.90	H	-34.468	14.47
429.98	2149.88	H	-34.312	14.31
429.98	2149.88	V	-34.412	14.41
429.98	2579.85	V	-34.051	14.05
429.98	2579.85	H	-32.121	12.12
429.98	3009.82	H	-31.484	11.48
429.98	3009.82	V	-32.114	12.11
429.98	3439.80	V	-32.877	12.88
429.98	3439.80	H	-27.357	7.36
429.98	3869.77	H	-27.390	7.39
429.98	3869.77	V	-26.910	6.91
429.98	4299.75	V	-20.257	0.26
429.98	4299.75	H	-20.887	0.89

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: 450.025 MHz

Power Output			Limit	
dBm	Watts		dBc	dBm
37.47	5.58		57.47	-20.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
450.02	75.40	H	-87.819	67.82
450.02	101.60	V	-81.051	61.05
450.02	900.05	H	-39.587	19.59
450.02	900.05	V	-46.377	26.38
450.02	1350.07	V	-33.687	13.69
450.02	1350.07	H	-31.797	11.80
450.02	1800.10	H	-31.817	11.82
450.02	1800.10	V	-31.237	11.24
450.02	2250.13	V	-29.872	9.87
450.02	2250.13	V	-30.442	10.44
450.02	2700.15	V	-31.067	11.07
450.02	2700.15	H	-30.807	10.81
450.02	3150.18	H	-33.052	13.05
450.02	3150.18	V	-31.092	11.09
450.02	3600.20	V	-22.297	2.30
450.02	3600.20	H	-23.987	3.99
450.02	4050.23	H	-20.951	0.95
450.02	4050.23	V	-20.111	0.11
450.02	4500.25	V	-26.947	6.95
450.02	4500.25	H	-25.037	5.04

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: 460.000 MHz

Power Output			Limit	
dBm	Watts		dBc	dBm
37.47	5.58		57.47	-20.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
460.00	83.40	H	-84.897	64.90
460.00	112.30	V	-81.586	61.59
460.00	920.00	V	-35.347	15.35
460.00	920.00	H	-32.097	12.10
460.00	1380.00	V	-30.773	10.77
460.00	1380.00	H	-30.313	10.31
460.00	1840.00	H	-31.207	11.21
460.00	1840.00	V	-30.997	11.00
460.00	2300.00	V	-32.017	12.02
460.00	2300.00	H	-31.077	11.08
460.00	2760.00	H	-31.005	11.01
460.00	2760.00	V	-31.475	11.48
460.00	3220.00	V	-23.935	3.94
460.00	3220.00	H	-27.285	7.29
460.00	3680.00	H	-22.003	2.00
460.00	3680.00	V	-27.643	7.64
460.00	4140.00	V	-20.951	0.95
460.00	4140.00	H	-20.111	0.11
460.00	4600.00	H	-28.267	8.27
460.00	4600.00	V	-28.117	8.12

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Data: 469.975 MHz

Power Output			Limit	
dBm	Watts		dBc	dBm
37.47	5.58		57.47	-20.00
Tuned Freq MHz	Emission Frequency MHz	Antenna Polarity	ERP (dBm)	Margin (dB)
469.98	77.30	V	-86.832	66.83
469.98	115.00	H	-82.052	62.05
469.98	939.95	H	-35.347	15.35
469.98	939.95	V	-39.397	19.40
469.98	1409.93	V	-30.951	10.95
469.98	1409.93	H	-27.041	7.04
469.98	1879.90	H	-32.257	12.26
469.98	1879.90	V	-34.457	14.46
469.98	2349.88	V	-29.462	9.46
469.98	2349.88	H	-30.522	10.52
469.98	2819.85	H	-30.785	10.79
469.98	2819.85	V	-33.735	13.74
469.98	3289.82	V	-23.823	3.82
469.98	3289.82	H	-25.243	5.24
469.98	3759.80	H	-25.175	5.18
469.98	3759.80	V	-25.295	5.30
469.98	4229.77	V	-21.120	1.12
469.98	4229.77	H	-20.990	0.99
469.98	4699.75	H	-26.577	6.58
469.98	4699.75	V	-29.447	9.45

WORST-CASE RADIATED EMISSIONS: **450.025, 460.000 MHz**

RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

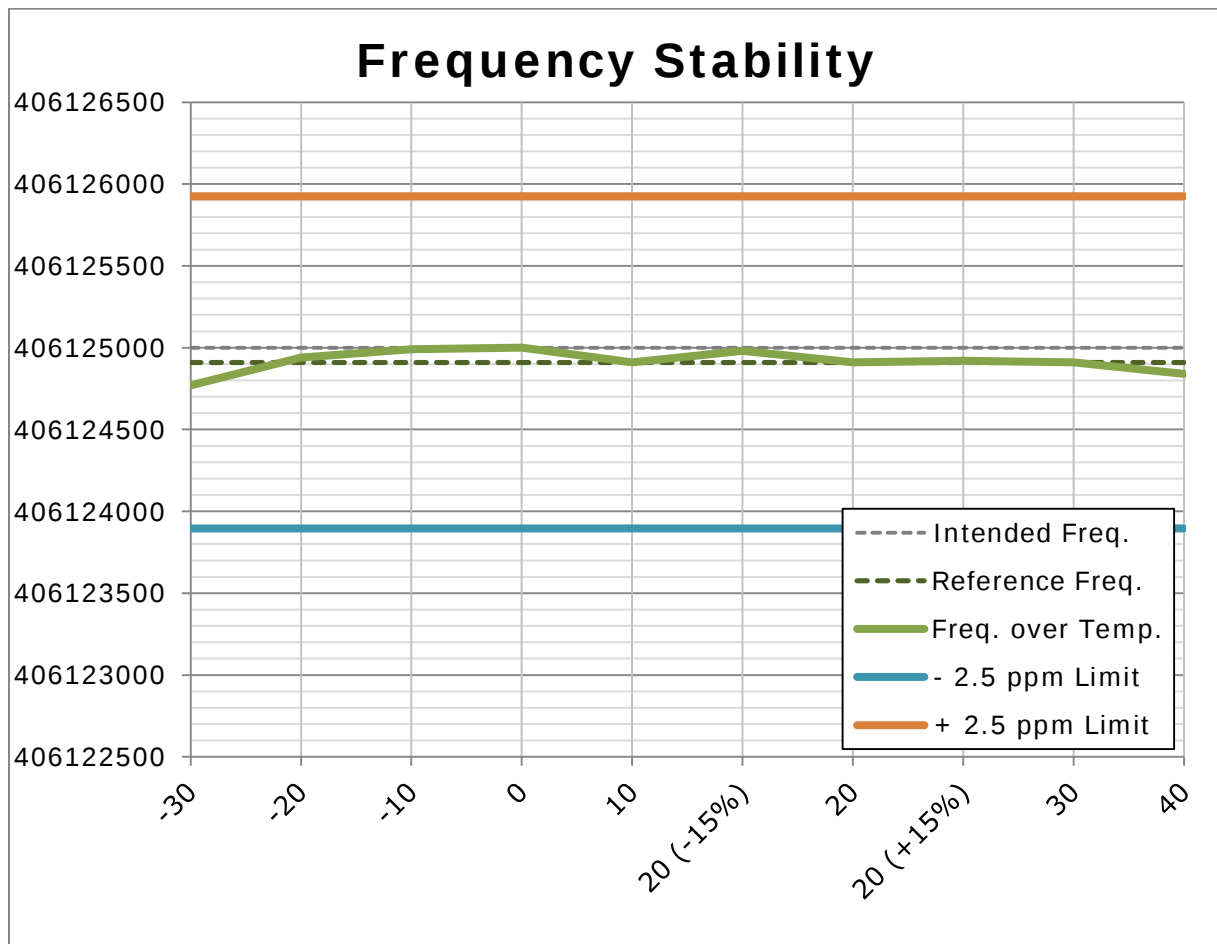
FREQUENCY STABILITY

Rule Parts. No.: RSS-119 5.3, RSS-GEN 6.1.1

Requirements: Temperature range requirements: -30 to +50° C. Voltage Variation +, -15%. Maximum Frequency Deviation: ± 2.5 PPM

Method of Measurements: ANSI C63.26 sec. 5.6.3

Test Data: Frequency Stability Plot



Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

FREQUENCY STABILITY

Test Data: Frequency Error Measurement Table

406.125 MHz High Power (Worst-case Settings)				
Limit:		2.5 ppm		
Temperature (°C)	Supplied Voltage (VDC)	Intended Frequency (Hz)	Measured Reference Frequency (Hz)	Deviation (Hz)
20°C (reference)	8.4	406125000	406124910	90

@ 20°C (reference)				
Supplied Voltage (%)	Supplied Voltage (VDC)	Frequency (Hz)	Deviation (Hz)	PPM
-15%	7.14	406124911	-1	-0.002
15%	9.66	406124910	0	0.000

Temperature (°C)	Supplied Voltage (VDC)	Frequency (Hz)	Deviation (Hz)	PPM
50	8.4	406124840	70.00000	0.172
40	8.4	406124910	0.00000	0.000
30	8.4	406124920	10.00000	-0.025
20	8.4	406124980	70.00000	-0.172
10	8.4	406125000	90.00000	-0.222
0	8.4	406124990	80.00000	-0.197
-10	8.4	406124940	30.00000	-0.074
-20	8.4	406124770	140.00000	0.345
-30	8.4	406124810	100.00000	0.246

RESULT: Meets Requirements

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

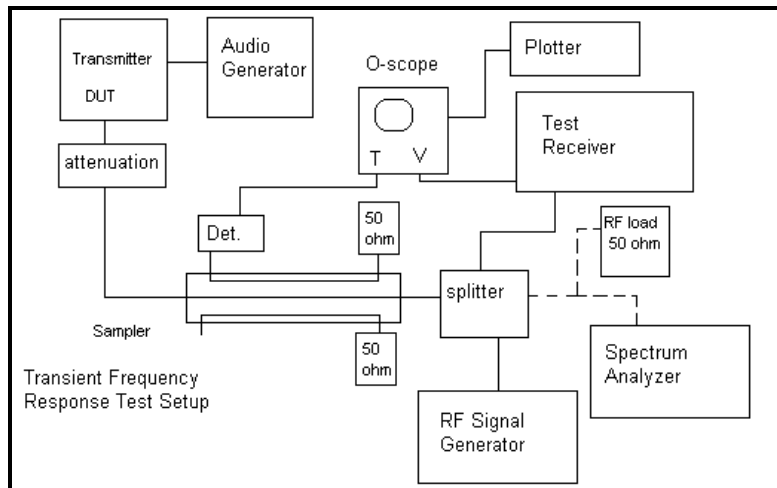
[Table of Contents](#)

TRANSIENT FREQUENCY BEHAVIOR

Rule Parts. No.: IC RSS-119 5.9

TEST PROCEDURE: RSS GEN

1. Using the variable attenuator the transmitter level was set to 40 dB below the test receivers maximum input level, and then the transmitter was turned off.
2. With the transmitter off the signal generator was set 20dB below the level of the transmitter in the above step, this level will be maintained with the signal generator through-out the test.
3. Reduce the attenuation between the transmitter and the RF detector by 30 dB. With the levels set as above the transient frequency behavior was observed & recorded.



REQUIREMENTS: Transmitters designed to operate in the 150-174 MHz and 421-512 MHz frequency bands must maintain transient frequencies within the maximum transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Time Intervals	Maximum frequency difference	All Equipment	
		150-174 MHz	421-512 MHz

Transient Frequency Behavior for Equipment Designed to Operate on 25 kHz Channels			
t_1^4	± 25.0 kHz	5.0 ms	10.0 ms
t_2	± 12.5 kHz	20.0 ms	25.0 ms
t_3^4	± 25.0 kHz	5.0 ms	10.0 ms

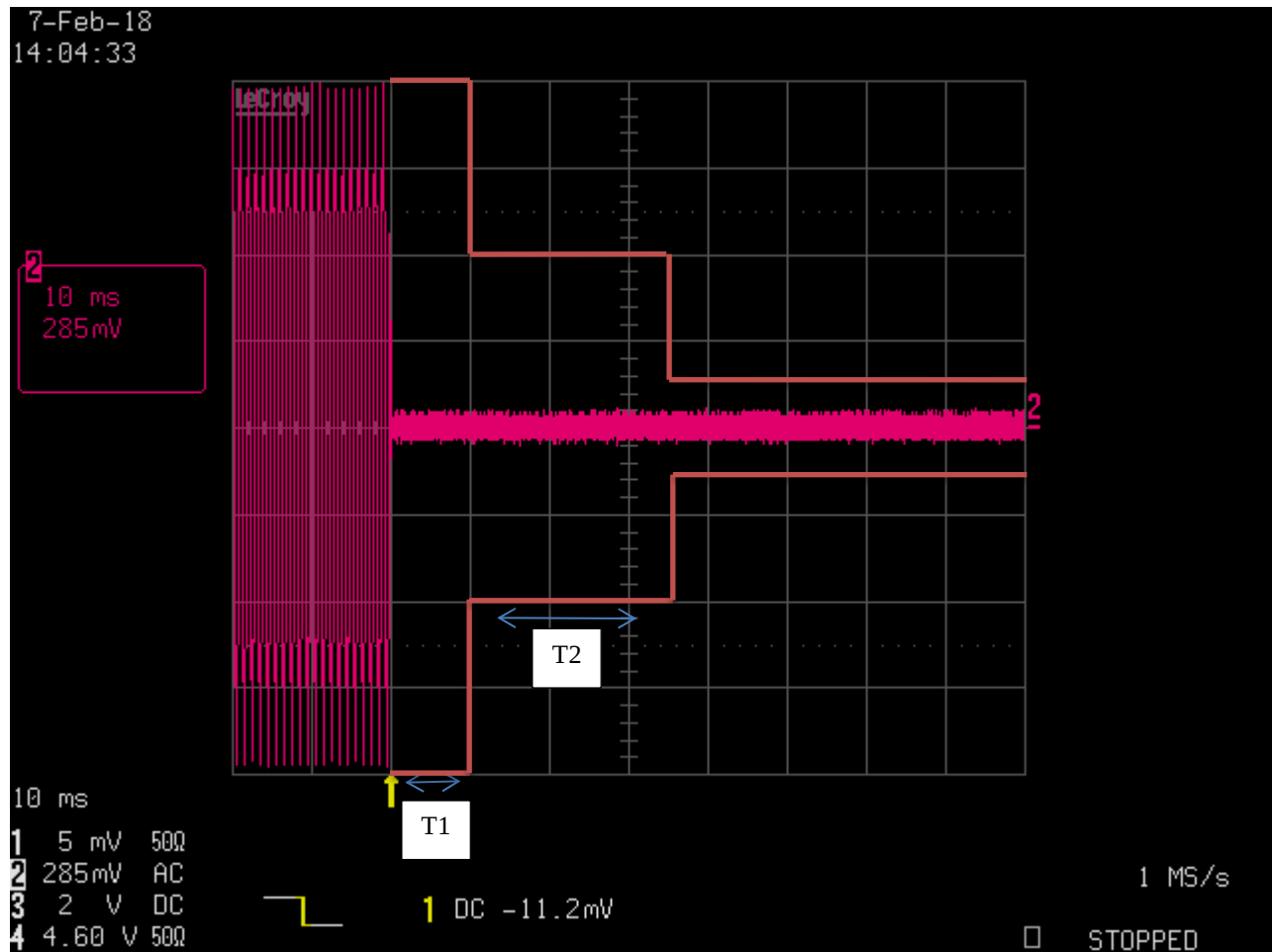
Transient Frequency Behavior for Equipment Designed to Operate on 12.5 kHz Channels			
t_1^4	± 12.5 kHz	5.0 ms	10.0 ms
t_2	± 6.25 kHz	20.0 ms	25.0 ms
t_3^4	± 12.5 kHz	5.0 ms	10.0 ms

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

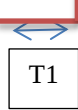
TRANSIENT FREQUENCY BEHAVIOR

Test Data: Transient Frequency Behavior, Turn On Plot, 12.5kHz Channel



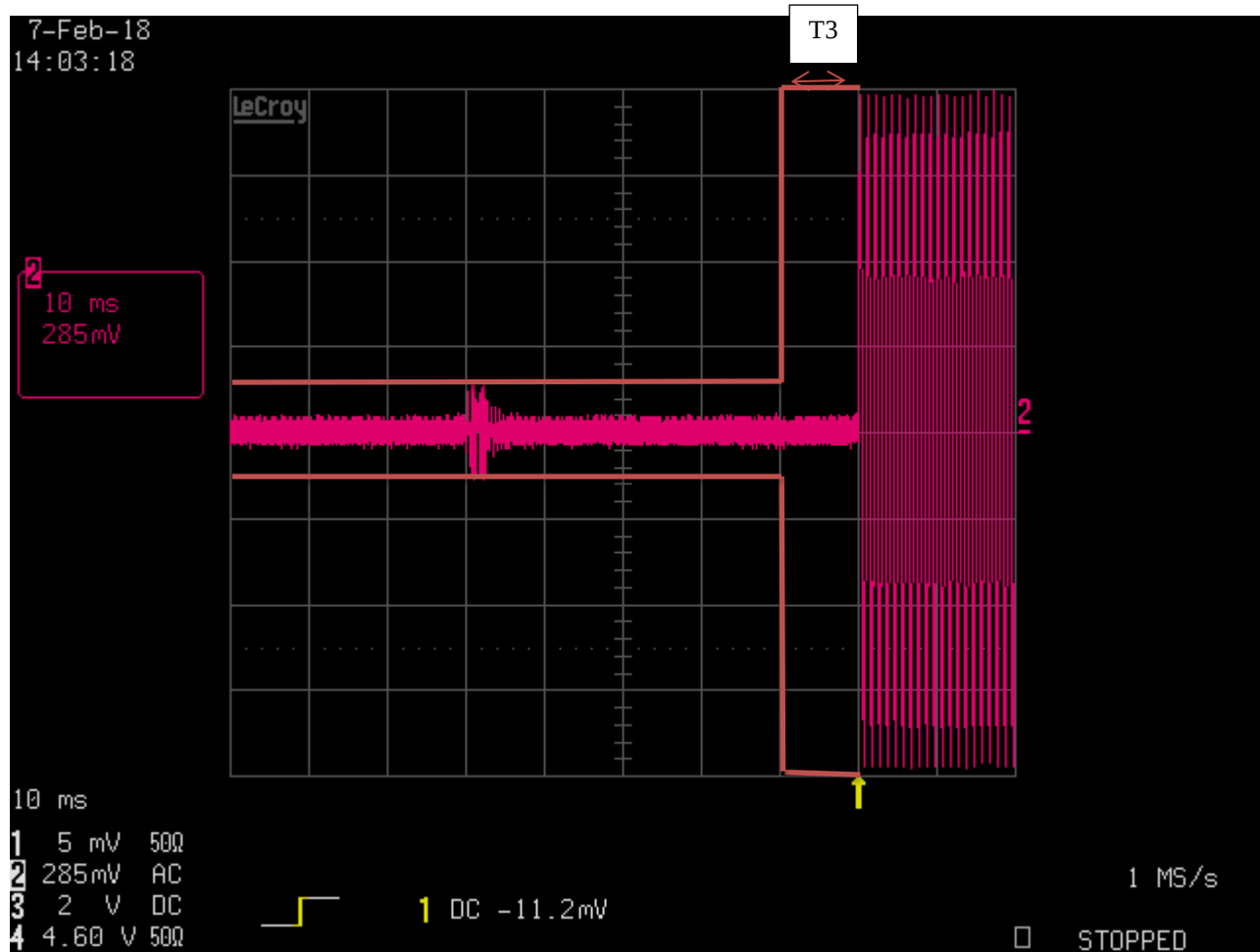
Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)



TRANSIENT FREQUENCY BEHAVIOR

Test Data: Transient Frequency Behavior, Turn Off Plot, 12.5kHz Channel

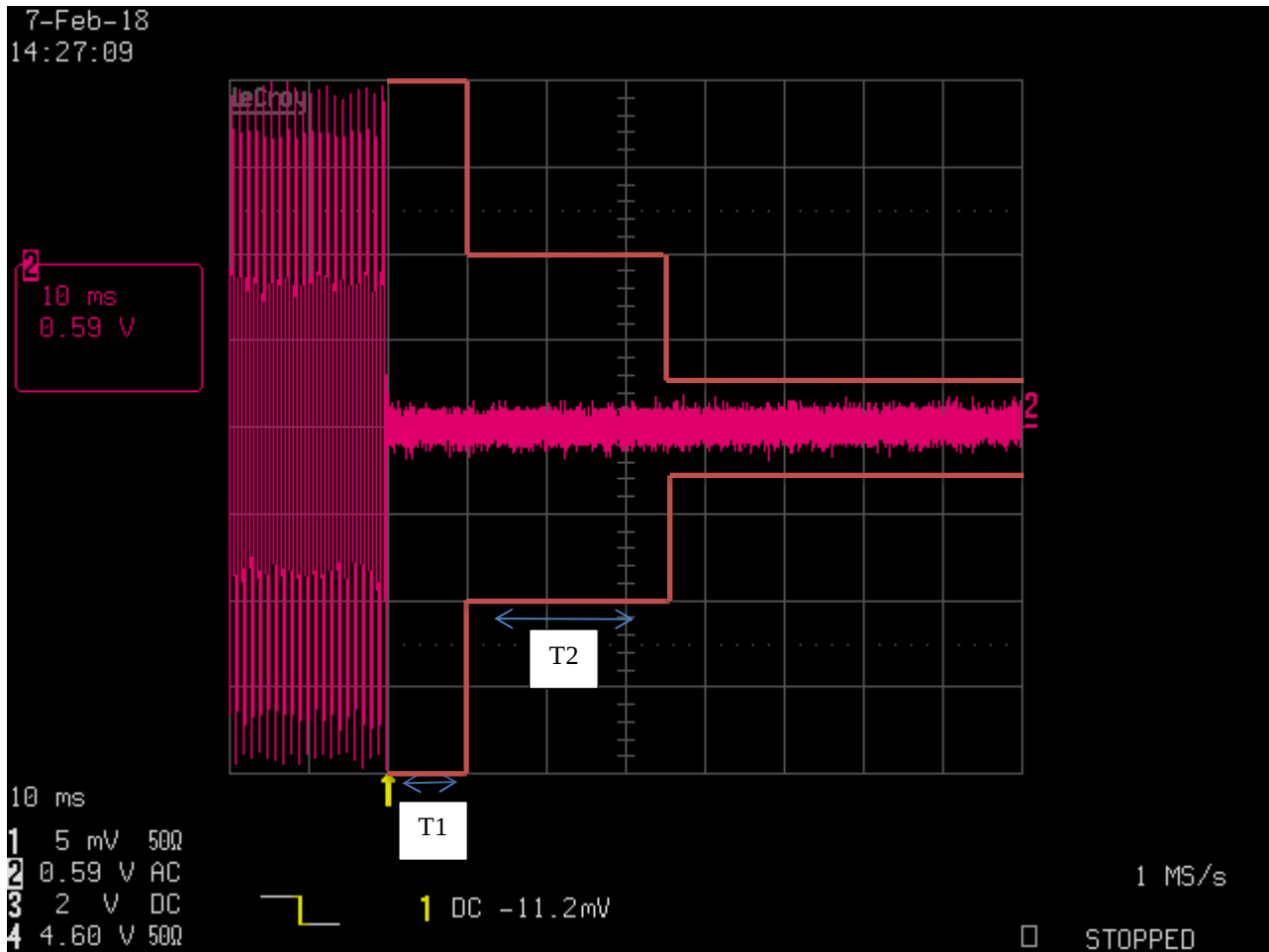


Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

TRANSIENT FREQUENCY BEHAVIOR

Test Data: Transient Frequency Behavior, Turn On Plot, 25kHz Channel

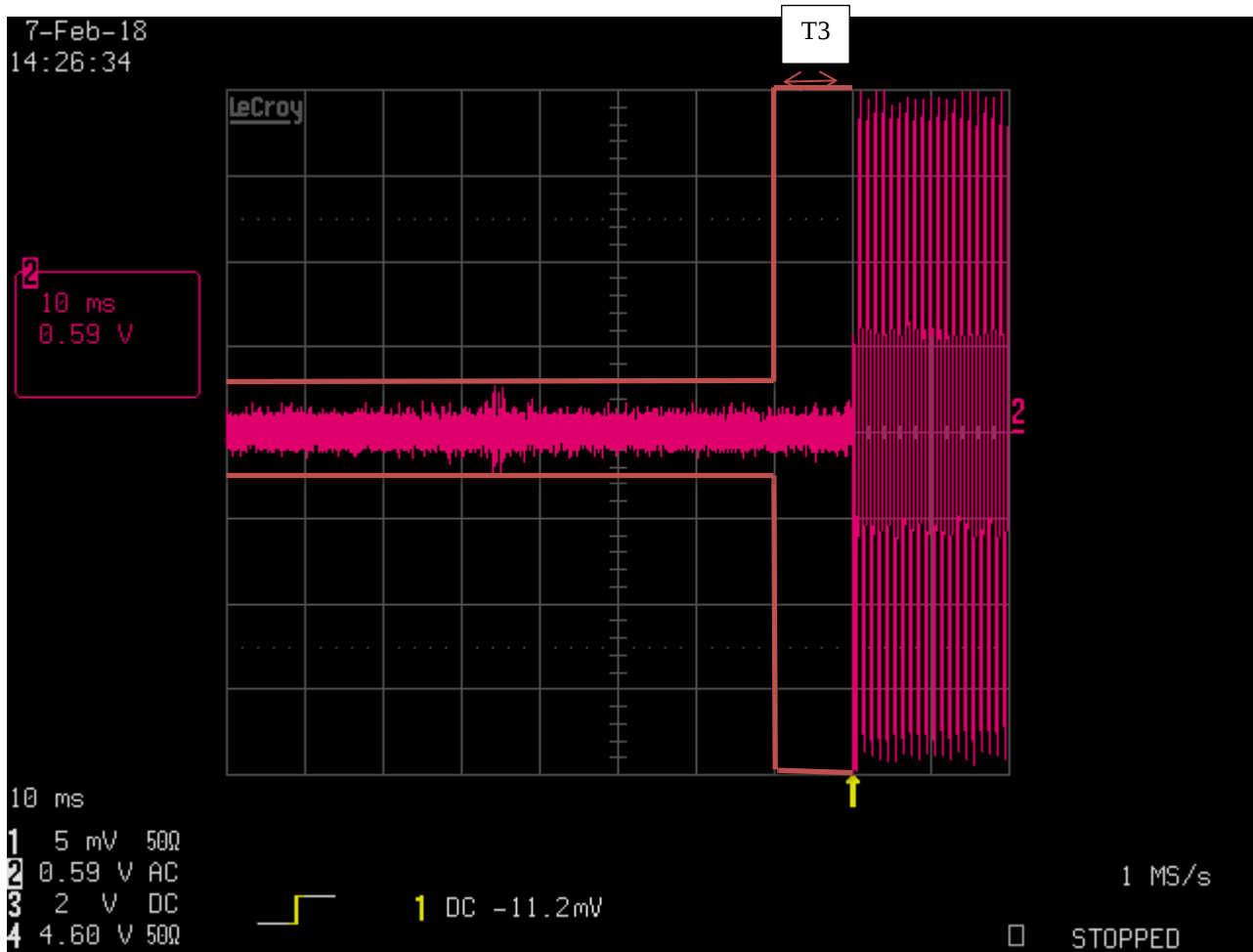


Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

TRANSIENT FREQUENCY BEHAVIOR

Test Data: Transient Frequency Behavior, Turn Off Plot, 25kHz Channel



Applicant: MOTOROLA SOLUTIONS, INC.
IC Cert #: 109U-89FT4949
Model: BC250D-G6-4
Report: 6IC18TestReport_Rev4

[Table of Contents](#)

Statement of Measurement Uncertainty

The data and results referenced in this document are true and accurate. The measurement uncertainty was calculated for all measurements listed in this test report according to CISPR 16-4 or ENTR 100-028 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: “Uncertainty in EMC Measurements” and is documented in the Timco Engineering, Inc. quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device. Hereafter the best measurement capability for Timco Engineering, Inc. is reported:

Test Items	Measurement Uncertainty	Notes
RF Frequency Accuracy	± 49.5 Hz	(1)
RF Conducted Power	± 0.93 dB	(1)
Conducted spurious emission of transmitter valid up to 40GHz	± 1.86 dB	
Occupied Bandwidth	± 2.65 %	
Audio Frequency Response	± 1.86 dB	
Modulation limiting	± 1.88 %	
Radiated RF Power	± 1.4 dB	
Maximum frequency deviation: Within 300 Hz and 6kHz of audio freq.	± 1.88 %	
Within 6kHz and 25kHz of audio Freq.	± 2.04 %	
Rad Emissions Sub Meth up to 26.5GHz	± 2.14 dB	
Rad Emissions Sub Meth up to 18-40 GHz	± 2.04 %	
Adjacent channel power	± 1.47 dB	(1)
Intermodulation - Tx	± 2.07 dB	
Noise Figure	± 1.00 dB	
Transient Frequency Response	± 1.88 %	
Temperature	$\pm 1.0^{\circ}$ C	(1)
Humidity	± 5.0 %	
Radiated Emissions to 6.0GHz	± 4.4 dB	
Power line conducted emissions	± 3.9 dB	

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)

EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
Coaxial Cable - BMBM-0065-01 Black DC-2G	Belden		BMBM-0065-01	07/18/16	07/18/18
Antenna: Biconical 1096	Eaton	94455-1	1096	08/01/17	08/01/19
Antenna: Log-Periodic 1122	Electro-Metrics	LPA-25	1122	07/26/17	07/26/19
Temperature Chamber LARGE	Tenney Engineering	TTRC	11717-7	09/01/16	09/01/18
Frequency Counter Small Chamber	HP	5385A	3242A07460	08/22/17	08/22/19
Coaxial Cable - Chamber 3 cable set (backup)	Micro-Coax	Chamber 3 cable set (backup)	KMKM-0244-02; KMKM-0670-01; KFKF-0197-00	N/A	N/A
CHAMBER	Panashield	3M	N/A	04/25/16	03/31/18
Sweep/Signal Generator	Anritsu	68369B	985112	11/08/17	11/08/19
Antenna: Double-Ridged Horn/ETS Horn 2	ETS-Lindgren	3117	00041534	03/01/17	03/01/19
EMI Test Receiver R & S ESIB 40 Screen Room	Rohde & Schwarz	ESIB 40	100274	08/16/16	08/16/18
Software: Field Strength Program	Timco	N/A	Version 4.10.7.0	N/A	N/A
Antenna: Active Loop	ETS-Lindgren	6502	00062529	04/13/17	04/13/19
18 GHz LBHCD Crystal Detector		8470B	MY51340829	N/A	N/A
Type K J Thermometer	Martel	303	080504494	11/06/17	11/06/19
Modulation Analyzer	HP	8901A	3050A05856	04/13/17	04/13/19
EMI Test Receiver R & S ESU 40 Chamber	Rohde & Schwarz	ESU 40	100320	04/01/16	04/01/18
Coaxial Cable - BMBM-0130-00 Black	Alpha Wire		BMBM-0130-00	05/24/16	05/24/18
1G Oscilloscope	LeCroy	LC584AM	10605	08/22/17	08/22/19
Coaxial Cable - BMBM-0155-01 Black	BELDEN		BMBM-0155-01	06/01/16	06/01/18
Splitter 1-1000MHz	Mini-Circuits	ZFSC-4-1-BNC+	U115700825	N/A	N/A
Function Generator	Standford	DS340	25200	02/02/16	03/02/18
Signal Generator R & S SMU 200A	Rohde & Schwarz	SMU200A	103195	02/29/16	02/28/18
Non Radiating 50 OHM Load	Sierra Elec	160B-600X	1038	09/13/16	09/13/18
Attenuator N 20dB 2W DC-13G	Narda	777C	36124	05/24/17	05/23/19
Directional Coupler 20dB	HP	X752D	1829A24209	N/A	N/A
Bore-sight Antenna Positioning Tower	Sunol Sciences	TLT2	N/A	N/A	N/A
Attenuator N 30dB 20W DC-4G	Pasternack	PE7214-30	#109	05/24/17	05/24/19
Tunable Notch Filter 250-850 MHz	Eagle	TNF-200	250-850 MHz (#19)	01/19/17	11/19/19

*EMI RECEIVER SOFTWARE VERSION

The receiver firmware used was version 4.43 Service Pack 3

END OF TEST REPORT

Applicant: MOTOROLA SOLUTIONS, INC.
 IC Cert #: 109U-89FT4949
 Model: BC250D-G6-4
 Report: 6IC18TestReport_Rev4

[Table of Contents](#)