



TEST REPORT

of the accredited test laboratory

TÜV Nr.:M/FG-15/160

Applicant: AKG Acoustics GmbH
Laxenburger Straße 254
A – 1230 Wien

Tested Product: Handheld wireless microphone transmitter

FCC-ID: V3THT4025M

IC-ID: N/A

Manufacturer: AKG Acoustics GmbH
Laxenburger Straße 254
A – 1230 Wien

Output power: 10mW erp **power supply:** 1,5 VDC

Frequency range: 537,5 – 540,4 MHz **Channel separation:** N/A
"Band US25"

ITU designator: 126KF3E **Declared channel bandwidth:** 200 kHz

Standard: FCC: 47 CFR Part 74 (October 1, 2014 edition)
RSS-123 Issue 3, February 5, 2015

TÜV AUSTRIA SERVICES GMBH
Test laboratory for EMC

Supervisor of EMC-laboratory:

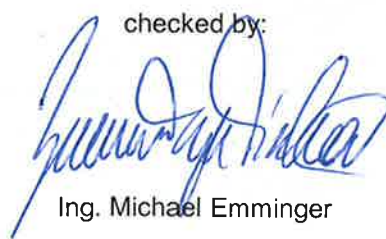

Ing. Wilhelm Seier



08.10.2015

Copy Nbr.: 

checked by:


Ing. Michael Emminger

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The results of this test report only refer to the provided equipment.

LIST OF MEASUREMENTS

The complete list of measurements called for in 47 CFR 74 and RSS-123 is given below.

SUBCLAUSE	PARAMETER TO BE MEASURED	PAGE
	Intentional Radiators	
	Test object data	3
74.861(e)(1) (6.2)	RF Power Output (erp)	4
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TEST OBJECT DATA

General EUT Description

This digital audio transmitter will be used as a handheld wireless microphone. It has no antenna connector, so all technical data were measured radiated.

2.1033 (c) Technical description

2.1033 (4) Type of emission: 126KF3E single channel equipment

2.1033 (5) Frequency range: 537,5 / 537,9 / 539,3 / 540,4 MHz (four fixed frequencies)

2.1033 (6) Power range and Controls: fixed output power: 10 mW.

2.1033 (7) Maximum output power rating: 10mW erp.

2.1033 (8) DC Voltage and Current: 1,5 V nominal 1V minimum (1 AA Cell)
maximum current consumption: 110 mA

RSS-135 This standard does not apply to:

- 1.1.(a) a receiver that scans radio frequencies for the purpose of enabling its associated transmitter to avoid transmitting in an occupied frequency but which does not have the capability of decoding the message (e.g. converting it to audio voice) contained in the radio signal

Tests were performed Sept 14th till 17th 2015.

Power Output

§ 74.261(e)(1)
(6.2)

Radiated Measurement

Rated output power: 10 mW

Test conditions		Transmitter power (mW) (erp)			
		537,5 MHz	537,9 MHz	539,3 MHz	540,4 MHz
T_{nom} (23)°C	V_{nom} (1,5)V	5,75	6,17	5,89	5,50
Maximum deviation from rated output power under normal test conditions (dB)		-42,5	-38,3	-41,1	-45,0
Measurement uncertainty		$\pm 0,75$ dB			

LIMIT

SUBCLAUSE 74.261 (e)(1)(ii) (Table 1 of RSS-123)

Under normal test conditons	250 mW
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Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-126; NT-150; NT-207; NT-500; NT-520; NT-550

Frequency tolerance

§ 74.261 (e)(4)
(7)

Frequency error vs. Supply voltage

DC-Voltage	Frequency Error kHz				Frequency Error ppm			
	537,5 MHz	537,9 MHz	539,3 MHz	540,4 MHz	537,5 MHz	537,9 MHz	539,3 MHz	540,4 MHz
1,5 V	0,98	1,05	0,60	1,15	1,81	1,95	1,11	2,13
1 V	1,04	1,13	1,62	2,09	1,93	2,09	3,01	3,86

Frequency error vs. Temperature

Temperature °C	Frequency Error kHz				Frequency Error ppm			
	537,5 MHz	537,9 MHz	539,3 MHz	540,4 MHz	537,5 MHz	537,9 MHz	539,3 MHz	540,4 MHz
-30	-0,29	-1,00	-2,82	-2,00	-0,53	-1,86	-5,24	-3,70
-20	2,45	2,20	0,55	0,61	4,56	4,09	1,02	1,13
-10	3,12	3,10	1,71	1,81	5,81	5,76	3,18	3,35
±0	3,28	3,25	2,18	2,12	6,09	6,04	4,03	3,93
+10	2,45	2,43	1,68	1,40	4,56	4,51	3,11	2,59
+20	0,98	1,05	0,60	1,15	1,81	1,95	1,11	2,13
+30	-0,81	-0,65	-0,69	-0,27	-1,51	-1,21	-1,27	-0,51
+40	-2,40	-2,25	-1,72	-1,54	-4,47	-4,18	-3,20	-2,85
+50	-3,52	-3,35	-2,45	-2,24	-6,56	-6,23	-4,54	-4,14

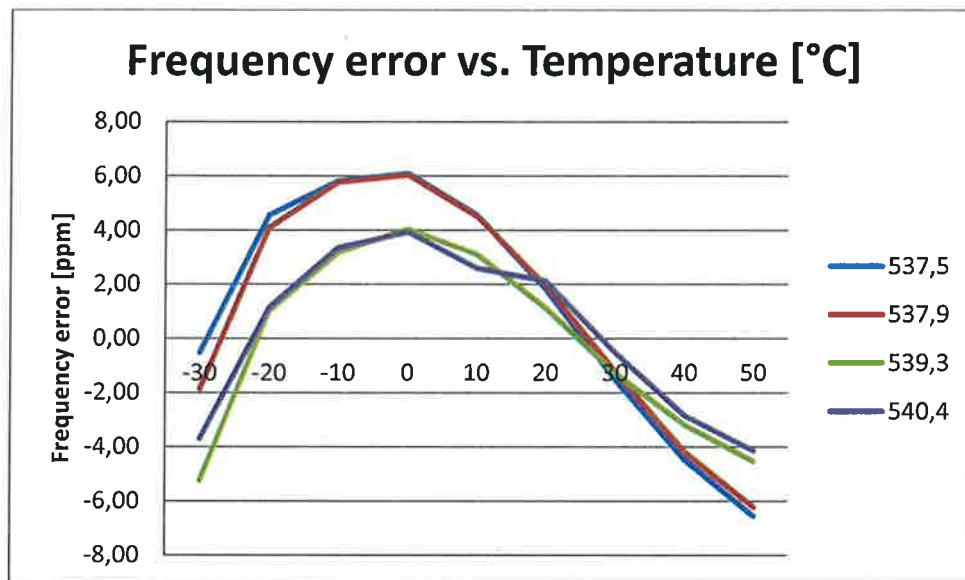
LIMIT

SUBCLAUSE 74.261 (e)(4) (Table 1 of RSS-123)

The frequency tolerance of the transmitter shall be 0.005 percent. = 50 ppm

Frequency tolerance

§ 74.261 (e)(4)
(7)



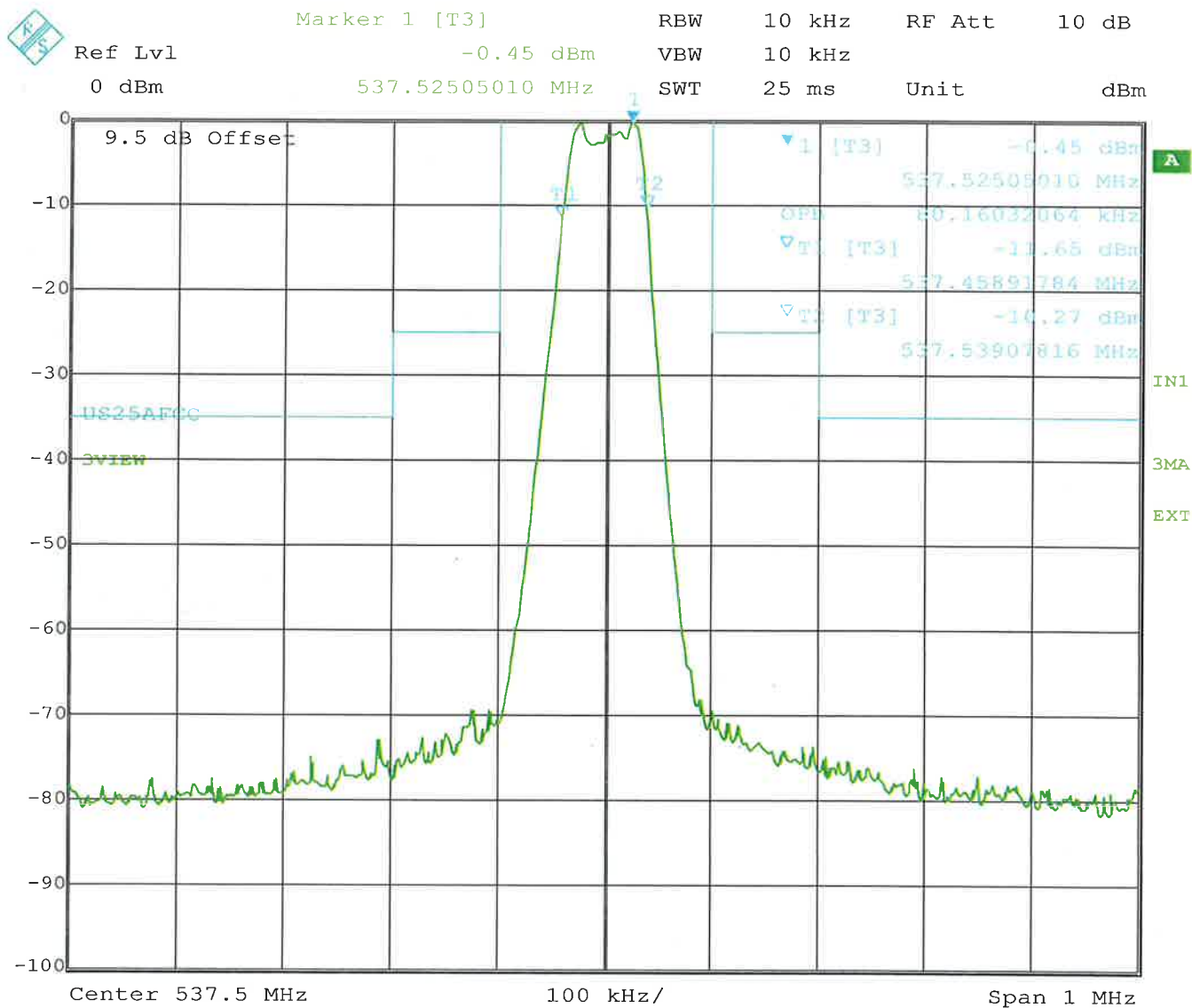
Test Equipment used: NT-203/1, M-1200

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 1 kHz @ 537,5 MHz



Date: 16.SEP.2015 15:25:59

Measured bandwidth is: 80,16 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

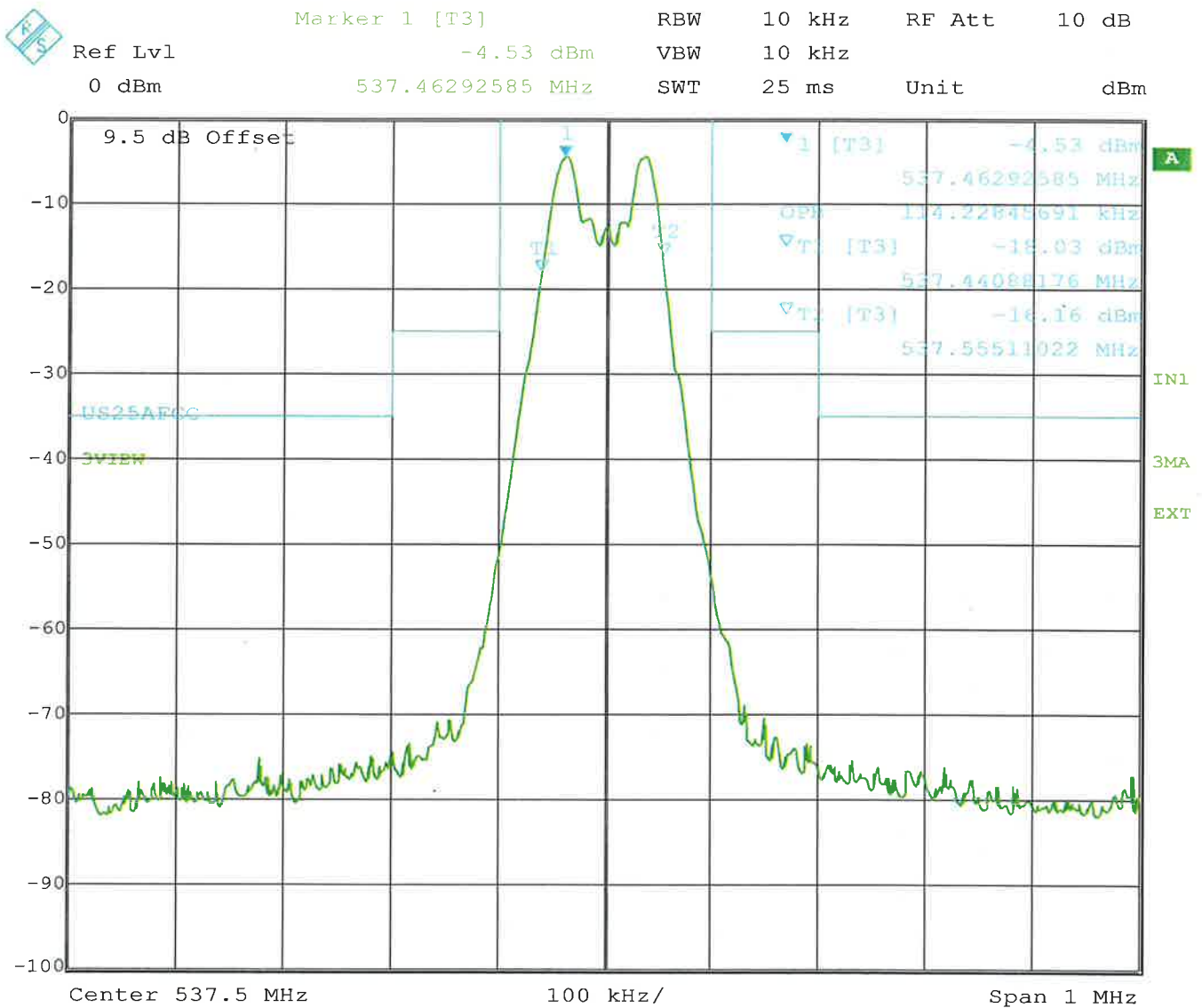
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 7,5 kHz @ 537,5 MHz



Date: 16.SEP.2015 15:26:16

Measured bandwidth is: 114,23 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

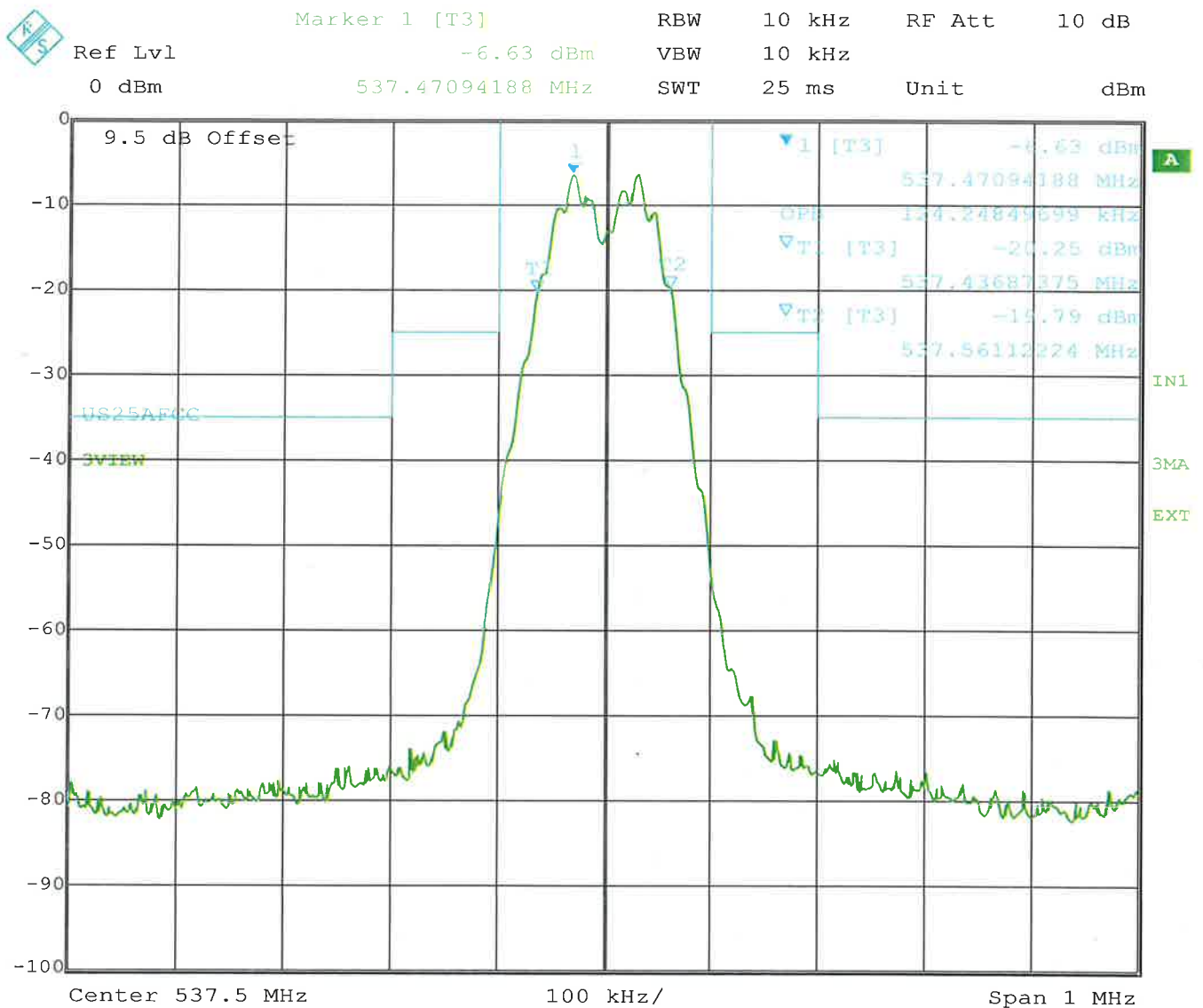
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 15 kHz @ 537,5 MHz



Date: 16.SEP.2015 15:26:43

Measured bandwidth is: 124,25 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

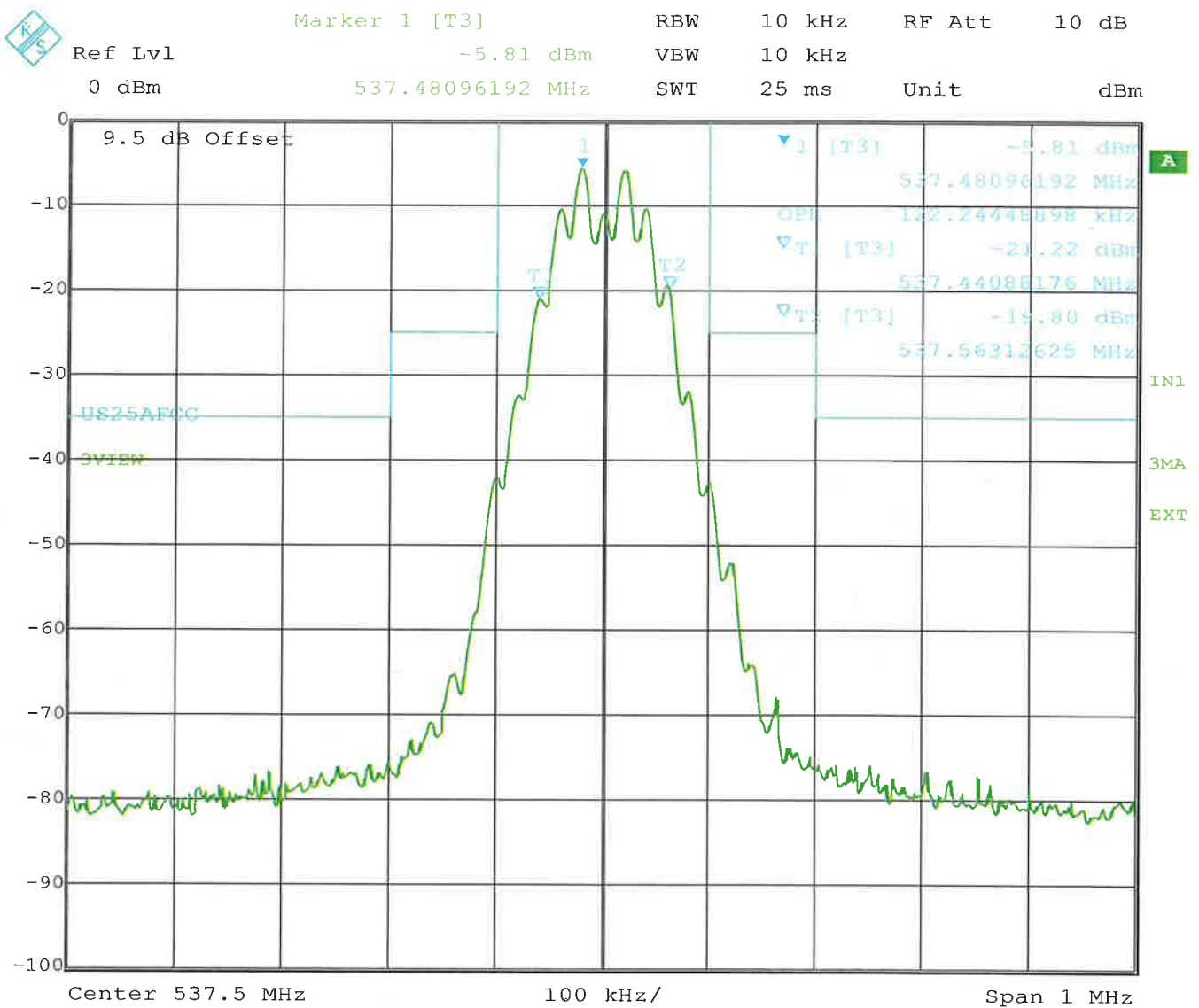
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 20 kHz @ 537,5 MHz



Date: 16.SEP.2015 15:27:05

Measured bandwidth is: 122,25 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

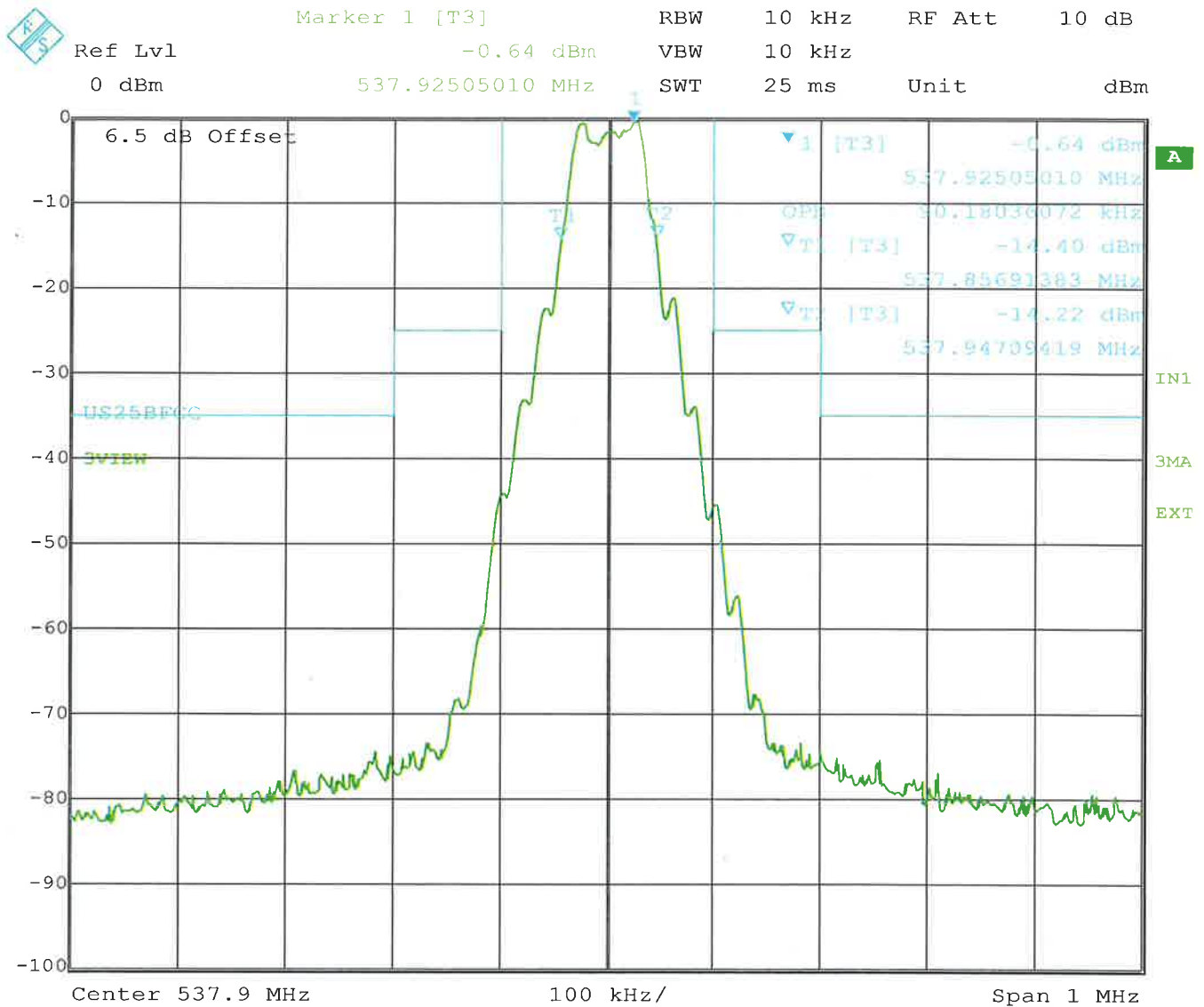
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 1 kHz @ 537,9 MHz



Date: 16.SEP.2015 15:23:32

Measured bandwidth is: 90,18 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

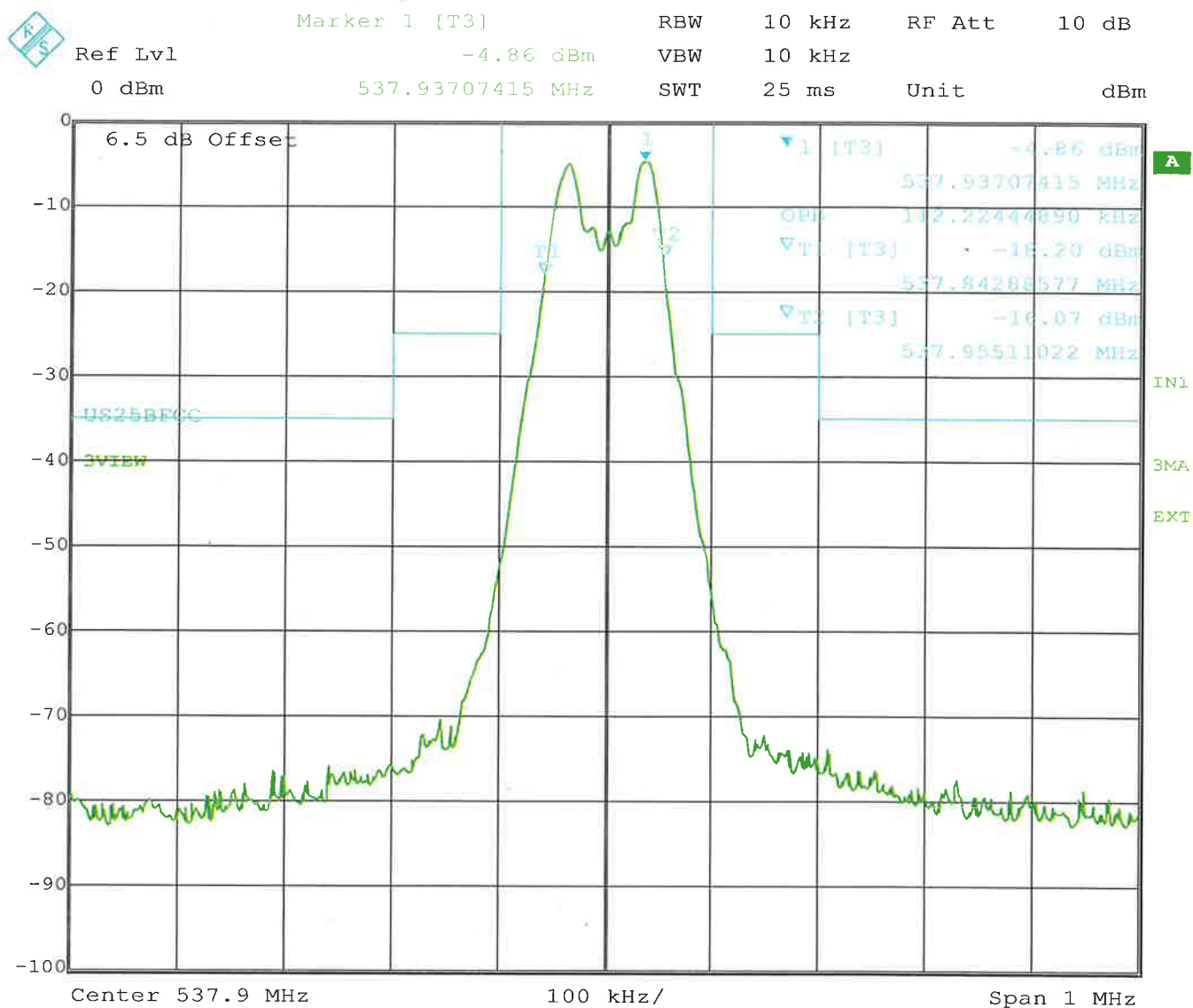
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 7,5 kHz @ 537,9 MHz



Date: 16.SEP.2015 15:23:49

Measured bandwidth is: 112,22 kHz

LIMIT **SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)**

The operating bandwidth shall not exceed 200 kHz.

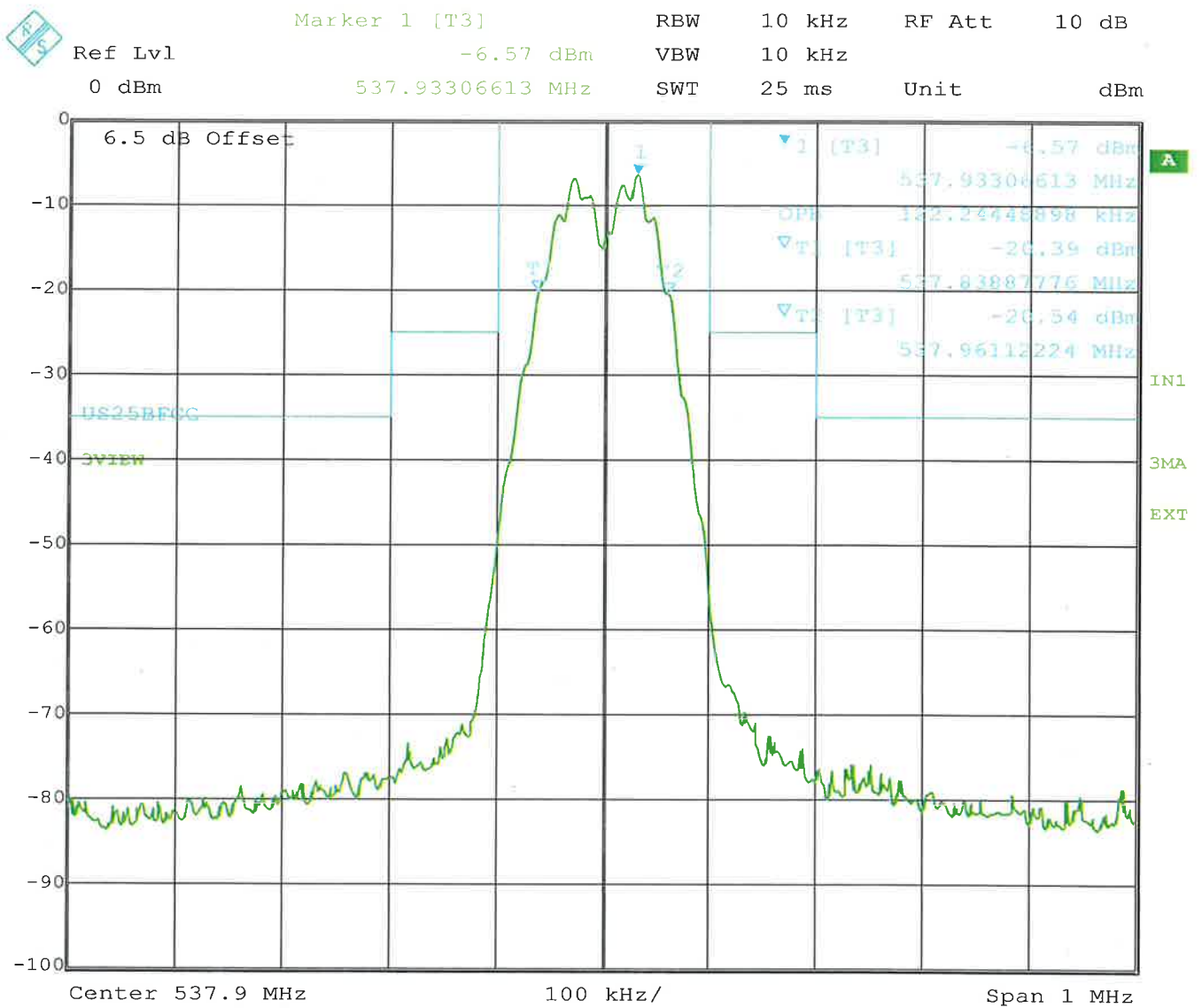
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 15 kHz @ 537,9 MHz



Date: 16.SEP.2015 15:24:08

Measured bandwidth is: 122,24 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

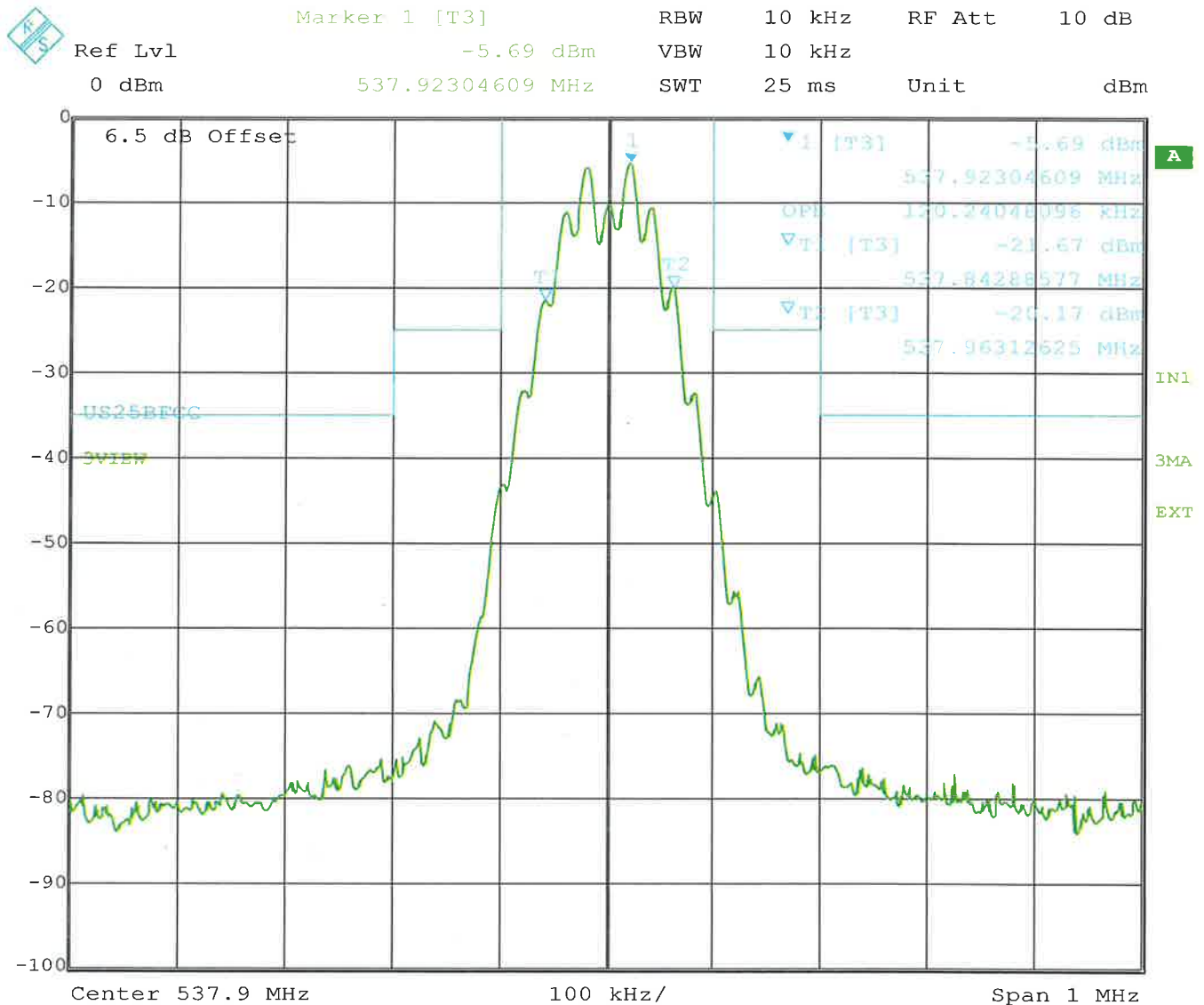
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 20 kHz @ 537,9 MHz



Date: 16.SEP.2015 15:24:21

Measured bandwidth is: 120,24 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

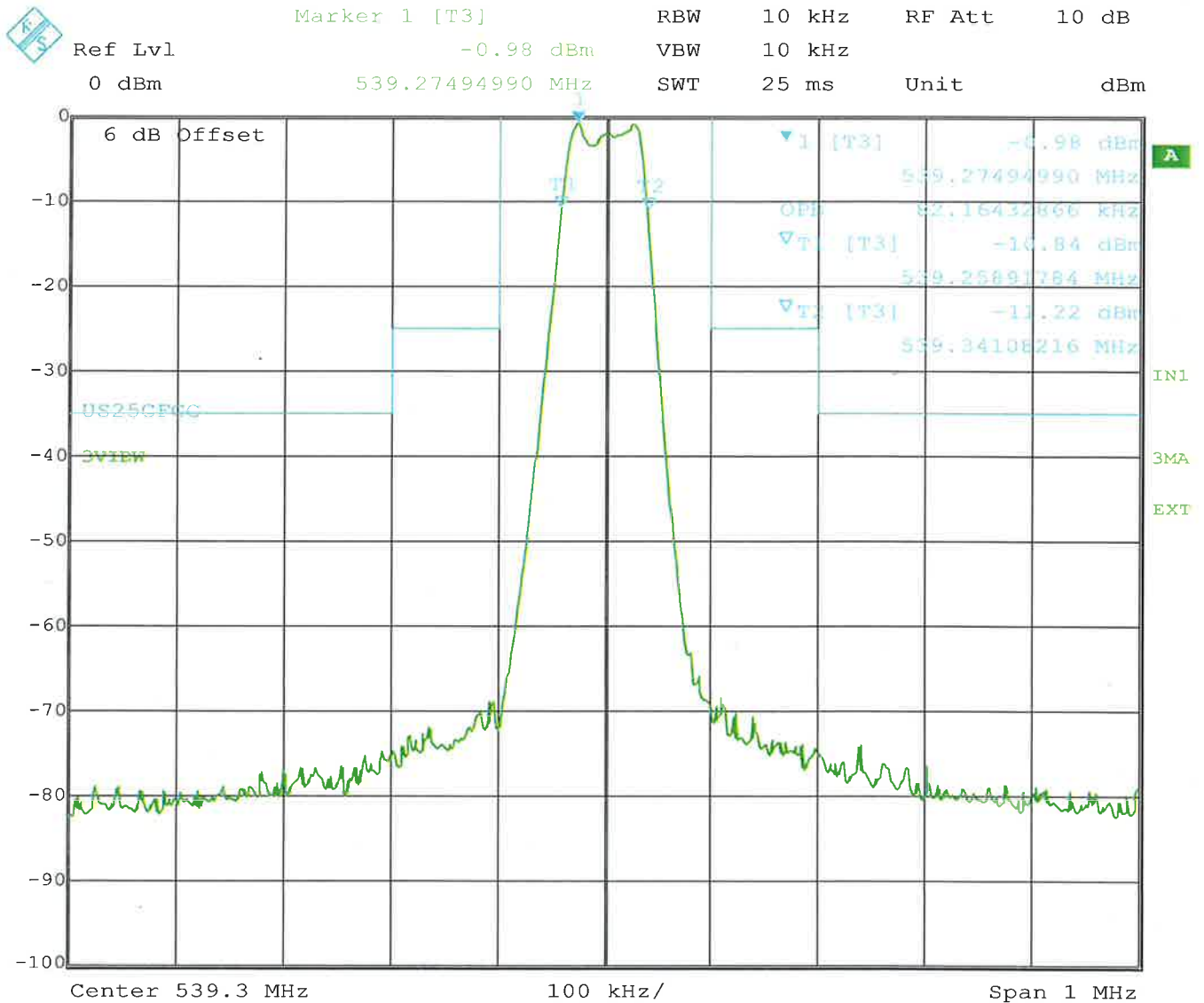
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 1 kHz @ 539,3 MHz



Date: 16.SEP.2015 15:15:54

Measured bandwidth is: 82,16 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

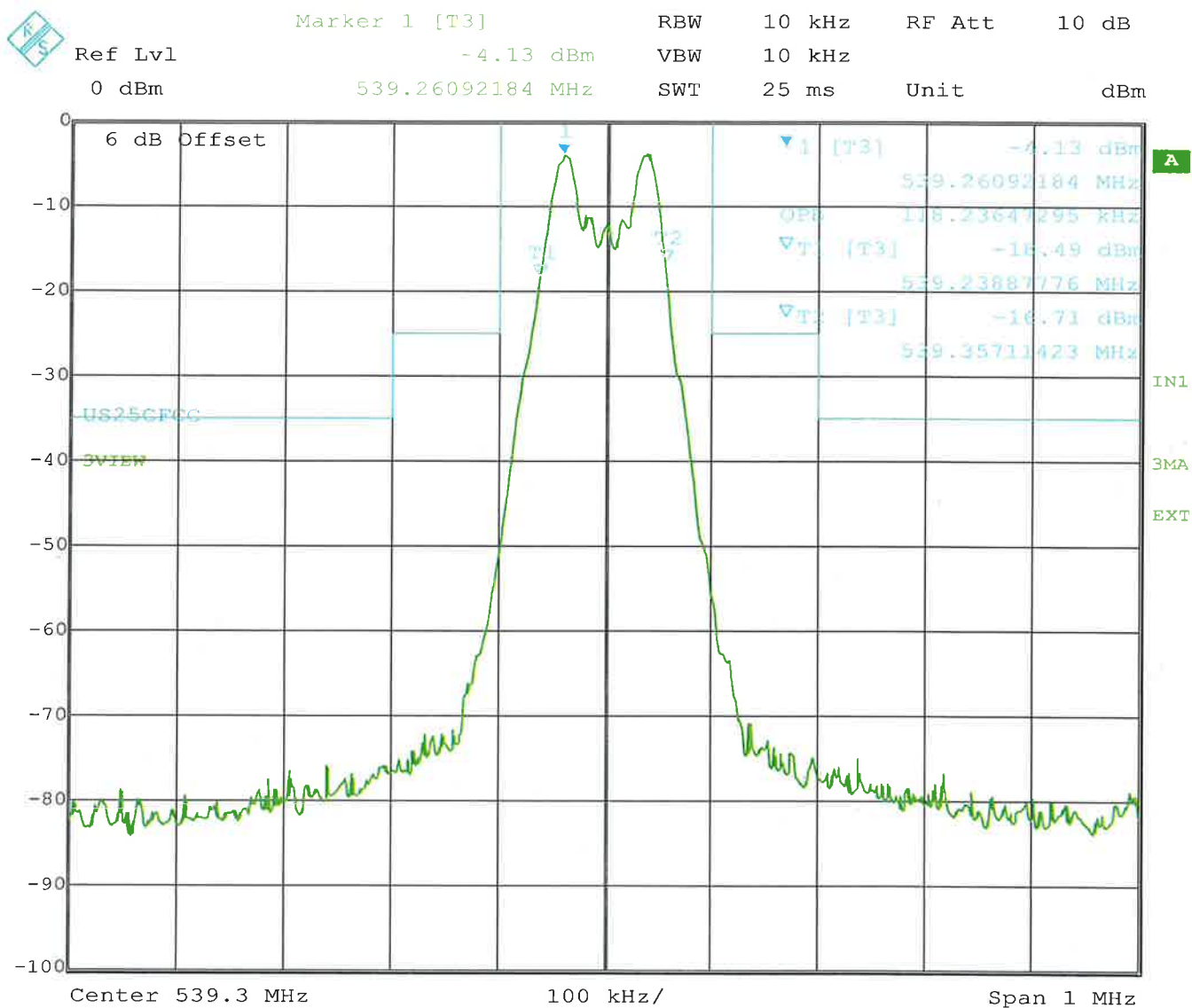
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 7,5 kHz @ 539,3 MHz



Date: 16.SEP.2015 15:16:20

Measured bandwidth is: 118,24 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

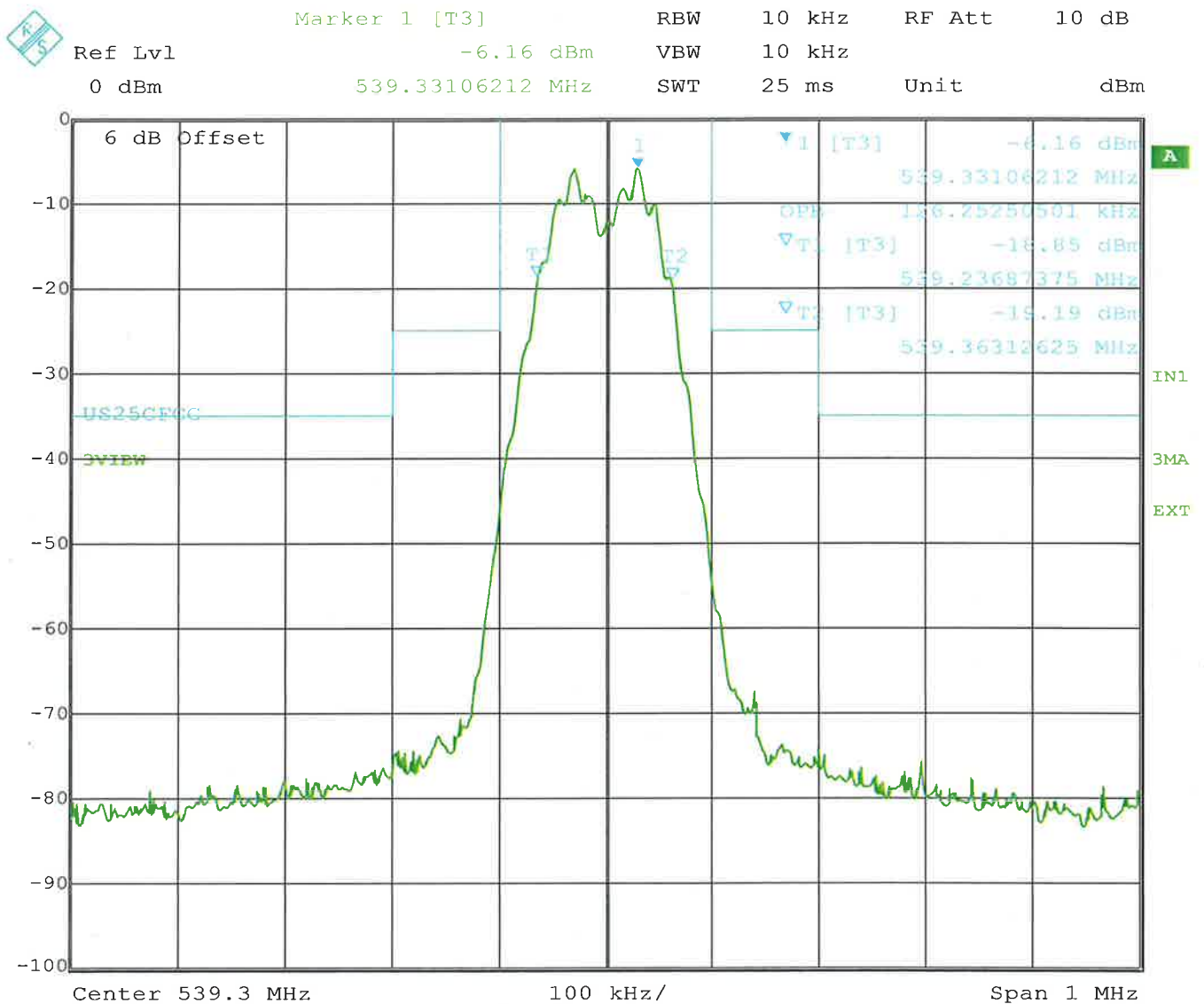
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 15 kHz @ 539,3 MHz



Date: 16.SEP.2015 15:17:14

Measured bandwidth is: 126,25 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

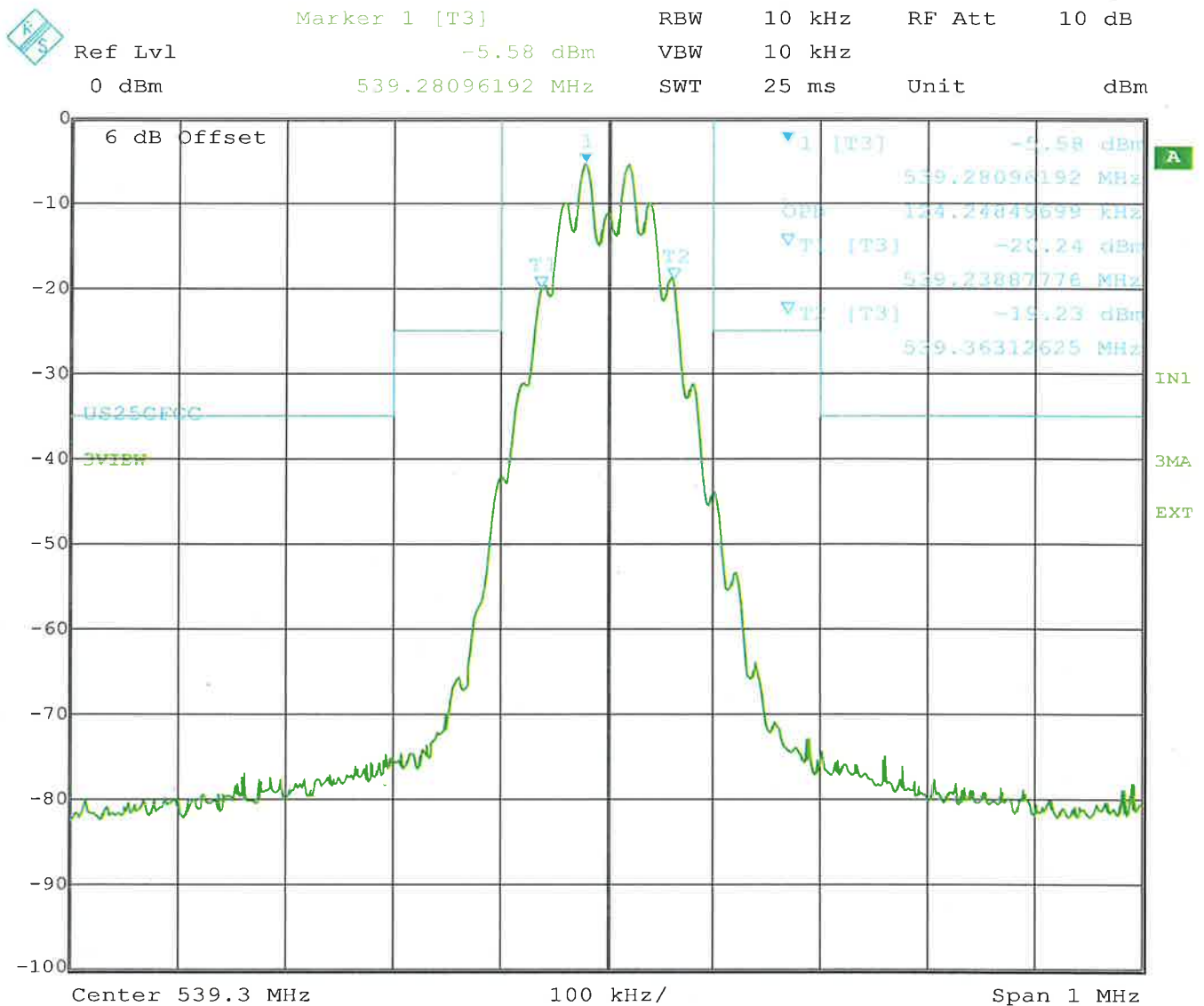
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 20 kHz @ 539,3 MHz



Date: 16.SEP.2015 15:16:57

Measured bandwidth is: 124,25 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

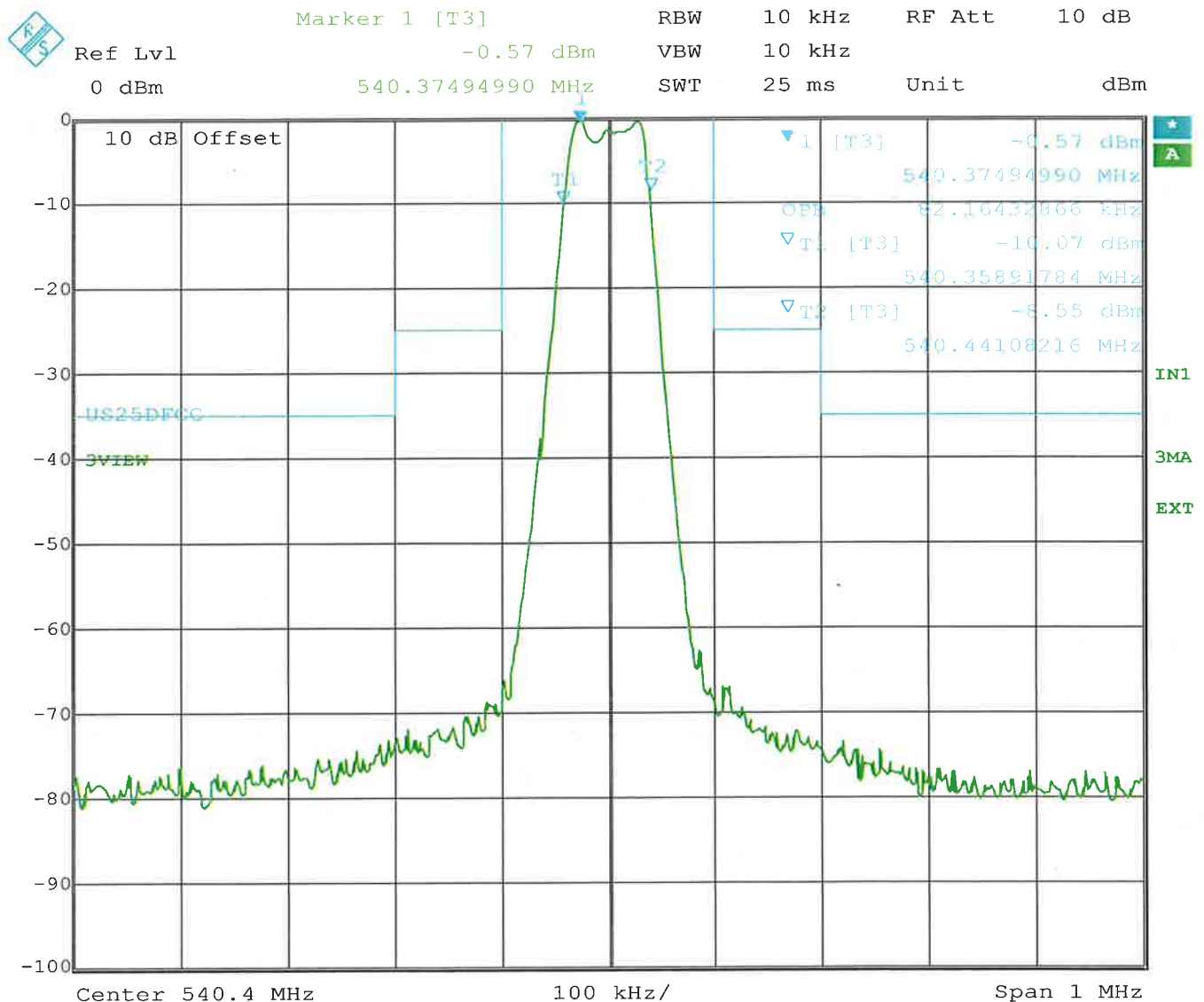
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 1 kHz @ 540,4 MHz



Date: 16.SEP.2015 15:10:11

Measured bandwidth is: 82,16 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

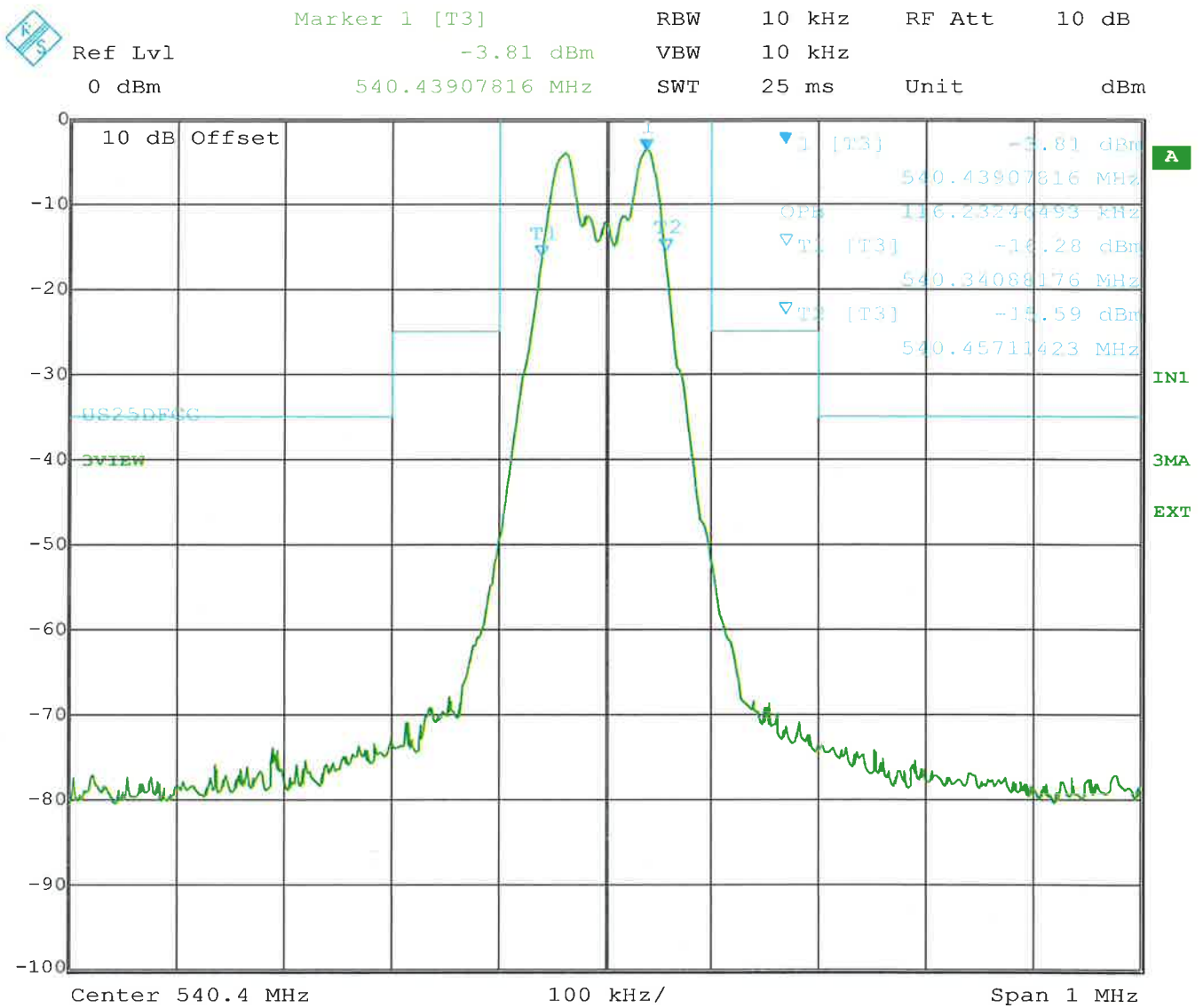
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 7,5 kHz @ 540,4 MHz



Date: 16.SEP.2015 15:10:36

Measured bandwidth is: 116,23 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

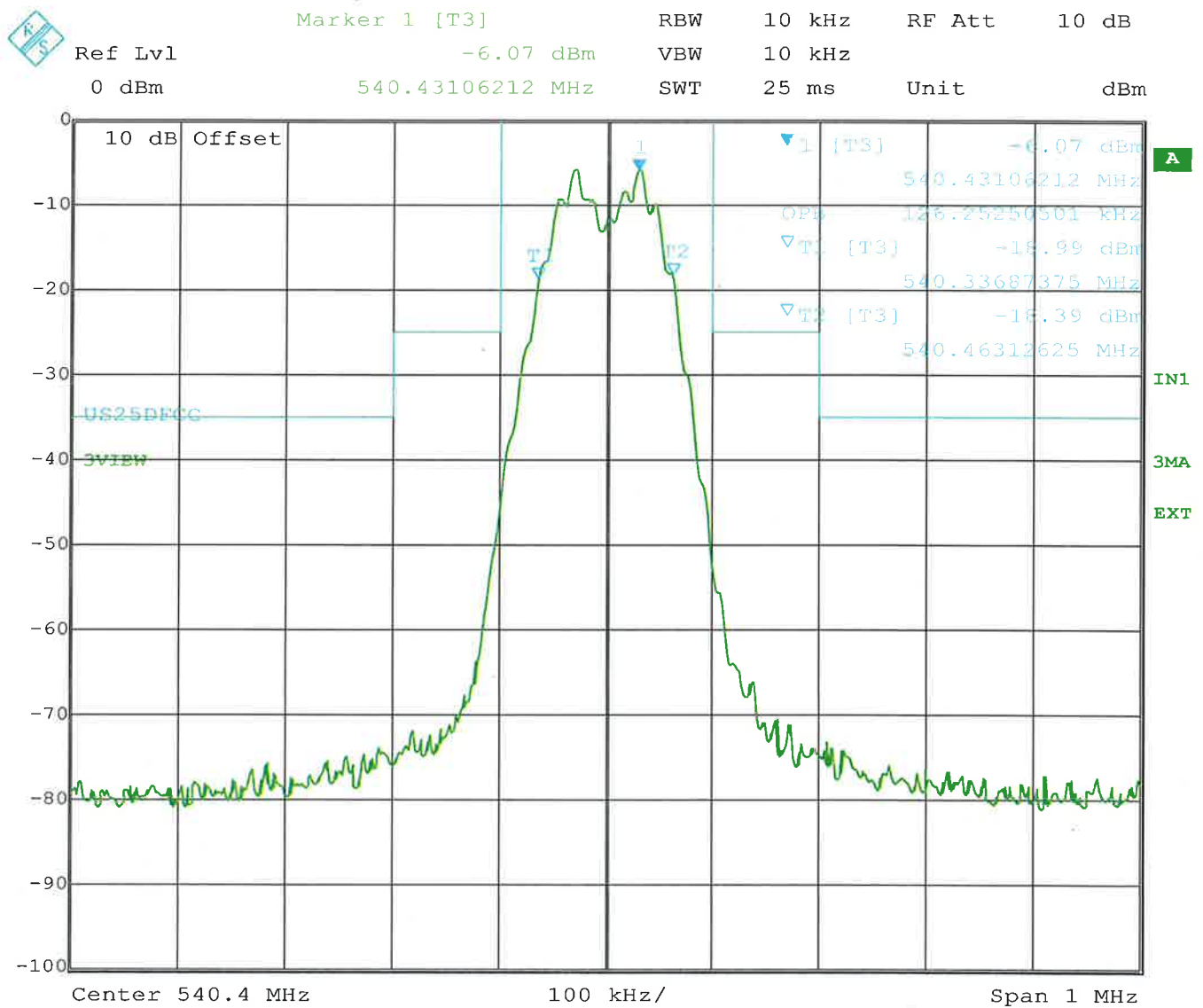
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 15 kHz @ 540,4 MHz



Date: 16.SEP.2015 15:11:00

Measured bandwidth is: 126,25 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

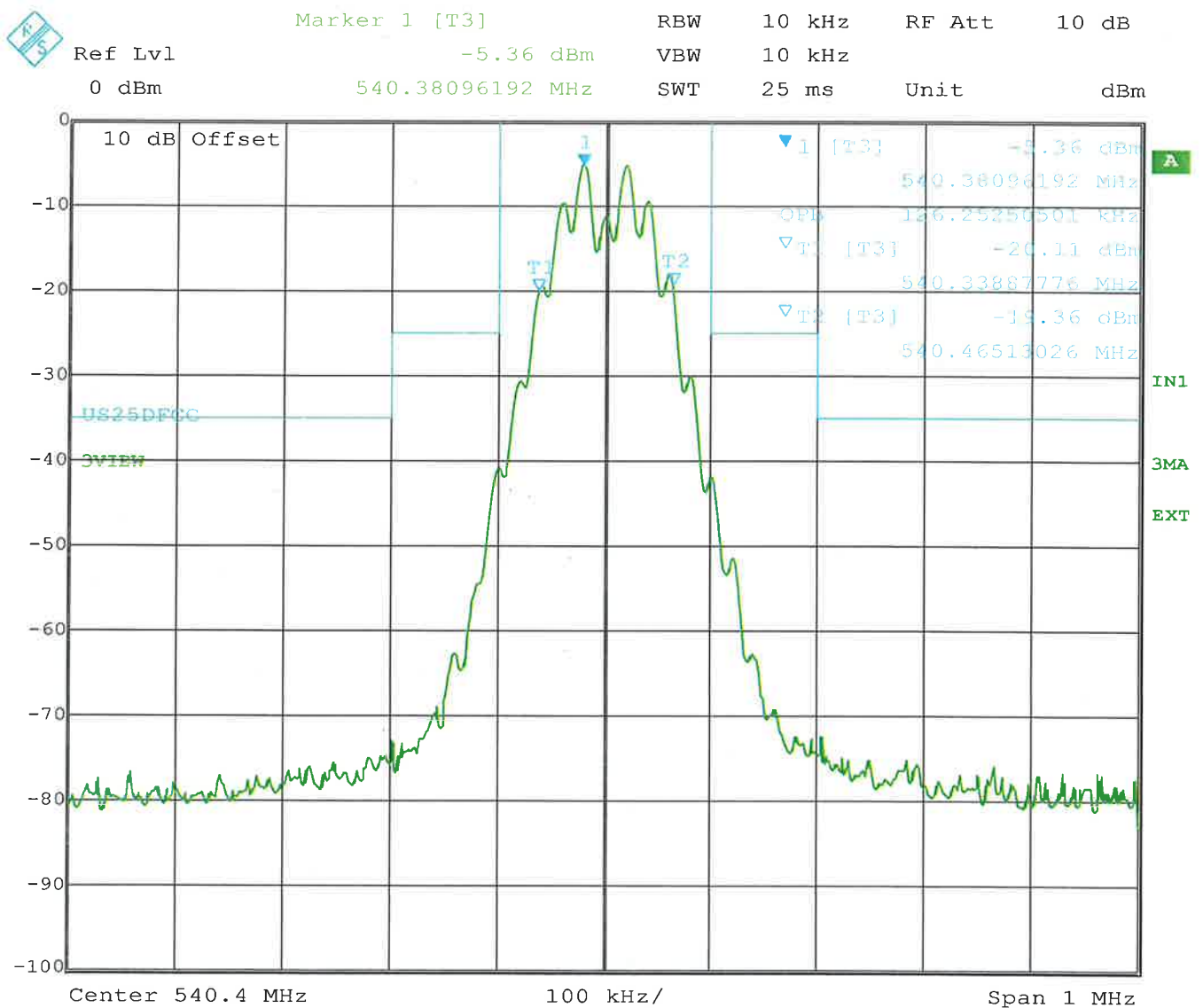
TEST EQUIPMENT USED: NT-207

OPERATING BANDWIDTH

§ 74.261 (e)(5)
(6.3)

The operating Bandwidth was measured at an acoustic input level 16 dB higher than that required for half of the maximum linear input level.

Measurement with audio frequency 20 kHz @ 540,4 MHz



Date: 16.SEP.2015 15:11:14

Measured bandwidth is: 126,25 kHz

LIMIT SUBCLAUSE 74.261 (e)(5) (Table 1 RSS-123)

The operating bandwidth shall not exceed 200 kHz.

TEST EQUIPMENT USED: NT-207

Emissions Mask

§ 74.261 (e)(6)
(6.3)

LIMIT

74.261(e)(6)

The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

- (i) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25dB;
- (ii) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35dB;
- (iii) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least $43 + 10 \log_{10}$ (mean output power in watts) dB.

In deviation to above (iii) RSS-123 6.3.1 (3) requires:
at least $55 + 10 \log_{10}(TP)$ dB, in any 30 kHz band removed from the centre of the authorized bandwidth by more than 250% of the authorized bandwidth. The search for unwanted emissions shall be from the lowest frequency internally generated or used in the device (local oscillator, intermediate or carrier frequency), or 500 kHz below its lowest assignable frequency, whichever is the lowest frequency, to the 5th harmonic of the highest frequency generated or used, without exceeding 23 GHz.

All plots were normalised so that 0 dB is equal to the mean output power measured in a bandwidth equal to 5 times the nominal bandwidth of the emission.

Emissions Mask

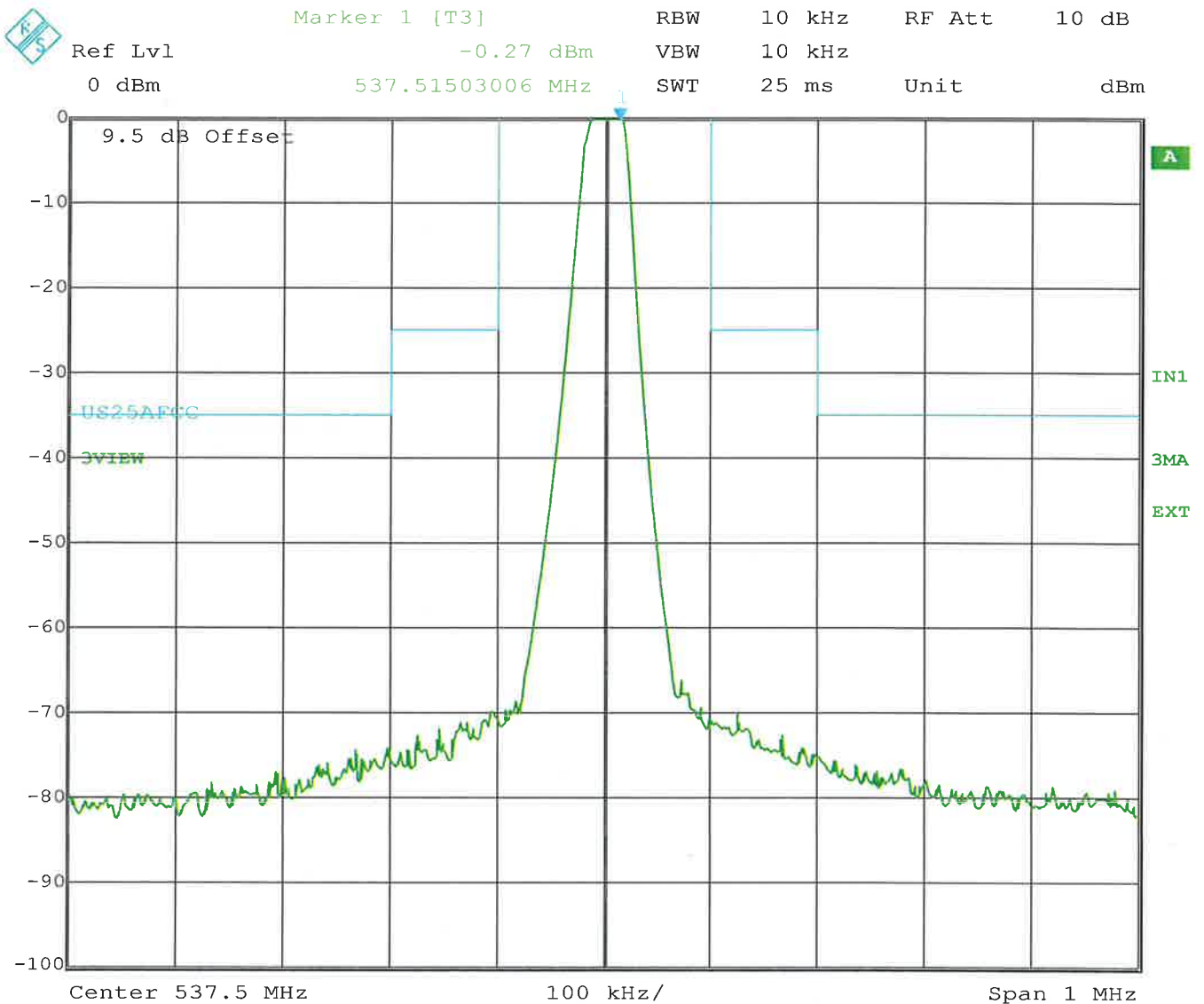
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 14:12:52

Test Equipment used: NT-207

Emissions Mask

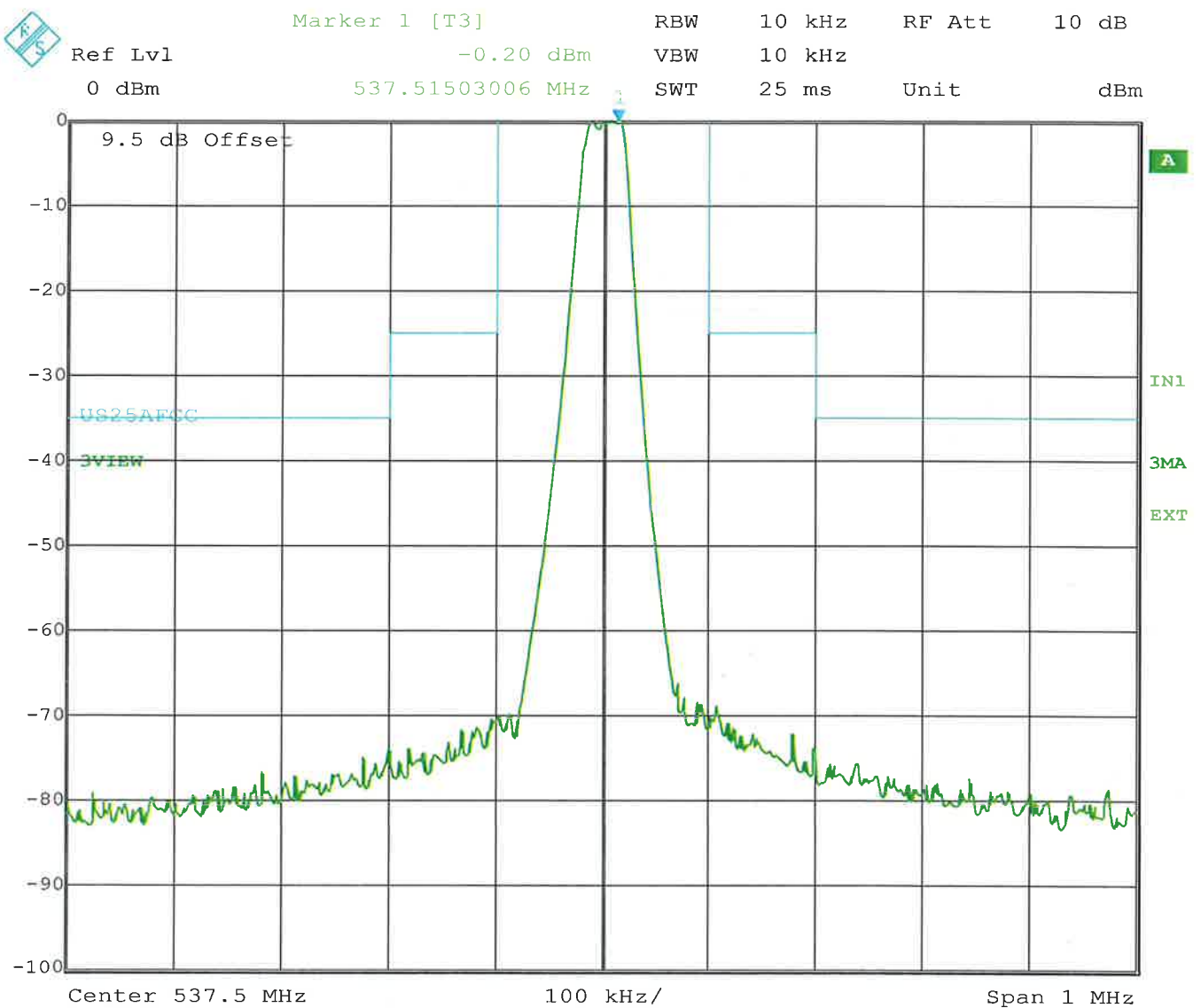
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 14:12:27

Test Equipment used: NT-207

Emissions Mask

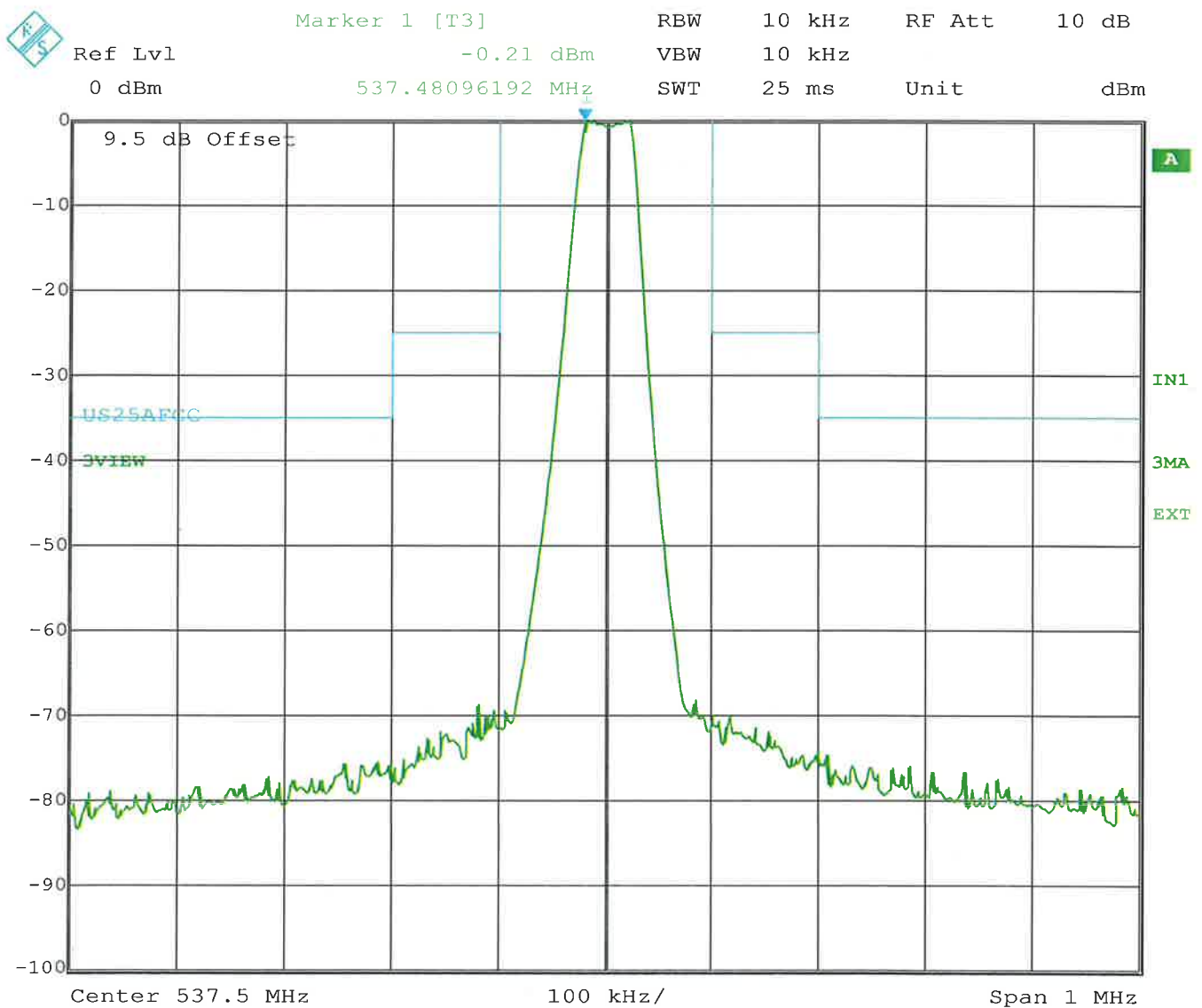
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 14:07:16

Test Equipment used: NT-207

Emissions Mask

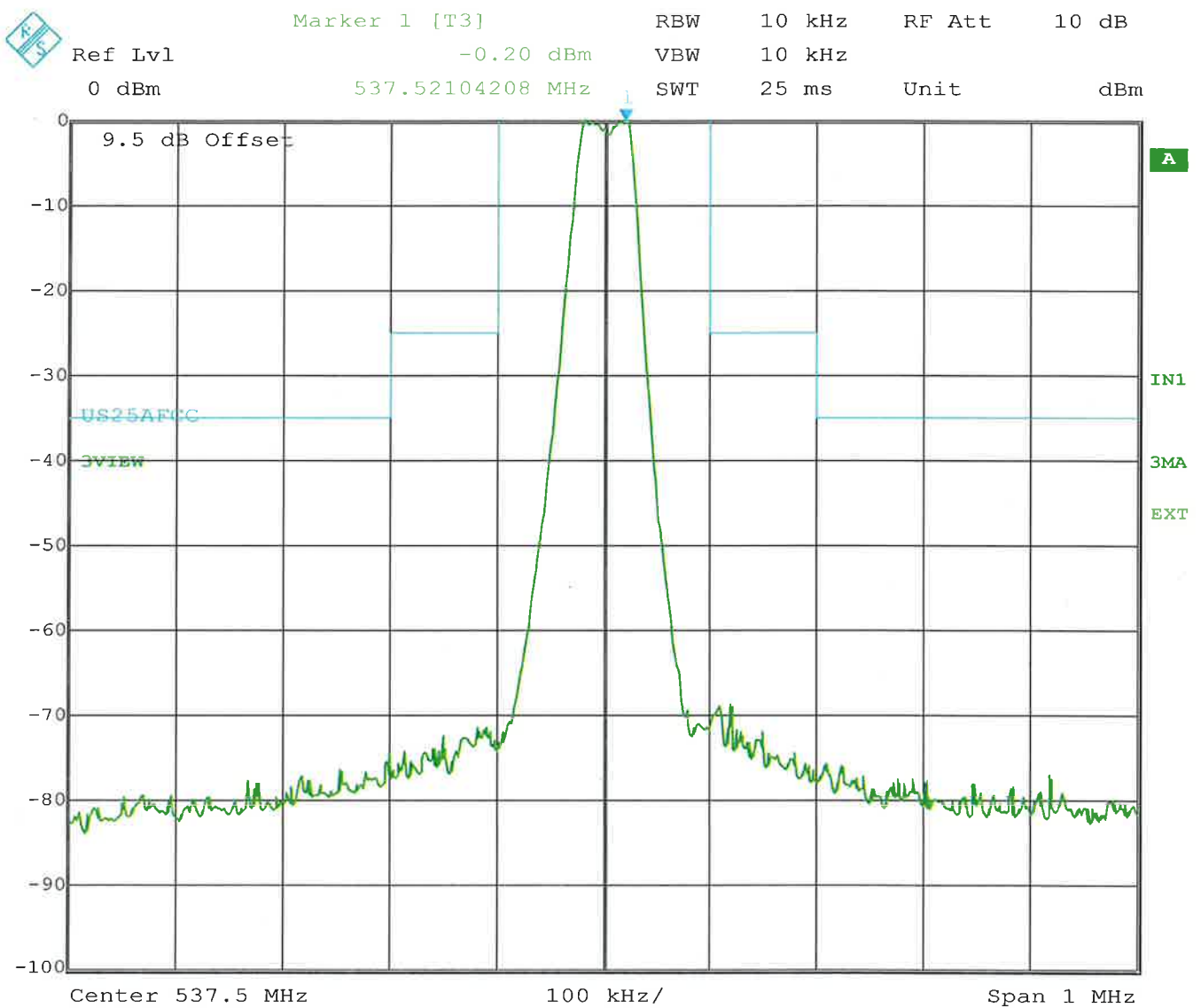
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 14:08:04

Test Equipment used: NT-207

Emissions Mask

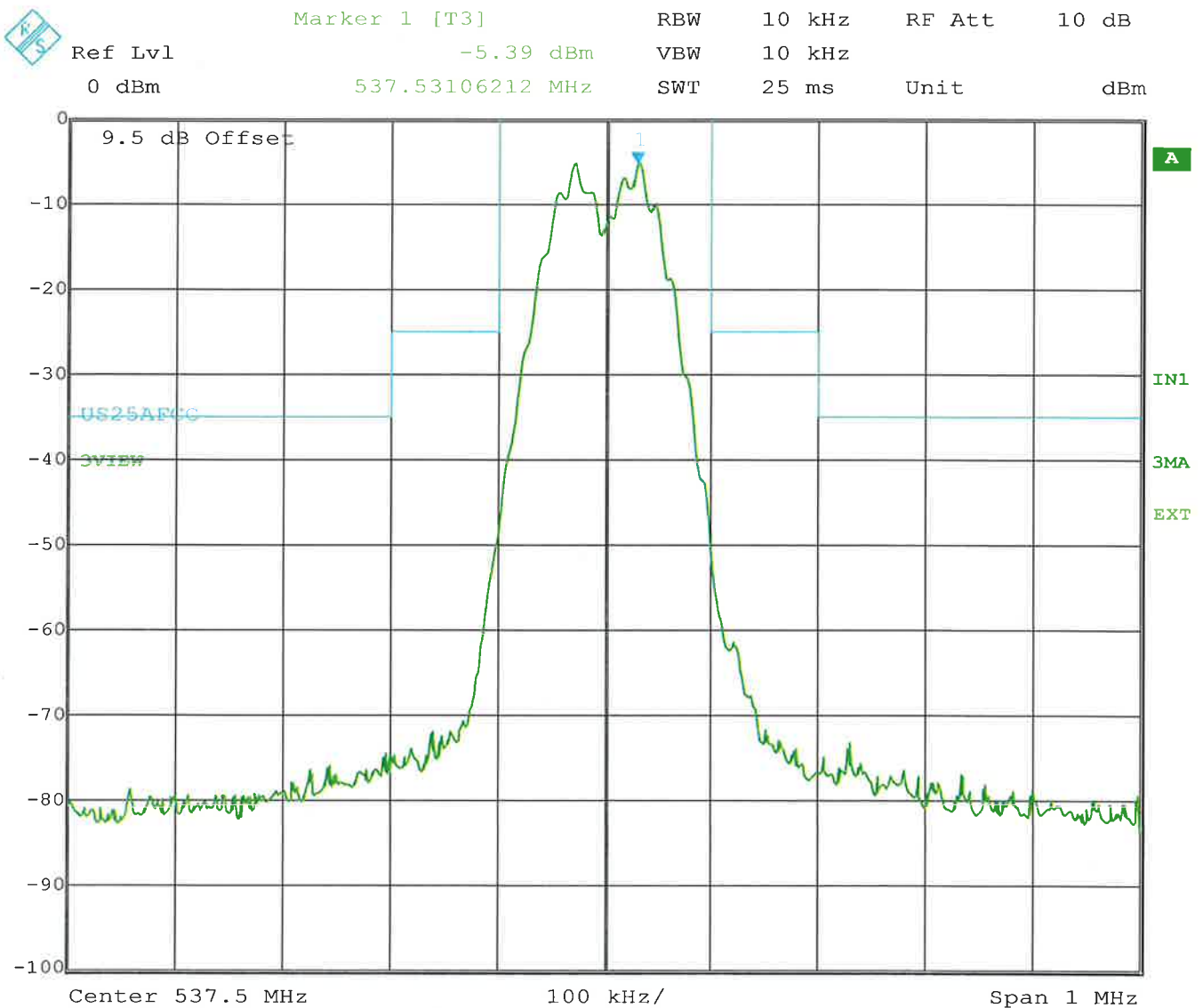
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 14:11:11

Test Equipment used: NT-207

Emissions Mask

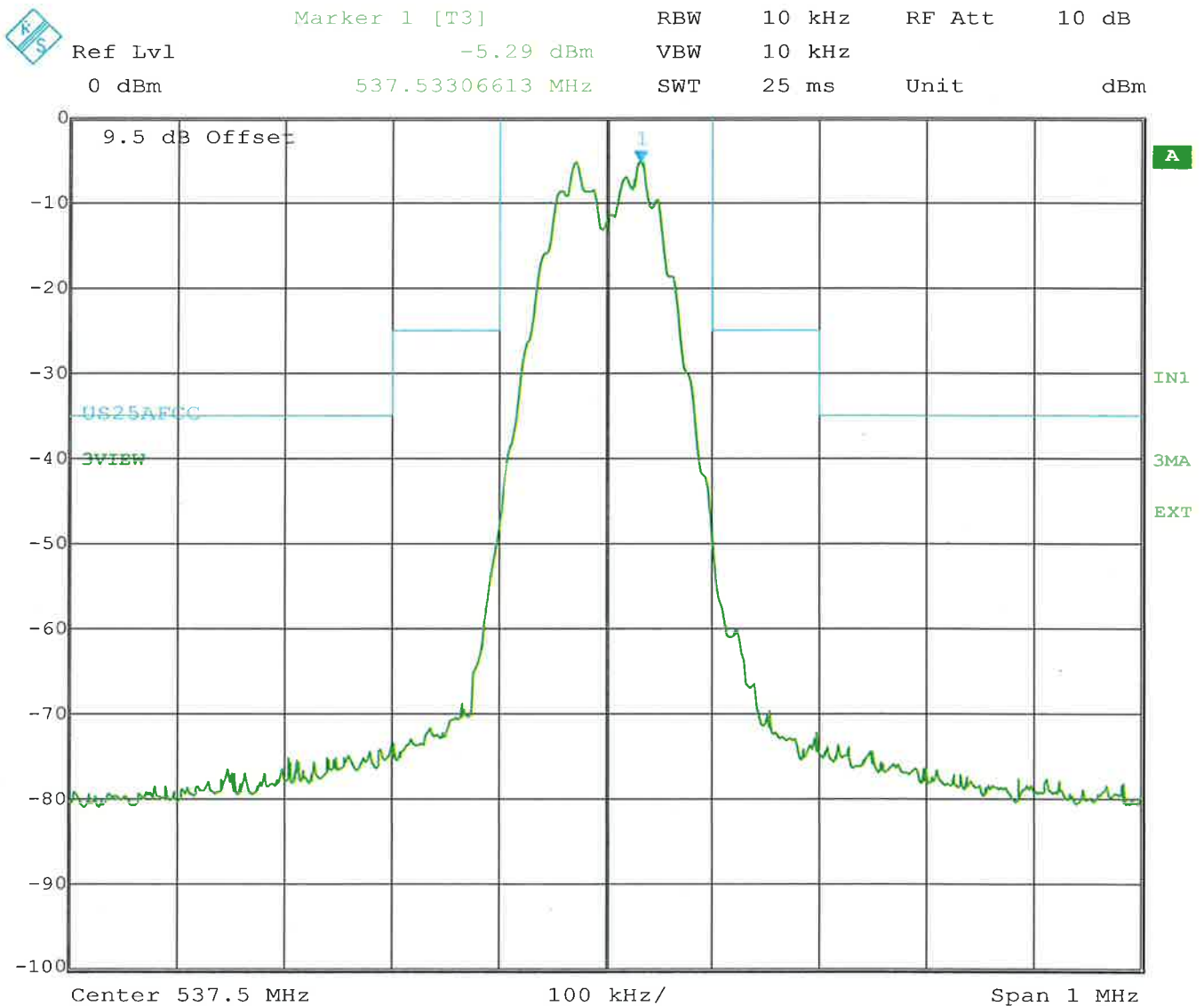
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 14:11:38

Test Equipment used: NT-207

Emissions Mask

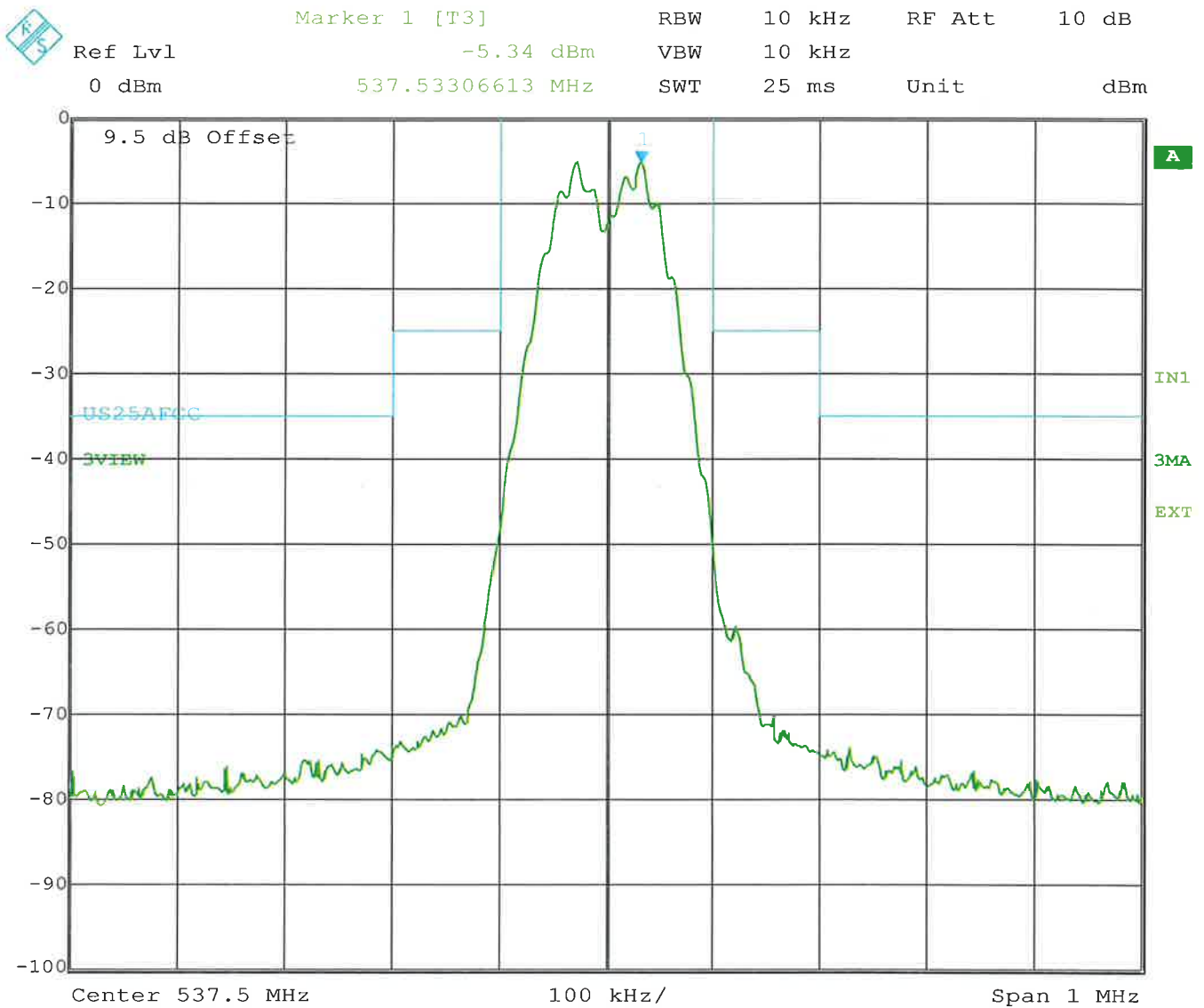
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 14:09:01

Test Equipment used: NT-207

Emissions Mask

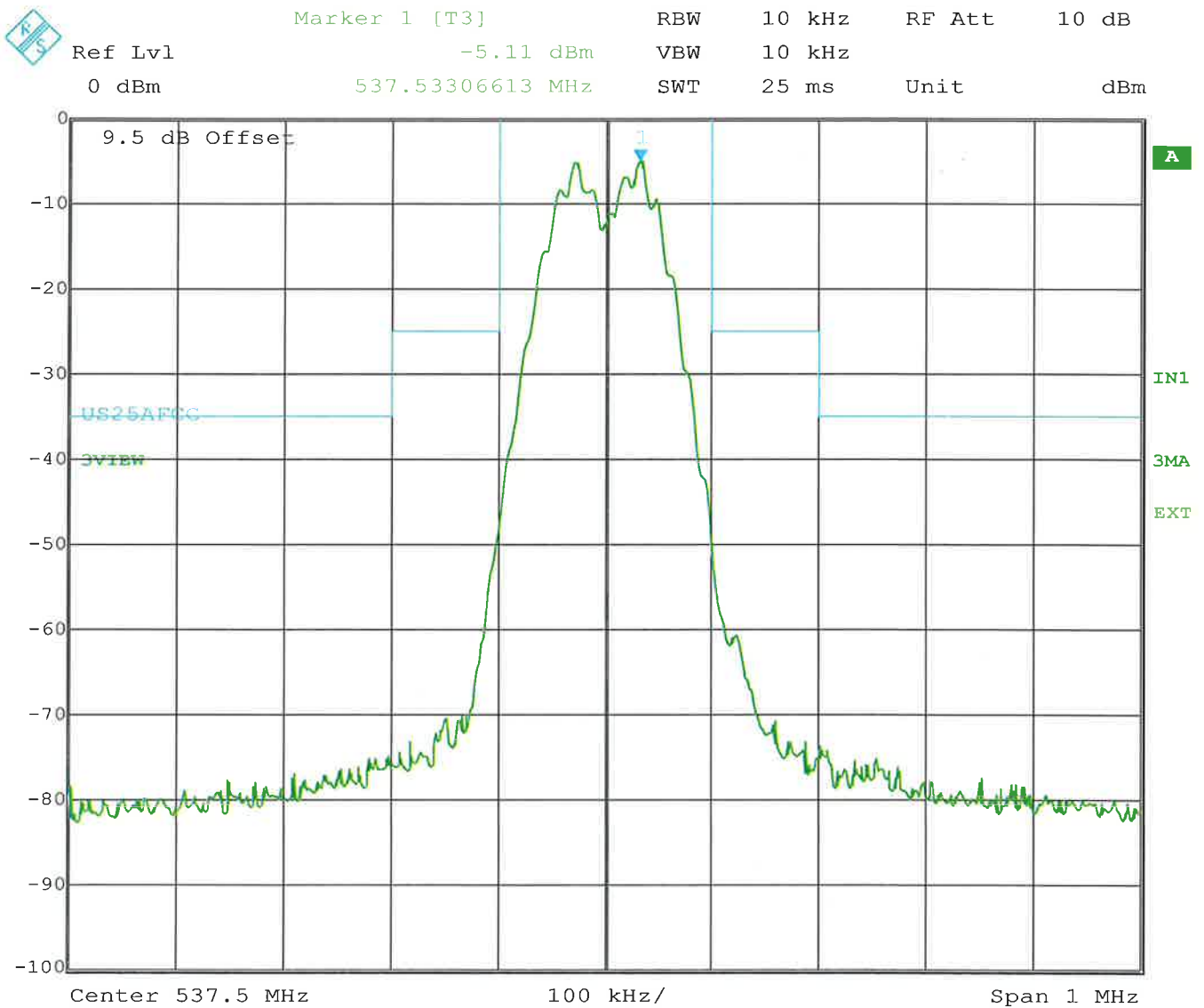
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 14:08:34

Test Equipment used: NT-207

Emissions Mask

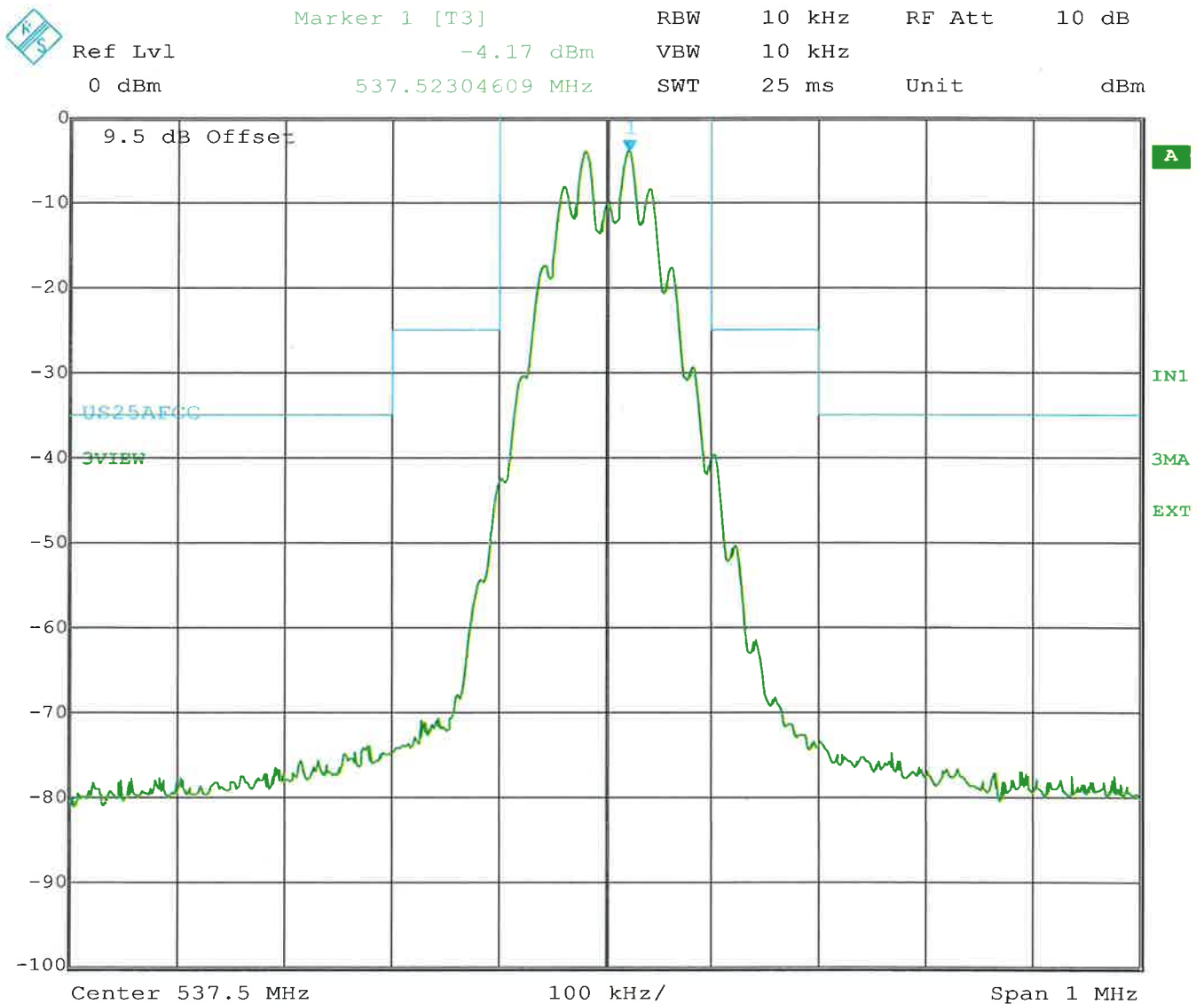
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16. SEP. 2015 14:10:49

Test Equipment used: NT-207

Emissions Mask

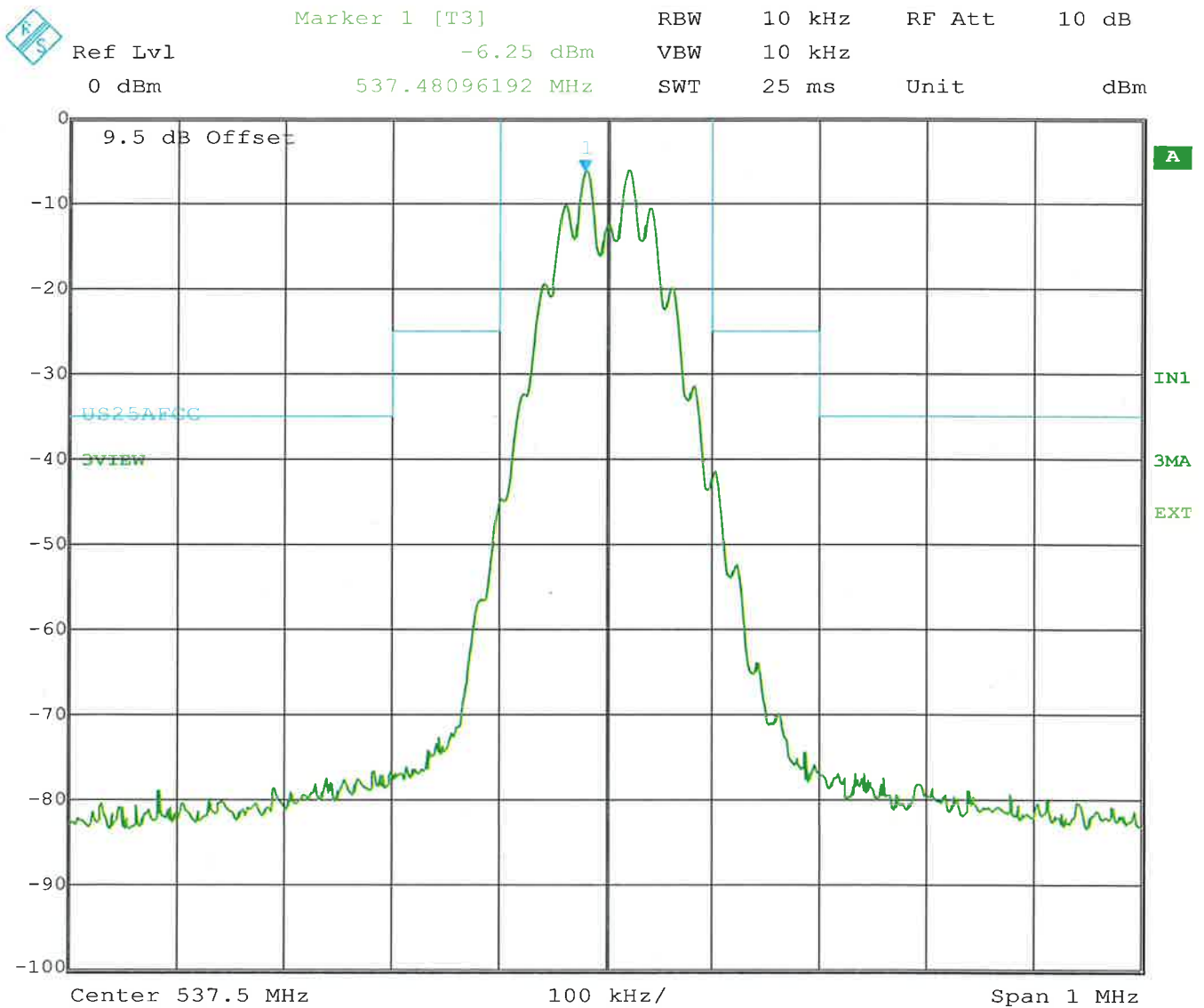
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 14:10:23

Test Equipment used: NT-207

Emissions Mask

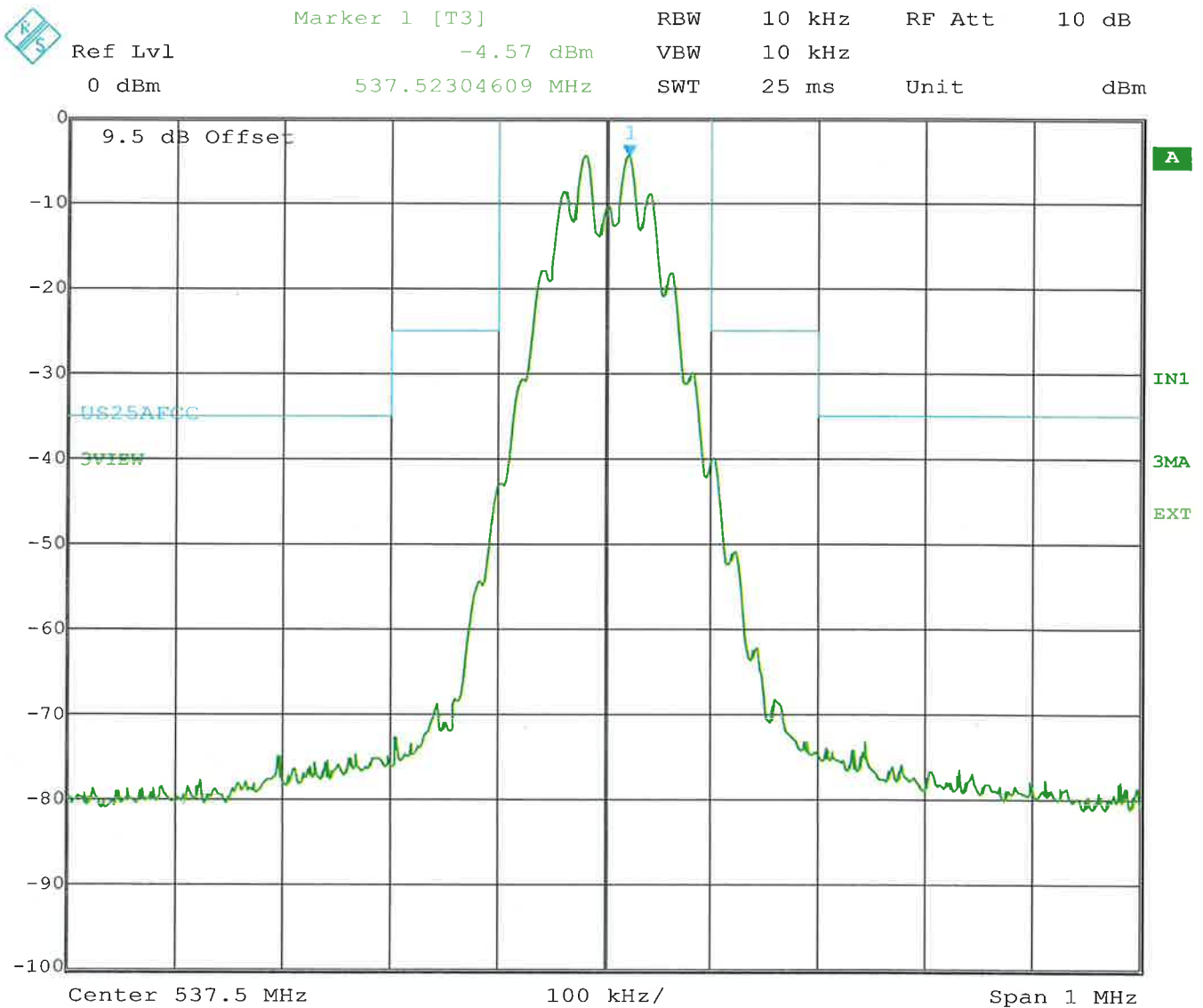
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 14:09:36

Test Equipment used: NT-207

Emissions Mask

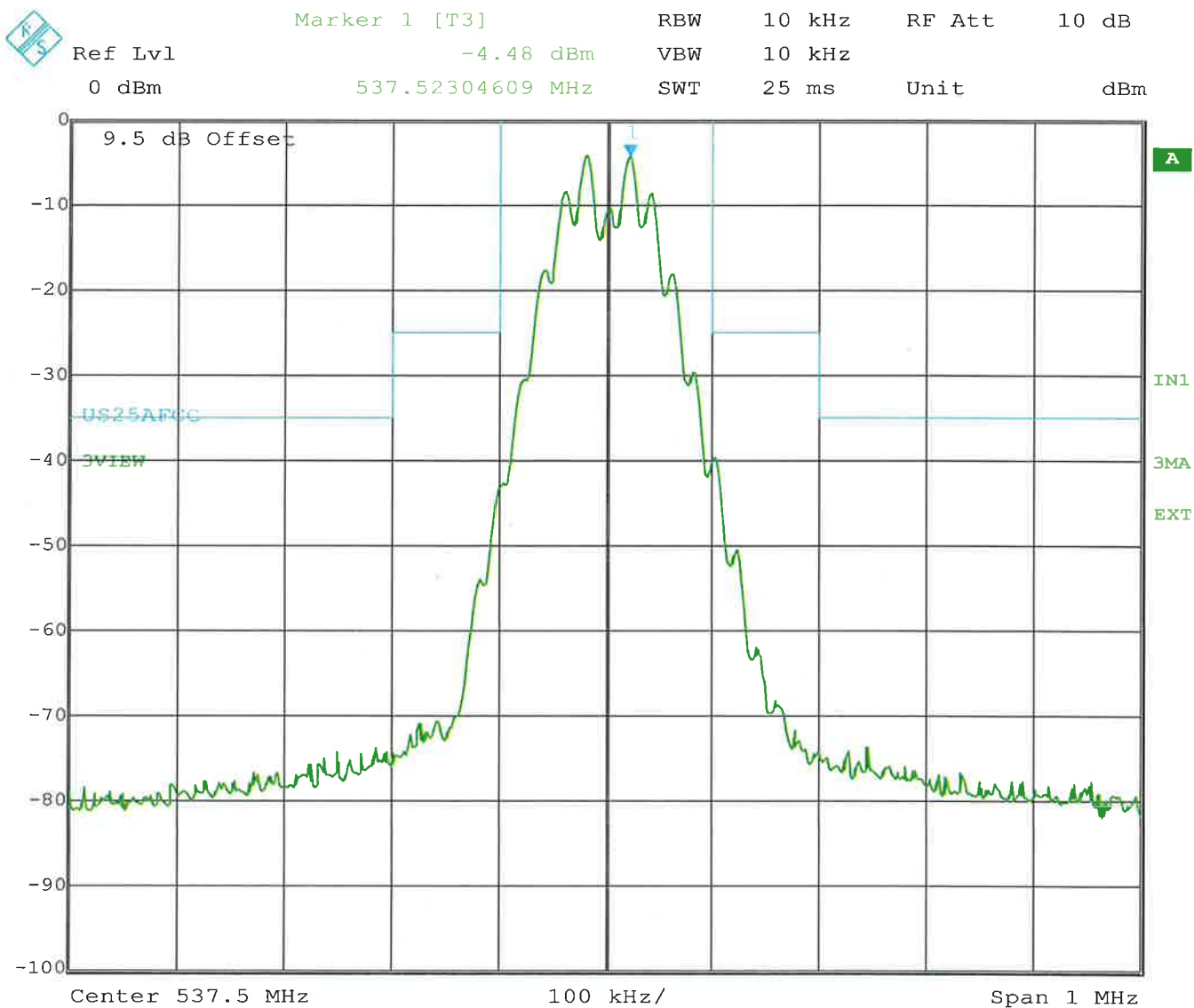
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,5 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 14:09:54

Test Equipment used: NT-207

Emissions Mask

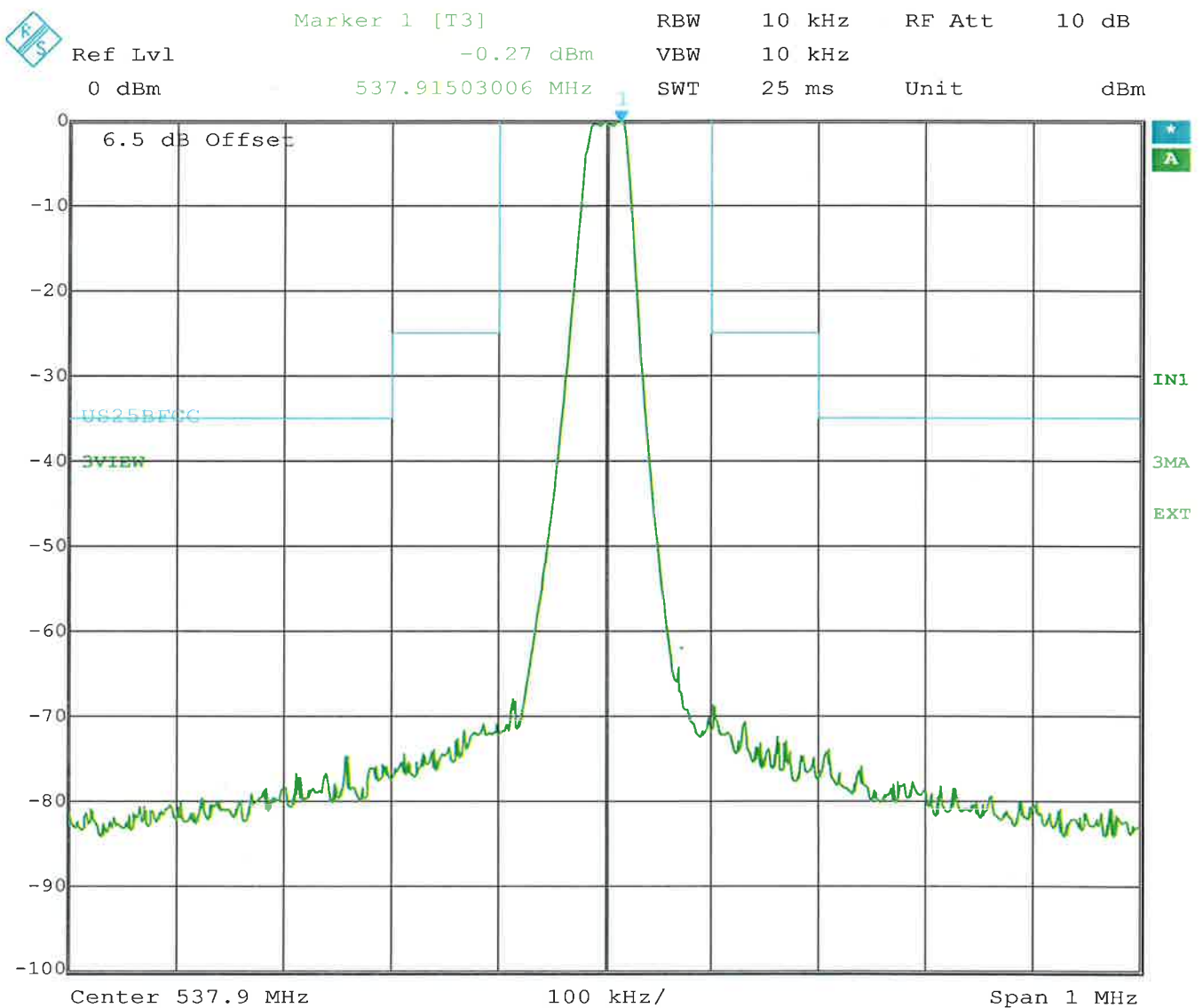
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:42:42

Test Equipment used: NT-207

Emissions Mask

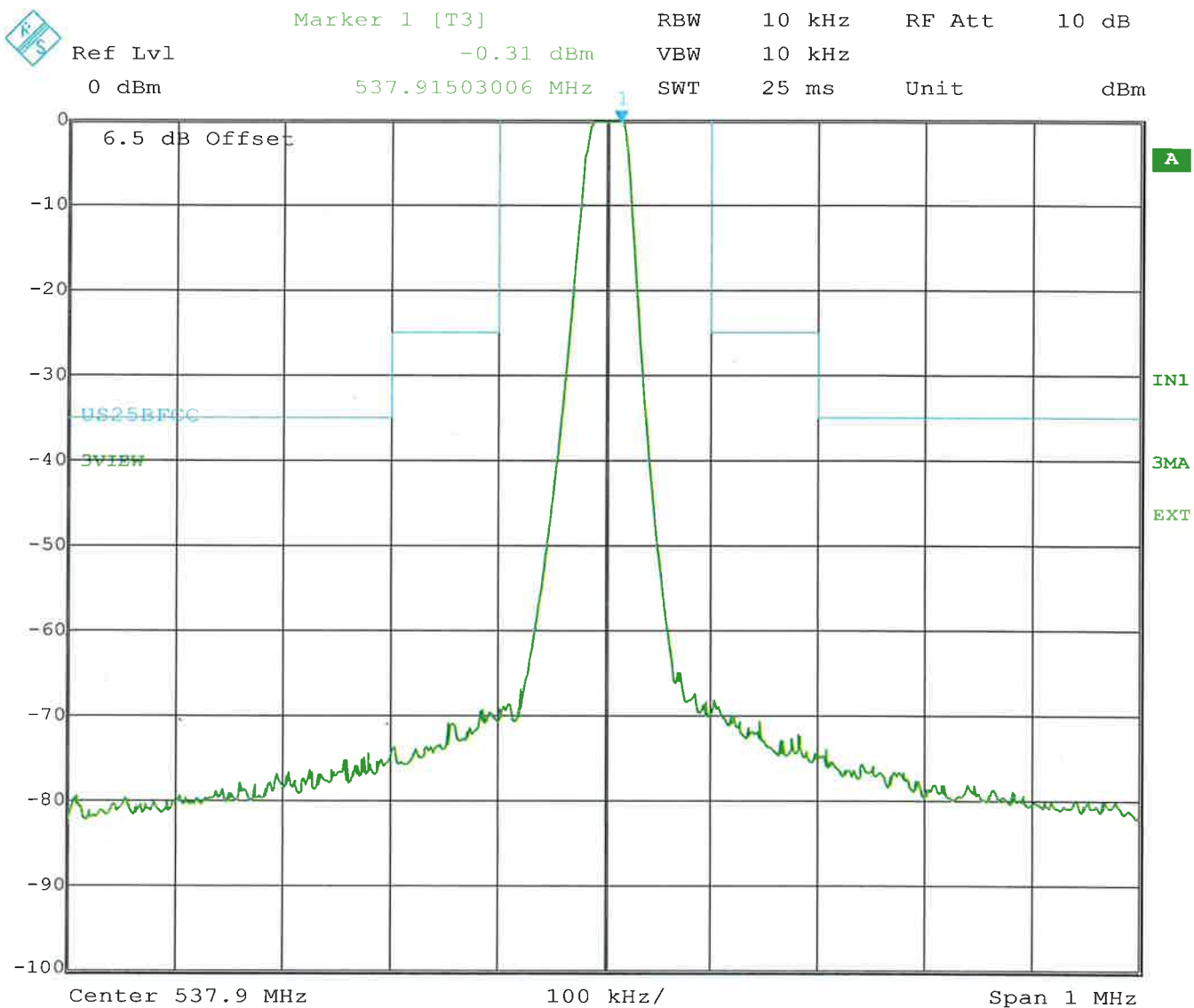
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:43:09

Test Equipment used: NT-207

Emissions Mask

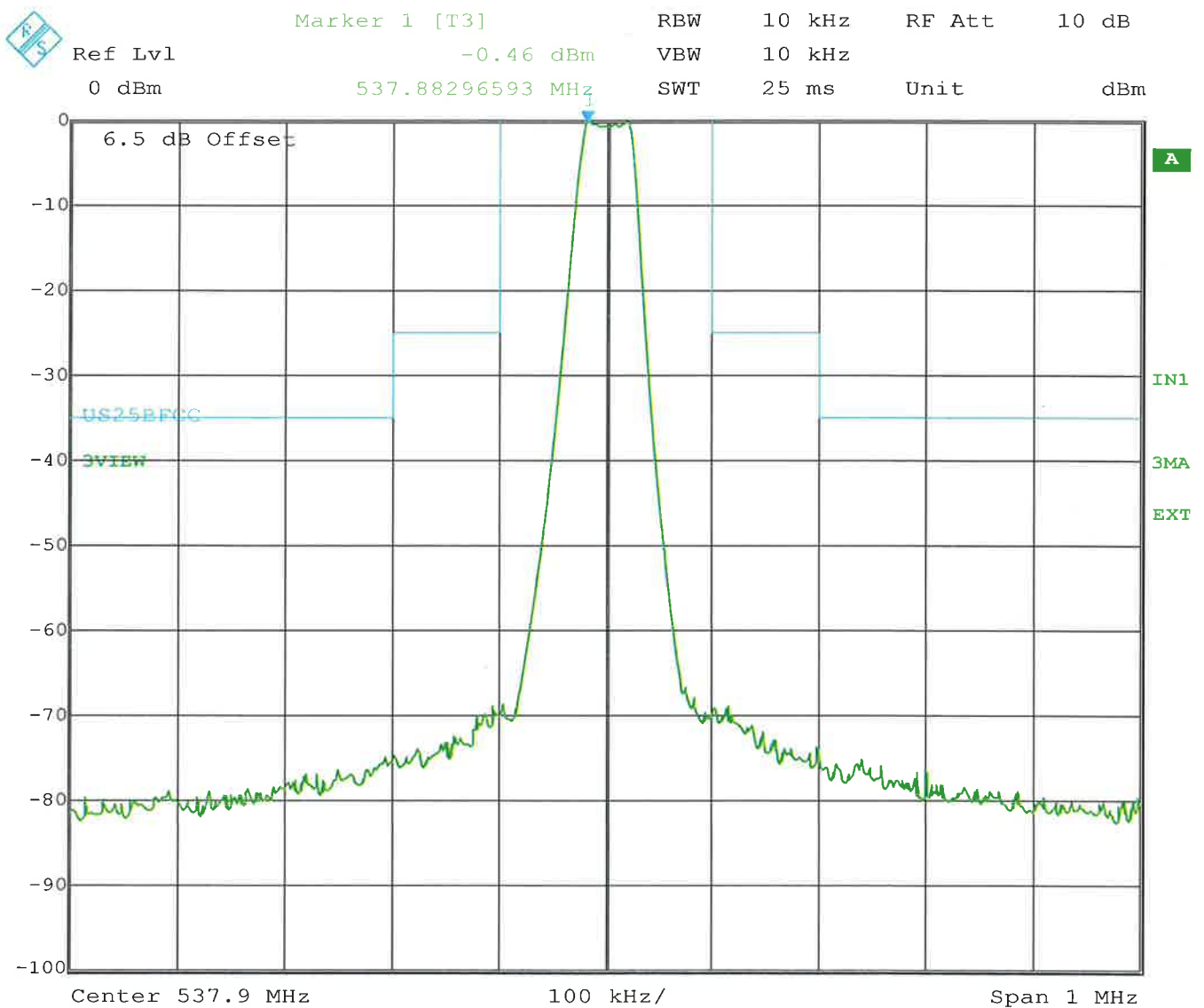
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:47:41

Test Equipment used: NT-207

Emissions Mask

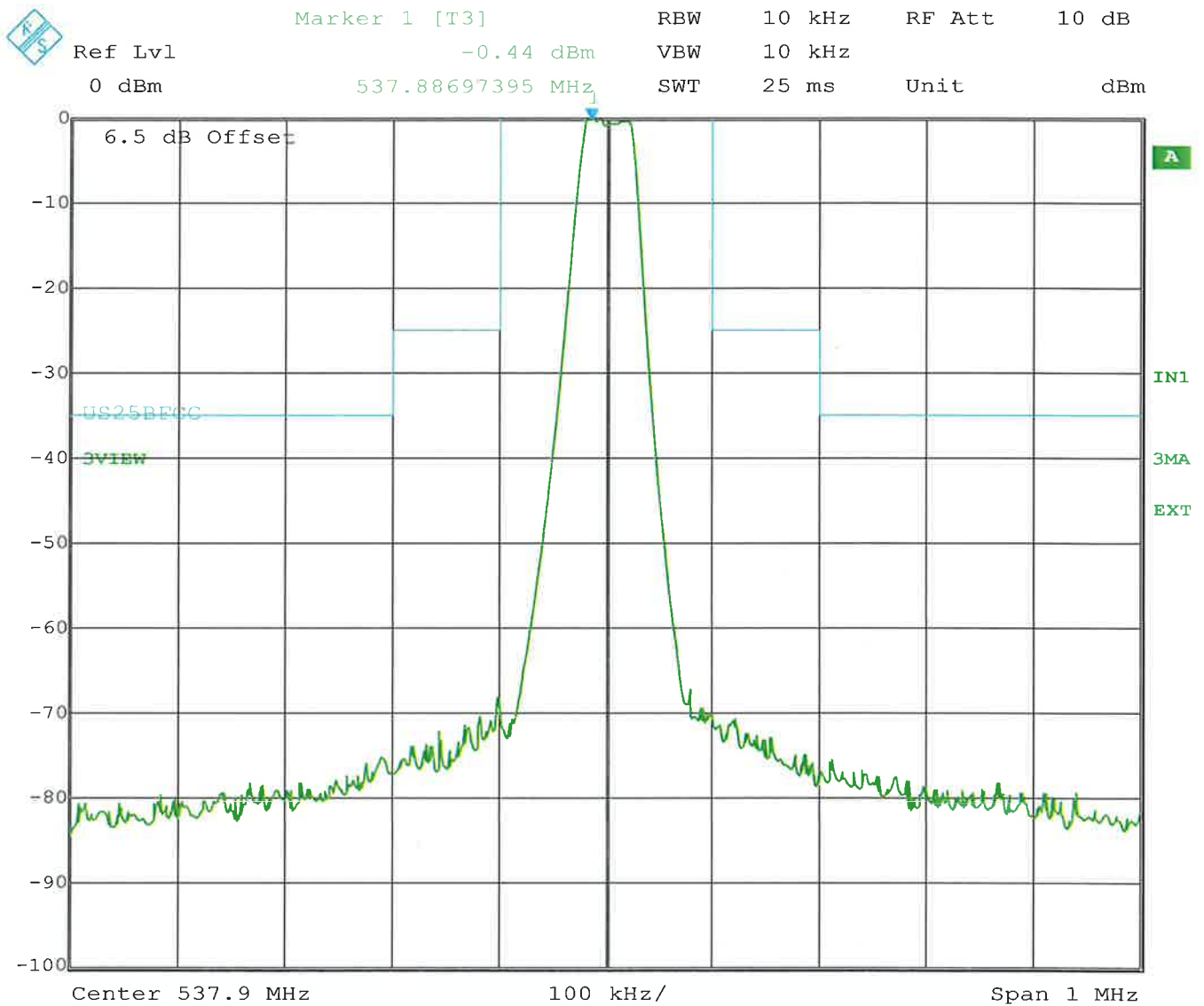
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:47:17

Test Equipment used: NT-207

Emissions Mask

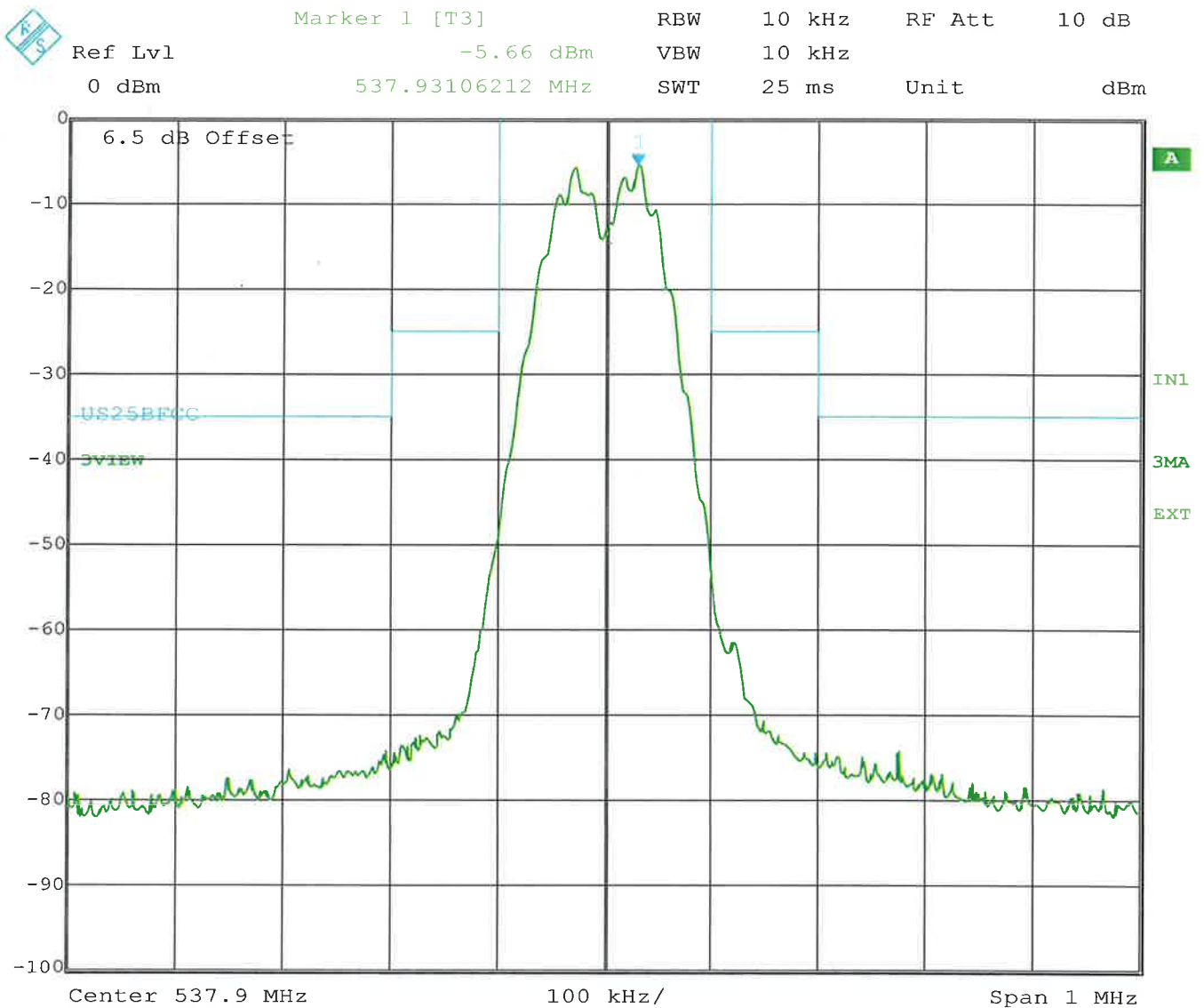
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:44:07

Test Equipment used: NT-207

Emissions Mask

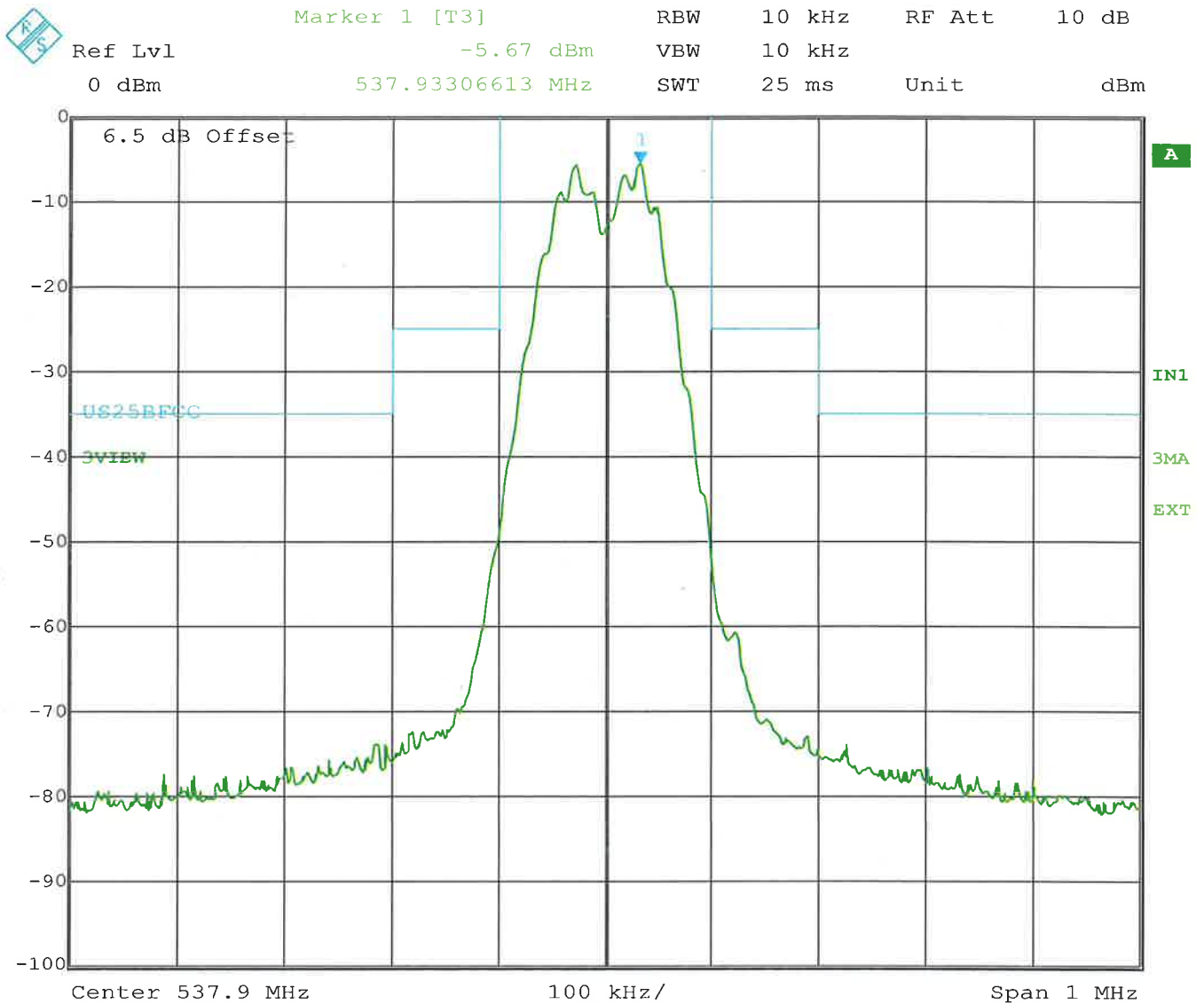
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:43:40

Test Equipment used: NT-207

Emissions Mask

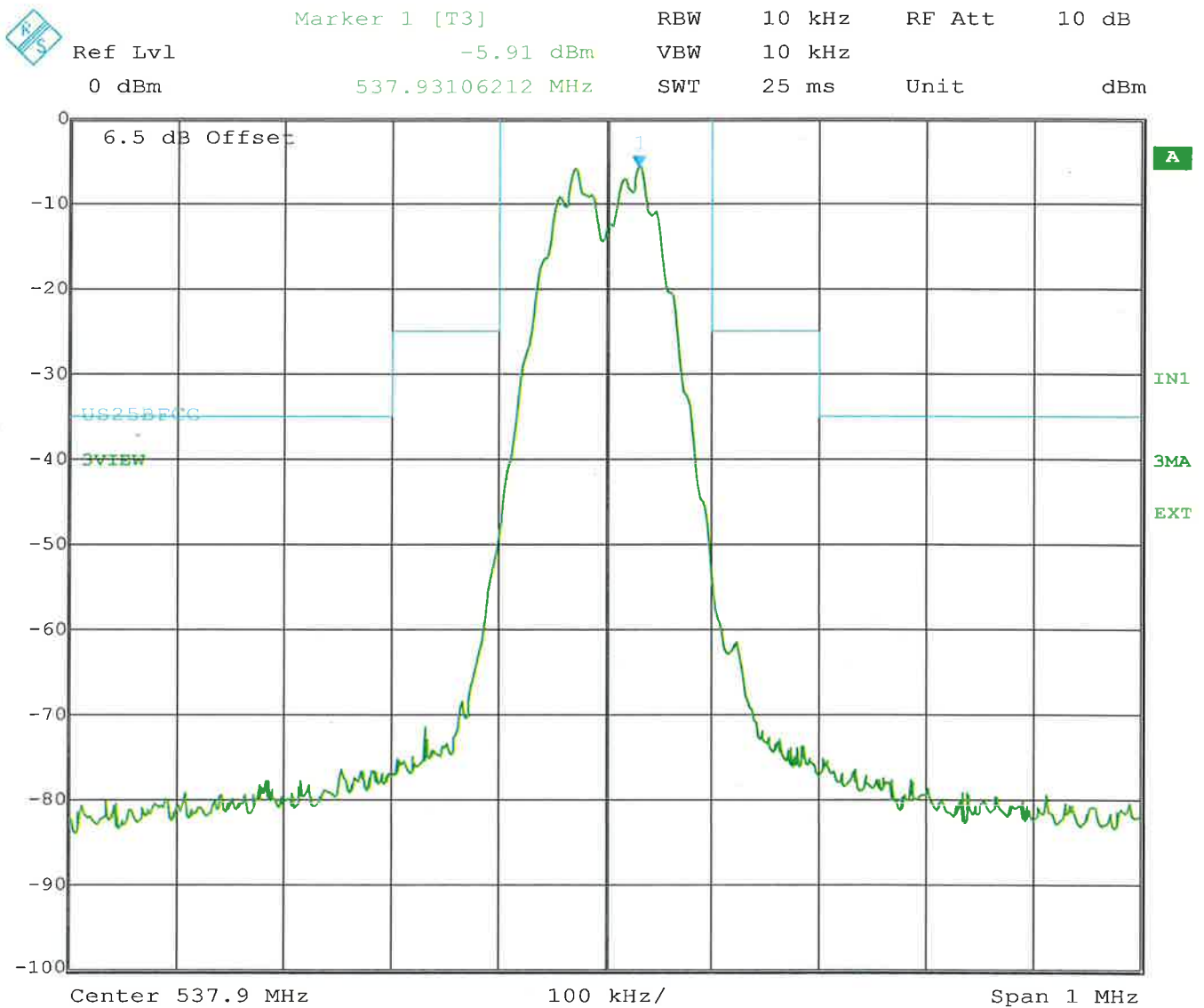
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:46:23

Test Equipment used: NT-207

Emissions Mask

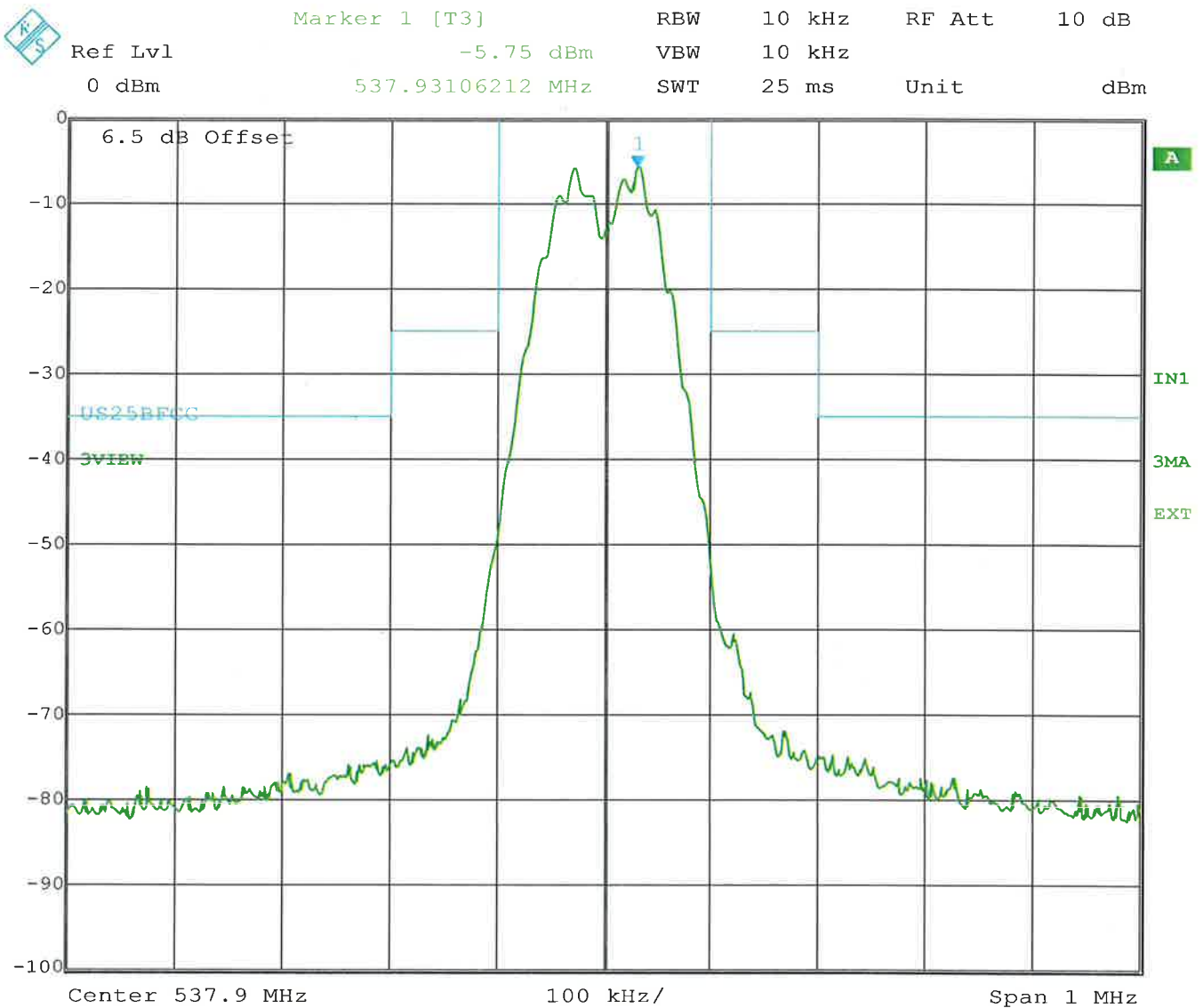
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:46:55

Test Equipment used: NT-207

Emissions Mask

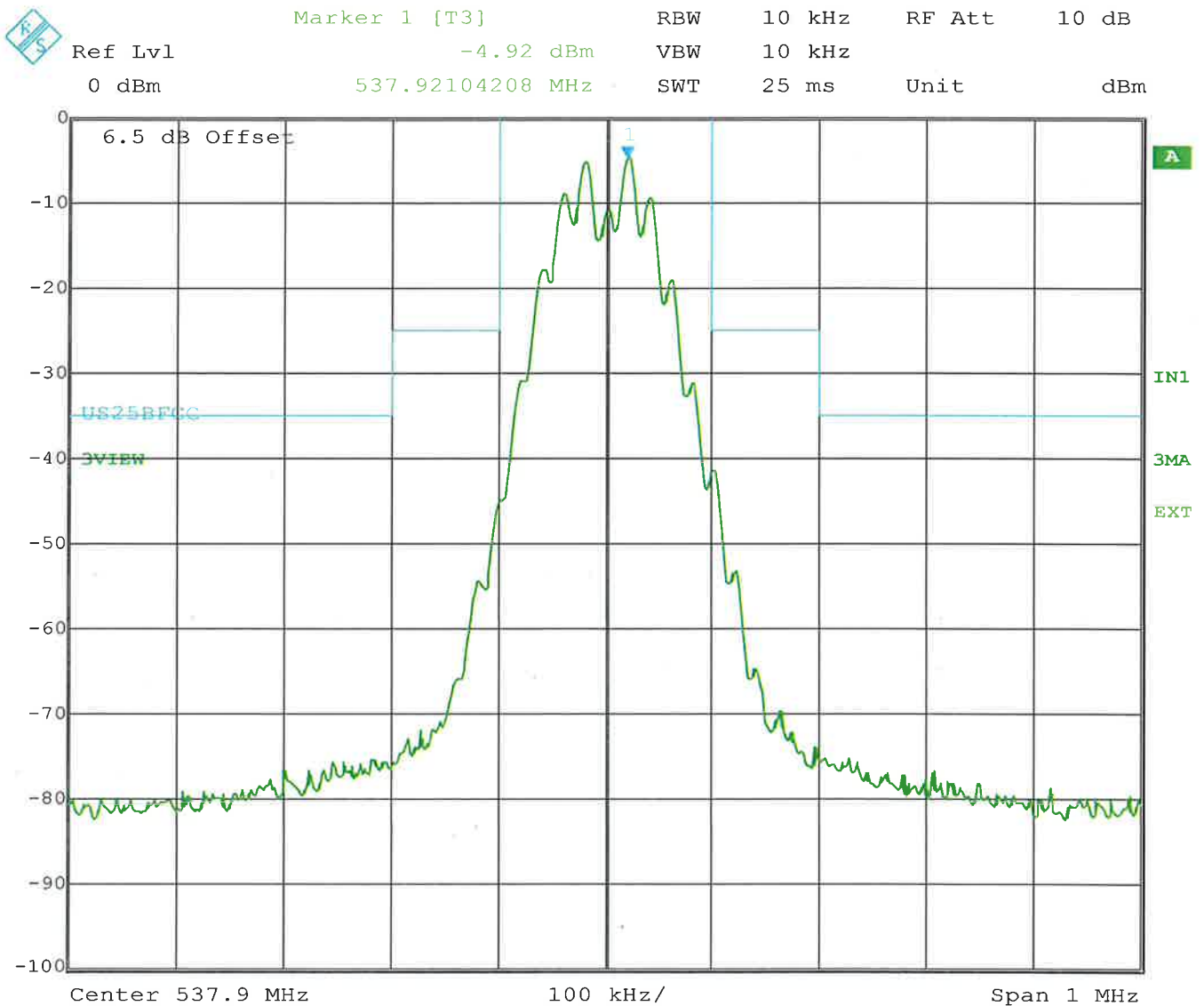
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:44:29

Test Equipment used: NT-207

Emissions Mask

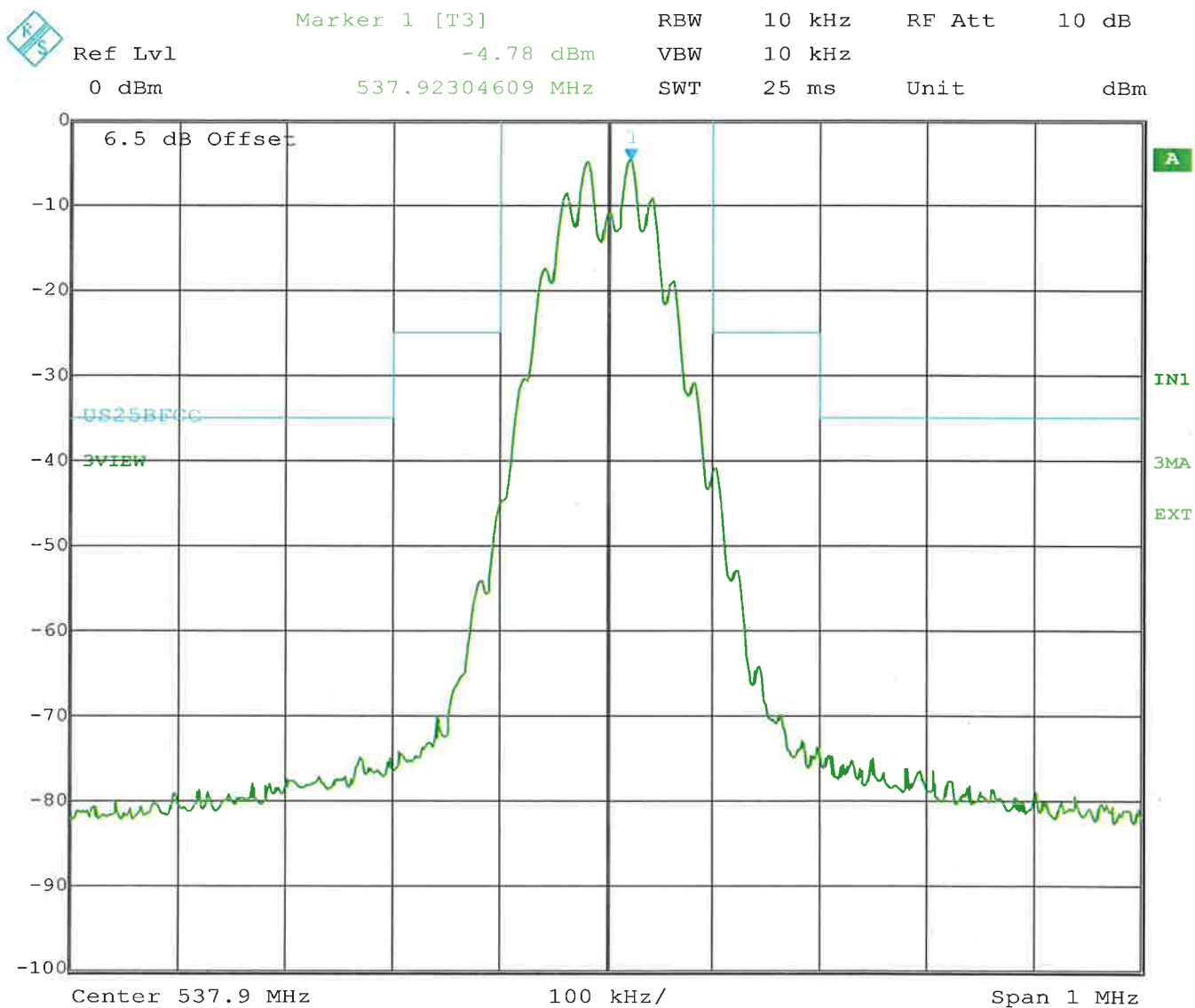
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:44:59

Test Equipment used: NT-207

Emissions Mask

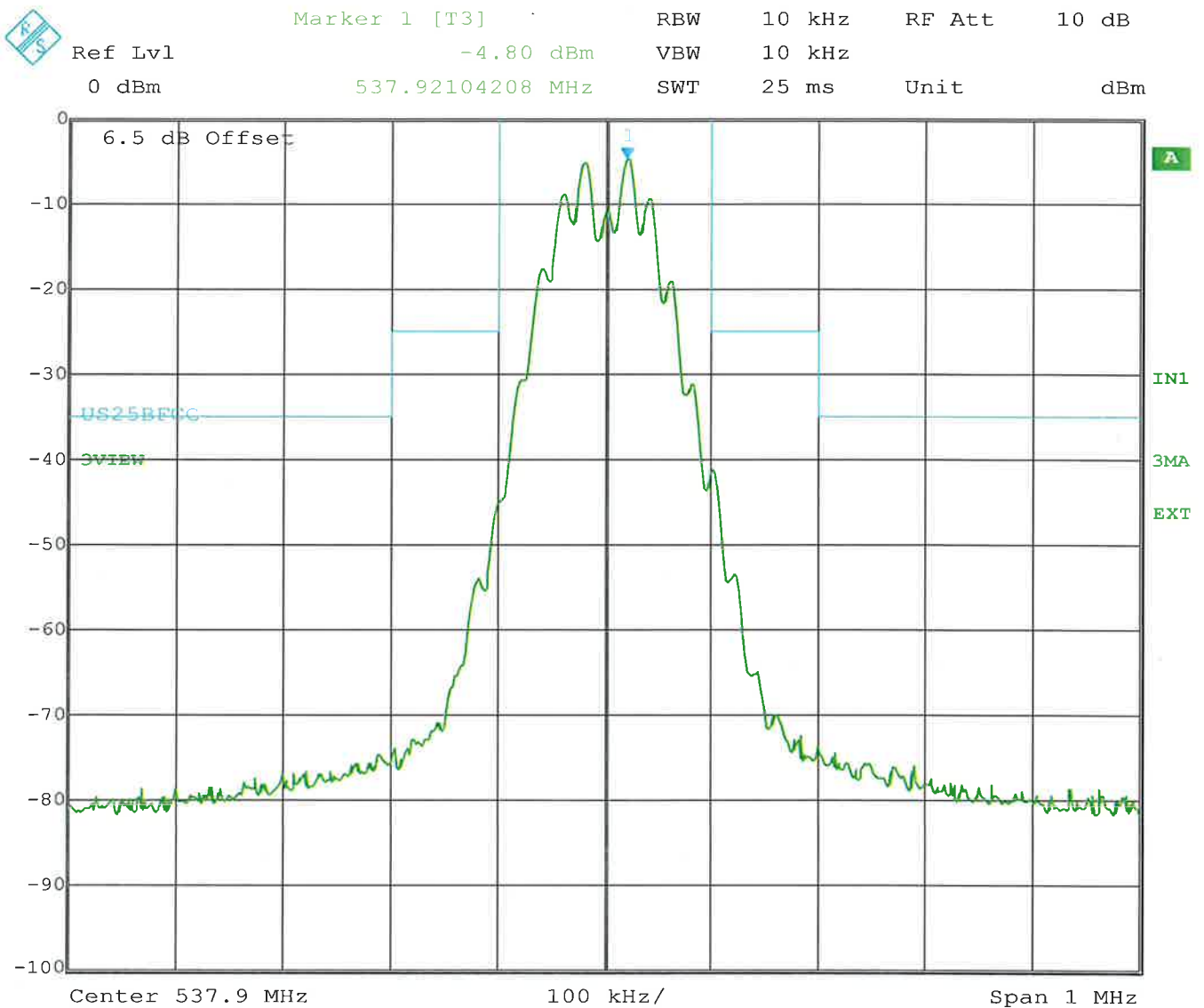
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:45:56

Test Equipment used: NT-207

Emissions Mask

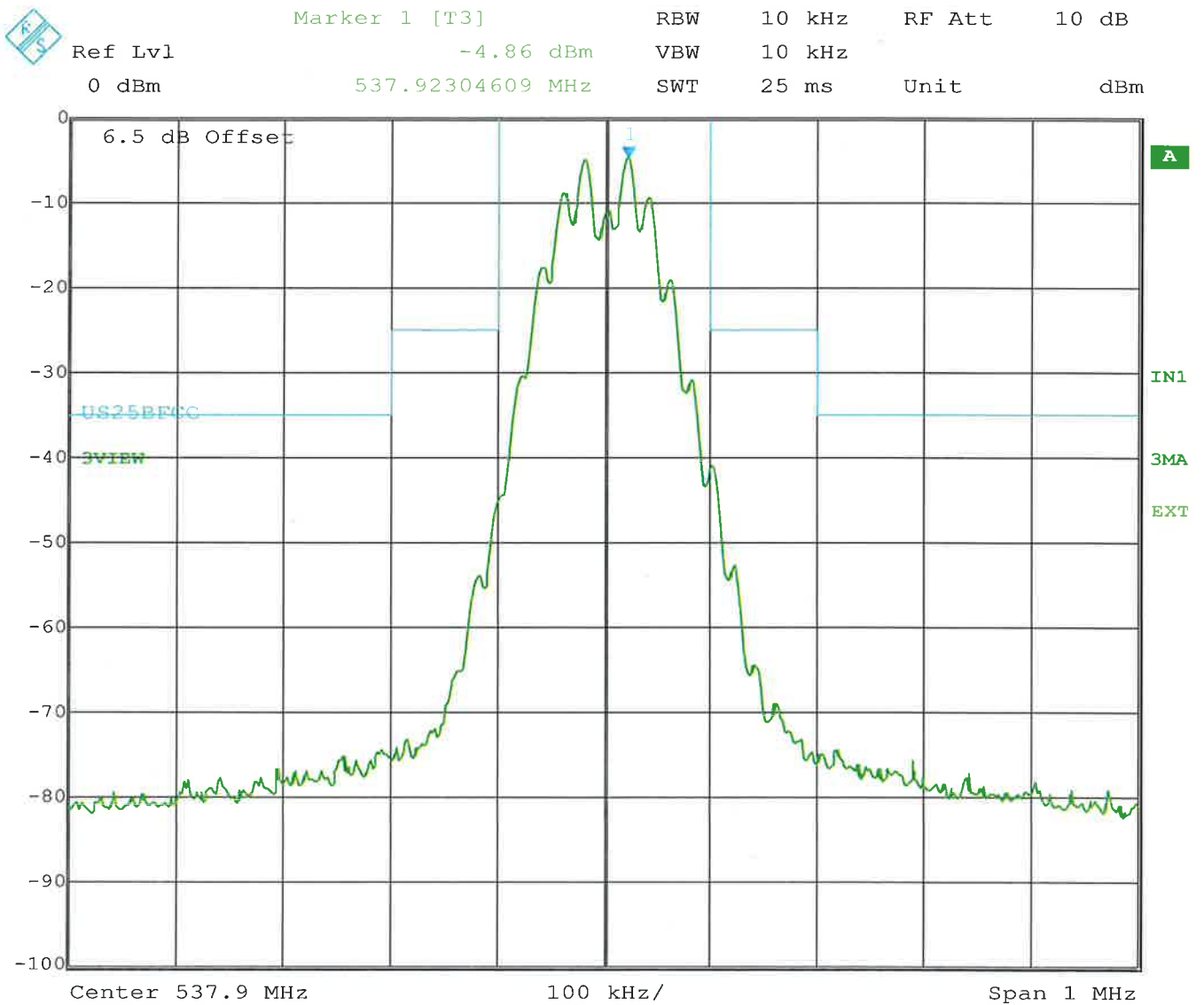
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 537,9 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:45:25

Test Equipment used: NT-207

Emissions Mask

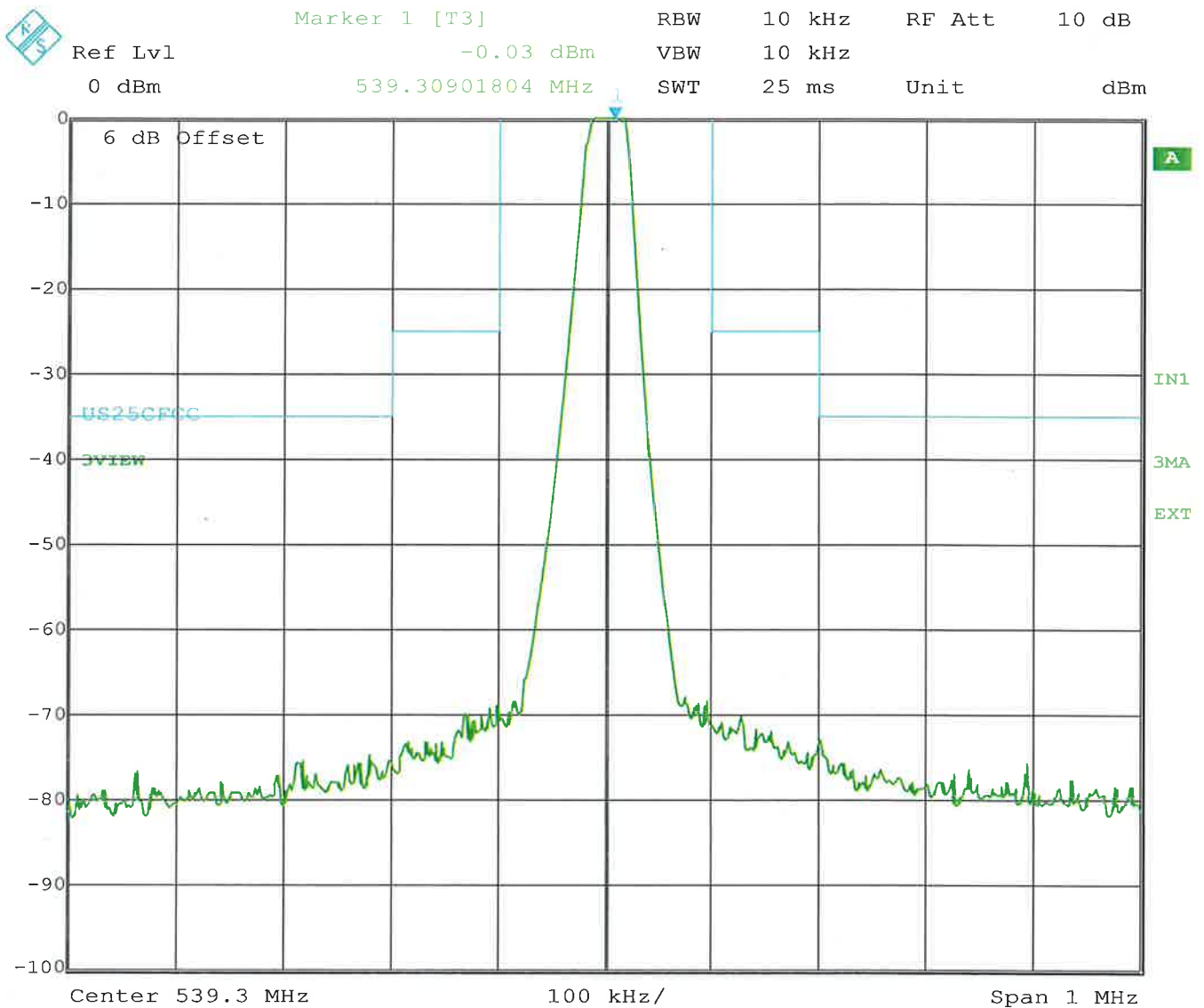
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:31:13

Test Equipment used: NT-207

Emissions Mask

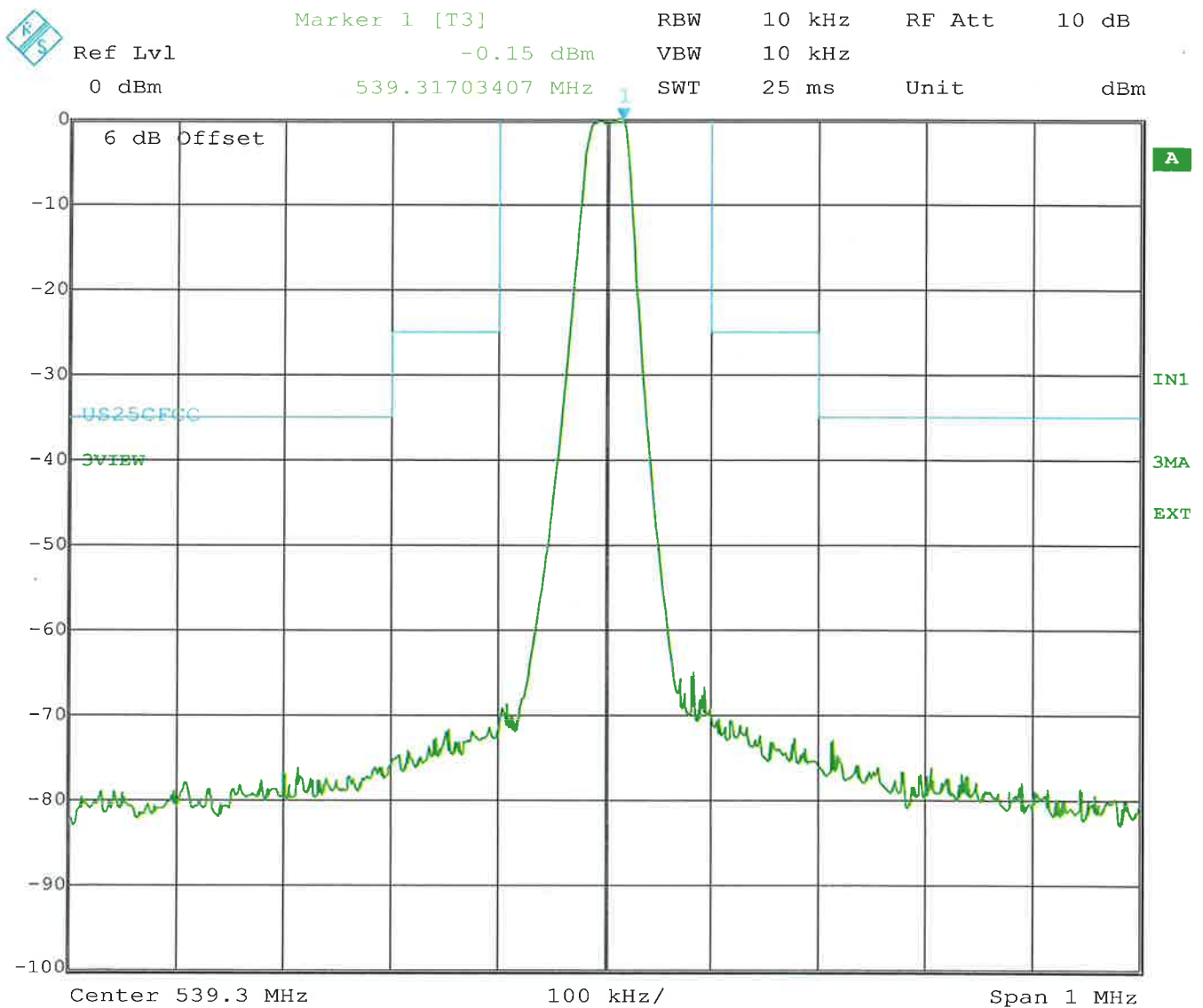
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:31:41

Test Equipment used: NT-207

Emissions Mask

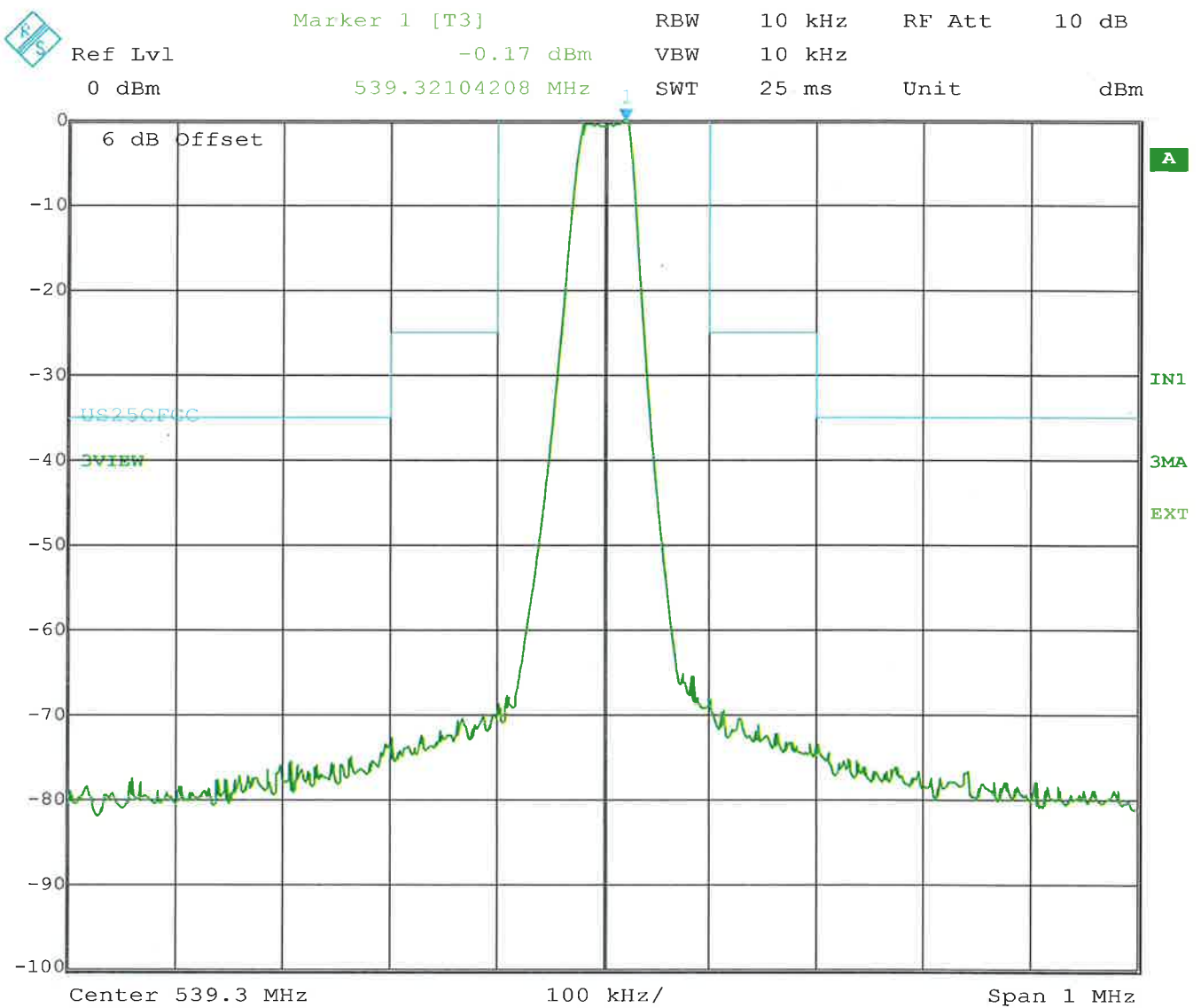
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:35:56

Test Equipment used: NT-207

Emissions Mask

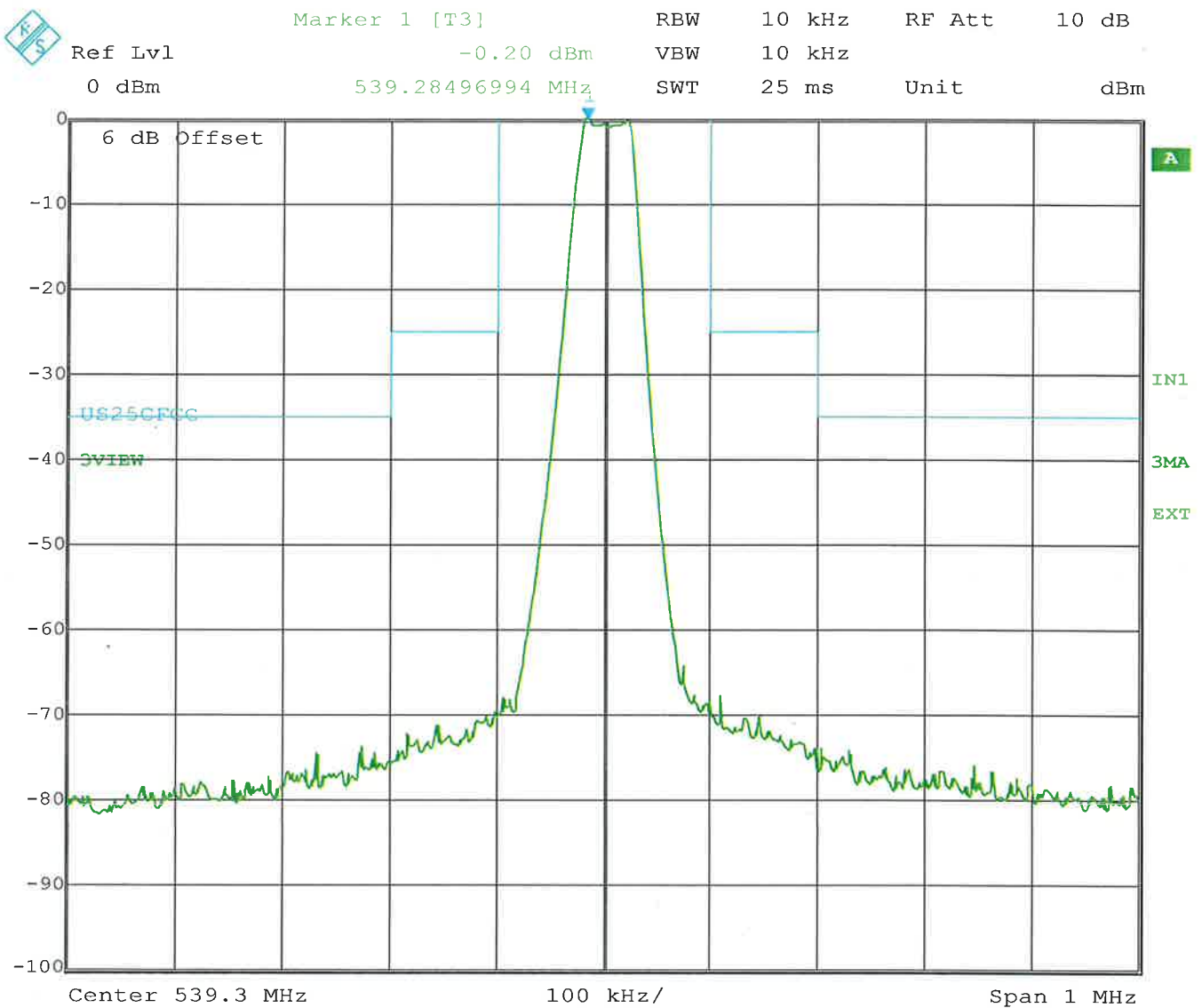
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:35:34

Test Equipment used: NT-207

Emissions Mask

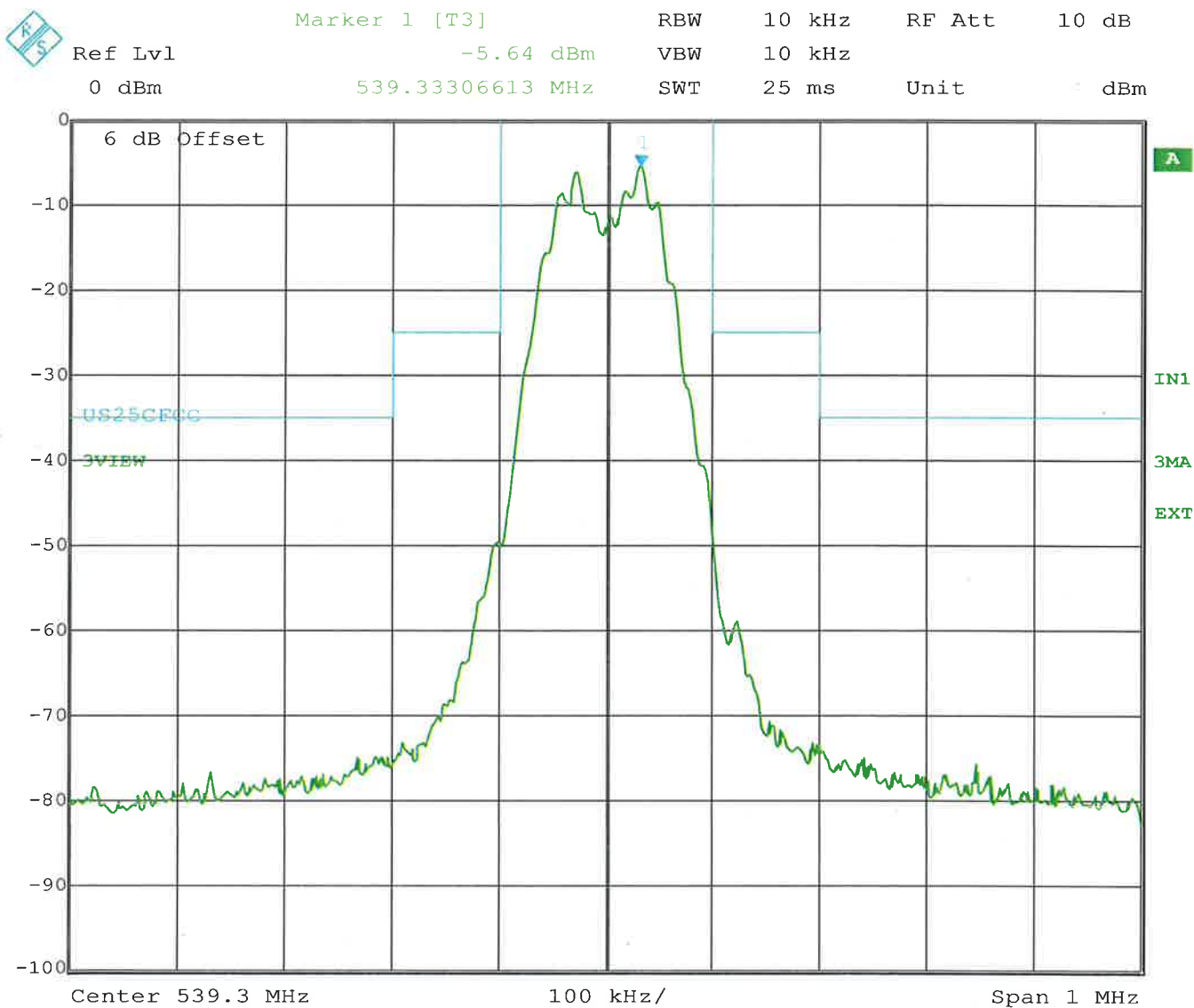
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:32:29

Test Equipment used: NT-207

Emissions Mask

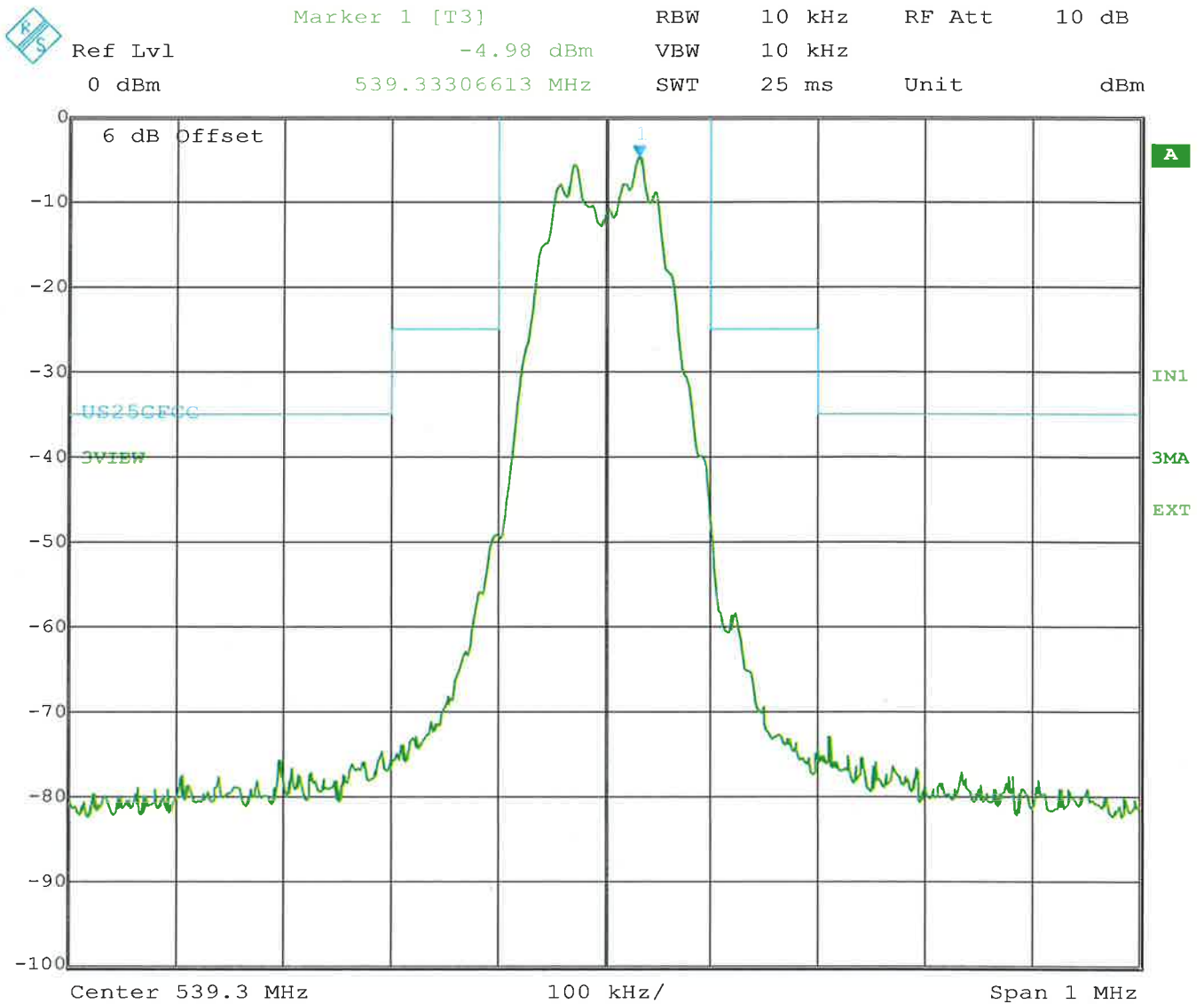
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:32:04

Test Equipment used: NT-207

Emissions Mask

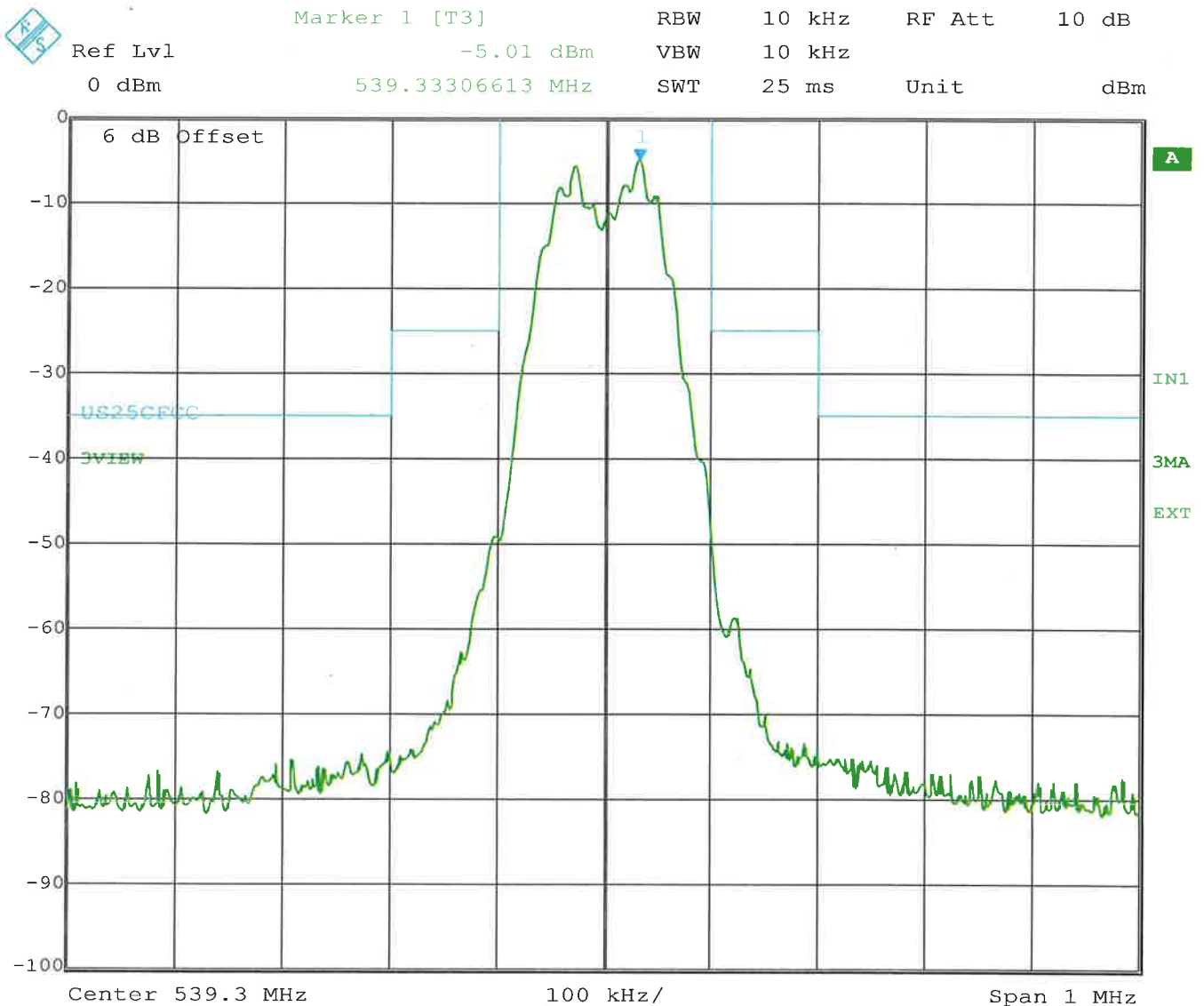
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:34:46

Test Equipment used: NT-207

Emissions Mask

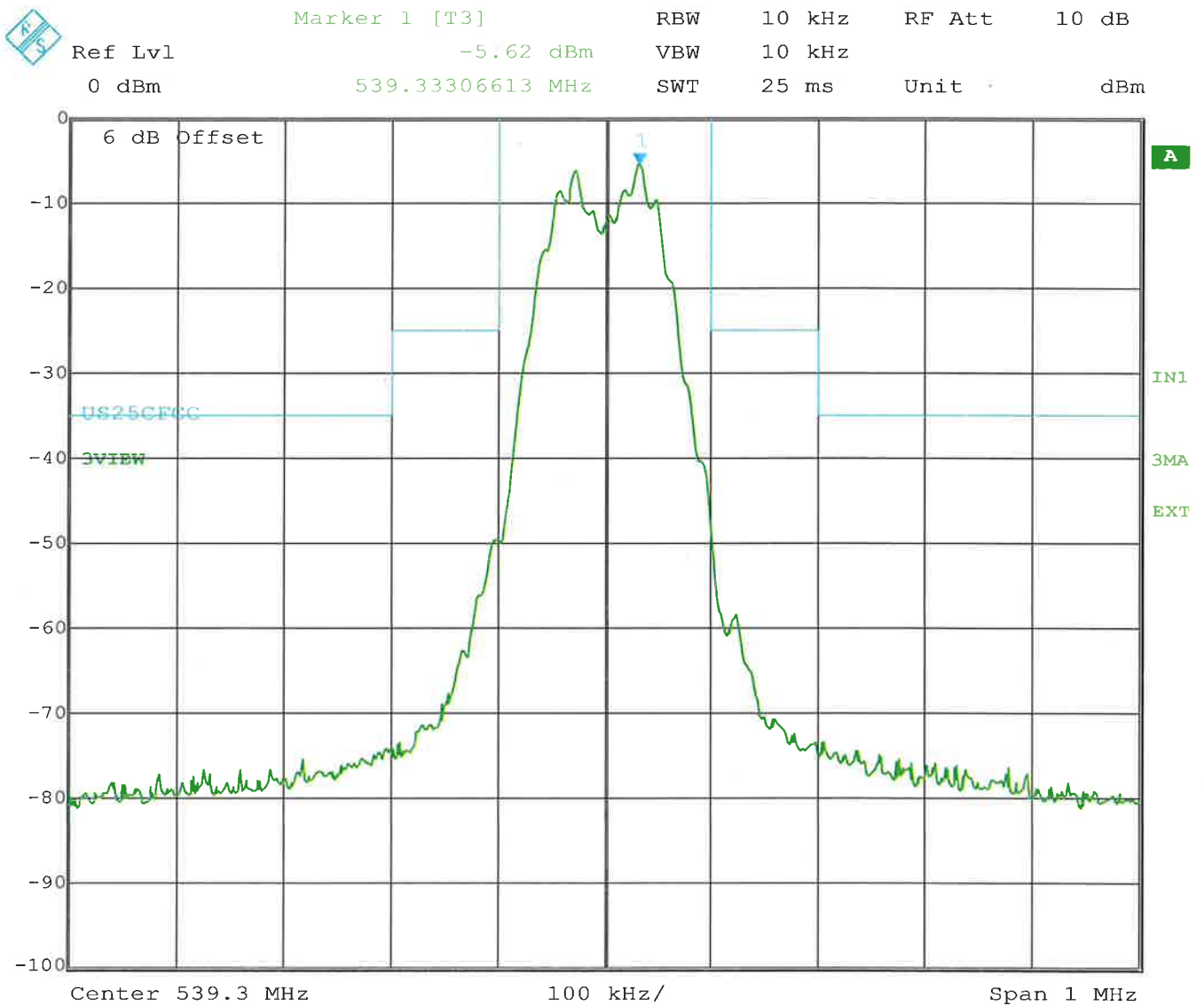
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:35:13

Test Equipment used: NT-207

Emissions Mask

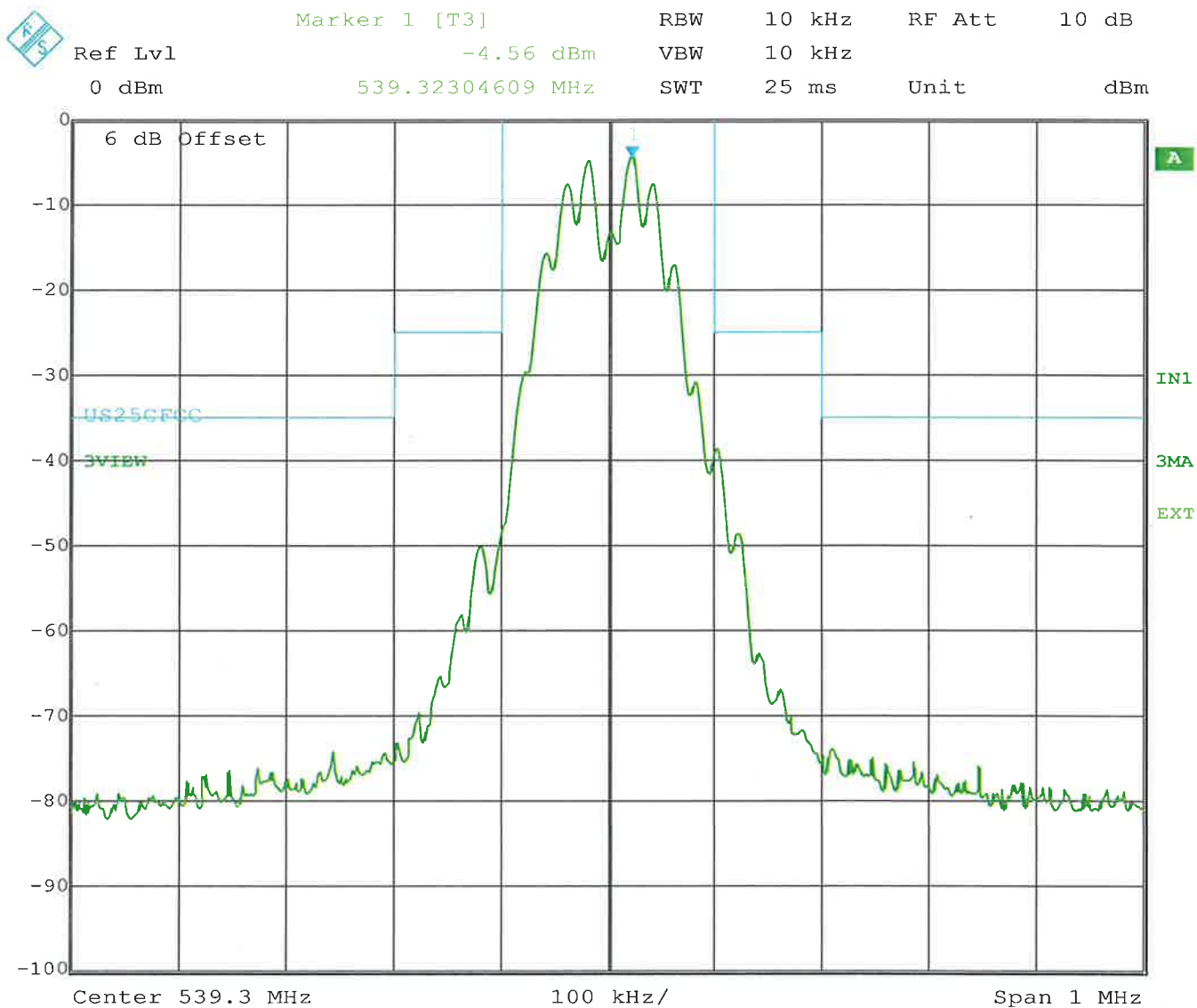
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:33:05

Test Equipment used: NT-207

Emissions Mask

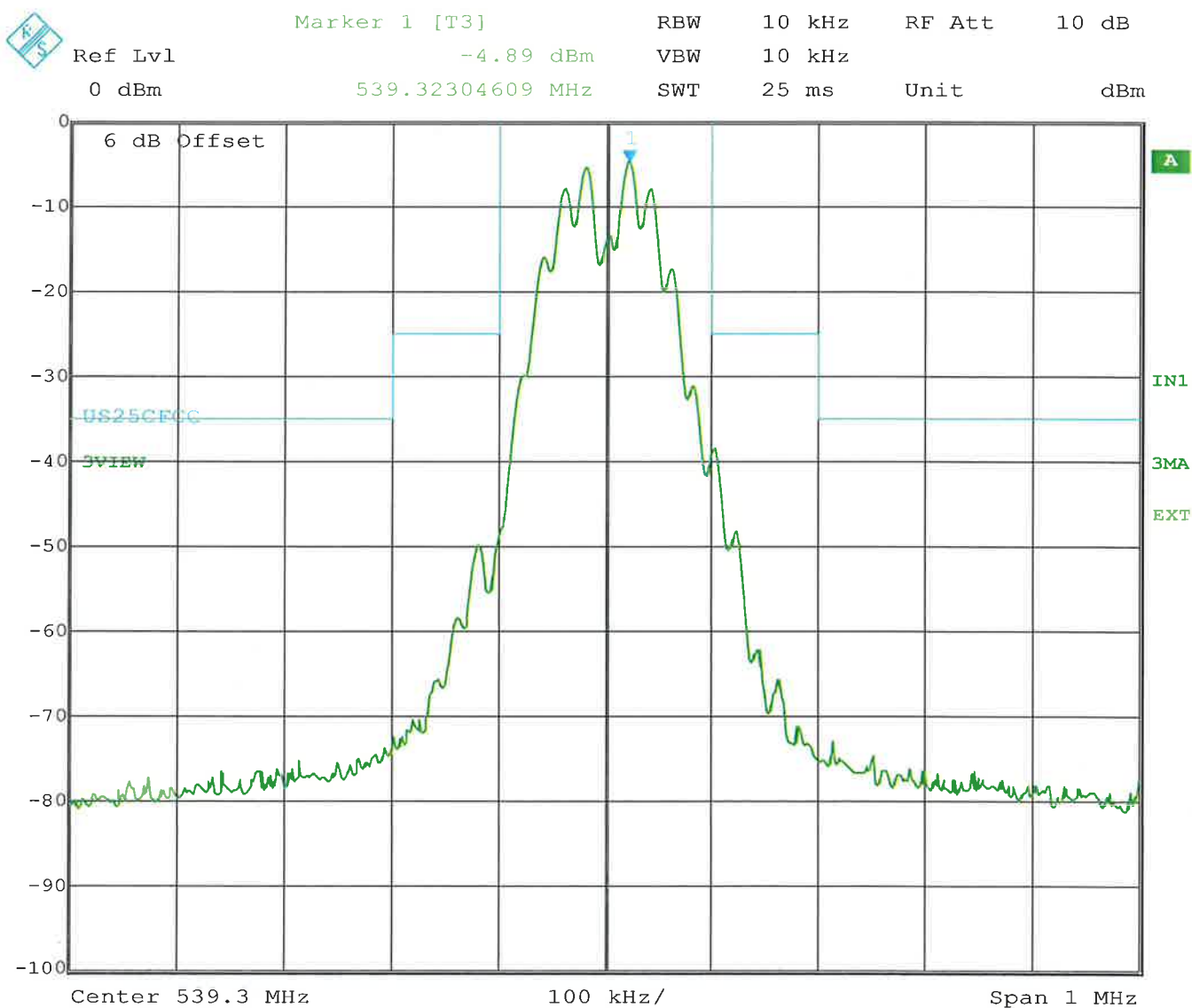
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:33:31

Test Equipment used: NT-207

Emissions Mask

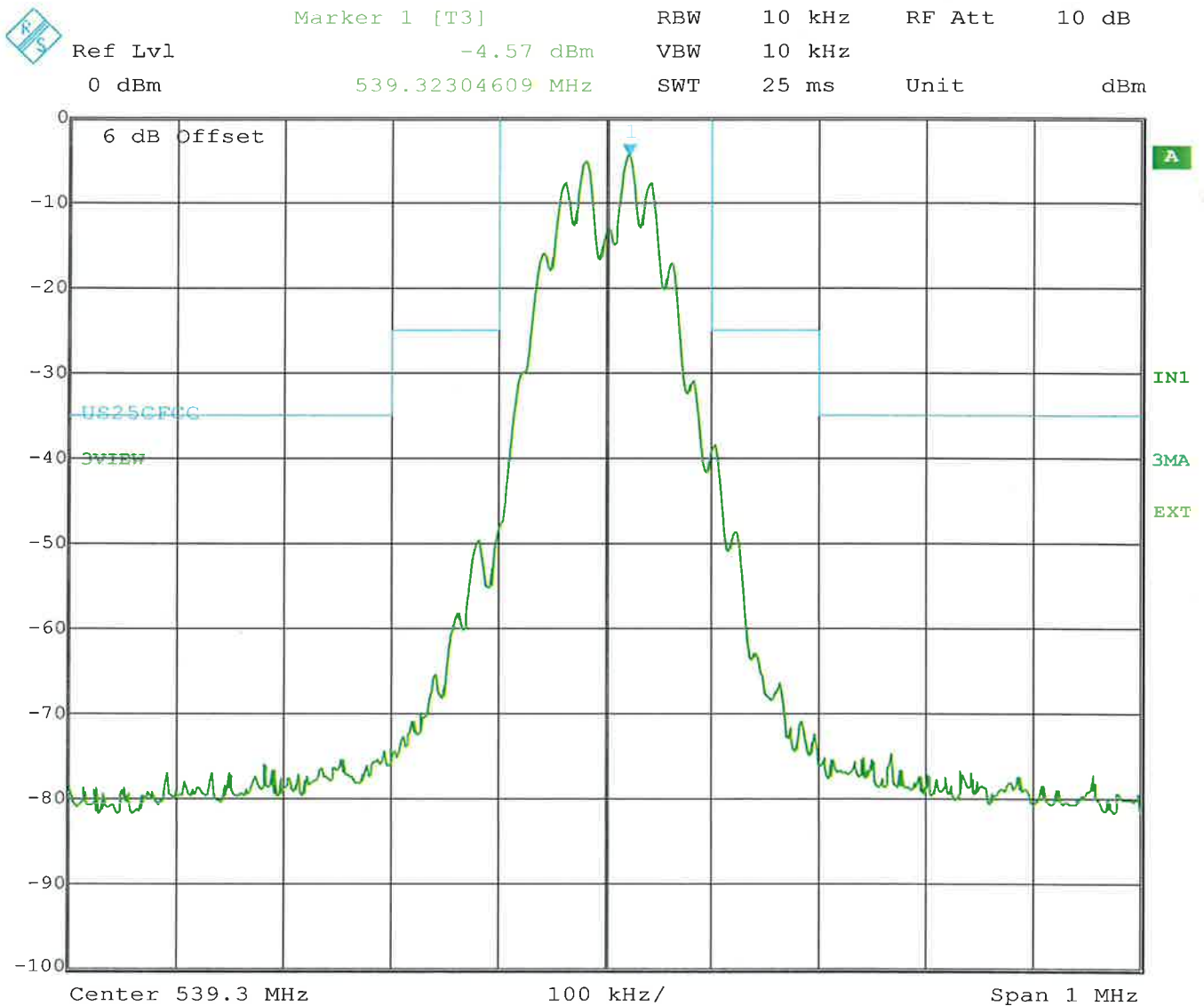
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:34:22

Test Equipment used: NT-207

Emissions Mask

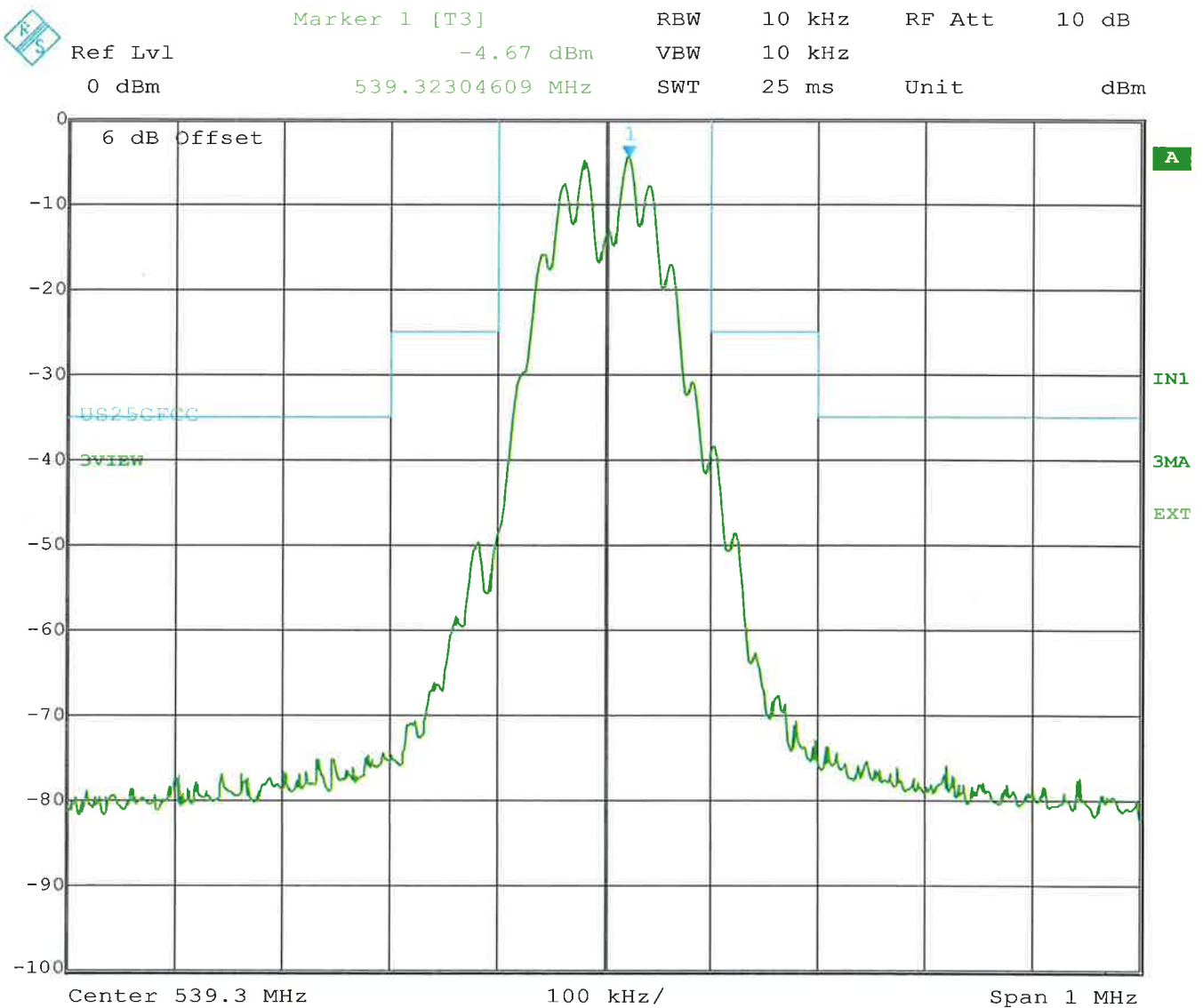
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 539,3 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:33:59

Test Equipment used: NT-207

Emissions Mask

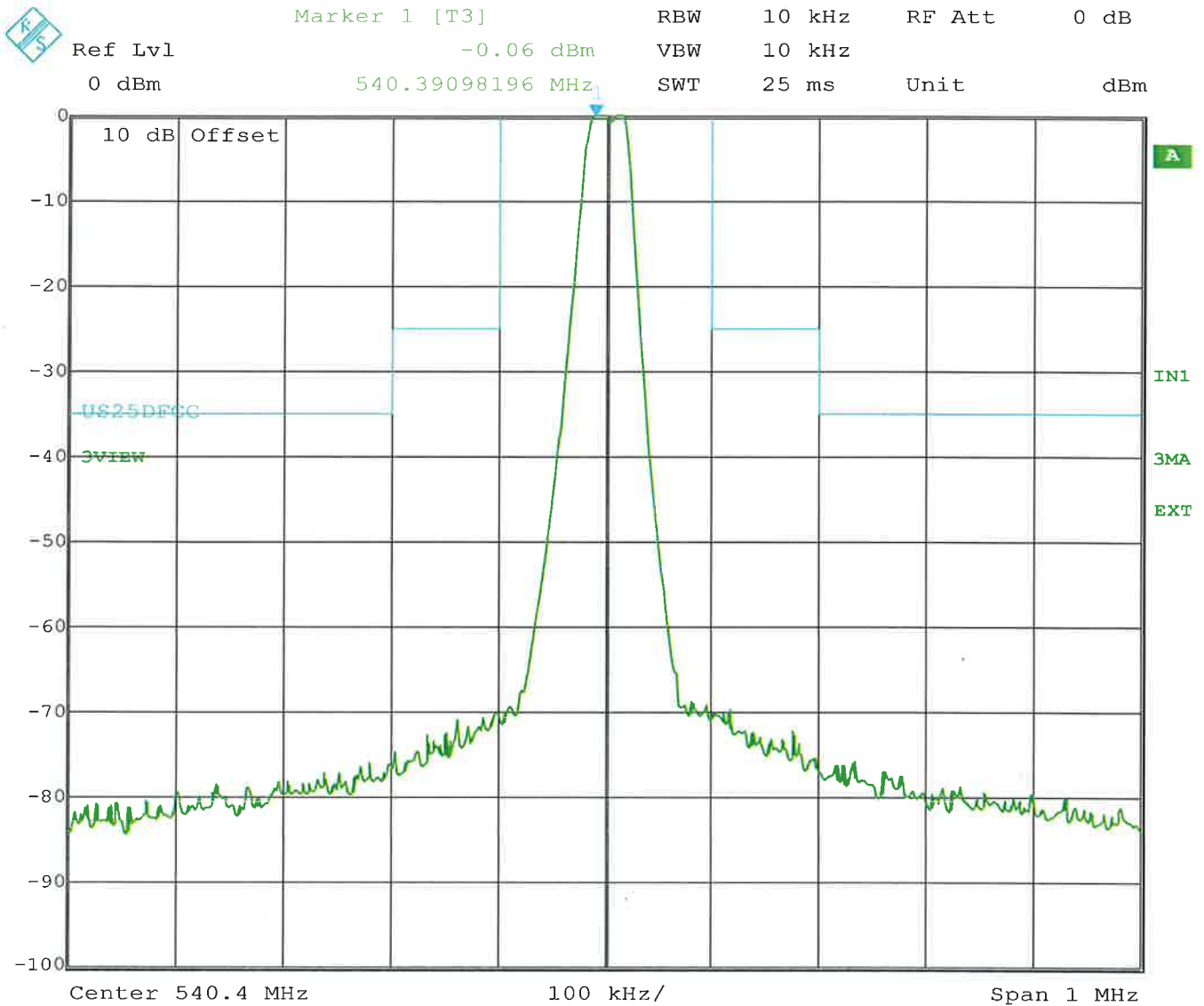
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:24:44

Test Equipment used: NT-207

Emissions Mask

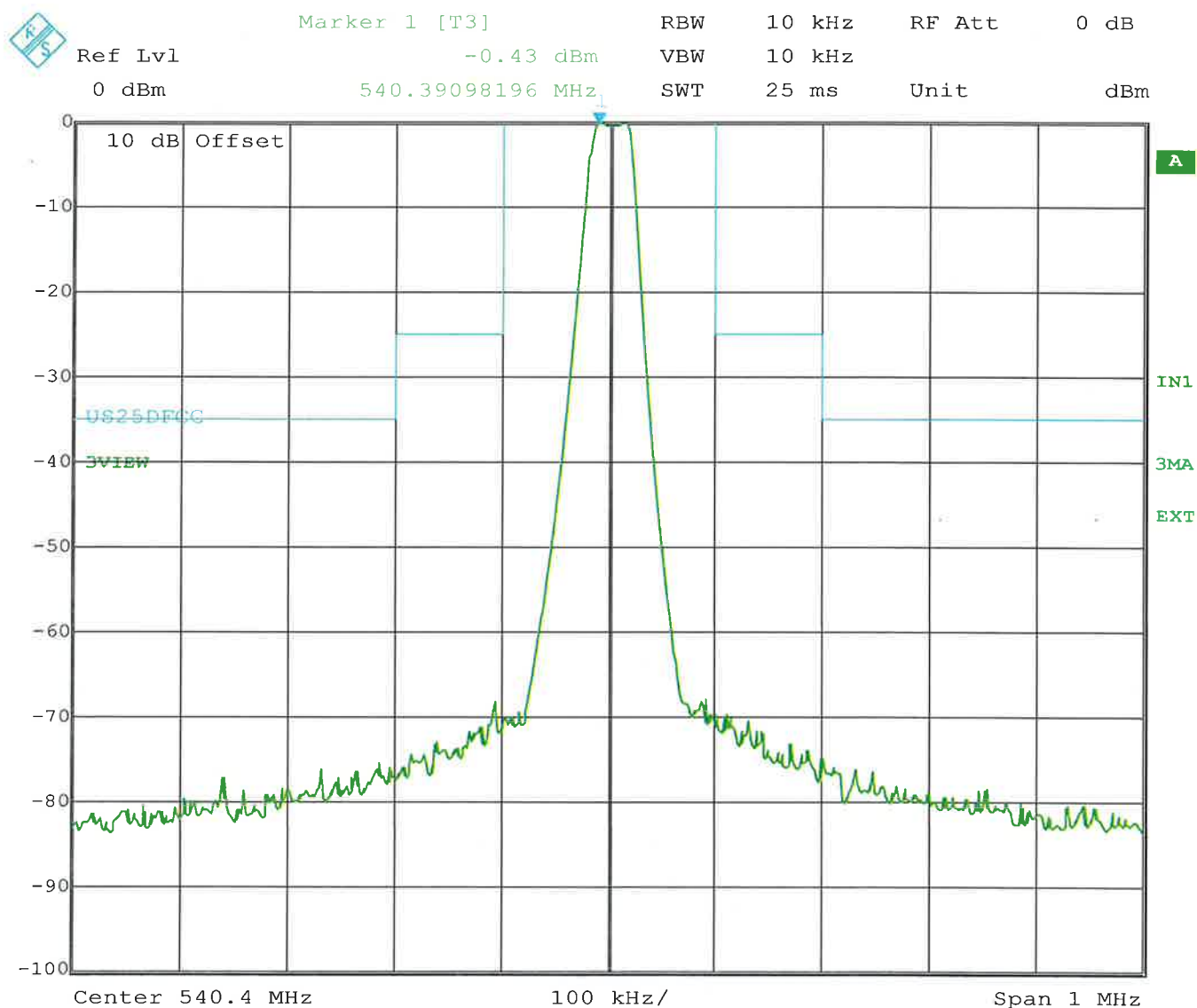
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:24:14

Test Equipment used: NT-207

Emissions Mask

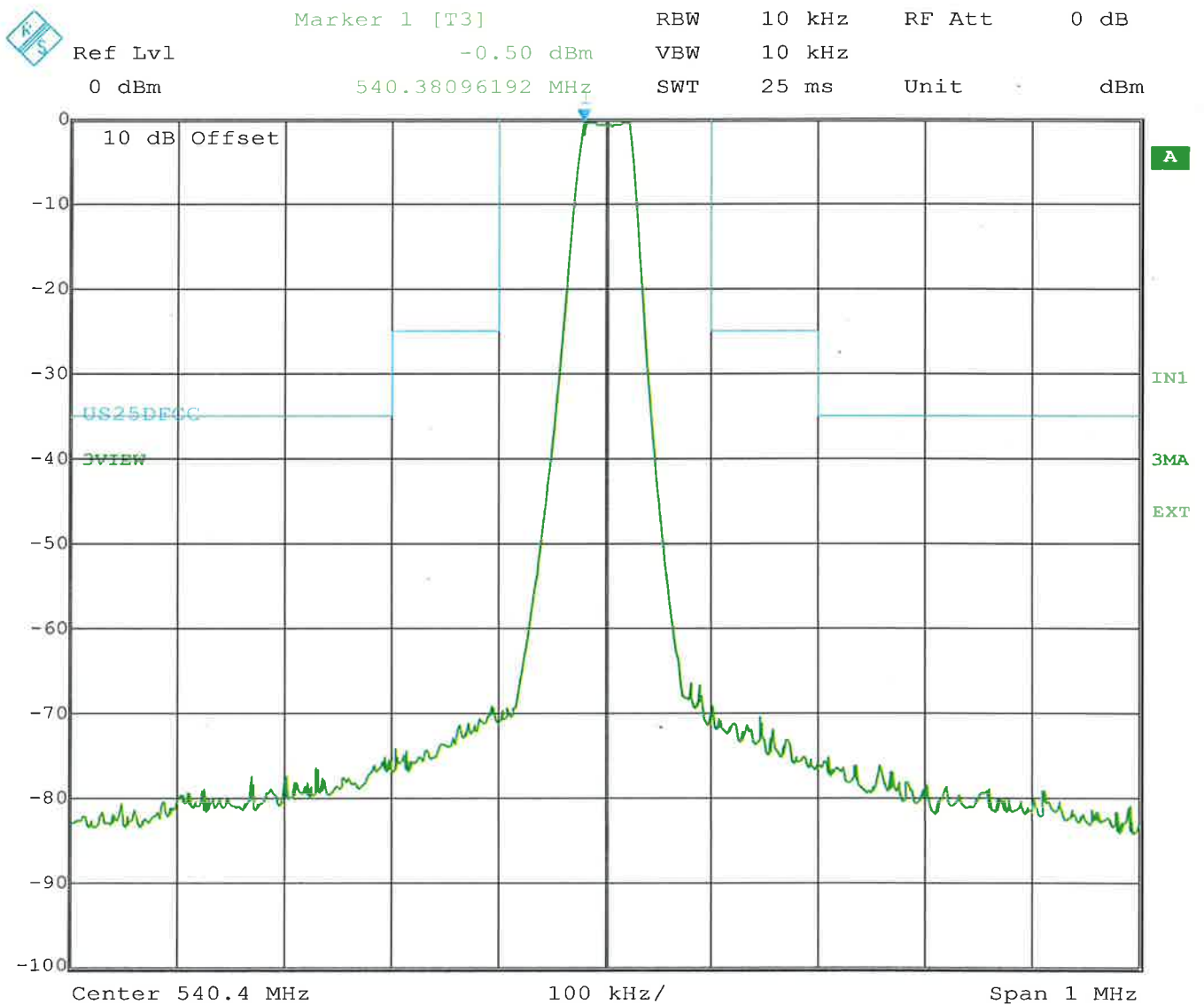
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:23:02

Test Equipment used: NT-207

Emissions Mask

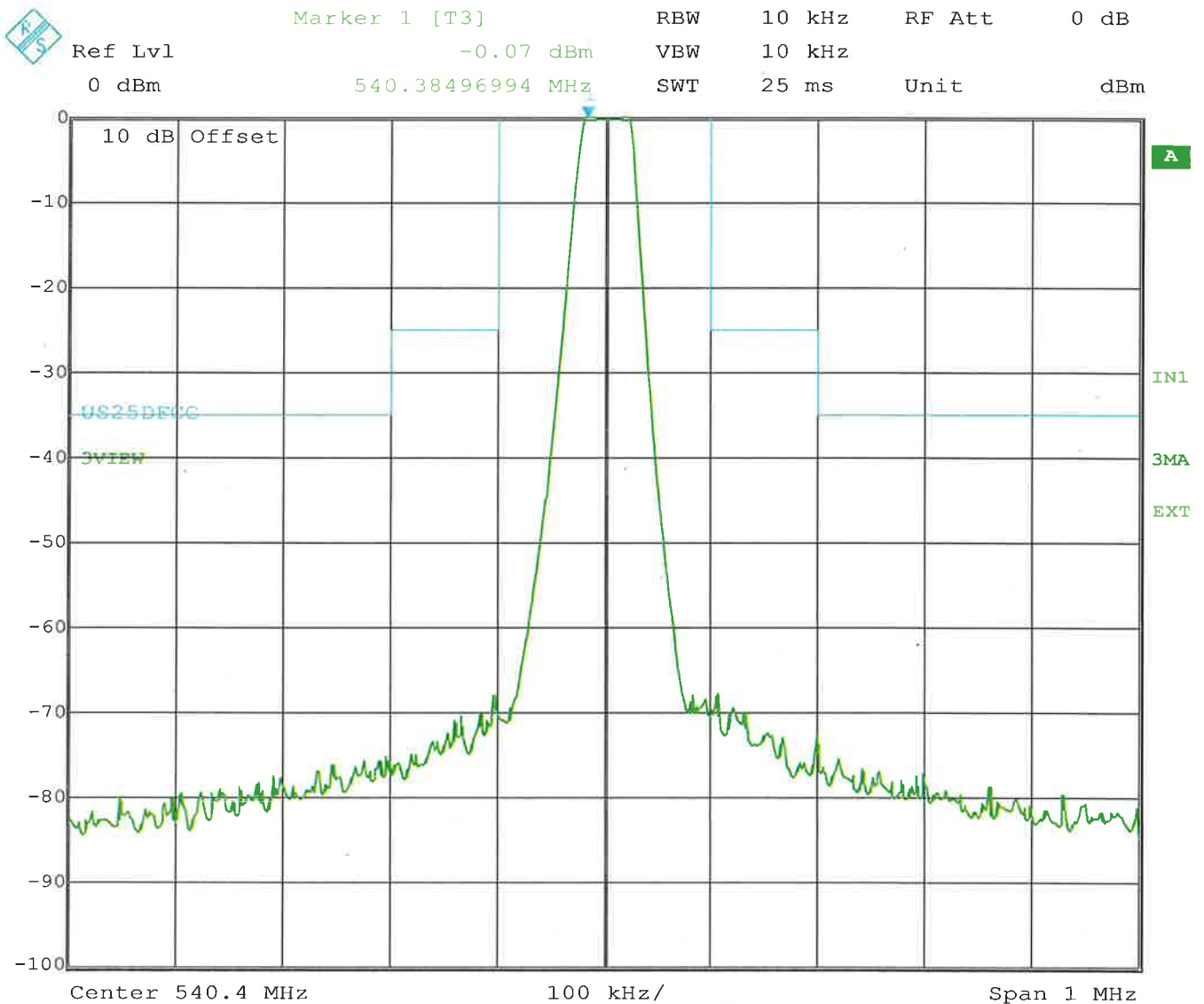
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 1 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:23:35

Test Equipment used: NT-207

Emissions Mask

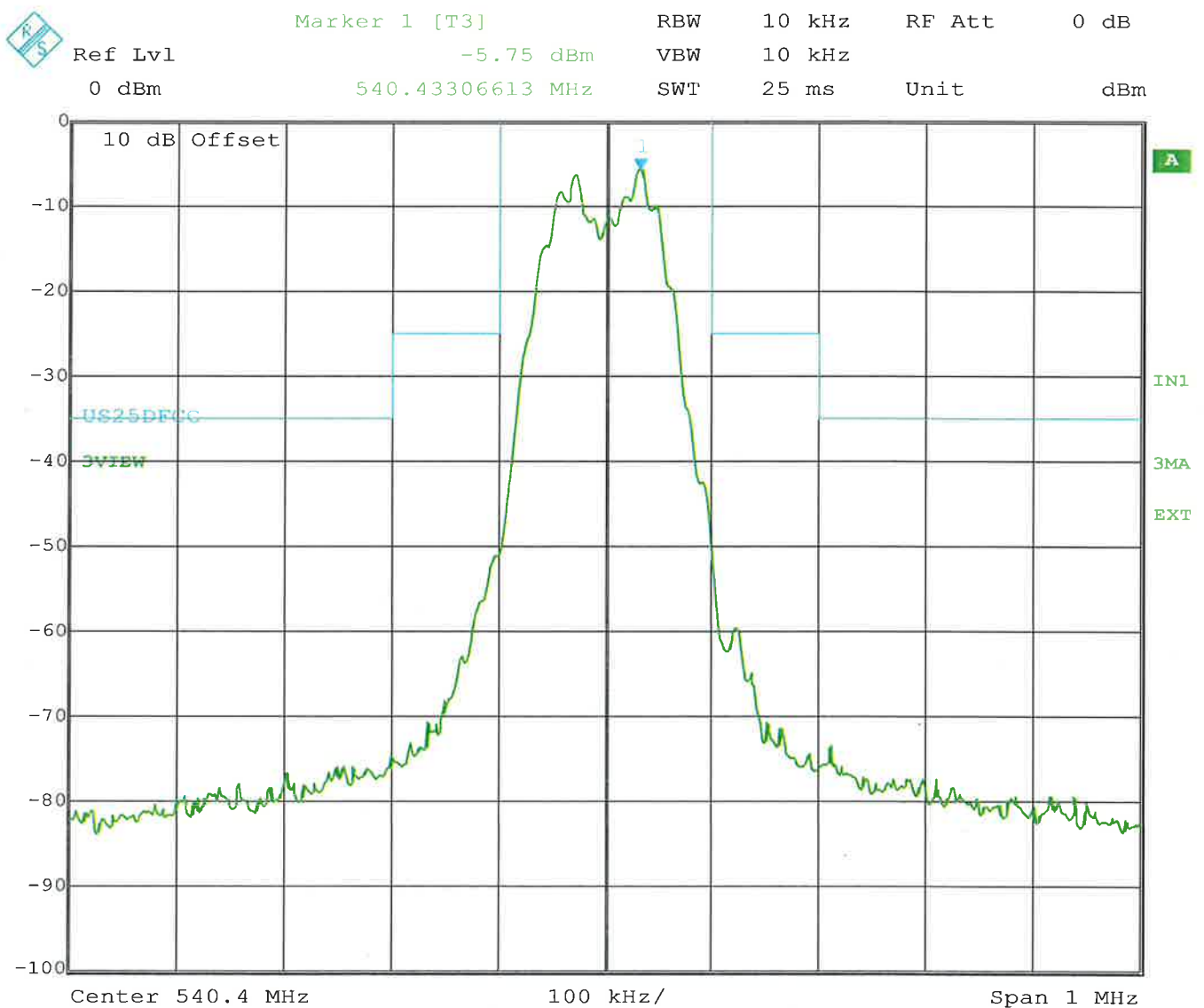
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:25:19

Test Equipment used: NT-207

Emissions Mask

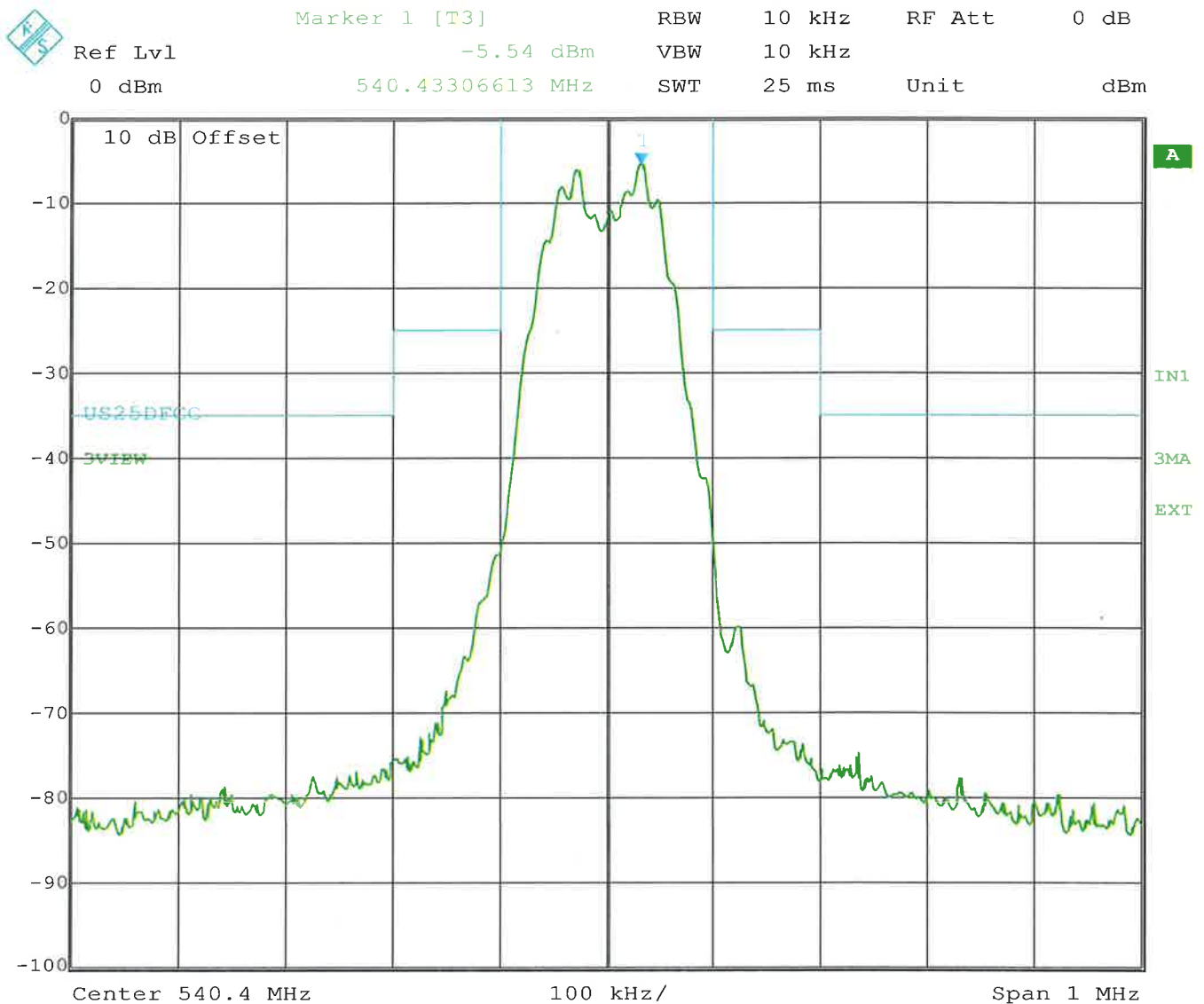
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:25:38

Test Equipment used: NT-207

Emissions Mask

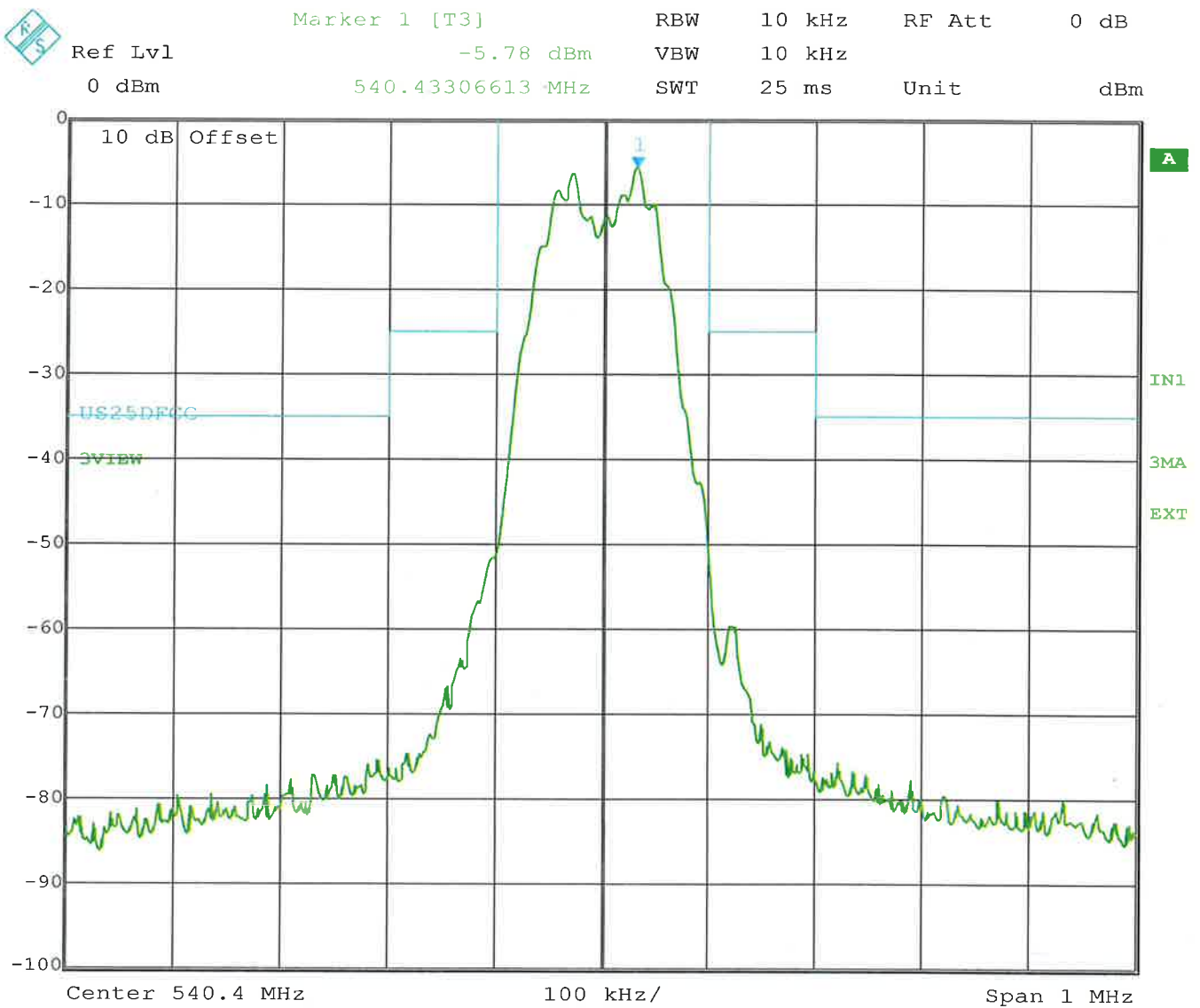
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:22:32

Test Equipment used: NT-207

Emissions Mask

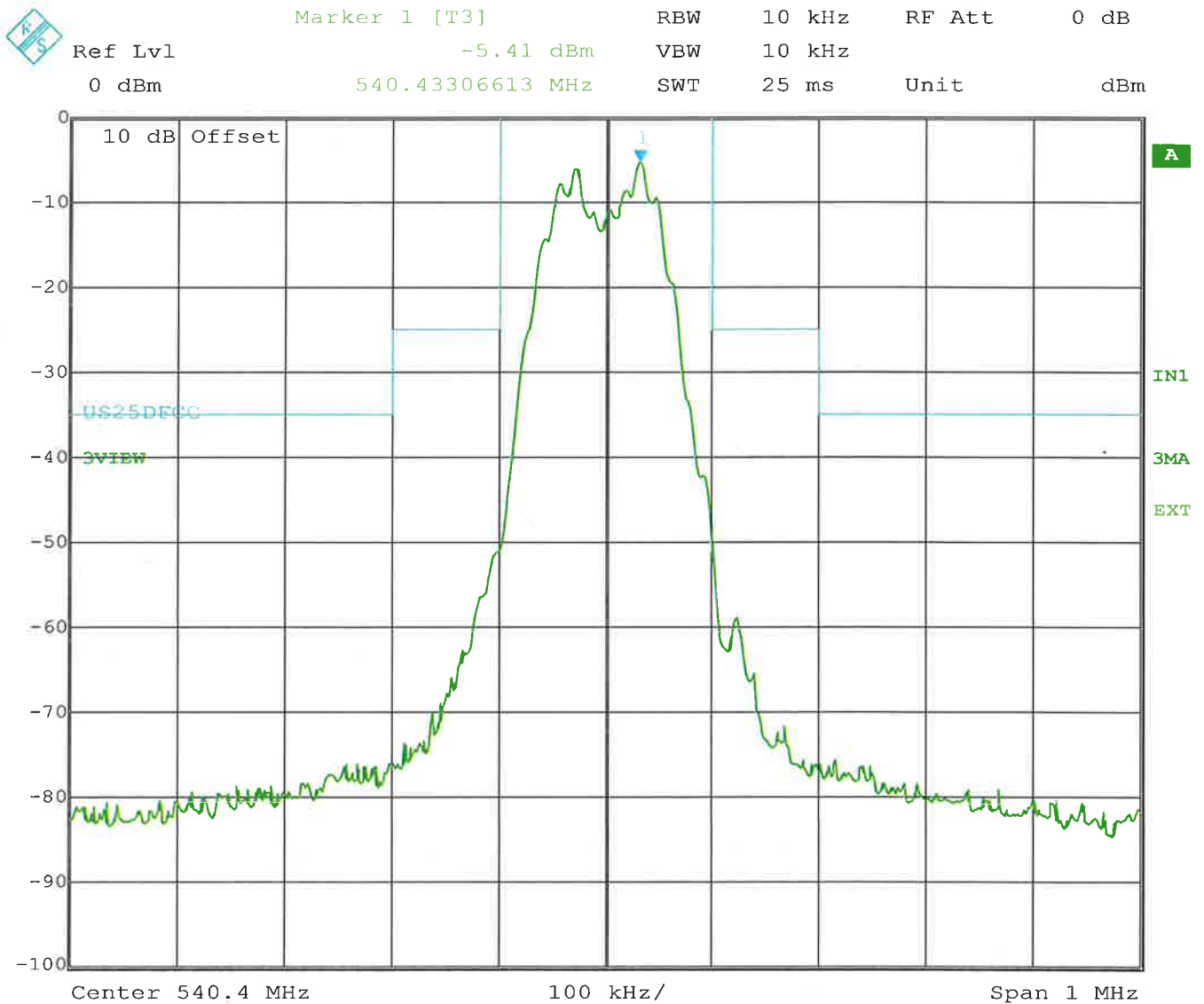
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 15 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:21:53

Test Equipment used: NT-207

Emissions Mask

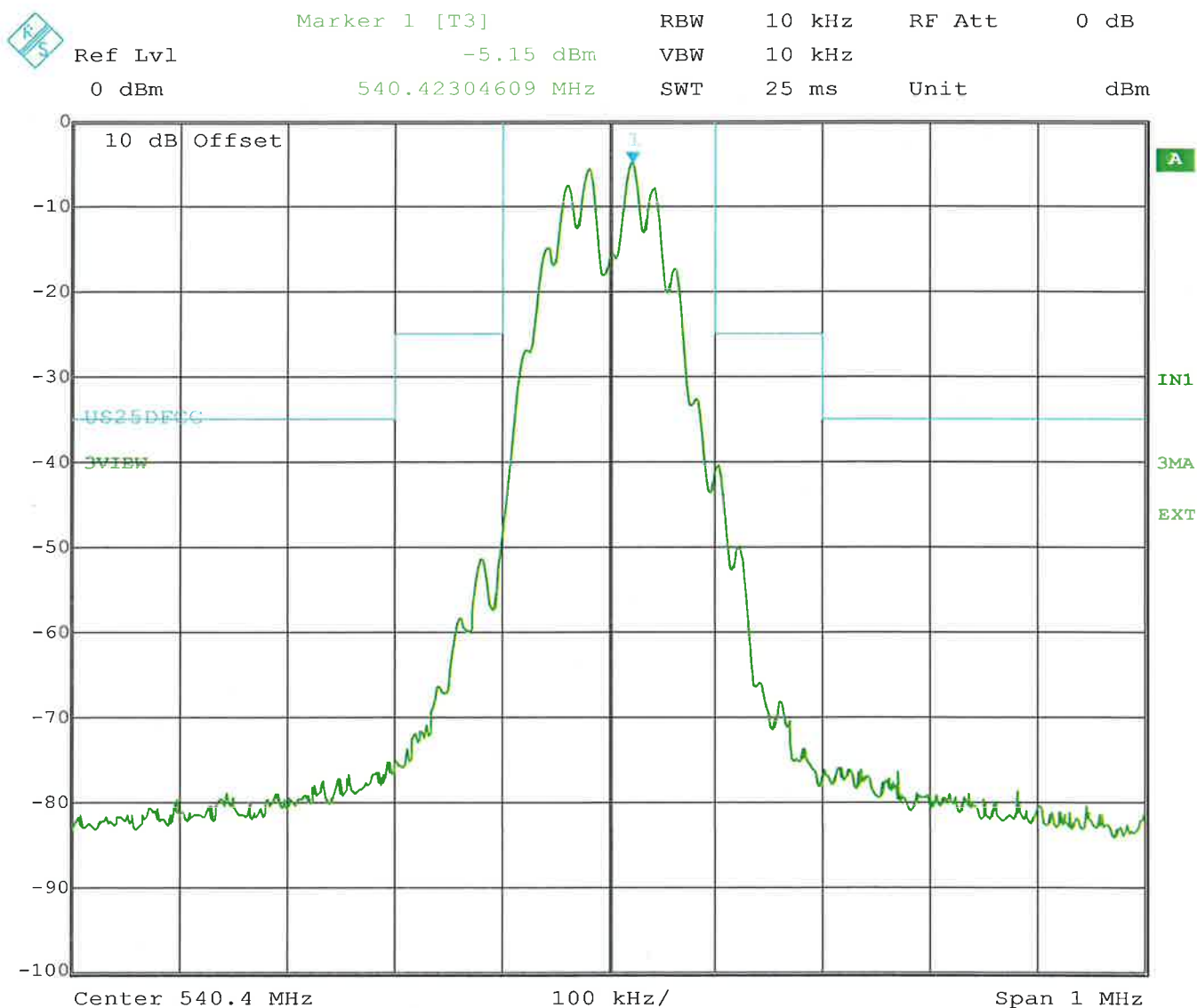
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:26:23

Test Equipment used: NT-207

Emissions Mask

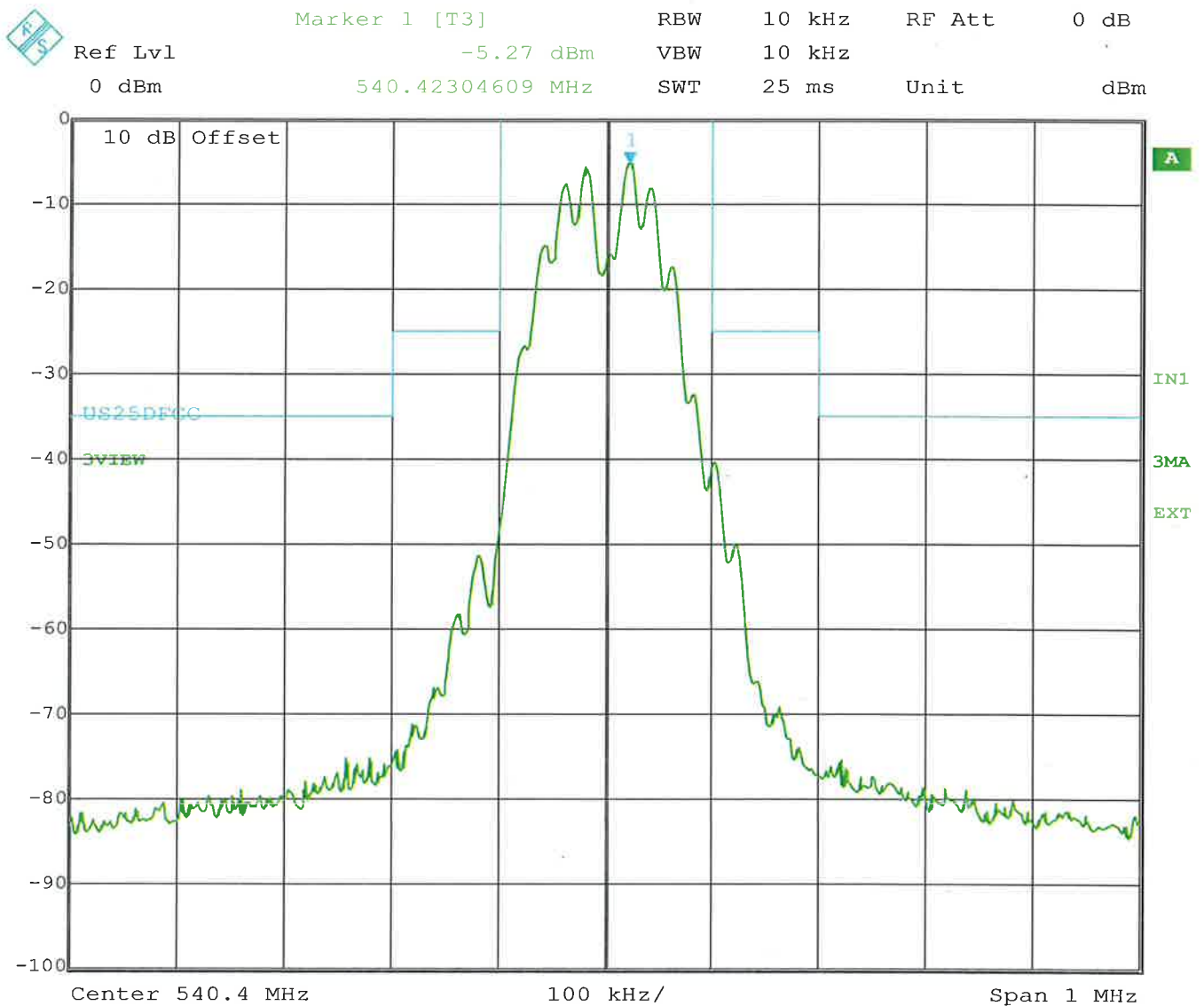
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level to achieve half of maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:26:00

Test Equipment used: NT-207

Emissions Mask

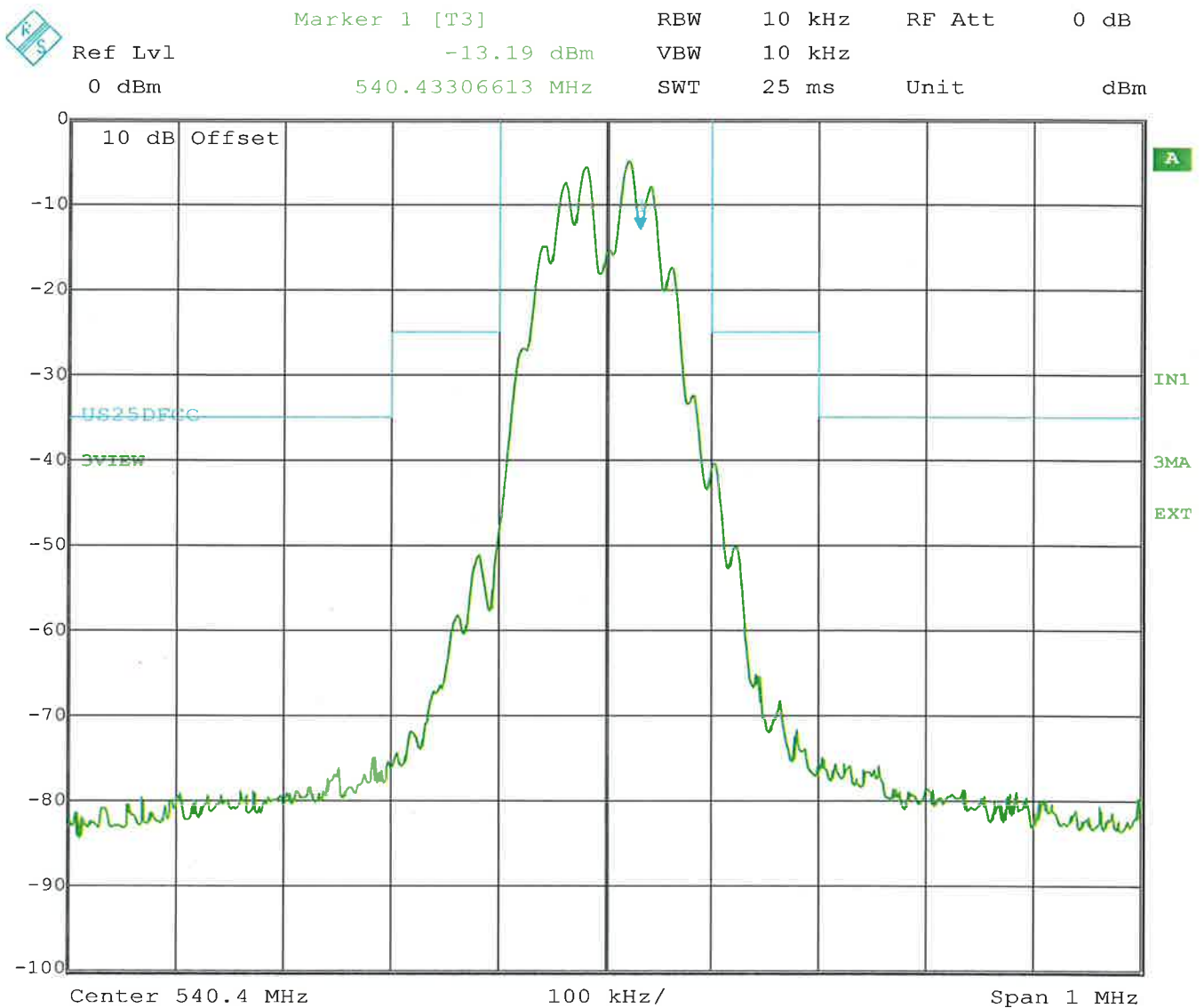
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1,5 V



Date: 16.SEP.2015 13:20:53

Test Equipment used: NT-207

Emissions Mask

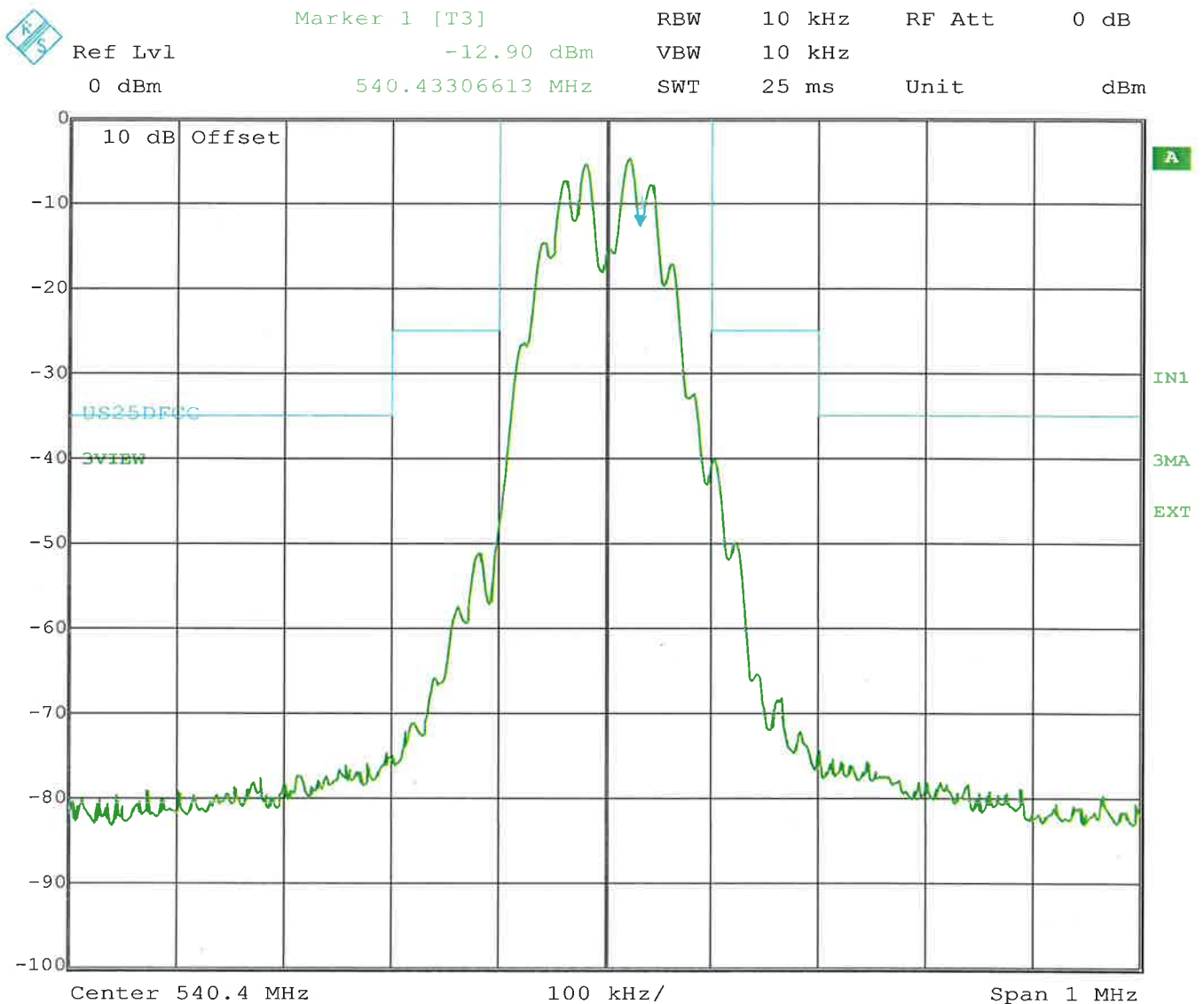
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 540,4 MHz

Modulation: acoustic input level equal to the maximum linear input level, audio frequency 20 kHz

DC Voltage: 1 V



Date: 16.SEP.2015 13:21:31

Test Equipment used: NT-207

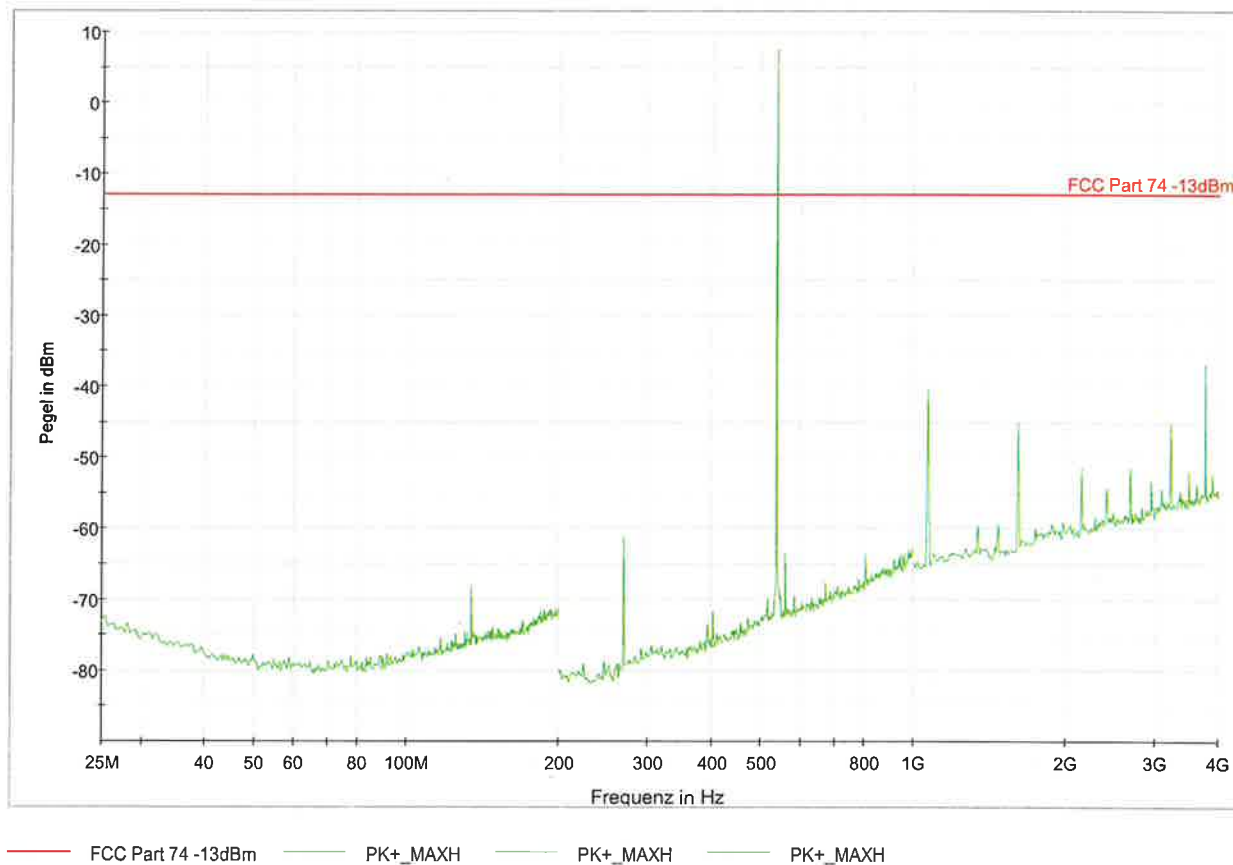
Field strength of spurious emissions of the transmitter

**§ 74.261 (e)(6)(iii)
(6.3)**

Operating mode:

Frequency: 537,5 MHz

Modulation: modulated carrier



Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-129; NT-139; NT-207; NT-337

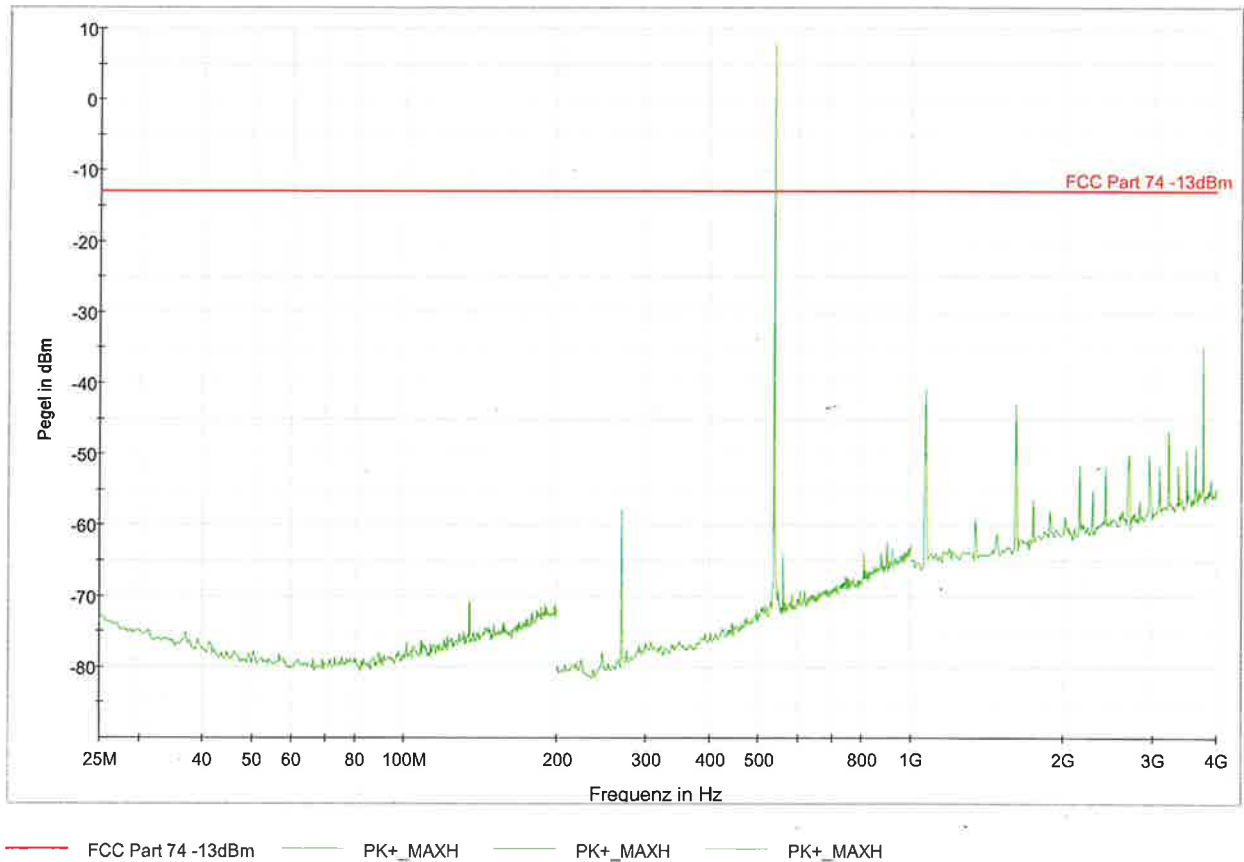
Field strength of spurious emissions of the transmitter

**§ 74.261 (e)(6)(iii)
(6.3)**

Operating mode:

Frequency: 537,9 MHz

Modulation: modulated carrier



Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-129; NT-139; NT-207; NT-337

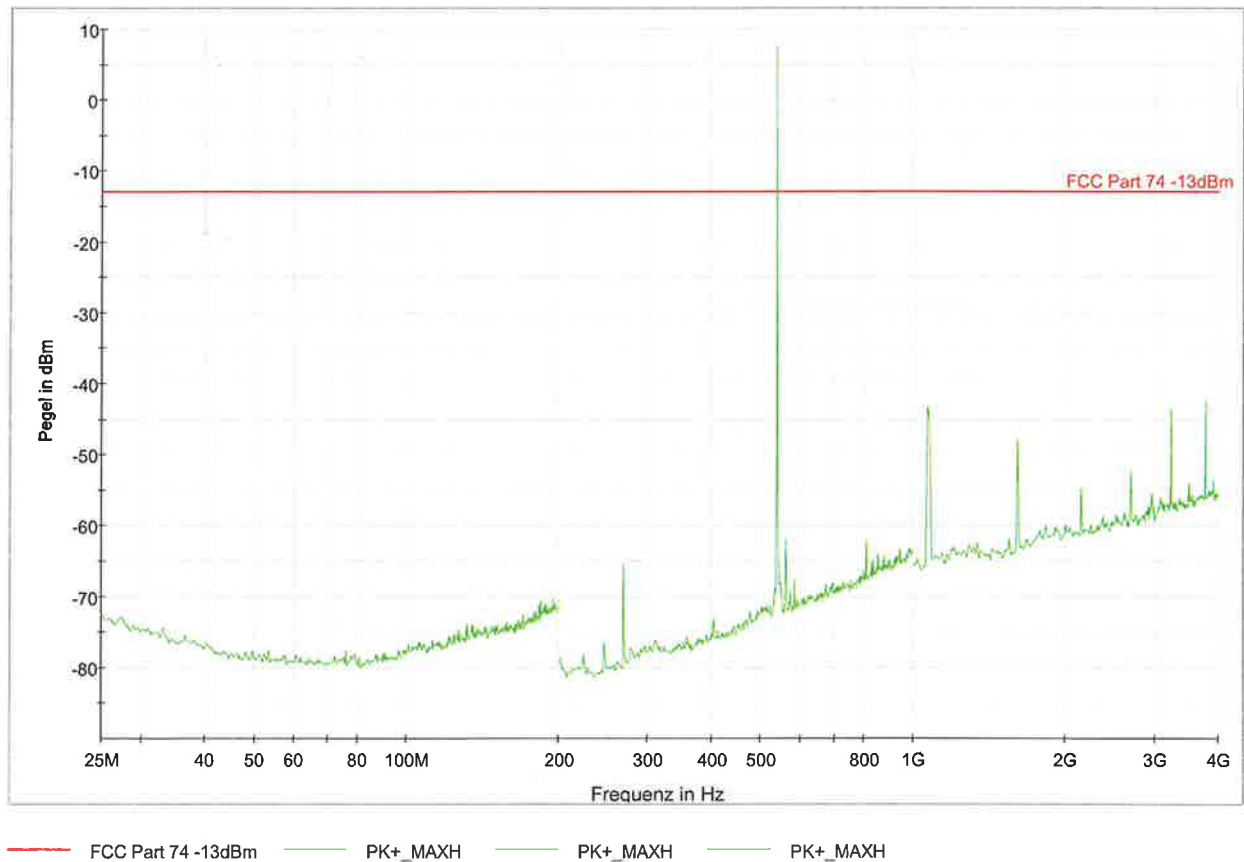
Field strength of spurious emissions of the transmitter

**§ 74.261 (e)(6)(iii)
(6.3)**

Operating mode:

Frequency: 539,3 MHz

Modulation: modulated carrier



Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-129; NT-139; NT-207; NT-337

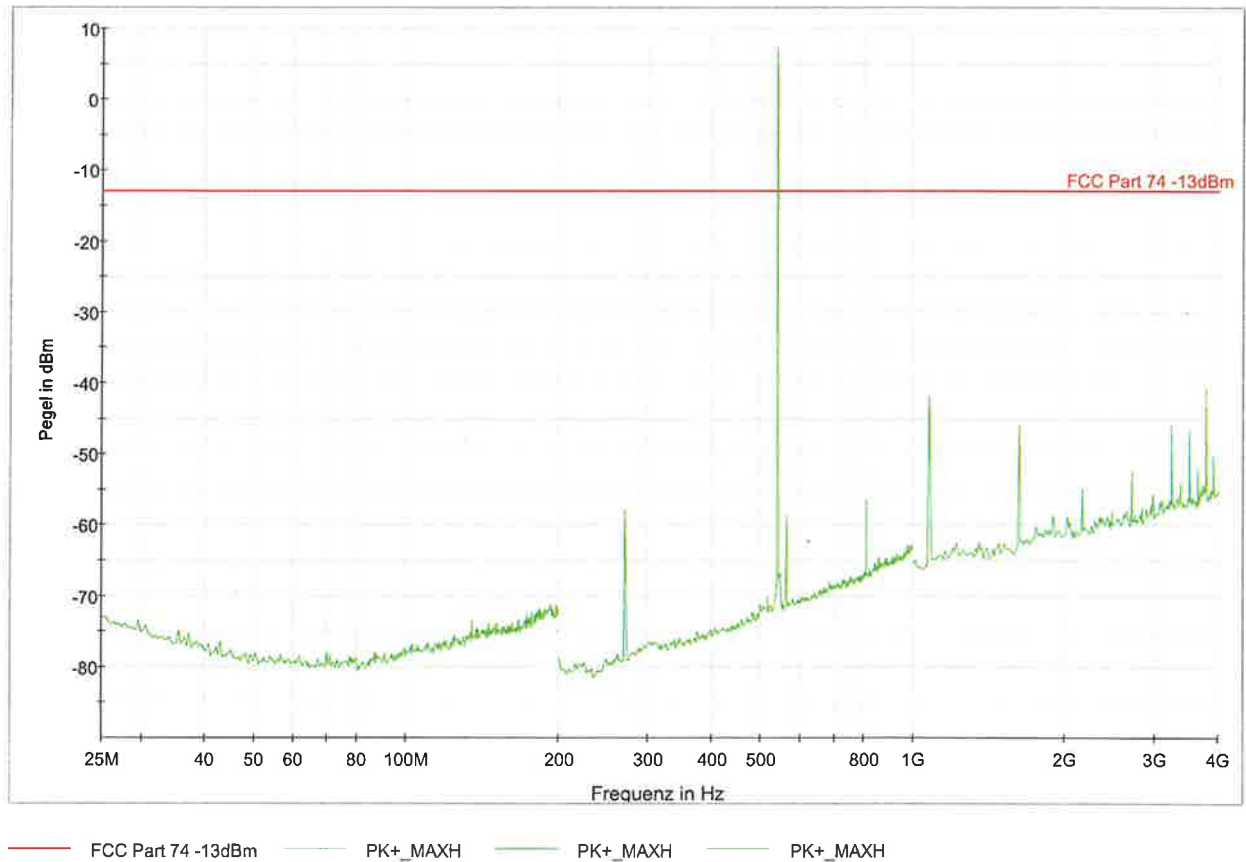
Field strength of spurious emissions of the transmitter

**§ 74.261 (e)(6)(iii)
(6.3)**

Operating mode:

Frequency: 540,4 MHz

Modulation: modulated carrier



Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-129; NT-139; NT-207; NT-337

Appendix 1

Test equipment used

☐	Anechoic Chamber with 3m measurement distance	NT-100	☐	Spectrum analyzer – FSP7 9 kHz – 7 GHz	NT-200
☐	Stripline according to ISO 11452-5	NT-108	☐	ESCI - Test receiver 9 kHz – 7 GHz	NT-203/1
☐	MA4000 - Antenna mast 1 - 4 m height	NT-110/1	☐	ESI26 – Test receiver 20 Hz – 26,5 GHz	NT-207
☐	DS - Turntable 0 - 400 ° Azimuth	NT-111/1	☐	Digital Radio Tester CTS55	NT-208
☐	CO3000 Controller Mast+Turntable	NT-112/1	☐	Noise-gen., ITU-R 559-2 20 Hz – 20 kHz	NT-209
☐	HUF-Z3 - Log. Per. Antenna 200 - 1000 MHz	NT-121	☐	CMTA - Radiocommunication analyzer ; 0,1 - 1000 MHz	NT-210
☐	HFH-Z2 - Loop Antenna 9 kHz - 30 MHz	NT-122	☐	3271 - Spectrum analyzer 100 Hz - 26,5 GHz	NT-211
☐	HFH-Z6 - Rod Antenna 9 kHz - 30 MHz	NT-123	☐	Digital Radio Tester Aeroflex 3920	NT-212/1
☐	3121C - Dipole Antenna 28 - 1000 MHz	NT-124	☐	Mixer M28HW 26,5 GHz - 40 GHz	NT-214
☐	3115 - Horn Antenna 1 - 18 GHz (immunity)	NT-125	☐	RubiSource T&M Timing reference	NT-216
☐	3116 - Horn Antenna 18 - 40 GHz	NT-126	☐	Radiocommunication analyzer SWR 1180 MD	NT-217
☐	SAS-200/543 - Bicon. Antenna 20 MHz - 300 MHz	NT-127	☐	Mixer M19HWD 40 GHz – 60 GHz	NT-218
☐	AT-1080 - Log. Per. Antenna 80 - 1000 MHz	NT-128	☐	Mixer M12HWD 60 GHz – 90 GHz	NT-219
☐	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-129	☐	DSO9104 Digital scope	NT-220/1
☐	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-130	☐	TPS 2014 Digital scope	NT-222
☐	3146 - Log. Per. Antenna 200 – 1000 MHz	NT-131	☐	Artificial Ear according to IEC 60318	NT-224
☐	Loop Antenna H-Field	NT-132	☐	1 kHz Sound calibrator	NT-225
☐	Horn Antenna 500 MHz - 2900 MHz	NT-133	☐	B10 - Harmonics and flicker analyzer	NT-232
☐	Horn Antenna 500 MHz - 6000 MHz	NT-133/1	☐	ARS 16/3 – Harmonics- flicker analyzer	NT-232/1
☐	Log. per. Antenna 800 MHz - 2500 MHz	NT-134	☐	SRM-3000 Spectrum analyzer	NT-233
☐	Log. per. Antenna 800 MHz - 2500 MHz	NT-135	☐	SRM-3006 Spectrum analyzer	NT-233/1a
☐	BiConiLog Antenna 26 MHz – 2000 MHz	NT-137	☐	E-field probe SRM 75 MHz – 3 GHz	NT-234
☐	Conical Dipol Antenna PCD8250	NT-138	☐	Field Meter NBM-500 incl. E- and H-Field probes	NT-240a-d
☐	HF 906 - Horn Antenna 1 - 18 GHz (emission)	NT-139	☐	Hall-Teslameter ETM-1	NT-241
☐	HZ-1 Antenna tripod	NT-150	☐	EFA-3 H-field- / E-field probe	NT-243
☐	BN 1500 Antenna tripod	NT-151	☐	Field Meter EMR-200 100 kHz – 3 GHz	NT-244
☐	Ant. tripod for EN61000-4-3 Model TP1000A	NT-156	☐	E-field probe 100 kHz – 3 GHz	NT-245
☐	Power quality analyzer Fluke 1760 (complete set)	NT-160 - NT-173	☐	H-field probe 300 kHz – 30 MHz	NT-246

Division Medical
Technology/
Communication
Technology/ EMC

Department: FG

Test report number:
M/FG-15/160

Page: 1 of 3

Date: 08.10.2015

Checked by: 

Appendix 1 (continued)

Test equipment used

☐ E-field probe 3 MHz – 18 GHz	NT-247	☐ VCS 500-M6 Surge-Generator	NT-326
☐ H-field probe 27 MHz – 1 GHz	NT-248	☐ Oscillatory Wave Simulator incl. Coupling networks	NT-328a+b+c
☐ ELT-400 1 Hz – 400 kHz	NT-249	☐ BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330
☐ MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250	☐ T82-50 RF-Amplifier 2 GHz – 8 GHz	NT-331
☐ FCC-203I EM Injection clamp	NT-251	☐ 500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332
☐ FCC-203I-DCN Ferrite decoupling network	NT-252	☐ AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333
☐ PR50 Current Probe	NT-253	☐ APA01 – RF-Amplifier 0,5 GHz – 2,5 GHz	NT-334
☐ i310s Current Probe	NT-254/1	☐ Preamplifier 1 GHz - 4 GHz	NT-335
☐ Fluke 87 V True RMS Multimeter	NT-260	☐ Preamplifier for GPS MKU 152 A	NT-336
☐ Model 2000 Digital Multimeter	NT-261	☐ Preamplifier 100 MHz – 23 GHz	NT-337
☐ Fluke 87 V Digital Multimeter	NT-262/1	☐ DC Block 10 MHz – 18 GHz Model 8048	NT-338
☐ ESH2-Z5-U1 Artificial mains network 4x25A	NT-300	☐ 2-97201 Electronic load	NT-341
☐ ESH3-Z5-U1 Artificial mains network 2x10A	NT-301	☐ TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
☐ ESH3-Z6-U1 Artificial mains network 1x100A	NT-302	☐ TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
☐ ESH3-Z6-U1 Artificial mains network 1x100A	NT-302a	☐ VDS 200 Mobil-impuls-generator	NT-350
☐ PHE 4500/B Power amplifier	NT-304	☐ LD 200 Mobil-impuls-generator	NT-351
☐ PAS 5000 Power amplifier	NT-304/1a	☐ MPG 200 Mobil-Impuls-Generators	NT-352
☐ EZ10 T-Artificial Network	NT-305	☐ EFT 200 Mobil-impuls-generator	NT-353
☐ SMG - Signal generator 0,1 - 1000 MHz	NT-310	☐ AN 200 S1 Artificial Network	NT-354
☐ SMA100A - Signal generator 9 kHz - 6 GHz	NT-310/1	☐ FP-EFT 32M 3 ph. Coupling filter (Burst)	NT-400/1
☐ RefRad Reference generator	NT-312	☐ PHE 4500 - Mains impedance network	NT-401
☐ SMP 02 Signal generator 10 MHz - 20 GHz	NT-313	☐ IP 6.2 Coupling filter for data lines (Surge)	NT-403
☐ 40 MHz Arbitrary Generator TGA1241	NT-315	☐ TK 9421 High Power Volt. Probe 150 kHz - 30 MHz	NT-409
☐ Artificial mains network NSLK 8127-PLC	NT-316	☐ ESH2-Z3 - Probe 9 kHz - 30 MHz	NT-410
☐ Inrush Current Source for PAS 5000	NT-317a	☐ IP 4 - Capacitive clamp (Burst)	NT-411
☐ Control and measurement device Sycore	NT-318	☐ Highpass-Filter 100 MHz – 3 GHz	NT-412
☐ PEFT - Burst generator up to 4 kV	NT-320	☐ Highpass-Filter 600 MHz – 4 GHz	NT-413
☐ ESD 30 System up to 25 kV	NT-321	☐ Highpass-Filter 1250 MHz – 4 GHz	NT-414
☐ PSURGE 4.1 Surge generator	NT-324	☐ Highpass-Filter 1800 MHz – 16 GHz	NT-415
☐ IMU4000 Immunity test system	NT-325/1		

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Appendix 1 (continued)

Test equipment used

☐	Highpass-Filter 3500 MHz – 18 GHz	NT-416	☐	FCC-801-S25 Coupling decoupling network	NT-462
☐	RF-Attenuator 10 dB DC – 18 GHz / 50 W	NT-417	☐	FCC-801-T4 Coupling decoupling network	NT-463
☐	RF-Attenuator 6 dB DC – 18 GHz / 50 W	NT-418	☐	FCC-801-C1 Coupling decoupling network	NT-464
☐	RF-Attenuator 3 dB DC – 18 GHz / 50 W	NT-419	☐	SW 9605 - Current probe 150 kHz – 30 MHz	NT-465/1
☐	RF-Attenuator 20 dB DC - 1000 MHz / 25 W	NT-421	☐	95242-1 – Current probe 1 MHz – 400 MHz	NT-468
☐	RF-Attenuator 30 dB DC - 1000 MHz / 1 W	NT-423	☐	94106-1L-1 – Current probe 100 kHz – 450 MHz	NT-471
☐	RF-Attenuator 30 dB	NT-424	☐	GA 1240 Power amplifier according to EN 61000-4-16	NT-480
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-425	☐	Coupling networks according to EN 61000-4-16	NT-481 - NT-483
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-426	☐	Van der Hoofden Test Head	NT-484
☐	RF-Attenuator 6 dB	NT-428	☐	PC P4 3 GHz Test computer	NT-500
☐	RF-Attenuator 0 dB - 81 dB	NT-429	☐	PC P4 1700 MHz Notebook	NT-505
☐	WRU 27 - Band blocking 27 MHz	NT-430	☐	Monitoring camera with Monitor	NT-511
☐	WHJ450C9 AA - High pass 450 MHz	NT-431	☐	ES-K1 Version 1.71 SP2 Test software	NT-520
☐	WHJ250C9 AA - High pass 250 MHz	NT-432	☐	EMC32 Version 9.21 Test software	NT-520/1
☐	RF-Load 150 W	NT-433	☐	SRM-TS Version 1.3 software for SRM-3000	NT-522
☐	Impedance transducer 1:4 ; 1:9 ; 1:16	NT-435	☐	SRM-TS Version 1.3.1 software for SRM-3006	NT-522/1
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-436	☐	Spitzenberger und Spies Test software V3.4	NT-525
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-437	☐	Noise power test apparatus according to EN 55014	NT-530
☐	RF-Attenuator DC – 18 GHz 10 dB	NT-438	☐	Vertical coupling plane (ESD)	NT-531
☐	RF-Attenuator DC – 18 GHz 20 dB	NT-439	☐	Test cable #4 for EN 61000-4-6	NT-553
☐	I+P 7780 Directional coupler 100 - 2000 MHz	NT-440	☐	Test cable #3 for conducted emission	NT-554
☐	ESH3-Z2 - Pulse limiter 9 kHz - 30 MHz	NT-441	☐	Test cable #5+#6 ESD-cable (2x470k)	NT-555 + NT-556
☐	Power Divider 6 dB/1 W/50 Ohm	NT-443	☐	Test cable #8 Sucoflex 104EA	NT-559
☐	Directional coupler 0,1 MHz – 70 MHz	NT-444	☐	Test cable #9 (for outdoor measurements)	NT-580
☐	Directional coupler 0,1 MHz – 70 MHz	NT-445	☐	Test cable #10 (for outdoor measurements)	NT-581
☐	Tube imitations according to EN 55015	NT-450	☐	Test cable #13 Sucoflex 104PE	NT-584
☐	FCC-801-M3-16A Coupling decoupling network	NT-458	☐	Test cable #21 for SRM-3000	NT-592
☐	FCC-801-M2-50A Coupling decoupling network	NT-459	☐	Shield chamber	NT-600
☐	FCC-801-M5-25 Coupling decoupling network	NT-460	☐	Climatic chamber	M-1200
☐	FCC-801-AF10 Coupling decoupling network	NT-461			

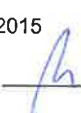
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Appendix 2 Photodocumentation

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Appendix 2 Photodocumentation

Description: Backside view US25A

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Appendix 2 Photodocumentation

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Appendix 2 Photodocumentation

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Appendix 2 Photodocumentation

Description: Backside view US25D

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Appendix 2 Photodocumentation

Description: Battery compartment opened

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Description: Microphone detached

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Appendix 2 Photodocumentation

Description: Case opened view #1

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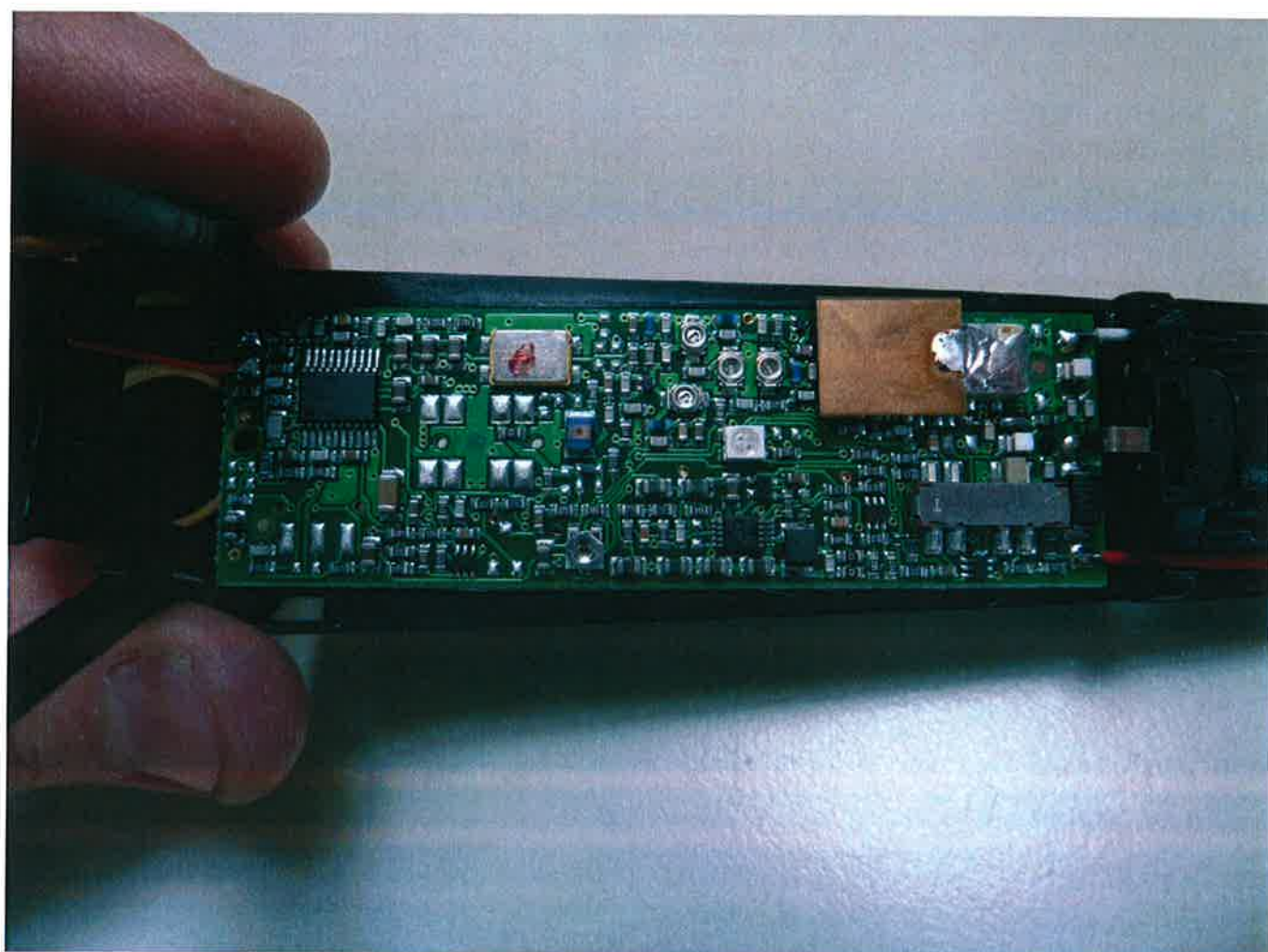
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Appendix 2 Photodocumentation

Description: Case opened view #2

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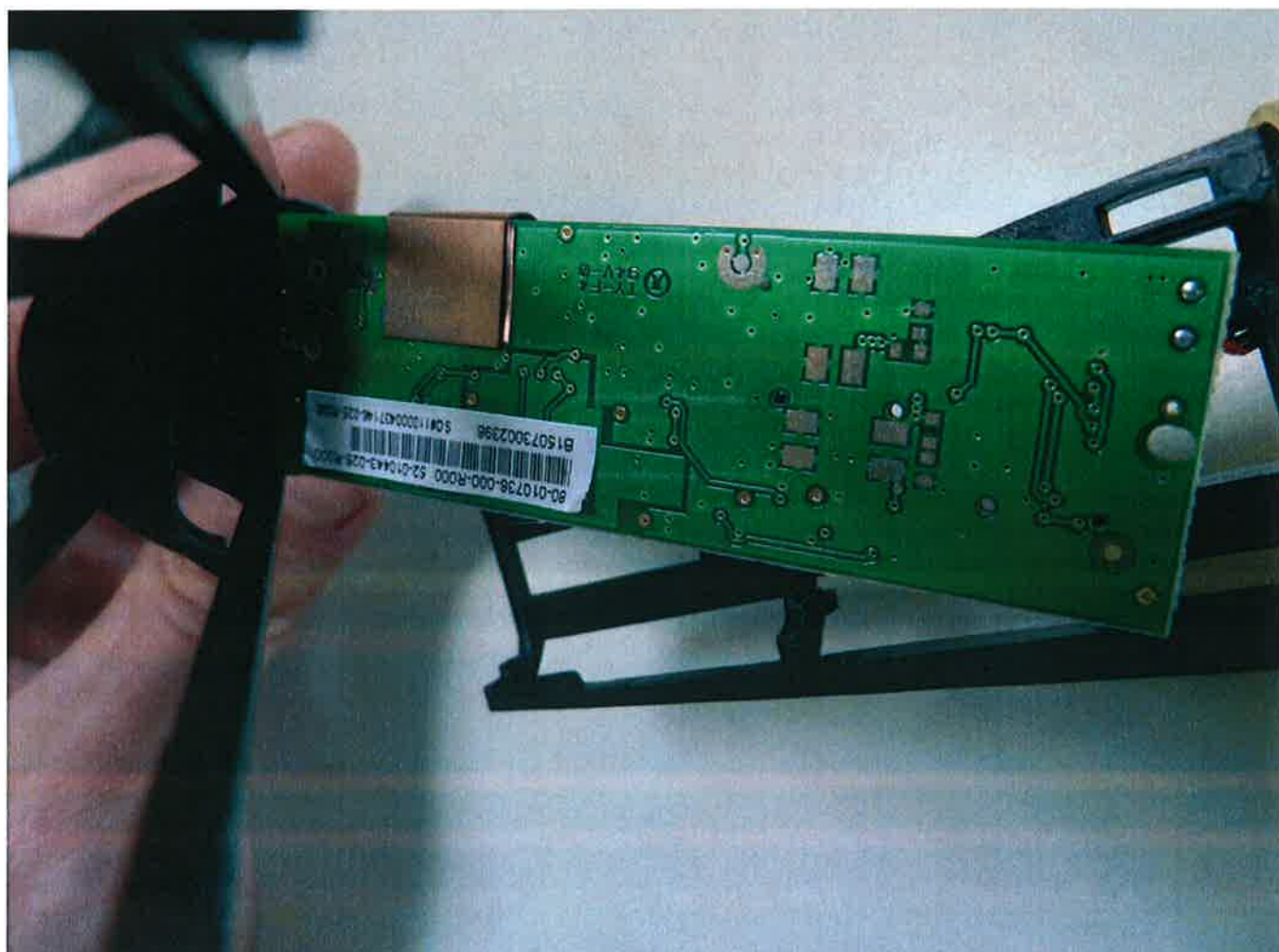
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Appendix 2 Photodocumentation

Description: Test setup

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