TEST REPORT

of the accredited test laboratory

TÜV Nr.:M/FG-14/122

Applicant:	AKG Acoustics GmbH Laxenburger Straße 254 A – 1230 Wien
Tested Product:	Handheld wireless microphone transmitter
FCC-ID:	V3THT420
IC-ID:	11650A-HT420
Manufacturer:	AKG Acoustics GmbH Laxenburger Straße 254 A – 1230 Wien

Output power:	10mW erp	**power supply:**	1,5 VDC
Frequency range:	530 – 560 MHz "Band A"	**Channel separation:**	25 kHz
ITU designator:	120KF3E	**Declared channel bandwidth:**	200 kHz

Standard: FCC: 47 CFR Part 74 (October 1, 2013 edition)
RSS-123 Issue 2, February, 2011

TÜV AUSTRIA SERVICES GMBH
Test laboratory for EMC

Supervisor of EMC-laboratory: Ing. Wilhelm Seier

Rundsiegel

checked by: Ing. Michael Emminger

25.02.2014

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Notified Body 0408
IC 2932K-1

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UID ATU63240488
DVR 3002476

LIST OF MEASUREMENTS

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

TEST OBJECT DATA

General EUT Description

This 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: 120KF3E – Channel spacing selectable 25 kHz.

2.1033 (5) Frequency range selectable: 530 – 560 MHz

2.1033 (6) Power range and Controls: The output power is fixed to 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: 208 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

Power Output **§ 74.261(e)(1) (6.2)**

Radiated Measurement

Rated output power: 10 mW

Test conditions		Transmitter power (mW) (erp)		
		530 MHz	545 MHz	560 MHz
T_{nom} (23)°C	V_{nom} (1,5)V	8,13	9,12	8,91
Maximum deviation from rated output power under normal test conditions (dB)		-0,9	-0,4	-0,5
Measurement uncertainty		± 0,75 dB		

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

Under normal test conditons	250 mW

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		
	530 MHz	545 MHz	560 MHz	530 MHz	545 MHz	560 MHz
1,5 V	0	0,16	-0,04	0,00	0,29	-0,07
1 V	0	0,12	-0,04	0,00	0,22	-0,07

Frequency error vs. Temperature

Temperature °C	Frequency Error kHz			Frequency Error ppm		
	530 MHz	545 MHz	560 MHz	530 MHz	545 MHz	560 MHz
-30	-4	-4,2	-4,12	-7,55	-7,71	-7,36
-20	1,16	1,16	1,12	2,19	2,13	2,00
-10	2,36	2,44	2,52	4,45	4,48	4,50
±0	2,2	2,24	2,36	4,15	4,11	4,21
+10	1,36	1,44	1,48	2,57	2,64	2,64
+20	0	0,16	-0,04	0,00	0,29	-0,07
+30	-1,48	-1,56	-1,56	-2,79	-2,86	-2,79
+40	-2,96	-3,08	-3,16	-5,58	-5,65	-5,64
+50	-4,2	-4,32	-4,48	-7,92	-7,93	-8,00

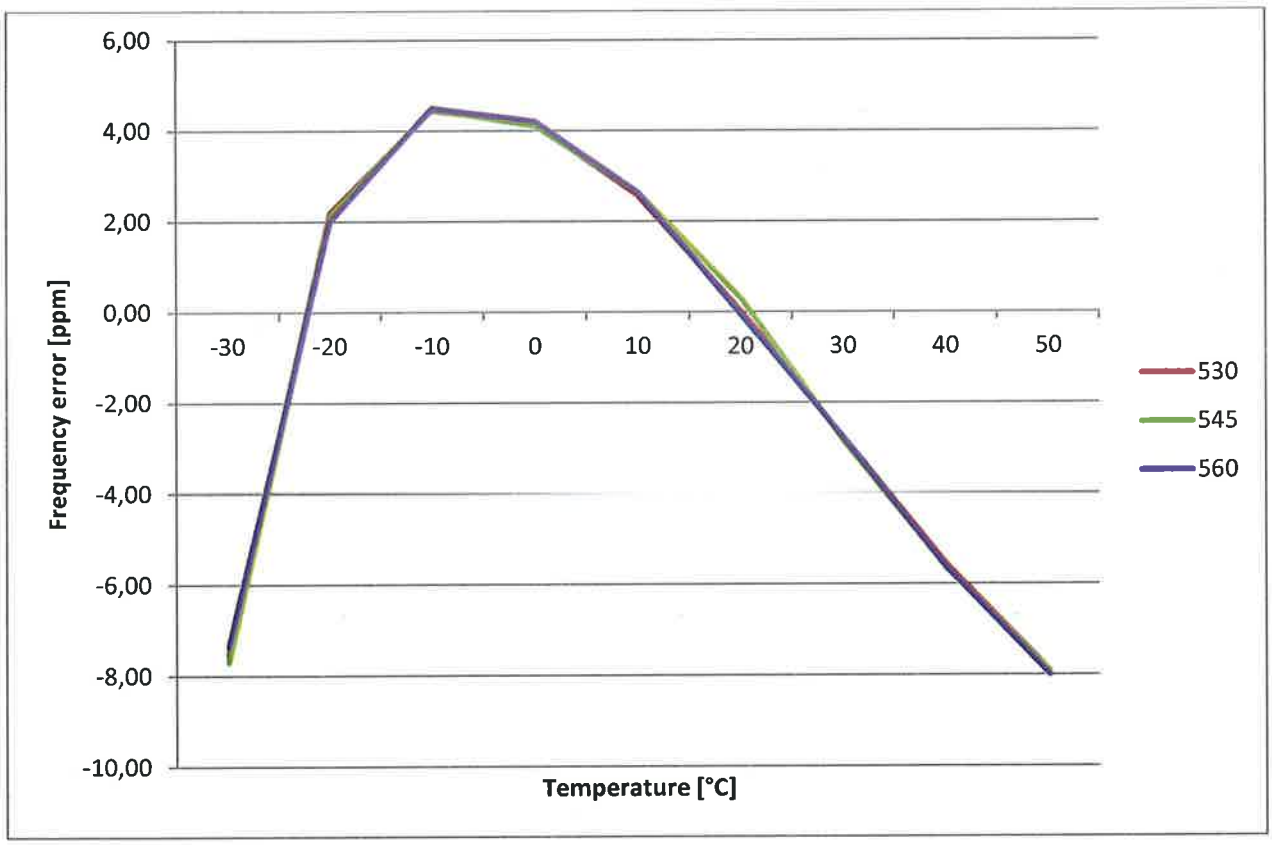
LIMIT **SUBCLAUSE 74.261 (e)(4) (Table 1 of RSS-123)**

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

Ambient temperature: 23°C Relative humidity: 25%

Frequency tolerance

§ 74.261 (e)(4) (7)



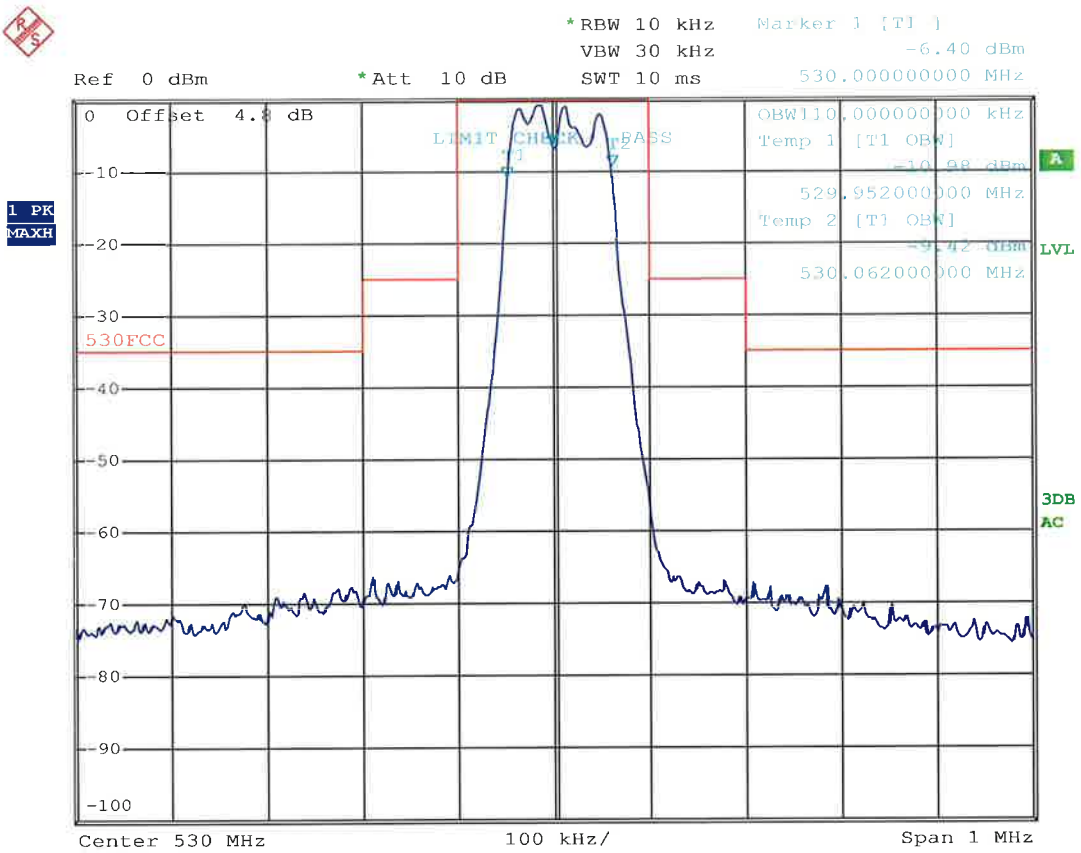
Test Equipment used: NT-207, M-1200

Ambient temperature: 23°C Relative humidity: 25%

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 @ 530 MHz



Date: 7.FEB.2014 11:10:43

Measured 99% power Bandwidth: 110kHz

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

The operating bandwidth shall not exceed 200 kHz.

TEST EQUIPMENT USED: NT-207

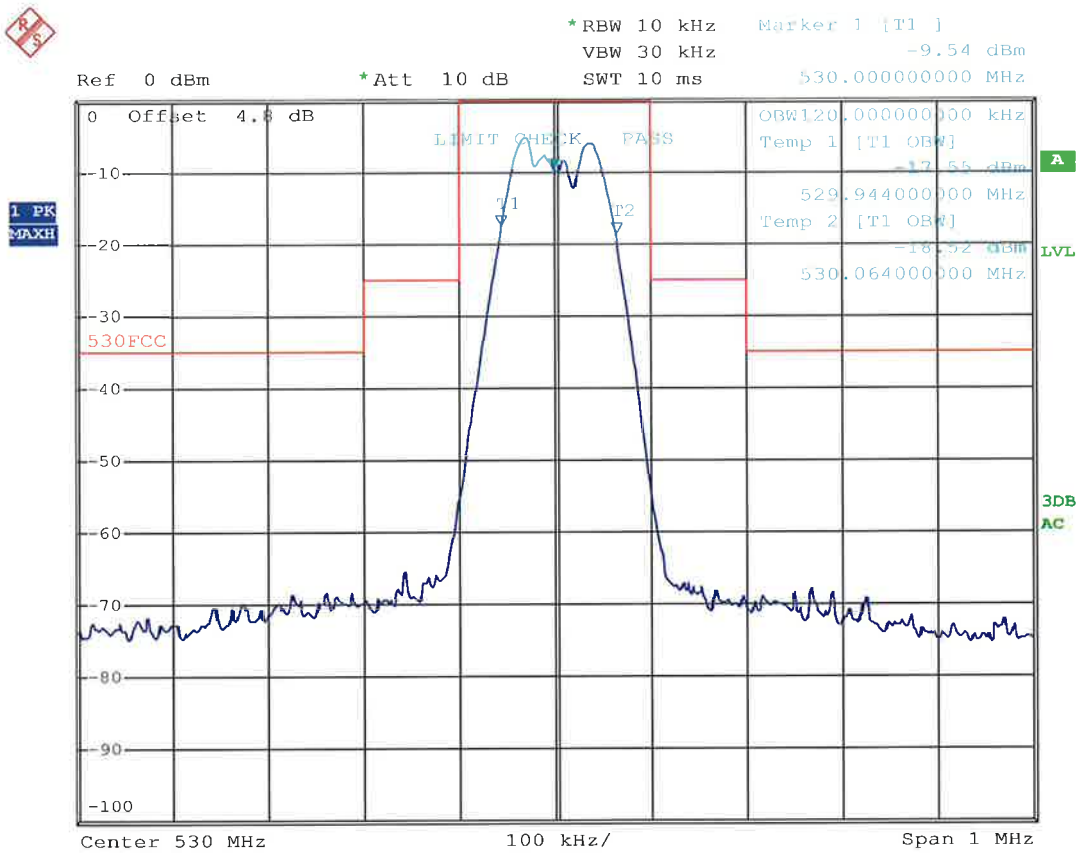
Ambient temperature: 23°C Relative humidity: 25%

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 @ 530 MHz



Date: 7.FEB.2014 11:11:29

Measured 99% power Bandwidth: 120kHz

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

The operating bandwidth shall not exceed 200 kHz.

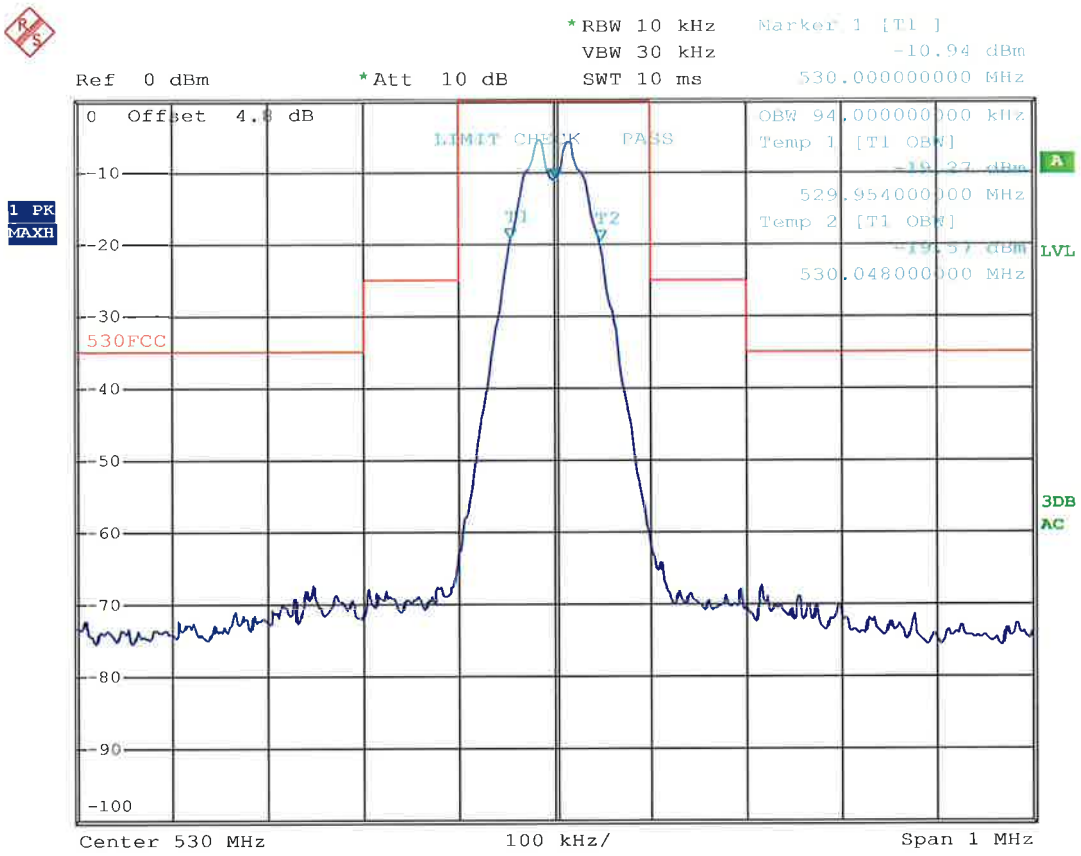
TEST EQUIPMENT USED: NT-207

Ambient temperature: 23°C Relative humidity: 25%

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 @ 530 MHz



Date: 7.FEB.2014 11:12:18

Measured 99% power Bandwidth: 94kHz

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

The operating bandwidth shall not exceed 200 kHz.

TEST EQUIPMENT USED: NT-207

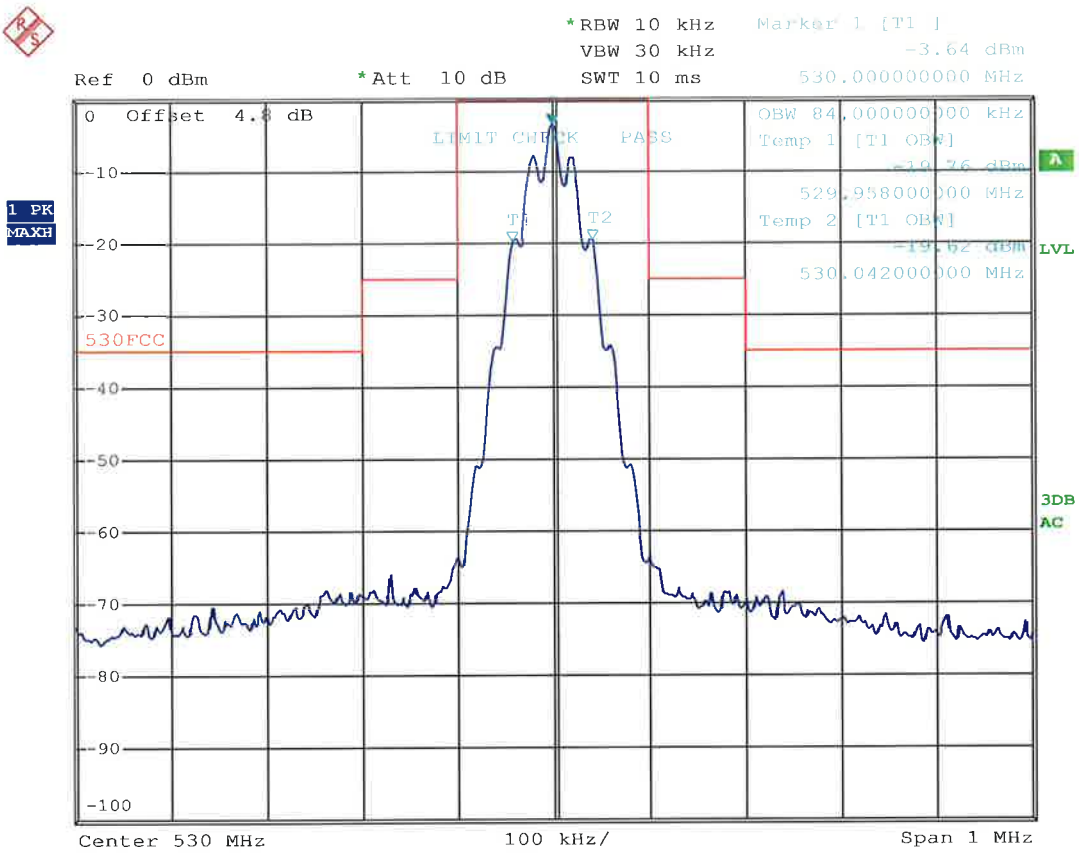
Ambient temperature: 23°C Relative humidity: 25%

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 @ 530 MHz



Date: 7.FEB.2014 11:12:57

Measured 99% power Bandwidth: 84kHz

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

The operating bandwidth shall not exceed 200 kHz.

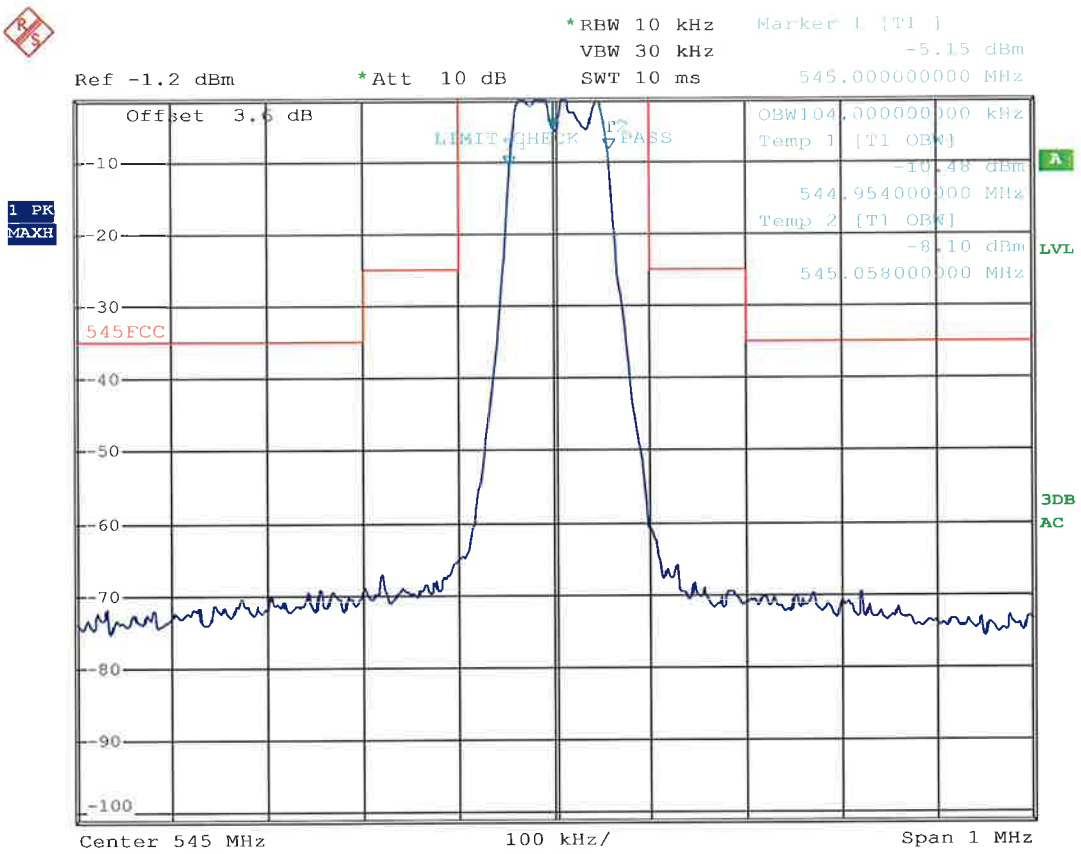
TEST EQUIPMENT USED: NT-207

Ambient temperature: 23°C Relative humidity: 25%

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 @ 545 MHz



Date: 7.FEB.2014 11:37:54

Measured 99% power Bandwidth: 104kHz

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

The operating bandwidth shall not exceed 200 kHz.

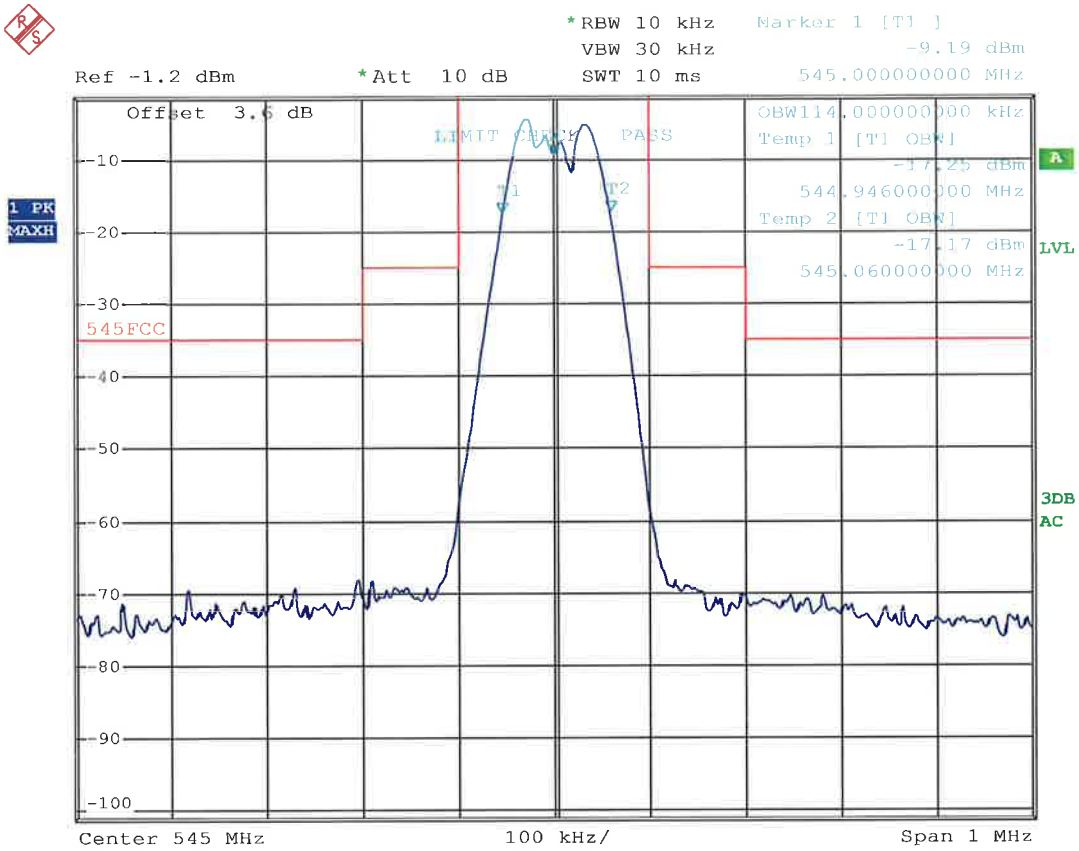
TEST EQUIPMENT USED: NT-207

Ambient temperature: 23°C Relative humidity: 25%

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 @ 545 MHz



Date: 7.FEB.2014 11:38:23

Measured 99% power Bandwidth: 114kHz

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

The operating bandwidth shall not exceed 200 kHz.

TEST EQUIPMENT USED: NT-207

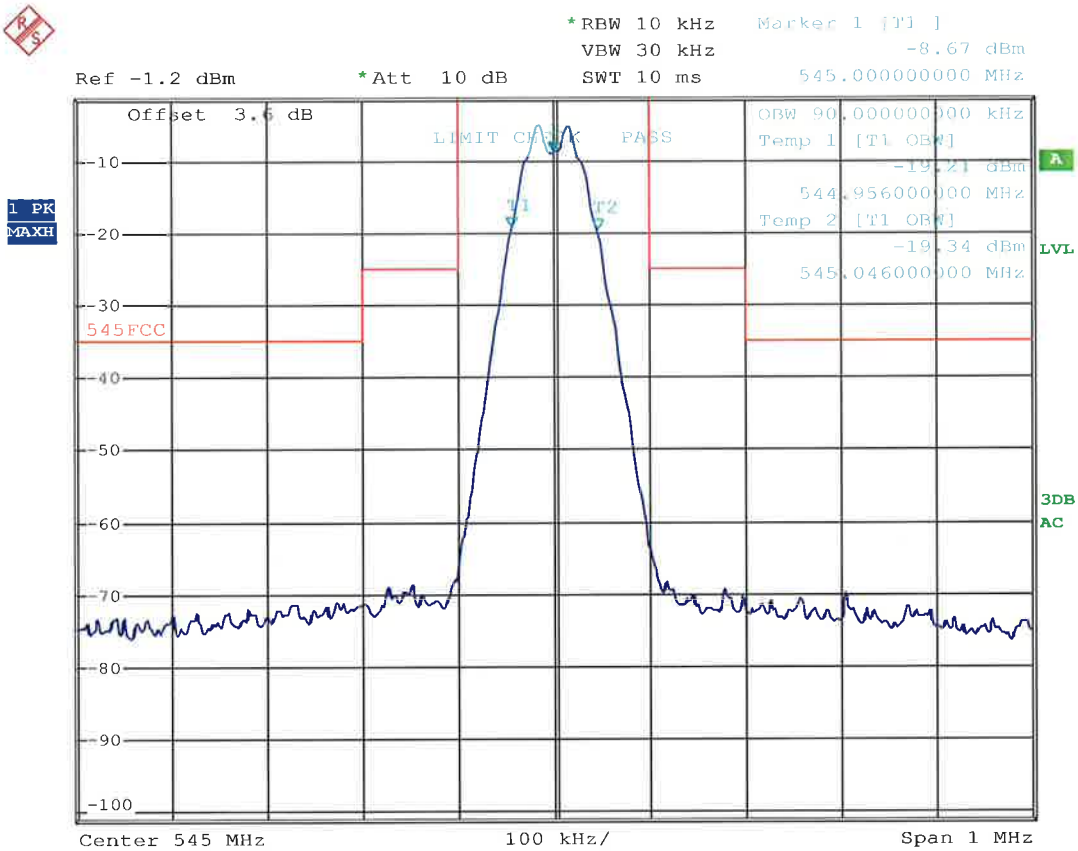
Ambient temperature: 23°C Relative humidity: 25%

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 @ 545 MHz



Date: 7.FEB.2014 11:38:50

Measured 99% power Bandwidth: 90kHz

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

The operating bandwidth shall not exceed 200 kHz.

TEST EQUIPMENT USED: NT-207

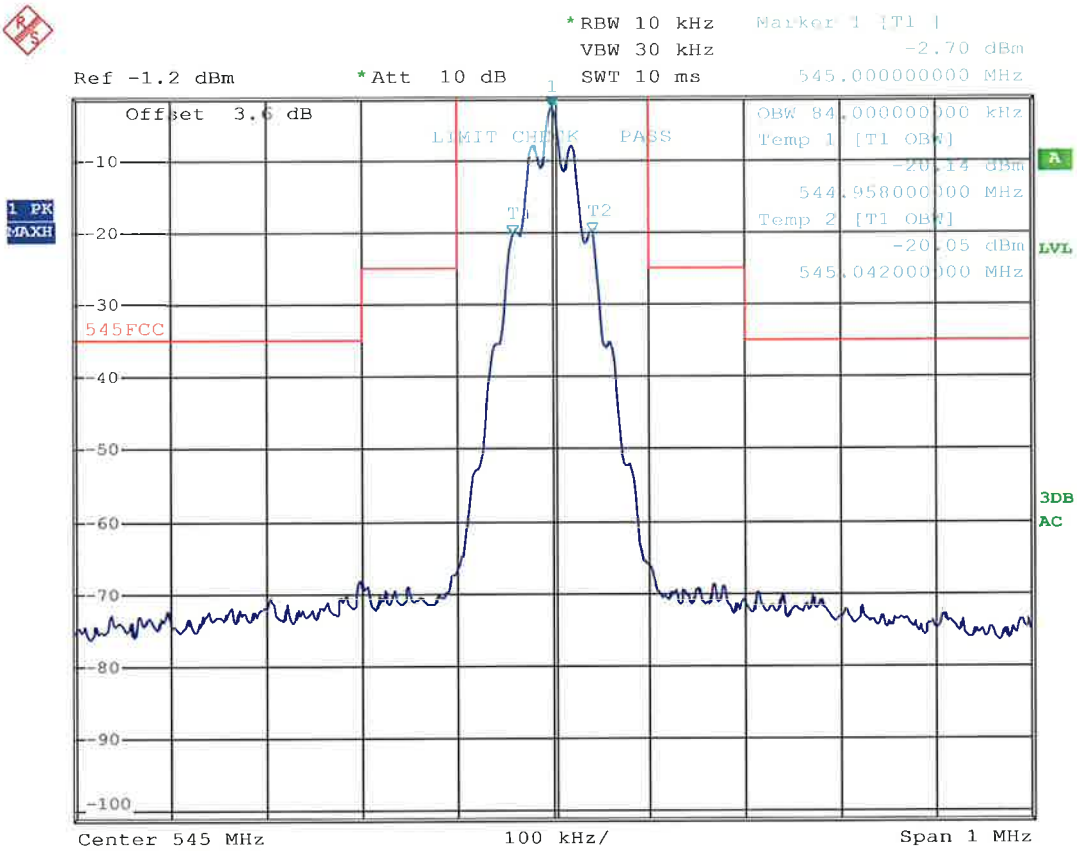
Ambient temperature: 23°C Relative humidity: 25%

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 @ 545 MHz



Date: 7.FEB.2014 11:39:16

Measured 99% power Bandwidth: 84kHz

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

The operating bandwidth shall not exceed 200 kHz.

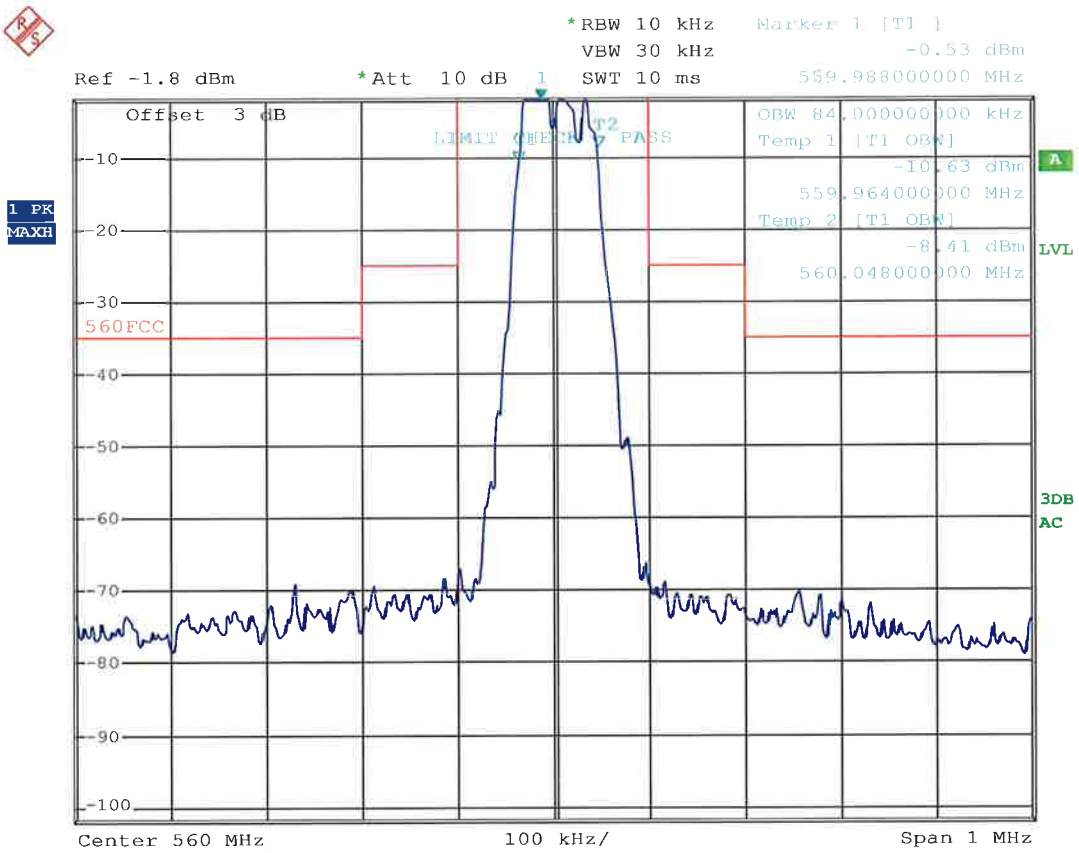
TEST EQUIPMENT USED: NT-207

Ambient temperature: 23°C Relative humidity: 25%

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 @ 560 MHz



Date: 7.FEB.2014 11:17:02

Measured 99% power Bandwidth: 84kHz

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

The operating bandwidth shall not exceed 200 kHz.

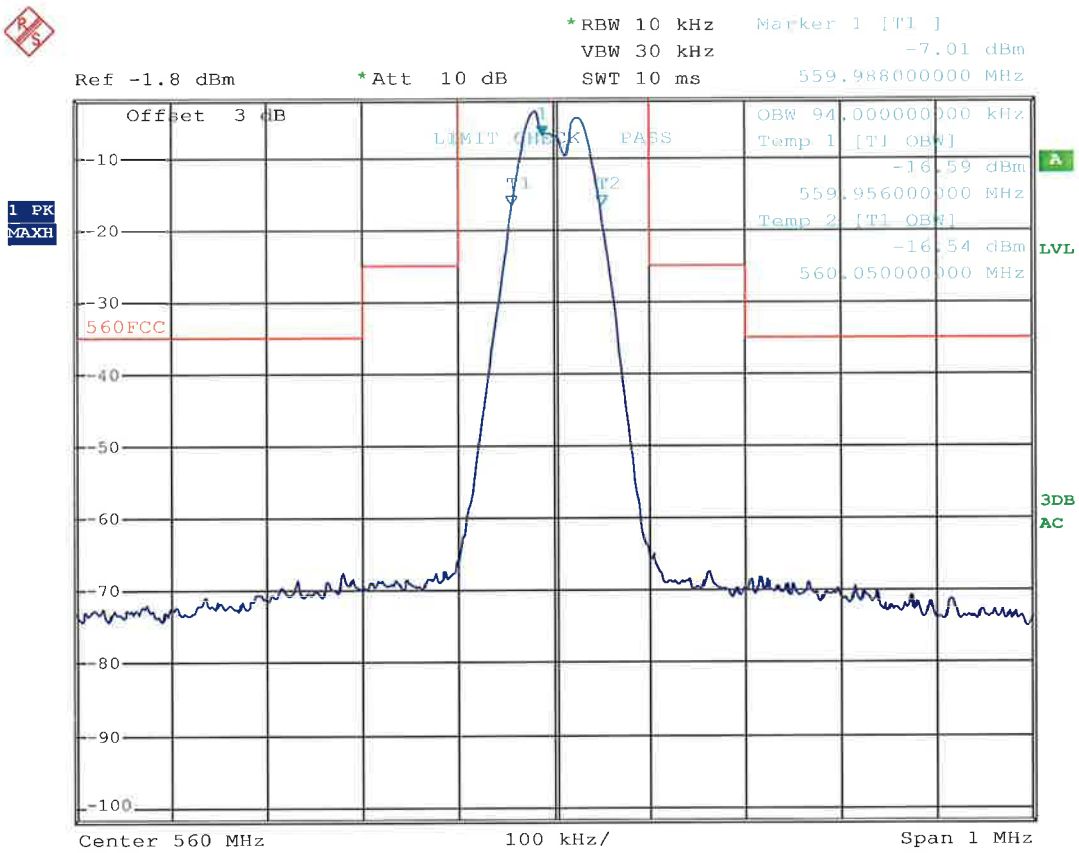
TEST EQUIPMENT USED: NT-207

Ambient temperature: 23°C Relative humidity: 25%

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 @ 560 MHz



Date: 7.FEB.2014 11:17:54

Measured 99% power Bandwidth: 94kHz

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

The operating bandwidth shall not exceed 200 kHz.

TEST EQUIPMENT USED: NT-207

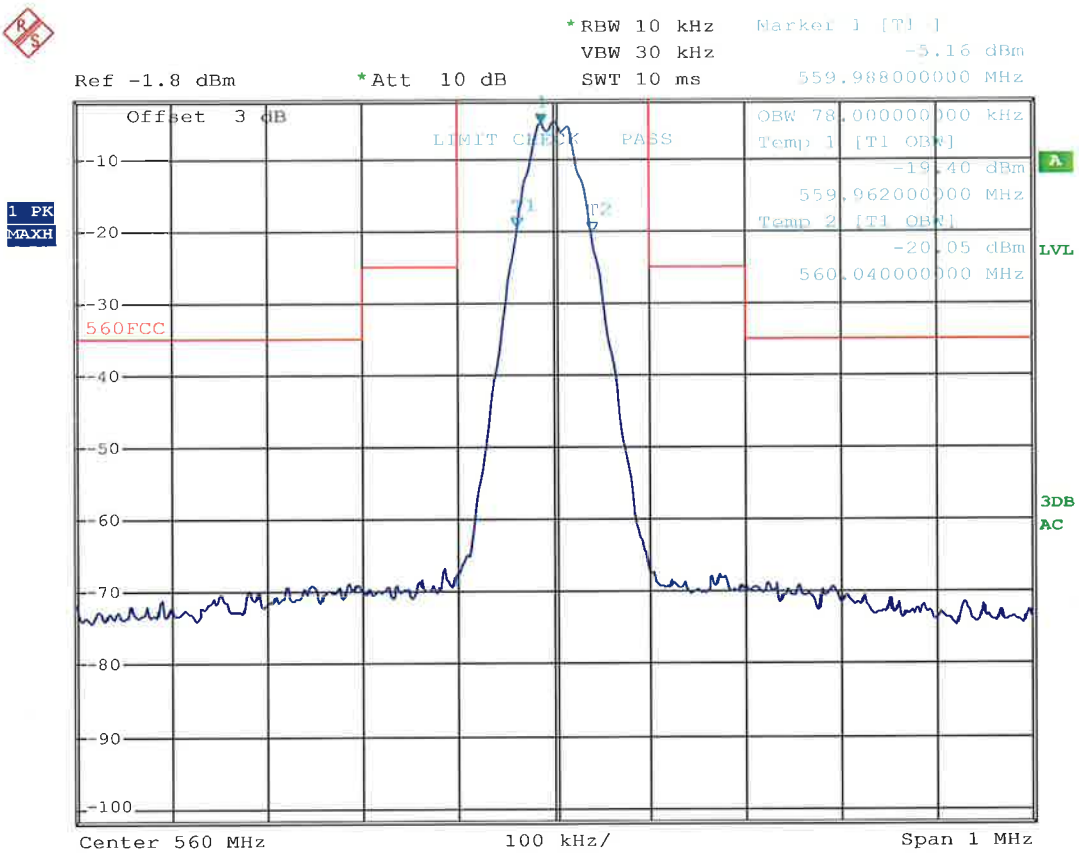
Ambient temperature: 23°C Relative humidity: 25%

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 @ 560 MHz



Date: 7.FEB.2014 11:18:37

Measured 99% power Bandwidth: 78kHz

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

The operating bandwidth shall not exceed 200 kHz.

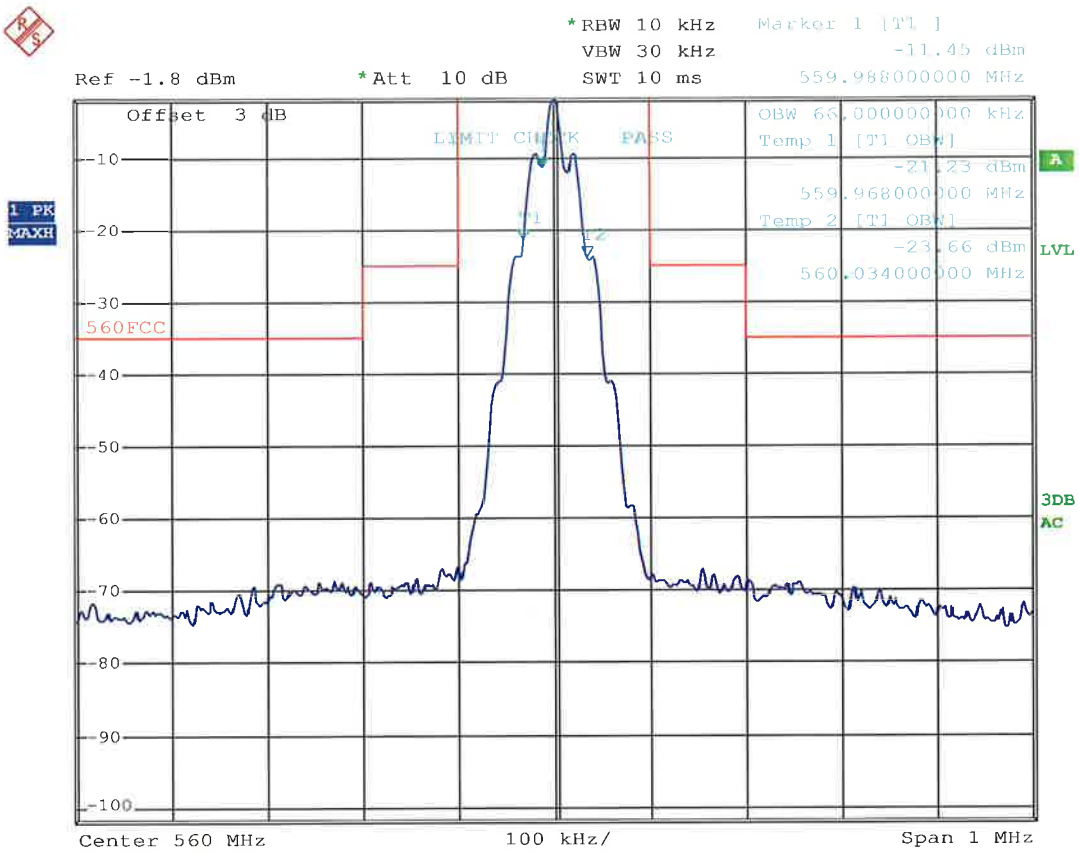
TEST EQUIPMENT USED: NT-207

Ambient temperature: 23°C Relative humidity: 25%

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 @ 560 MHz



Date: 7.FEB.2014 11:19:26

Measured 99% power Bandwidth: 66kHz

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 Log10(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.

Ambient temperature: 23°C Relative humidity: 25%

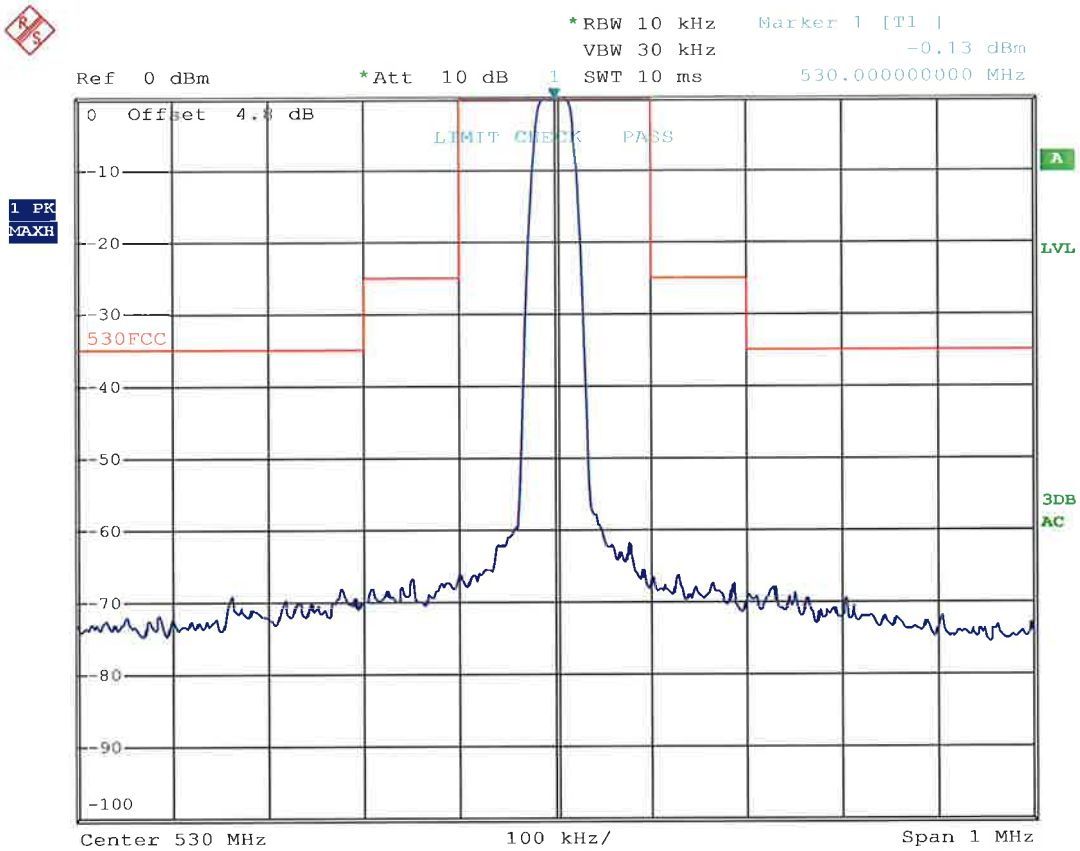
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 10:59:53

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

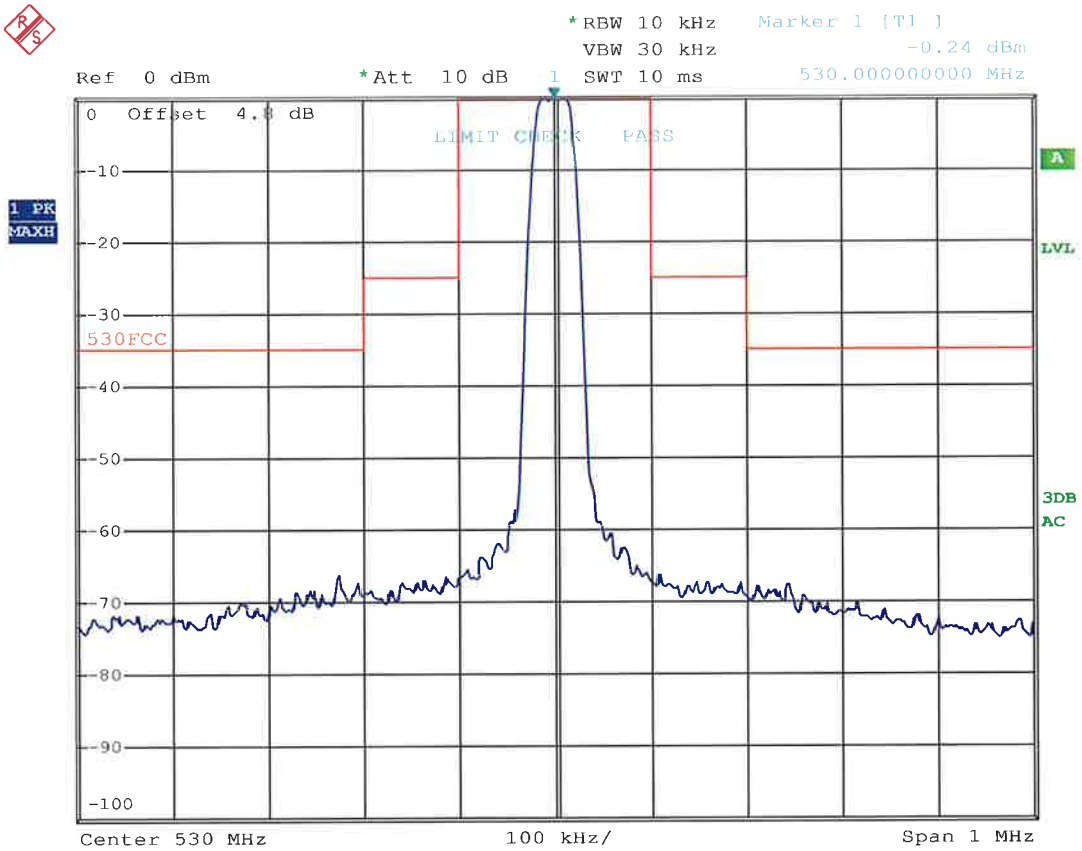
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:01:32

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

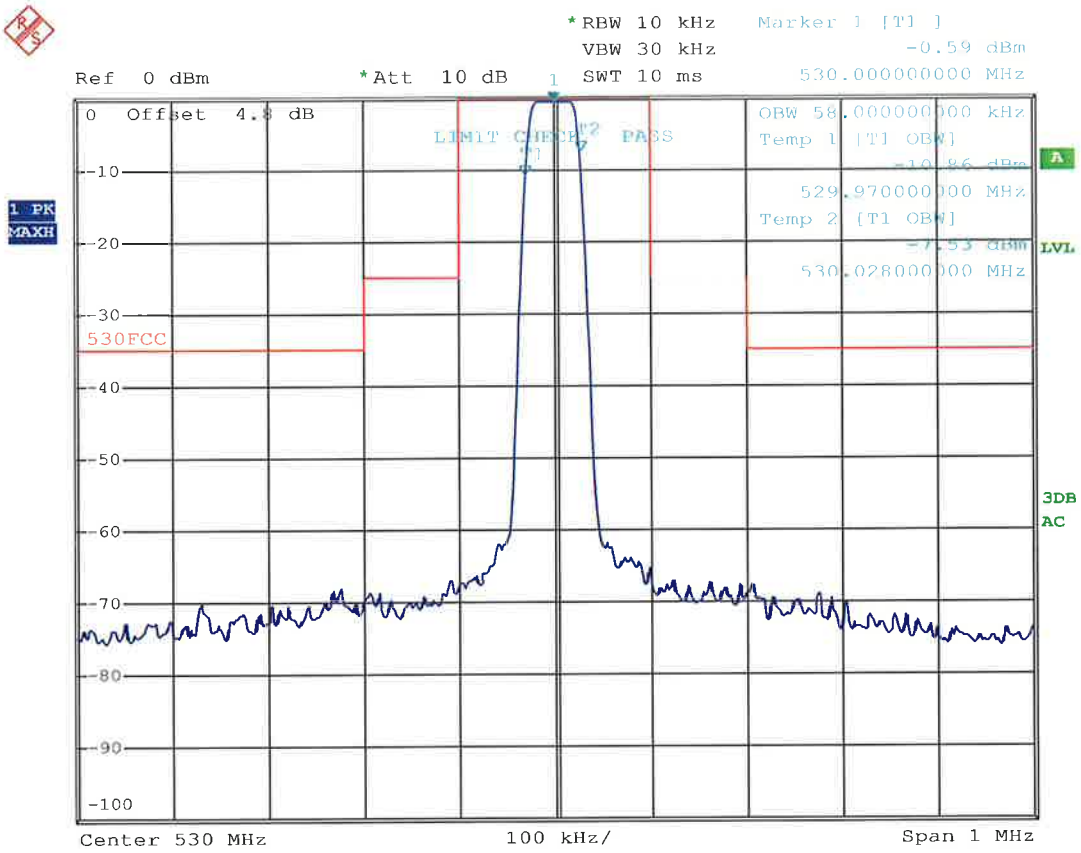
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:09:48

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

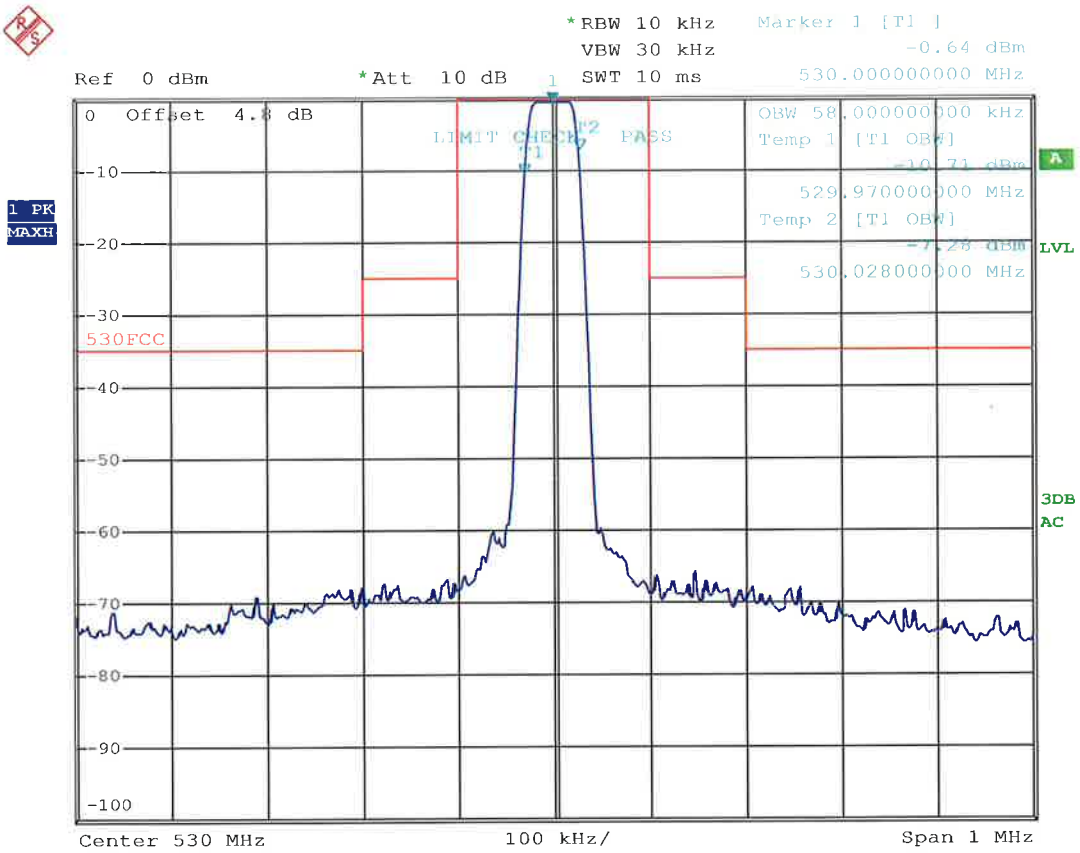
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:09:18

Test Equipment used: NT-207

Emissions Mask

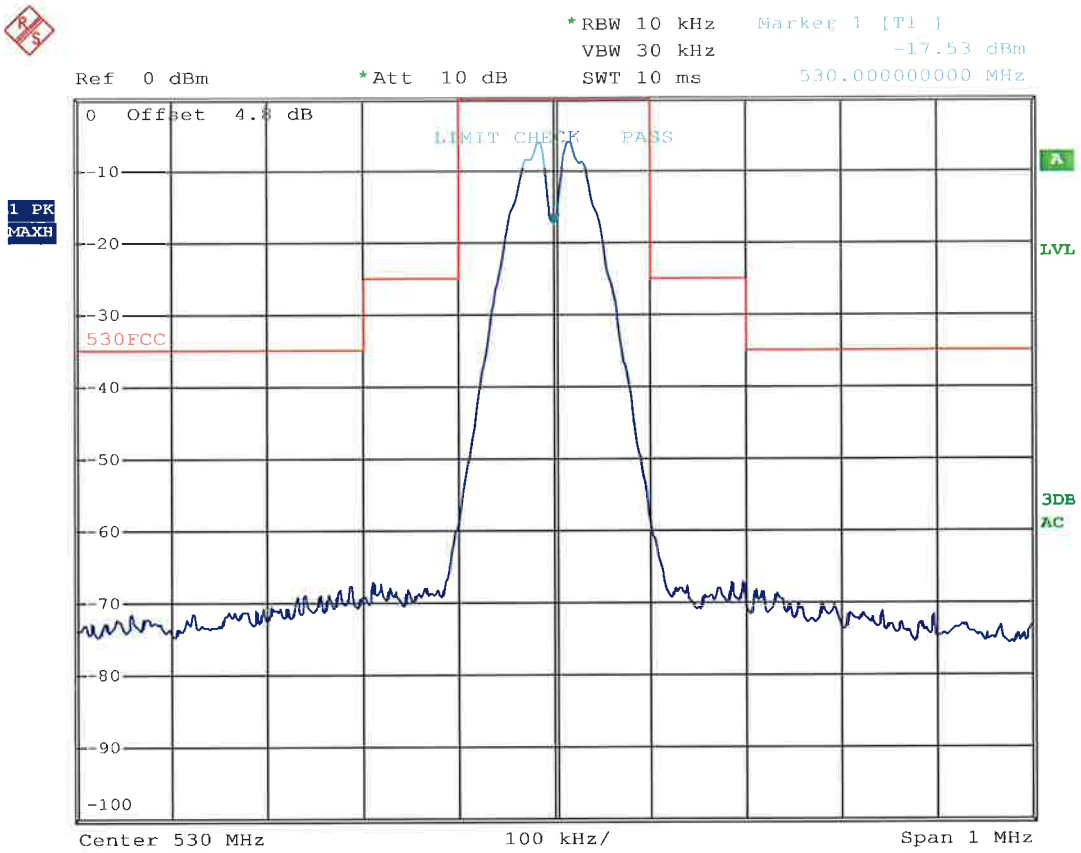
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:03:09

Test Equipment used: NT-207

Emissions Mask

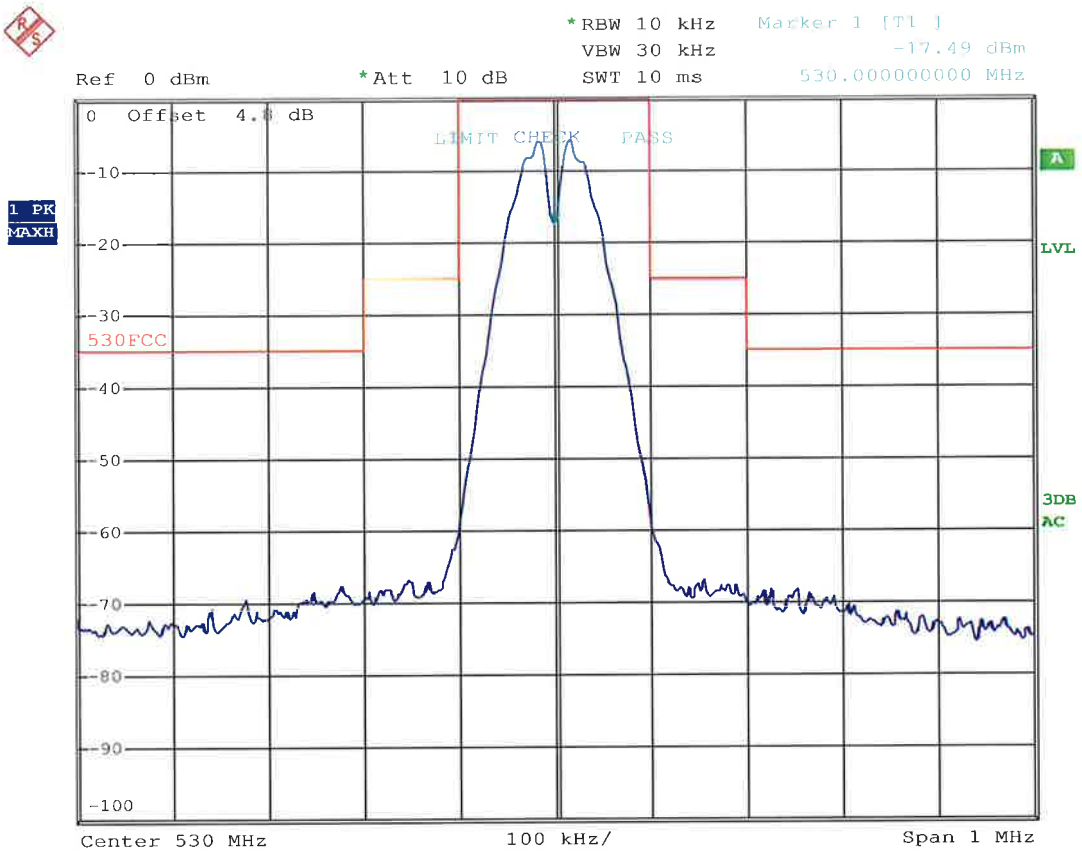
**§ 74.261 (e)(6)
(6.3)**

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:02:29

Test Equipment used: NT-207

Emissions Mask

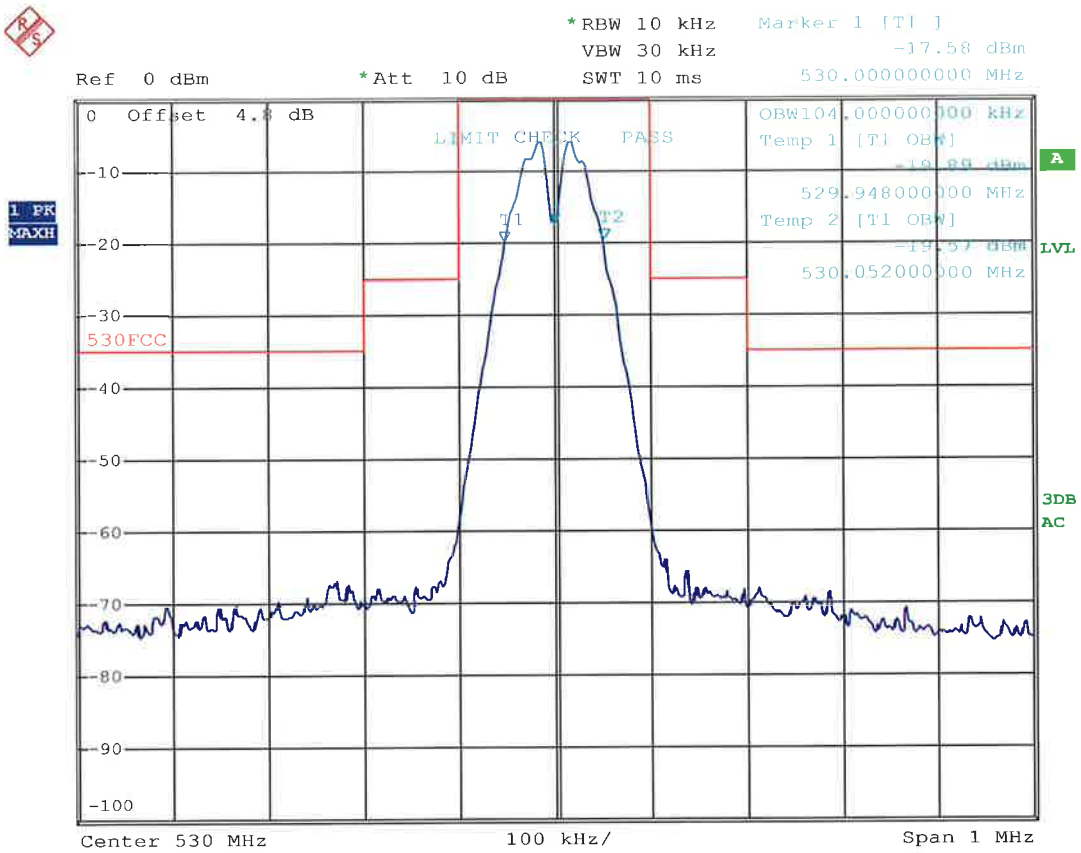
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:07:56

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

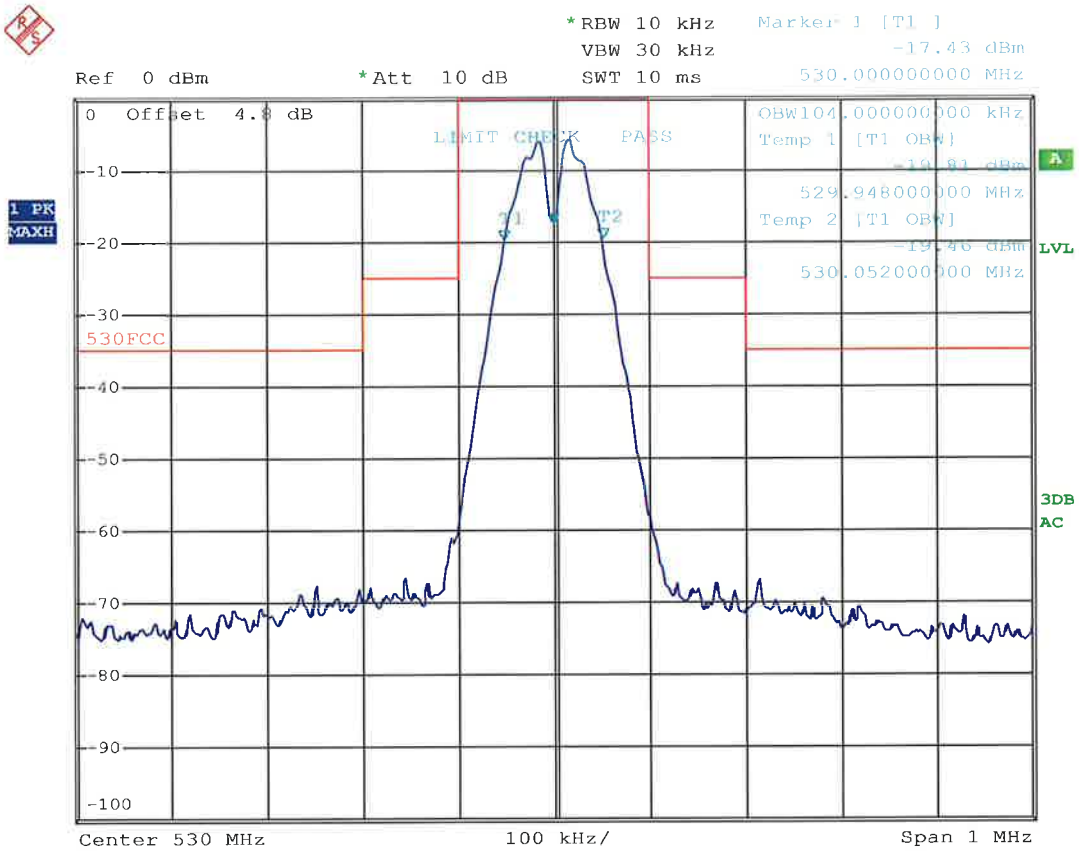
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:08:33

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

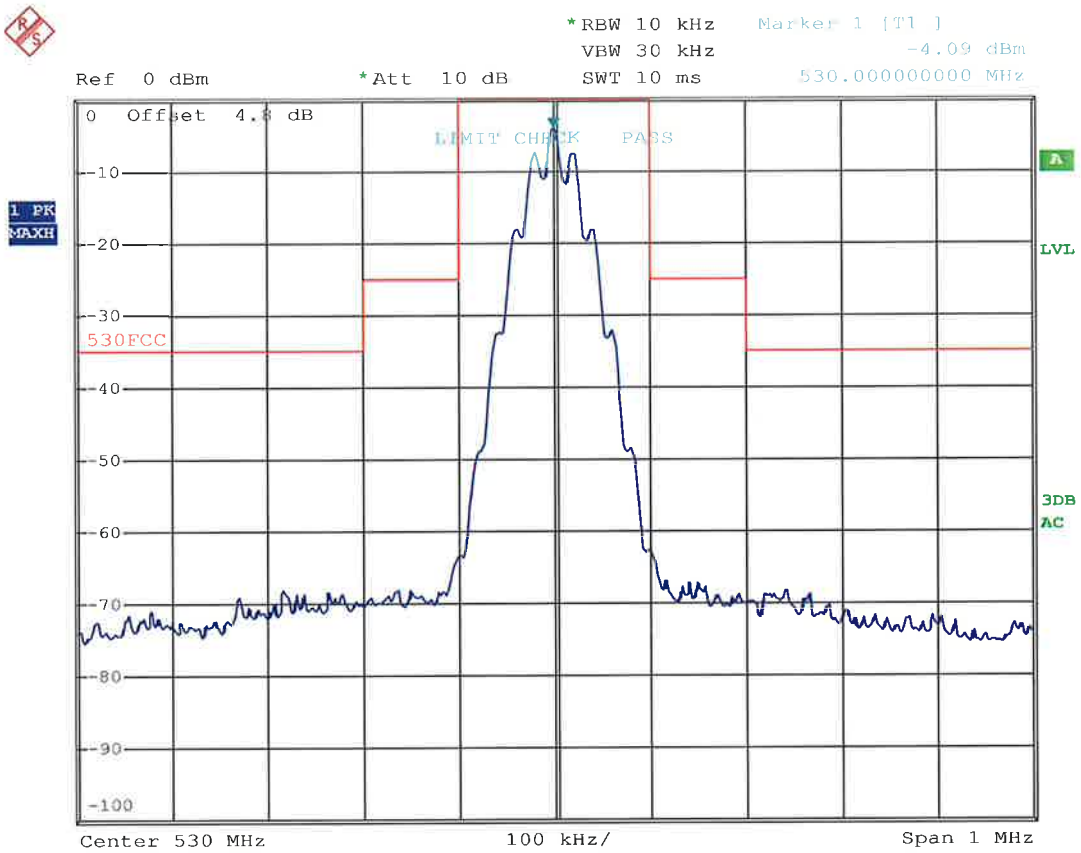
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:03:57

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

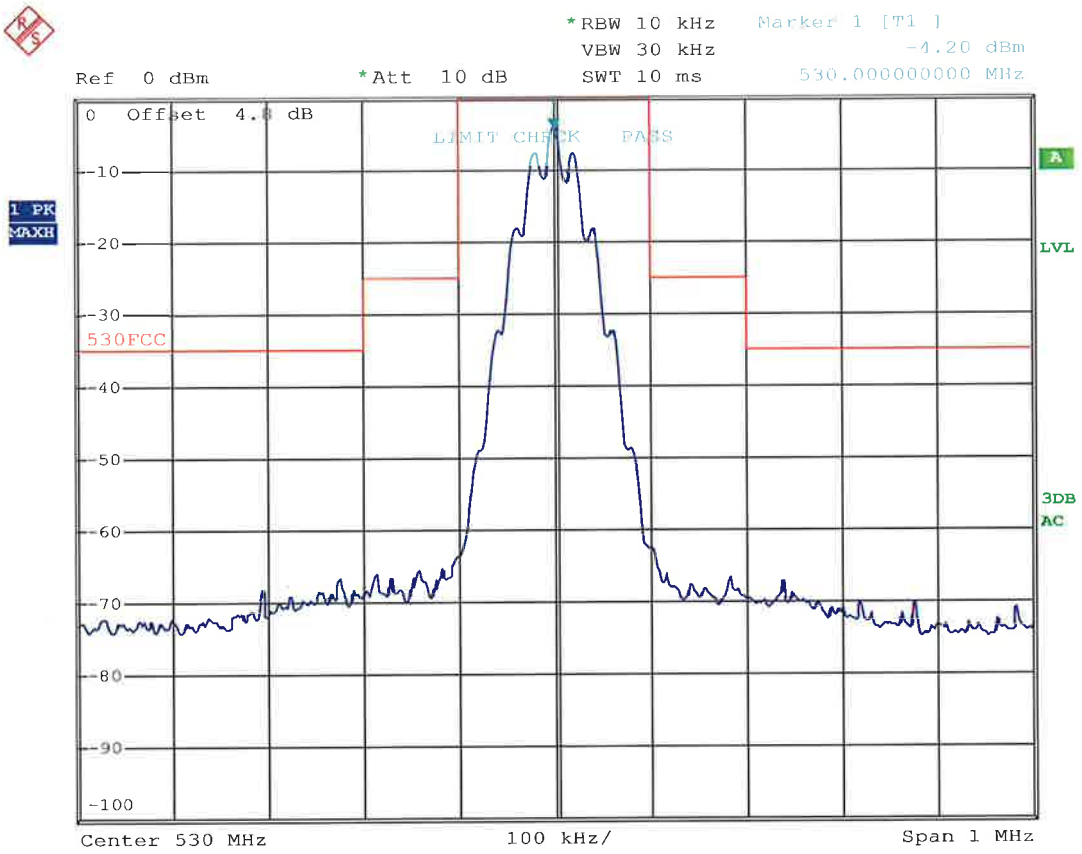
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:04:49

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

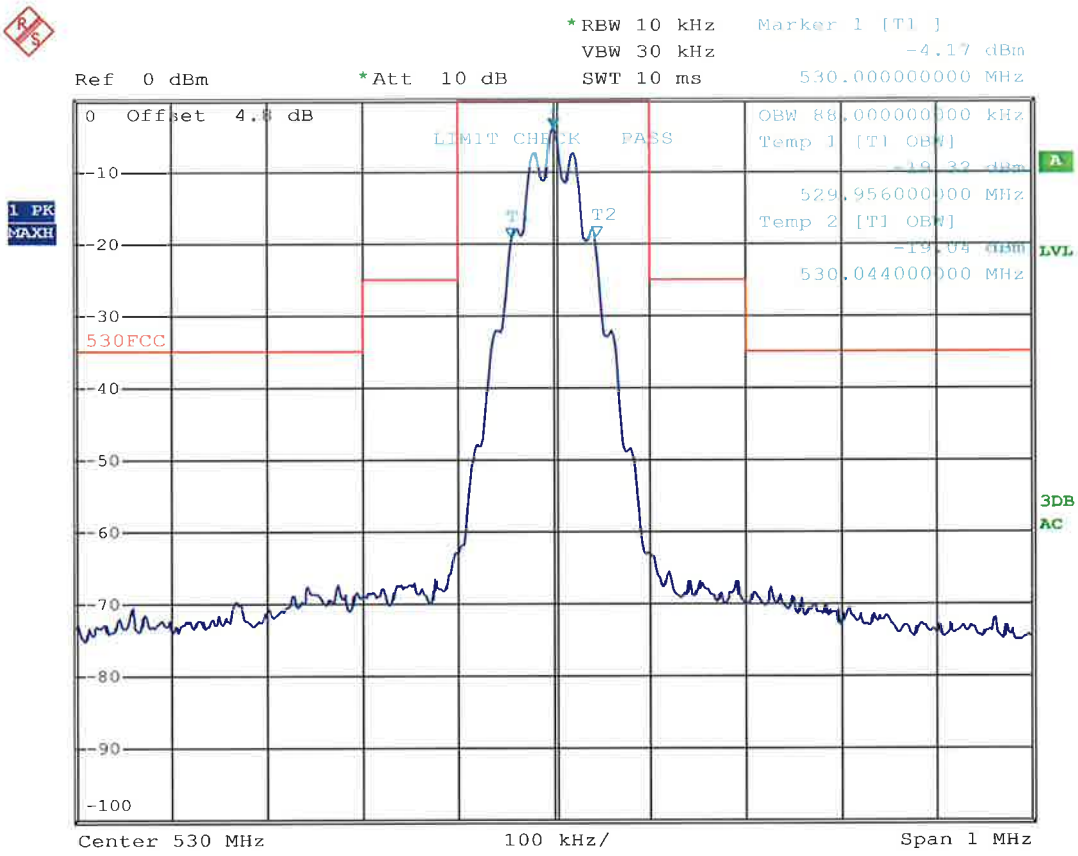
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:07:03

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

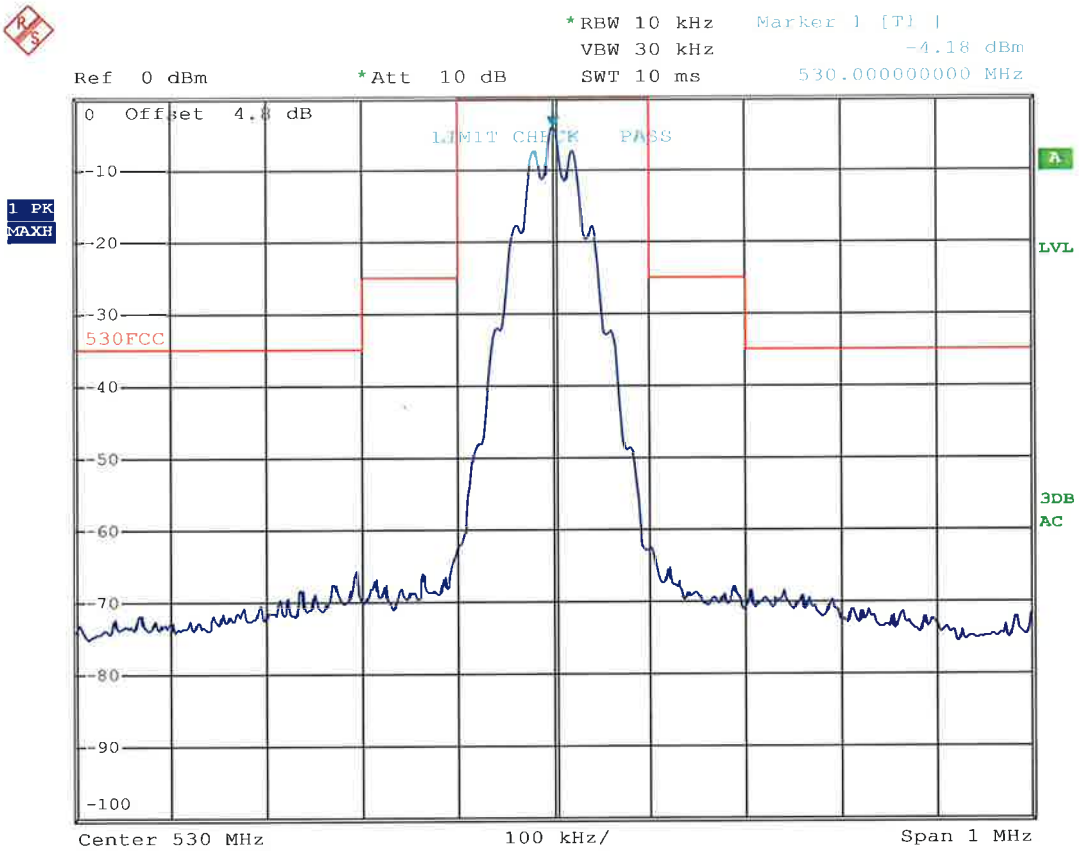
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 530 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:05:32

Test Equipment used: NT-207

Emissions Mask

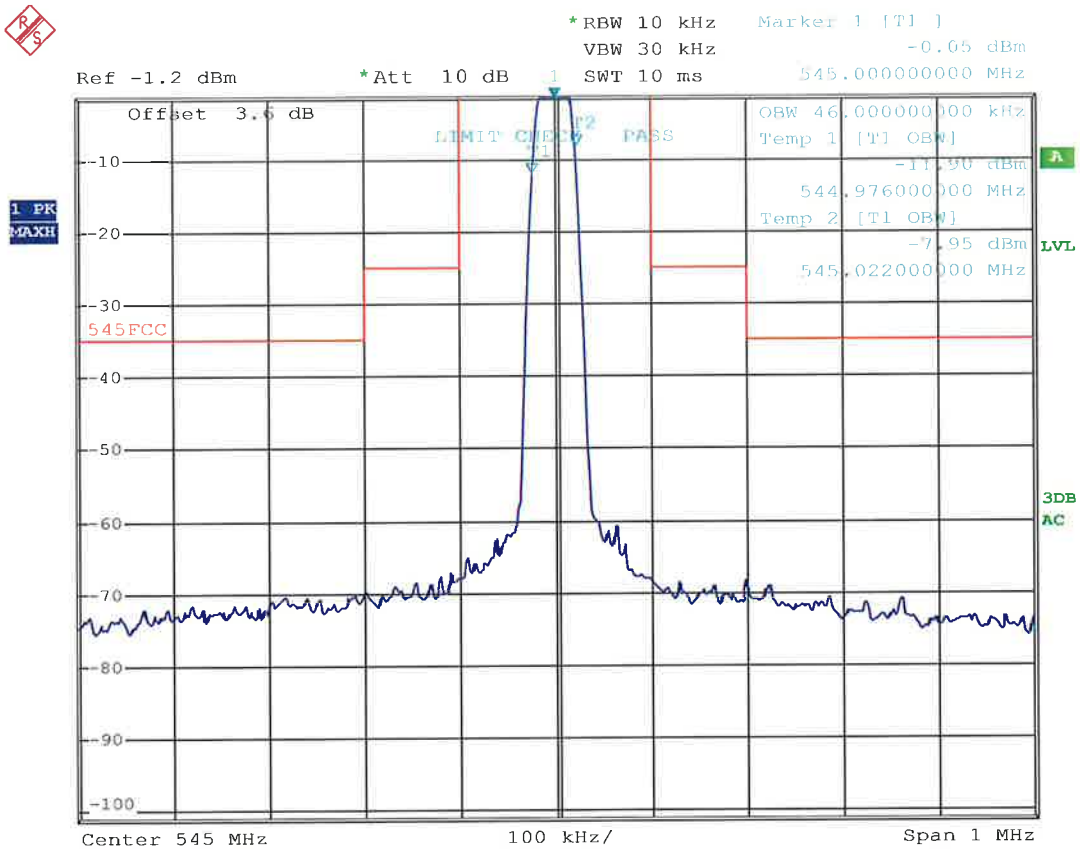
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:31:01

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

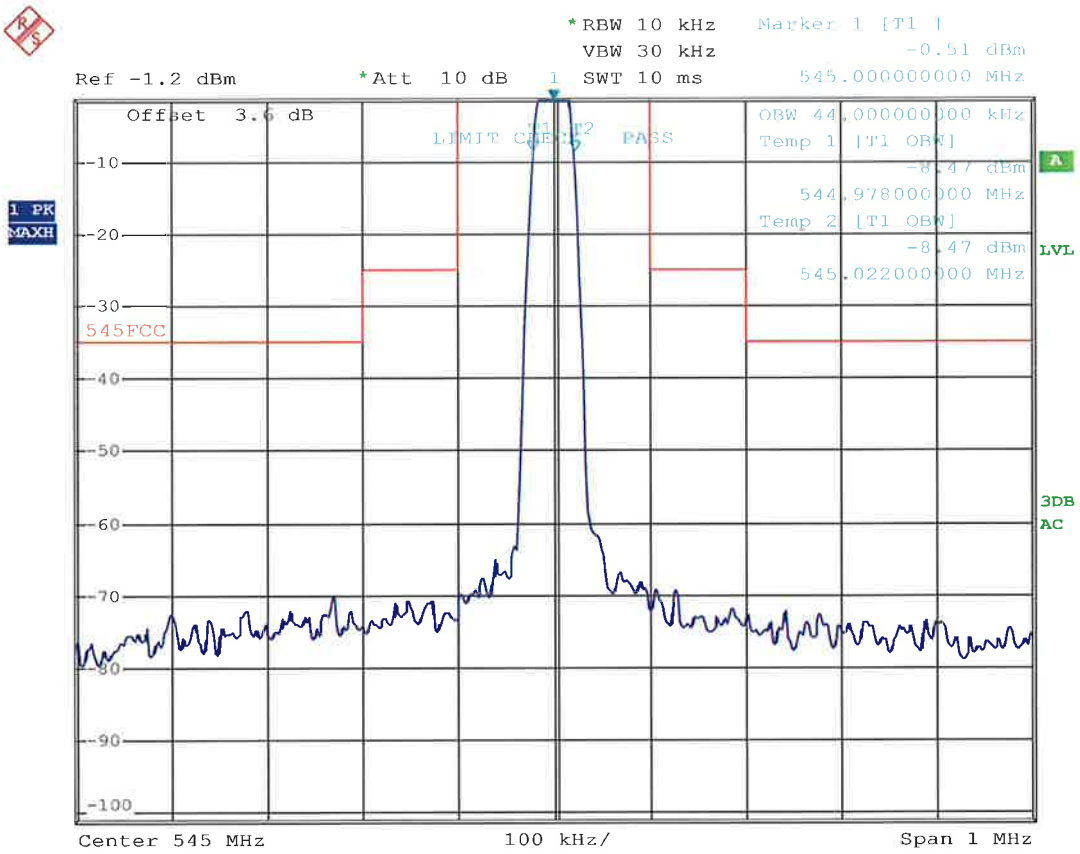
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:30:24

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

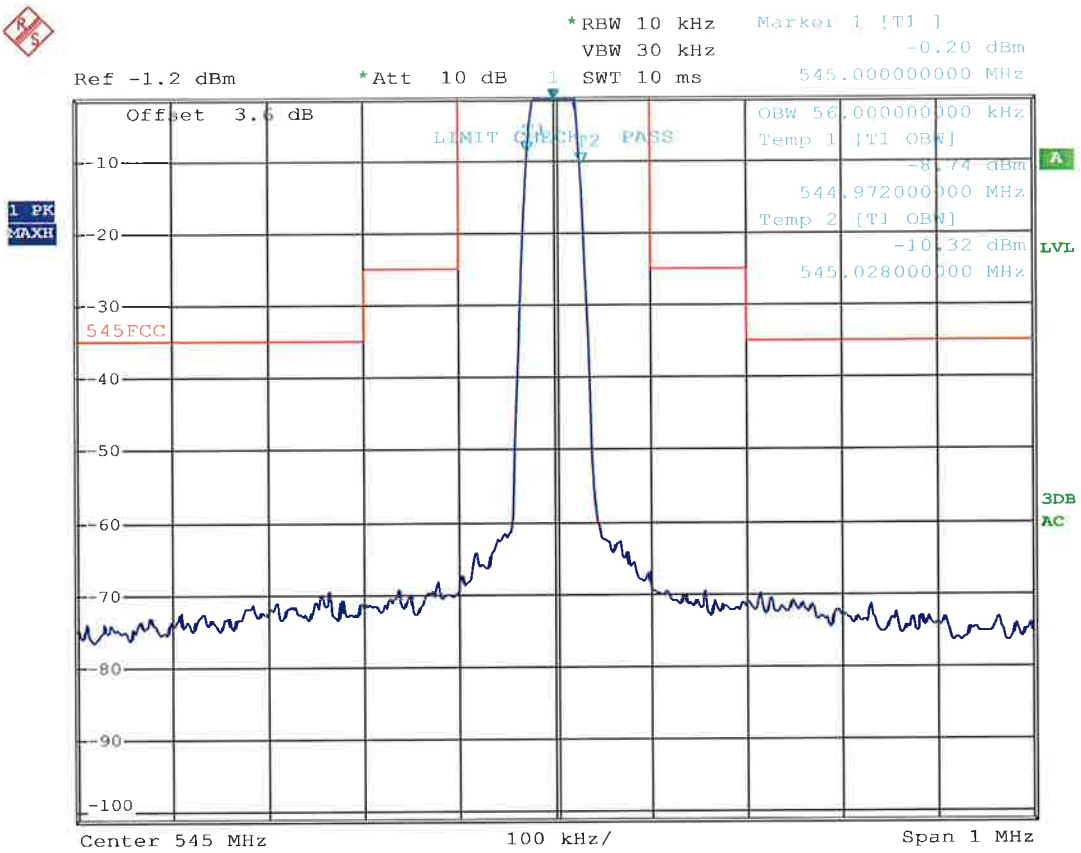
**§ 74.261 (e)(6)
(6.3)**

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:37:15

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

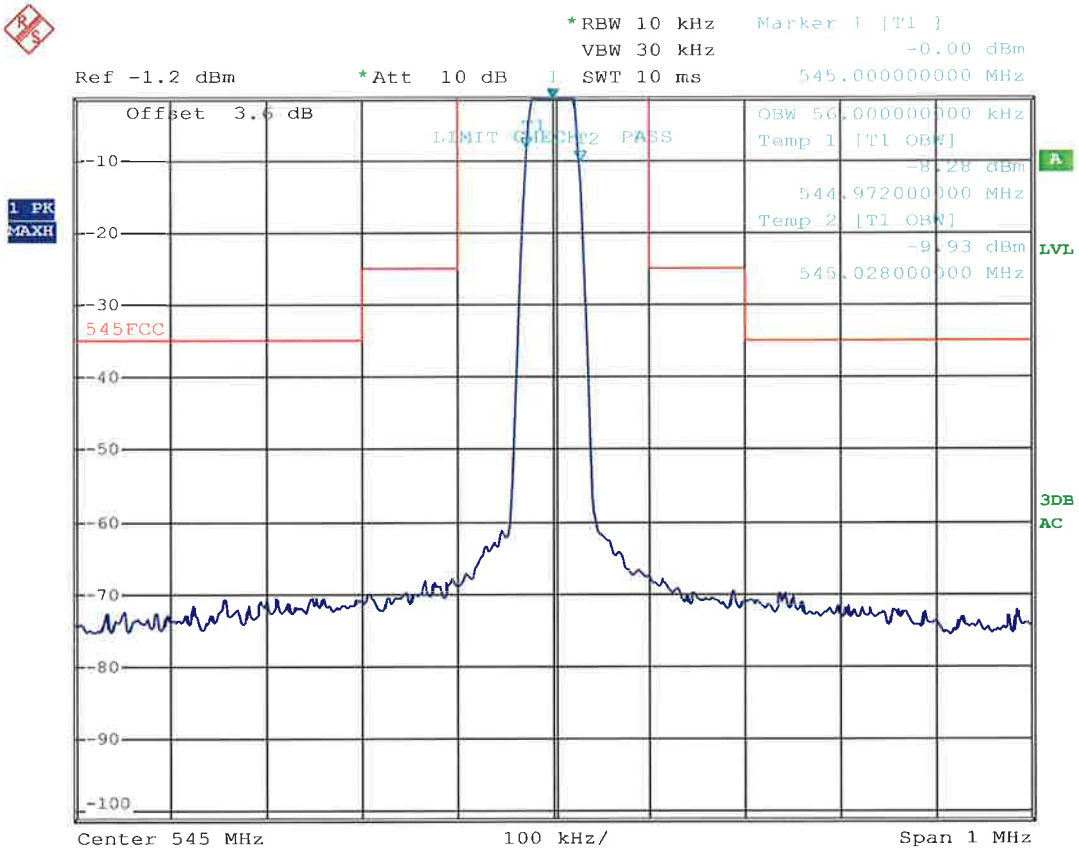
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:36:18

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

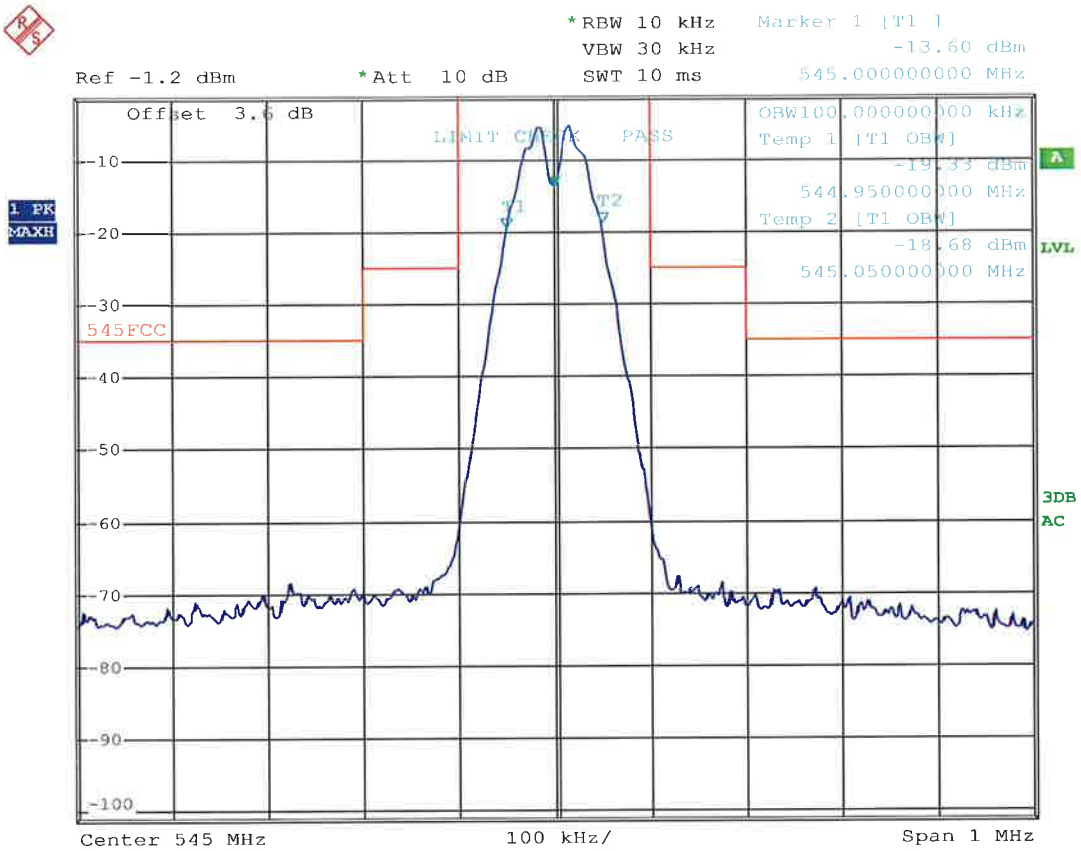
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:31:45

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

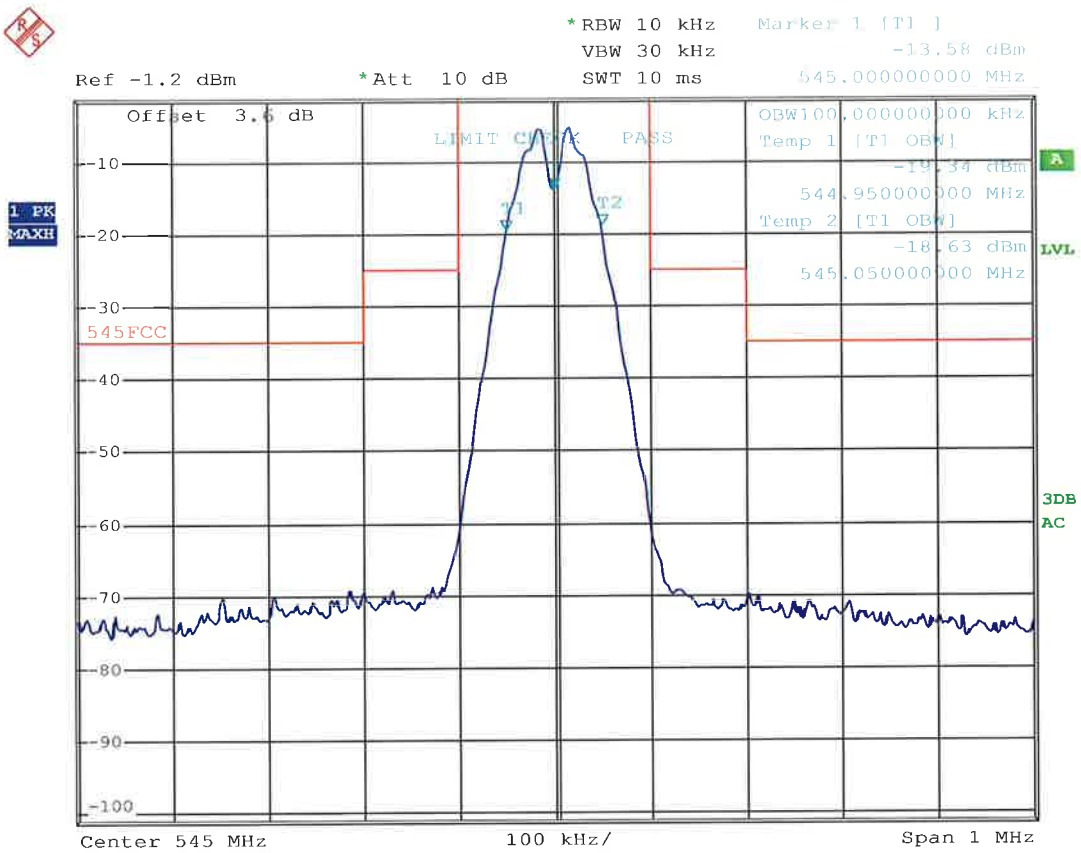
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:32:13

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

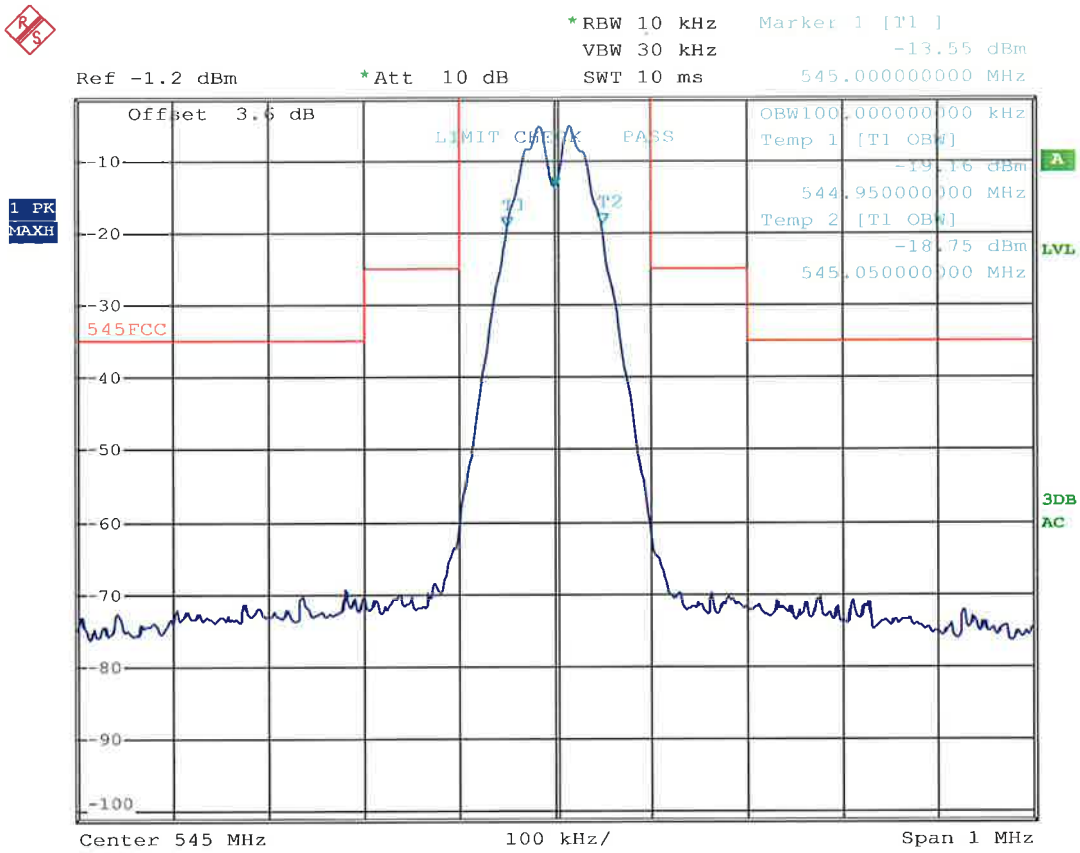
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:35:25

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

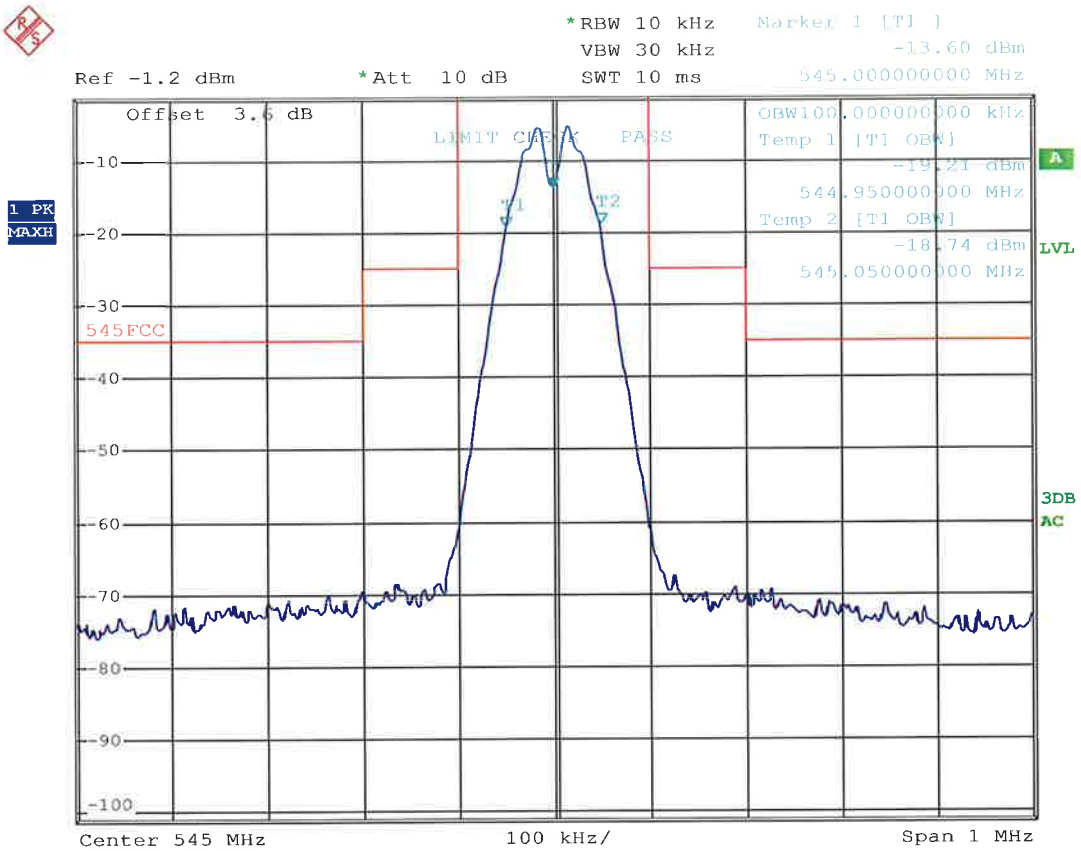
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:35:48

Test Equipment used: NT-207

Emissions Mask

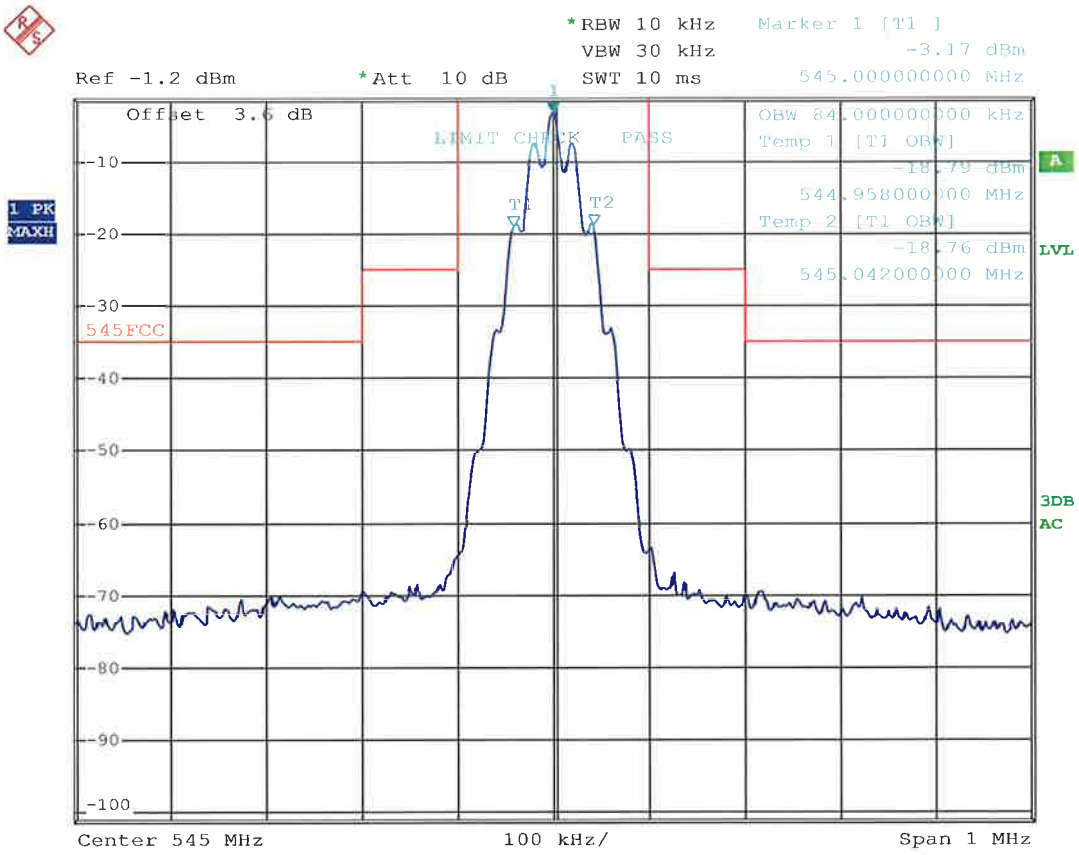
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:33:09

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

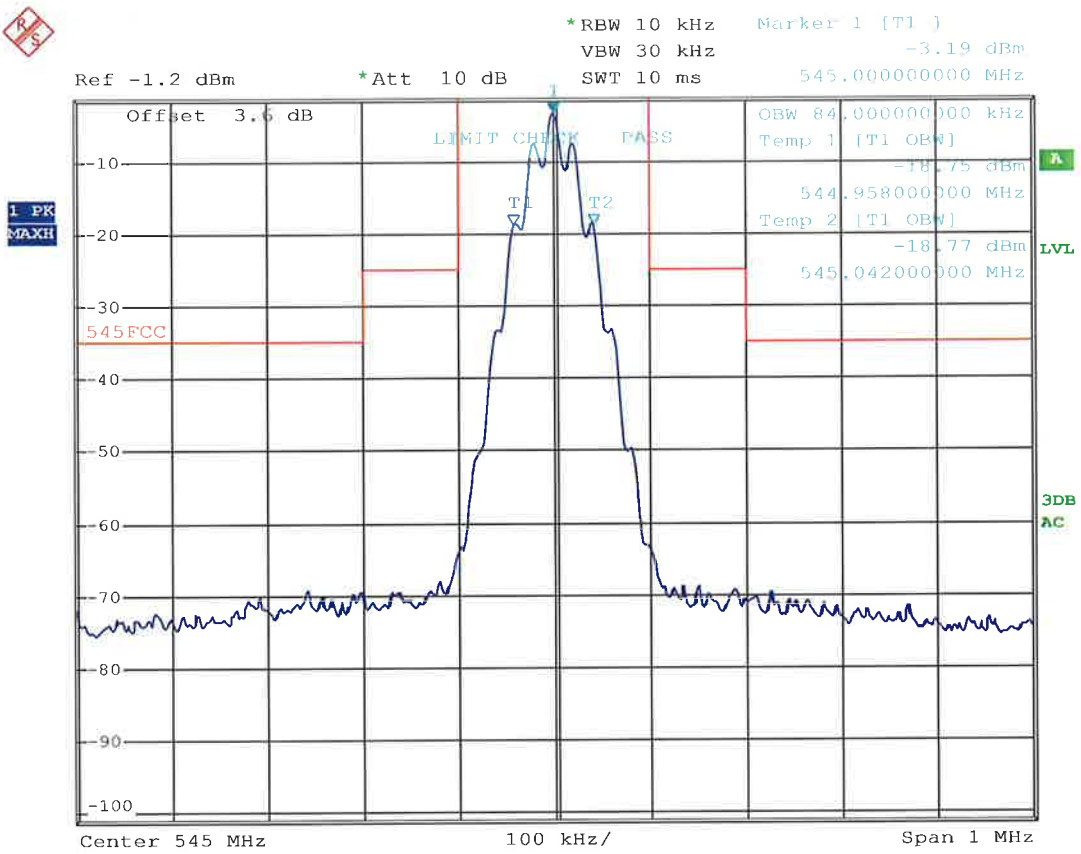
**§ 74.261 (e)(6)
(6.3)**

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:33:42

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

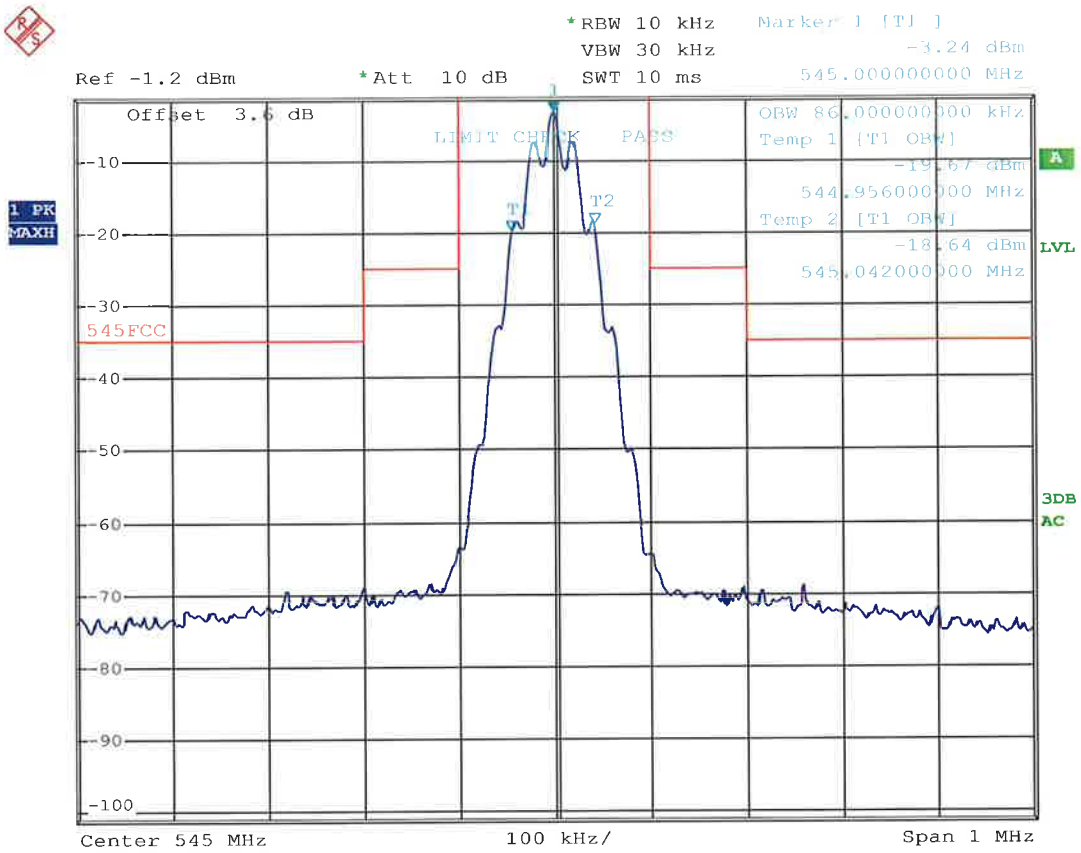
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:35:00

Test Equipment used: NT-207

Emissions Mask

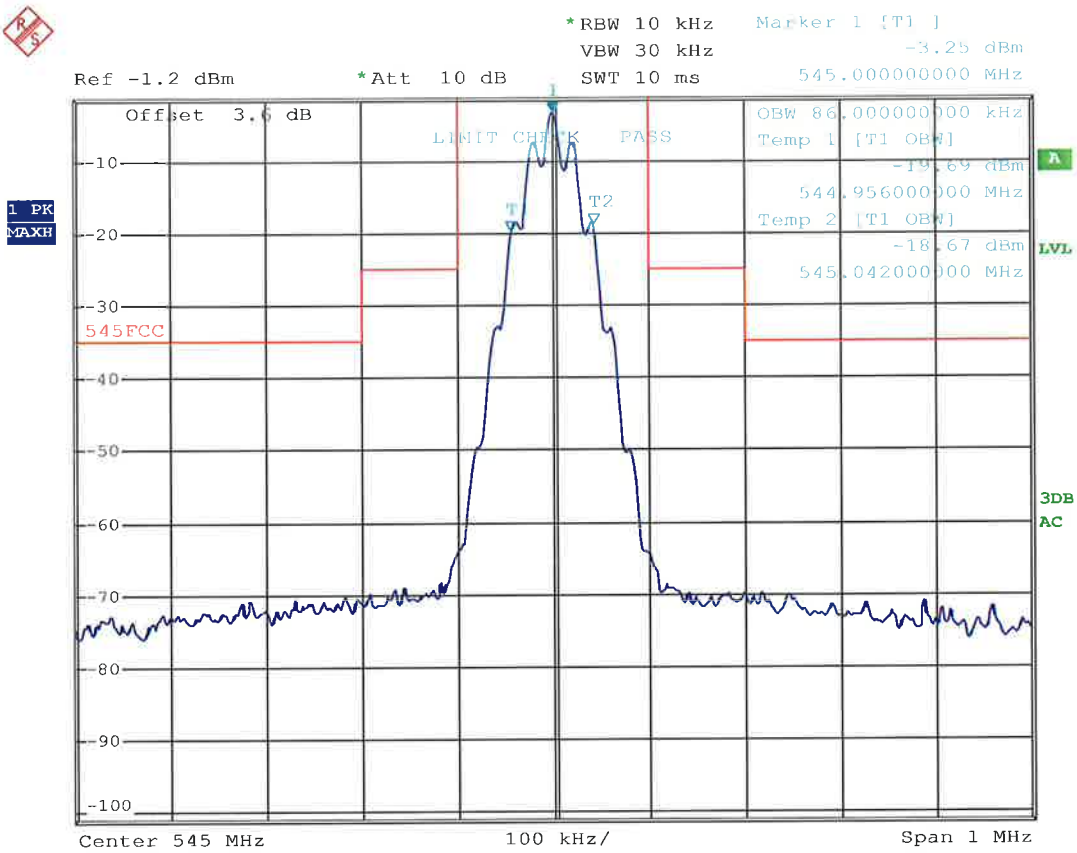
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 545 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:34:27

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

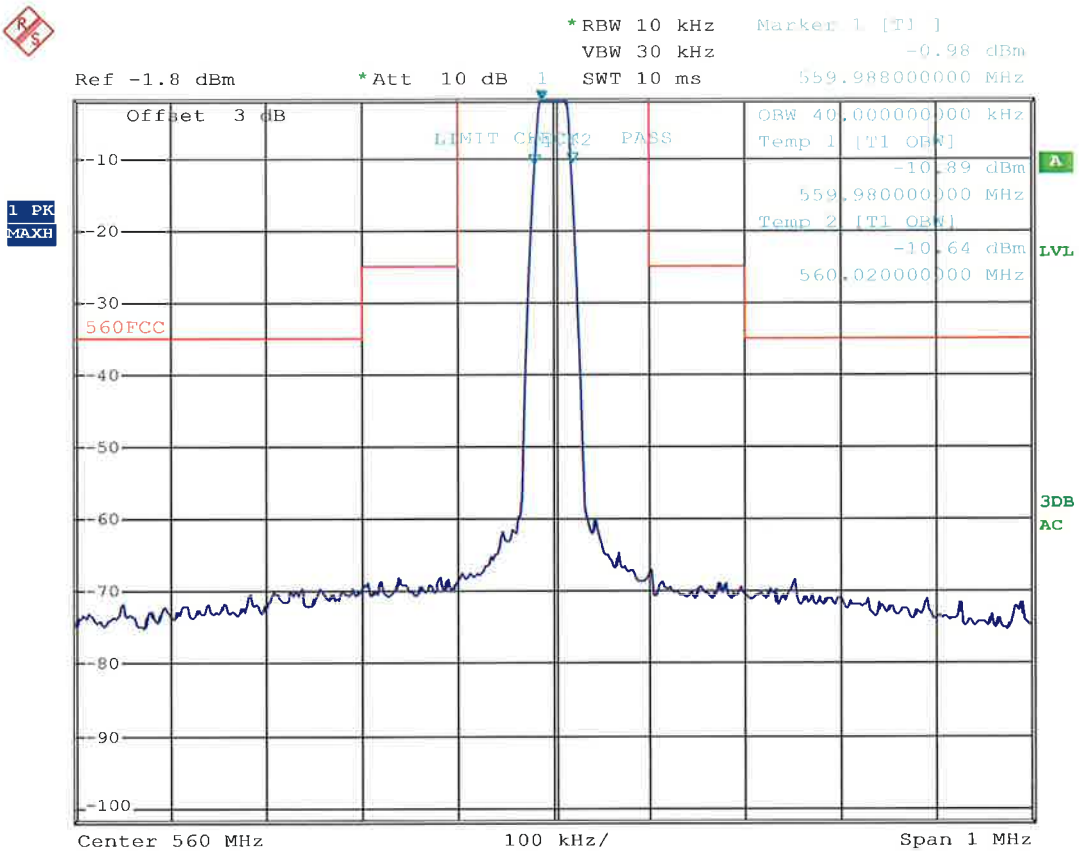
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:25:37

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

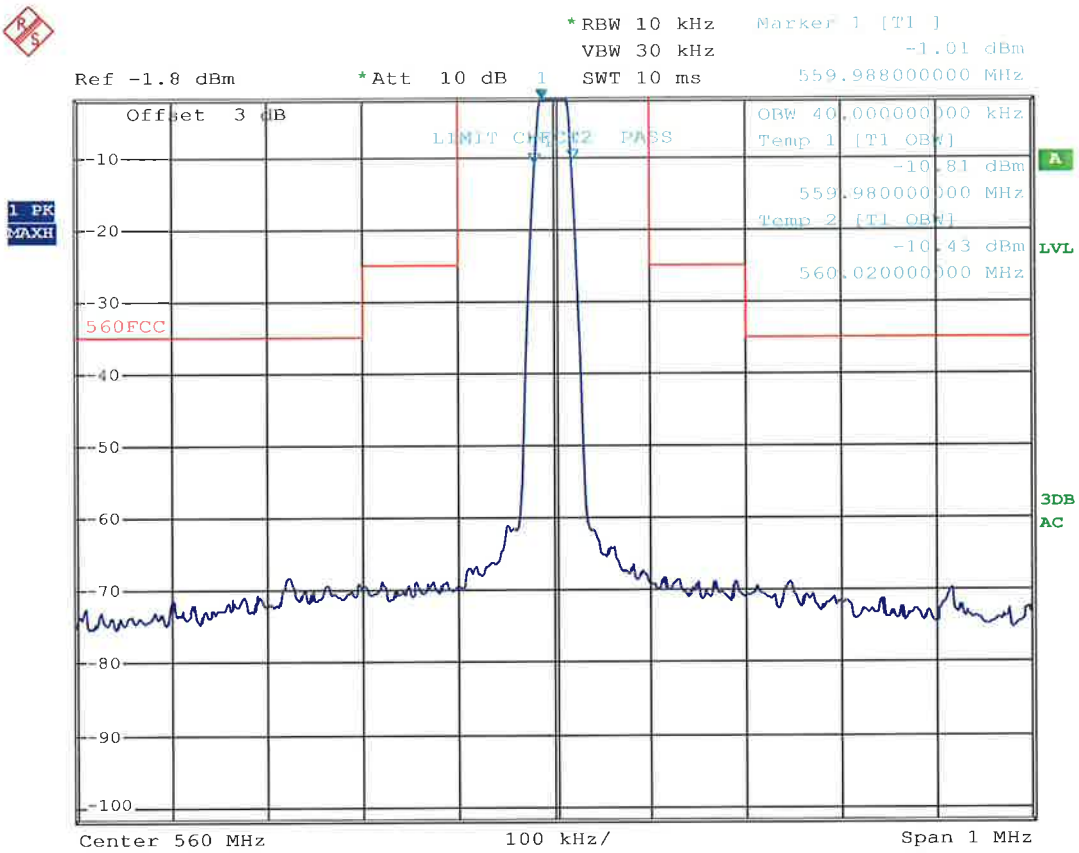
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:26:17

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

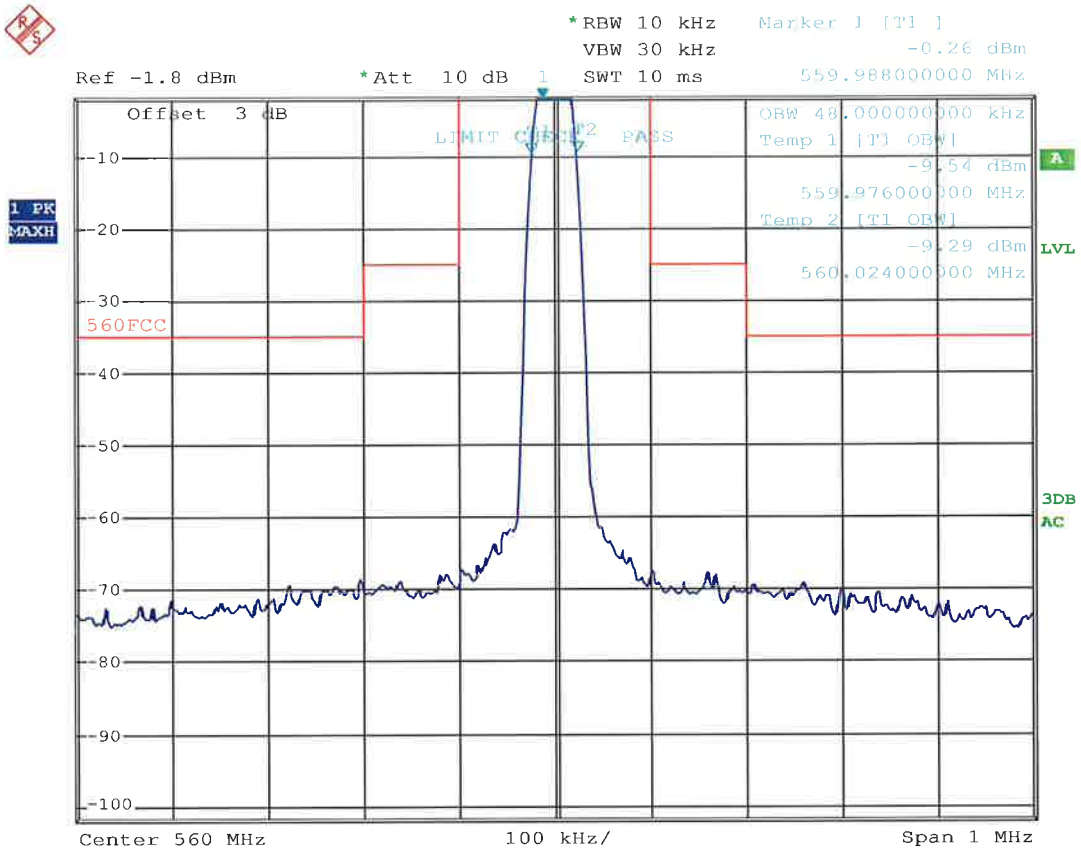
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:23:27

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

Emissions Mask

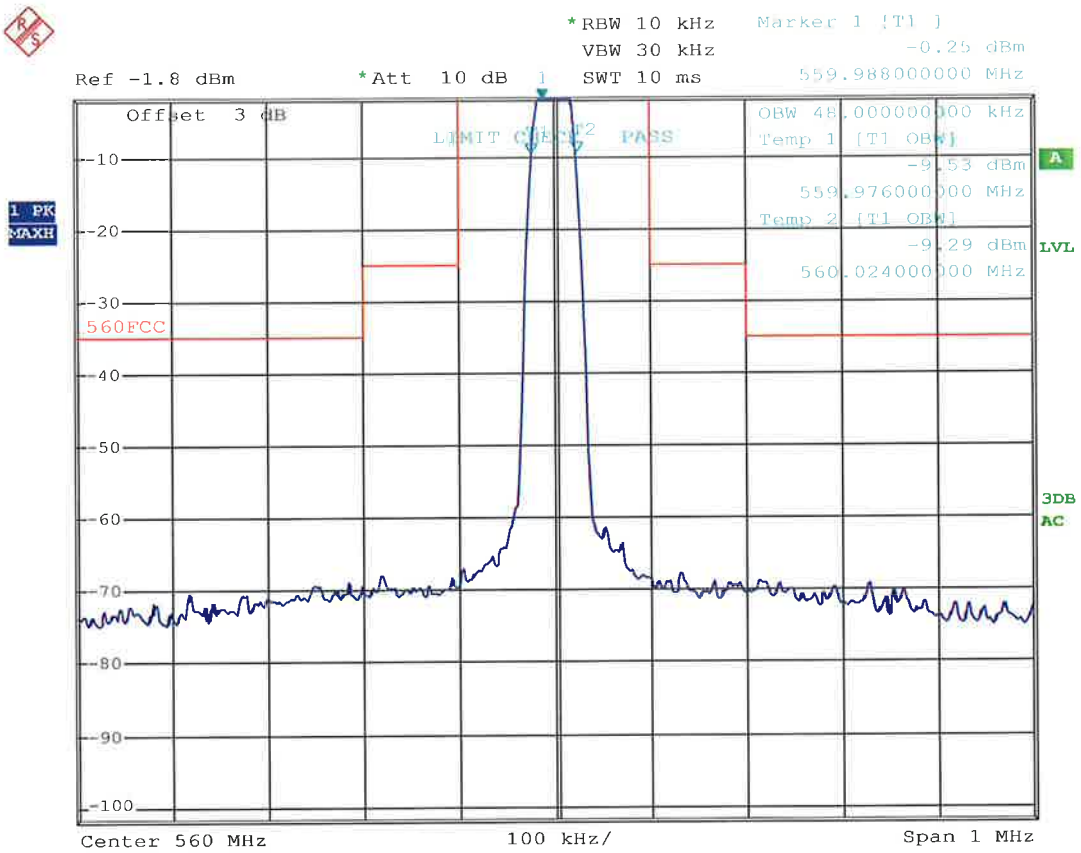
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:24:12

Test Equipment used: NT-207

Emissions Mask

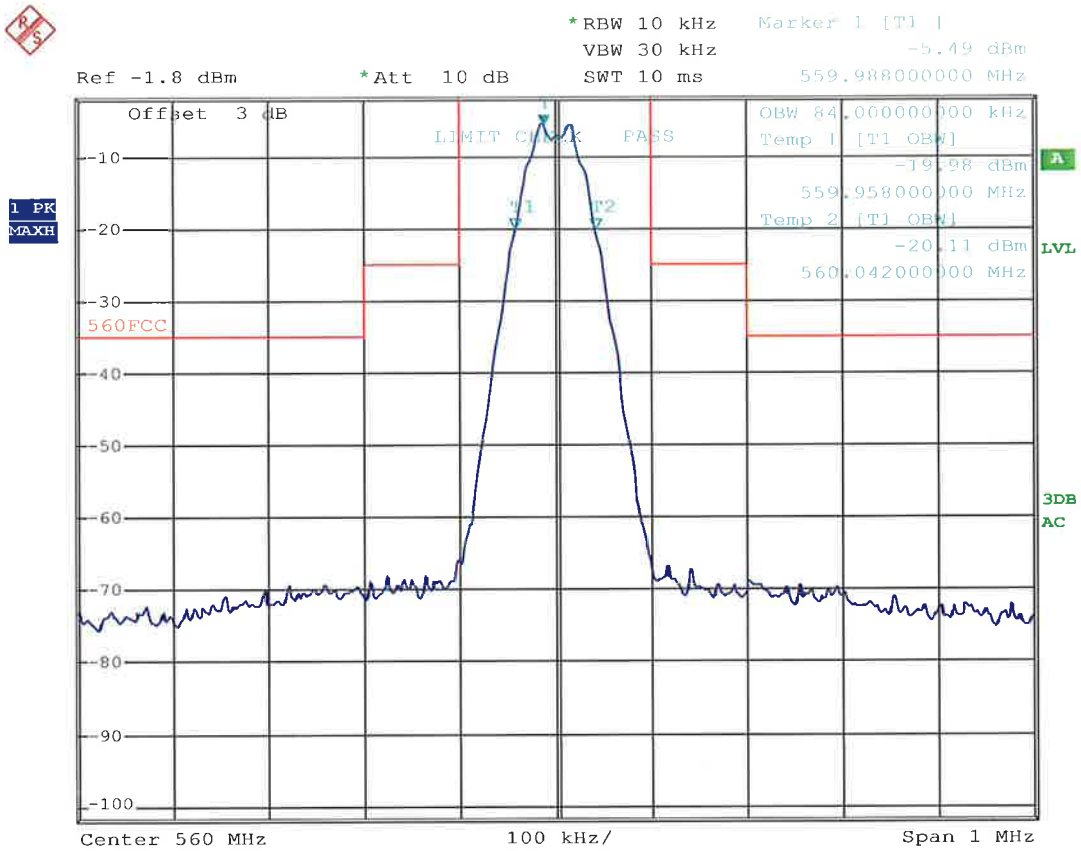
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:27:26

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

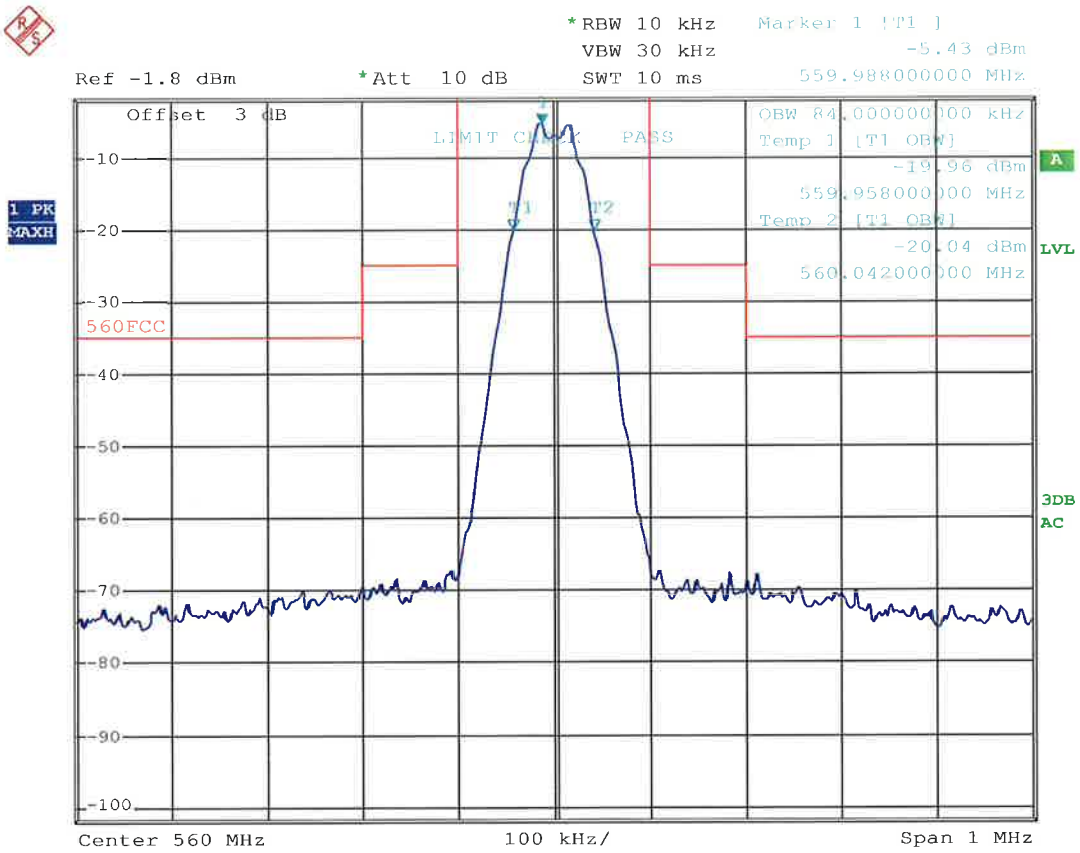
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:26:49

Test Equipment used: NT-207

Emissions Mask

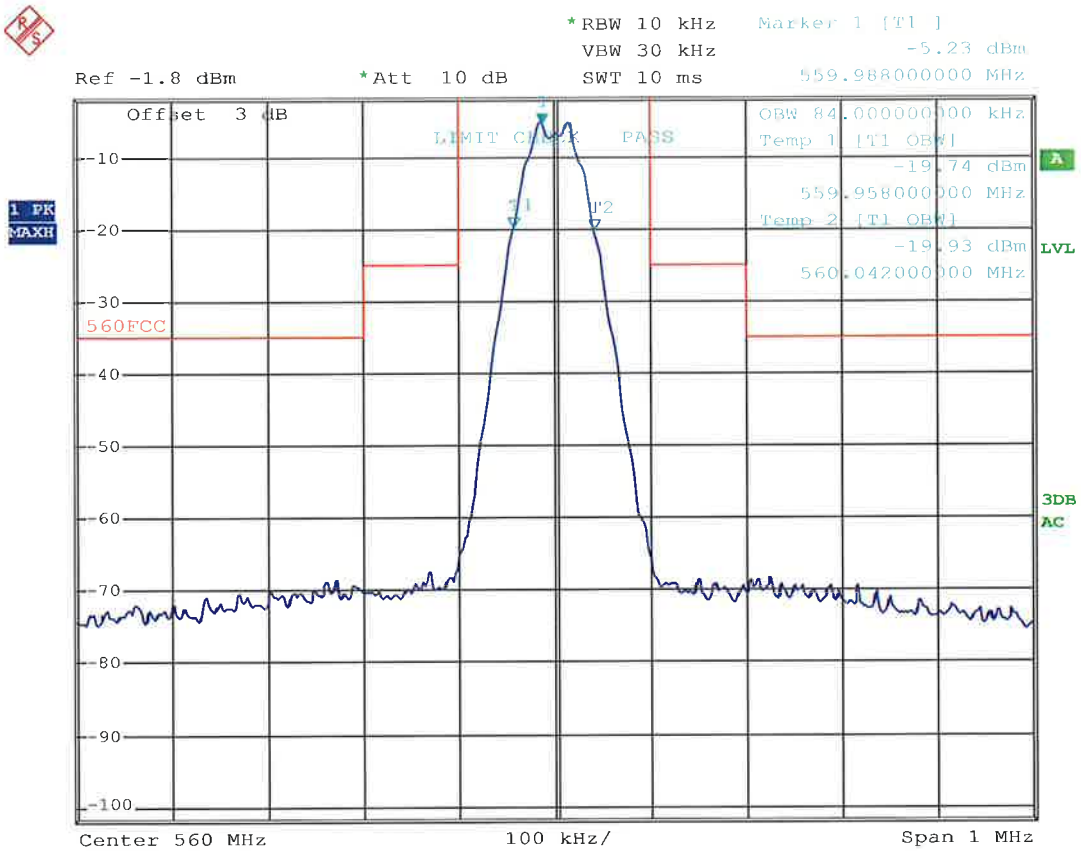
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:22:08

Test Equipment used: NT-207

Emissions Mask

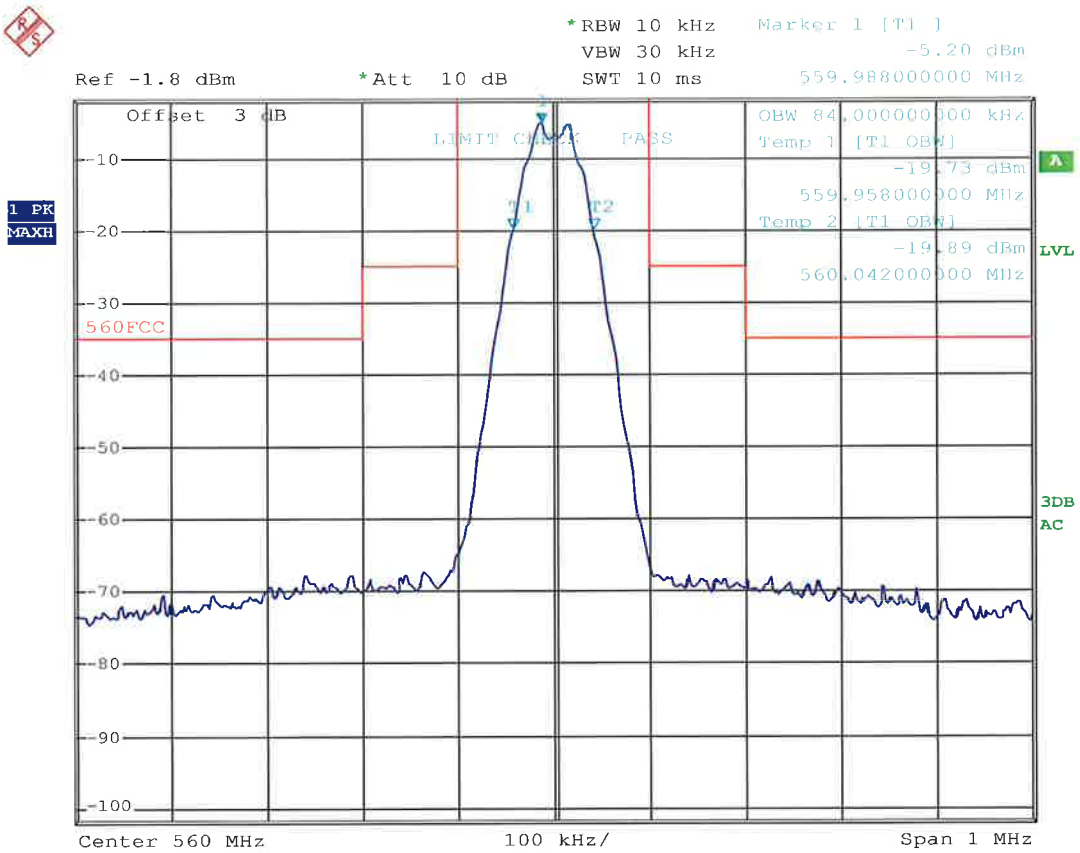
§ 74.261 (e)(6)
(6.3)

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:21:35

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

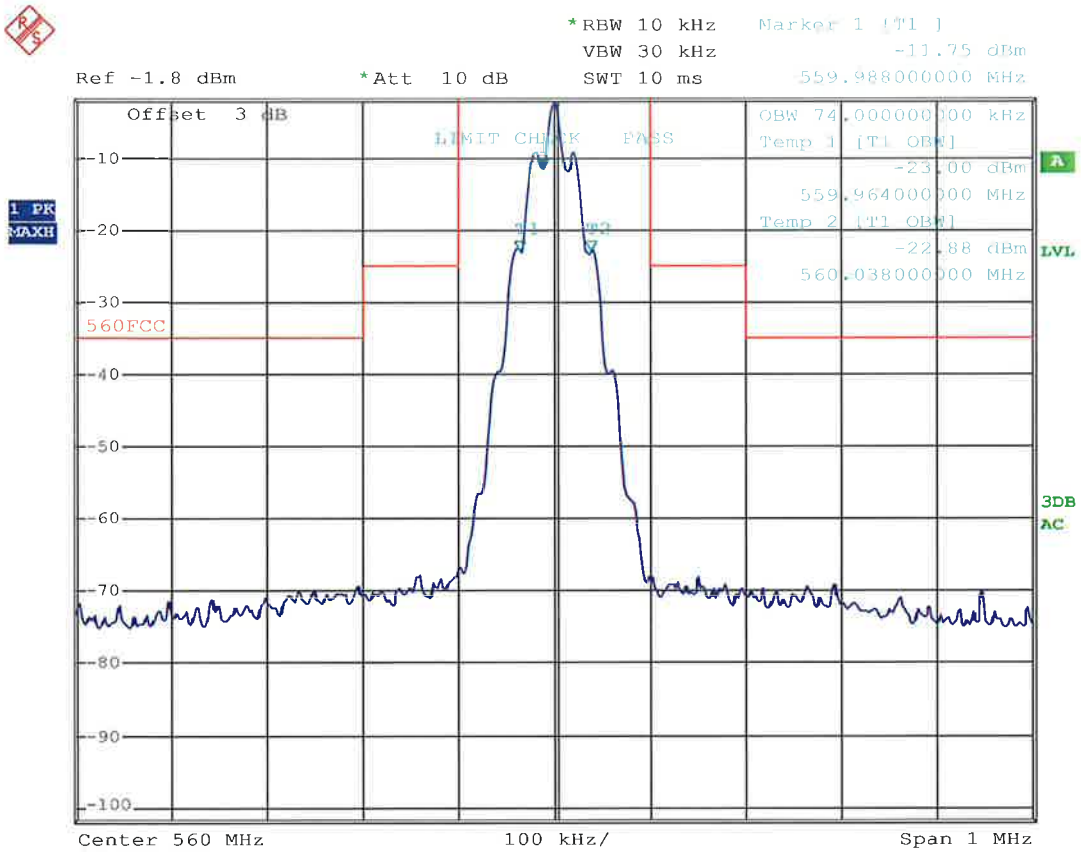
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:27:54

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

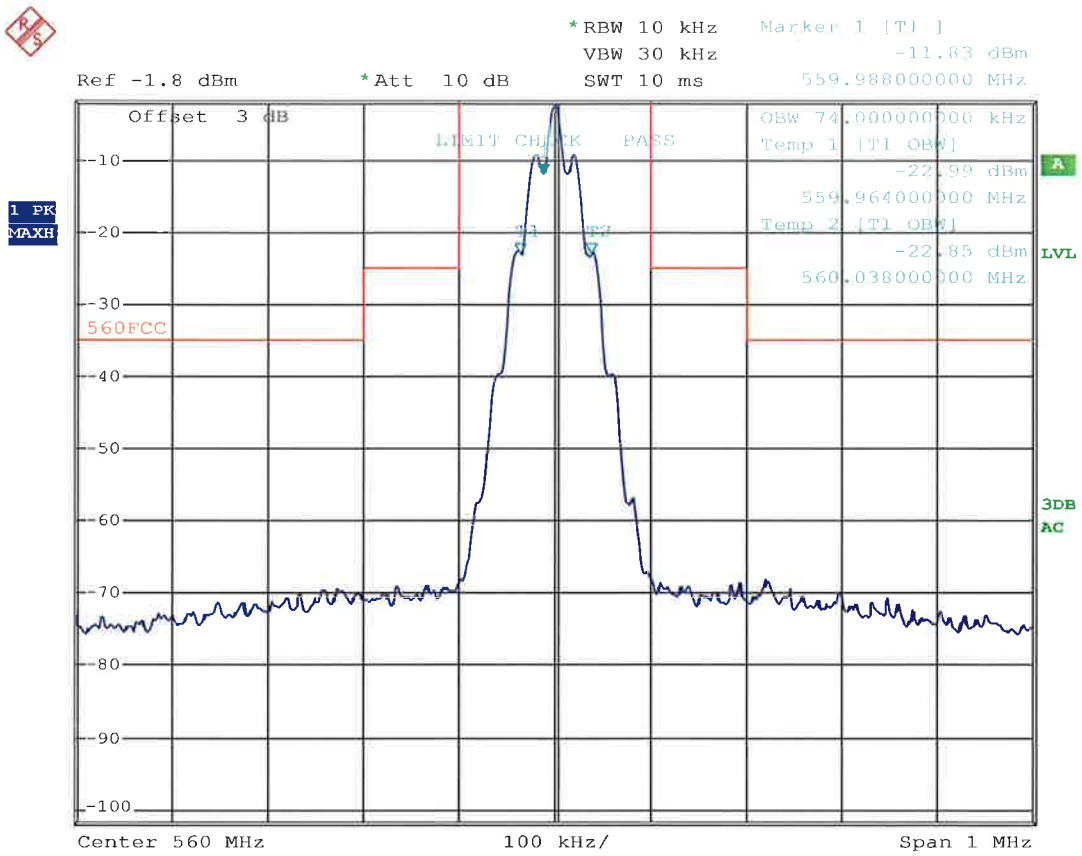
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:28:20

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

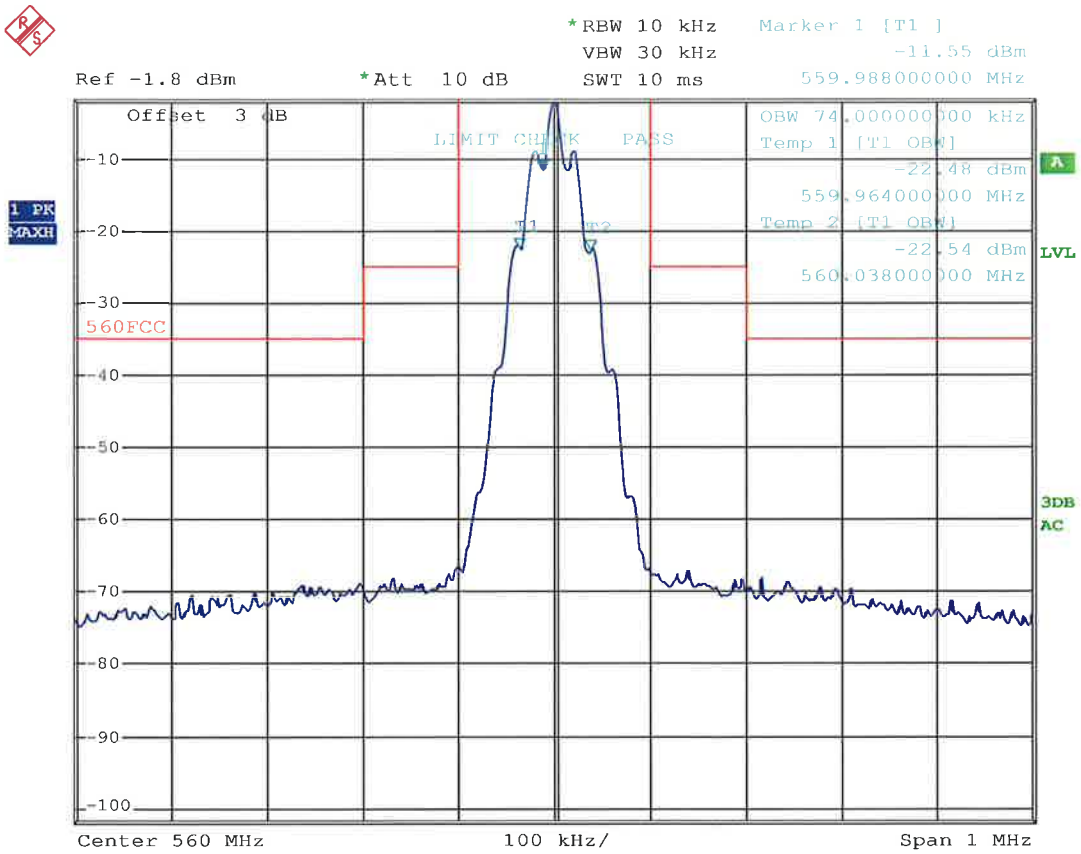
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1,5 V



Date: 7.FEB.2014 11:20:07

Test Equipment used: NT-207

Ambient temperature: 23°C Relative humidity: 25%

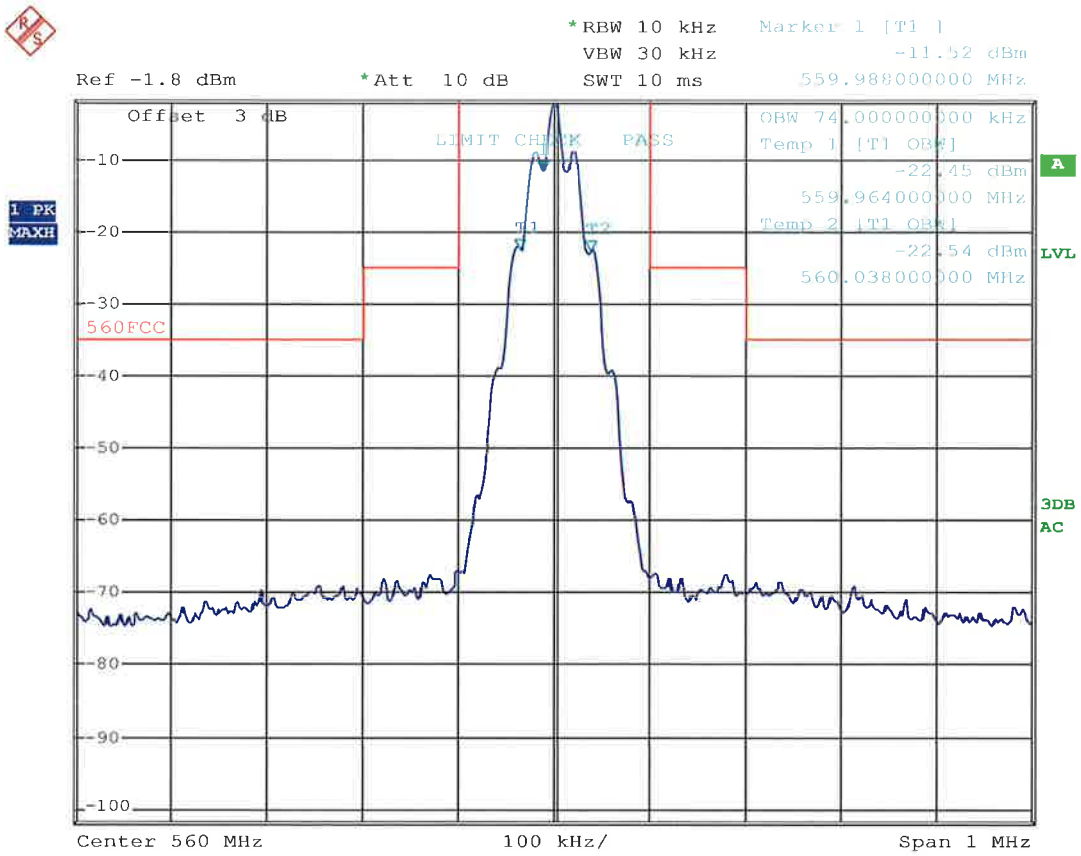
Emissions Mask **§ 74.261 (e)(6) (6.3)**

Operating mode:

Frequency: 560 MHz

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

DC Voltage: 1 V



Date: 7.FEB.2014 11:20:35

Test Equipment used: NT-207

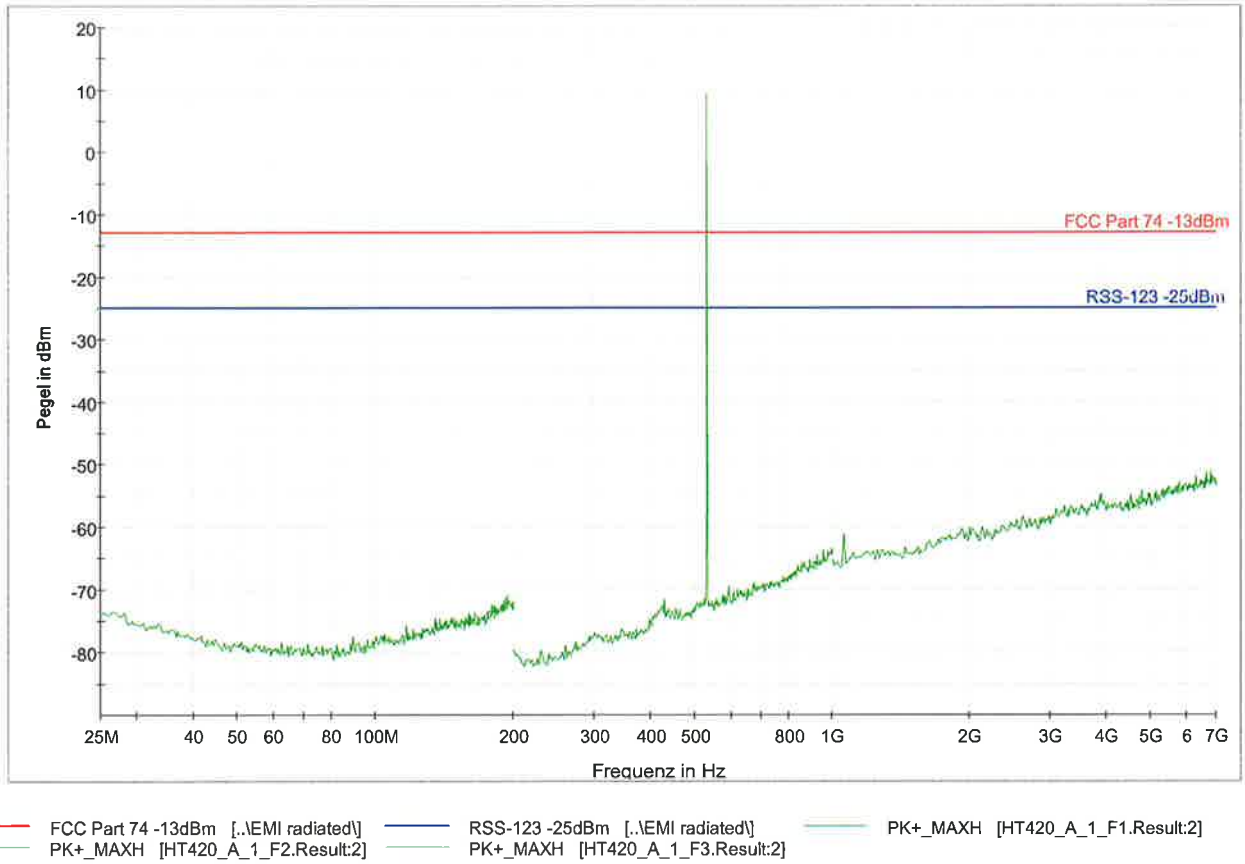
Ambient temperature: 23°C Relative humidity: 25%

Field strength of spurious emissions of the transmitter **§ 74.261 (e)(6)(iii) (6.3)**

Operating mode:

Frequency: 530 MHz

Modulation: unmodulated carrier



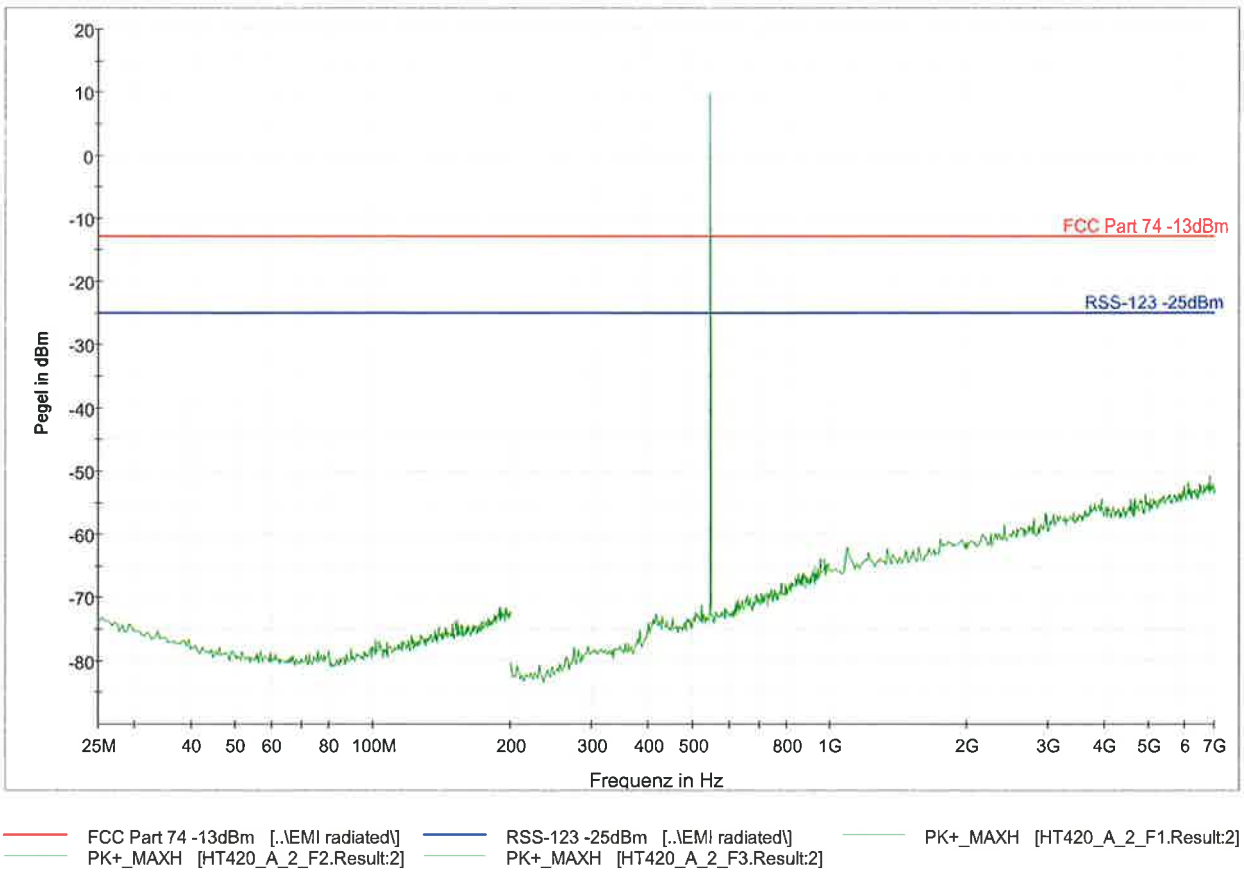
Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-129; NT-139; NT-207; NT-337

Field strength of spurious emissions of the transmitter **§ 74.261 (e)(6)(iii) (6.3)**

Operating mode:

Frequency: 545 MHz

Modulation: unmodulated carrier



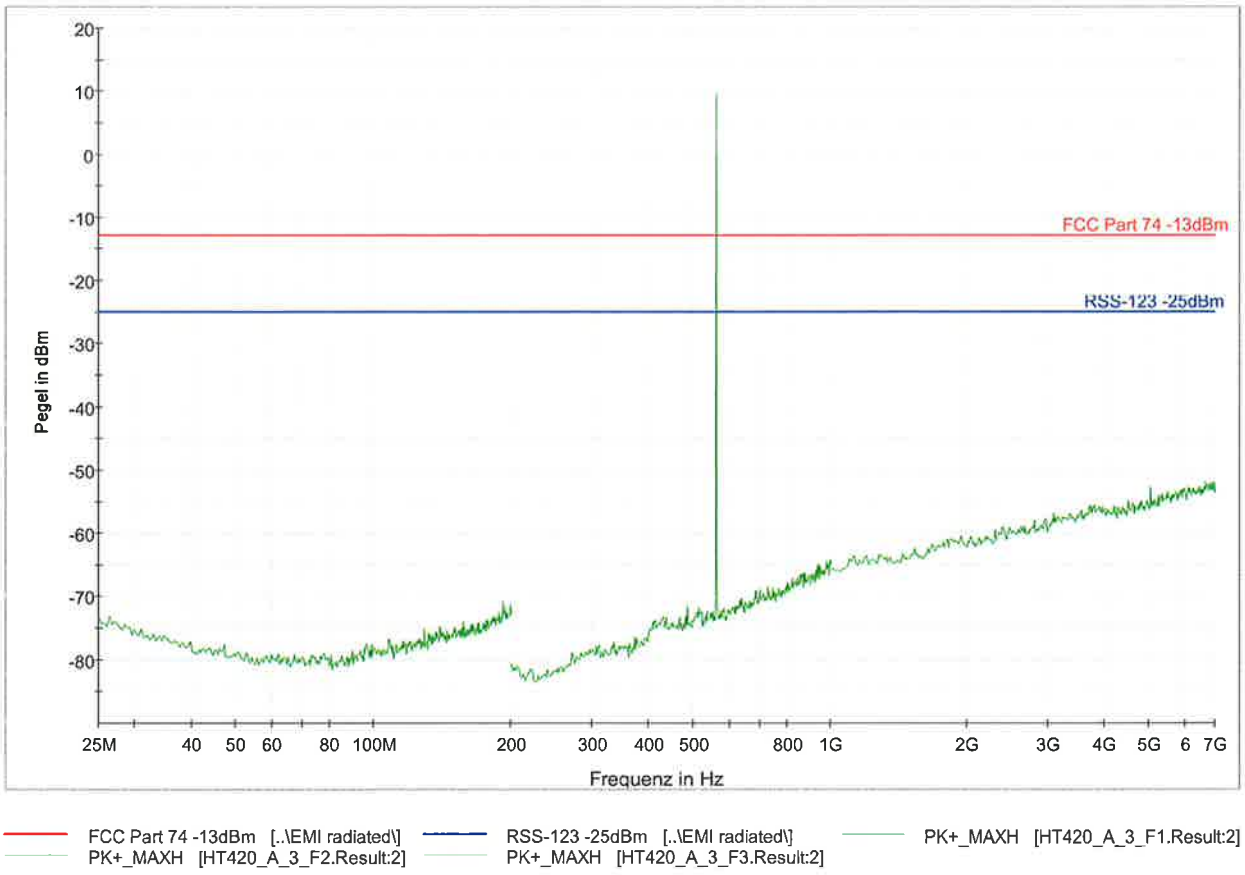
Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-129; NT-139; NT-207; NT-337

Field strength of spurious emissions of the transmitter **§ 74.261 (e)(6)(iii) (6.3)**

Operating mode:

Frequency: 560 MHz

Modulation: unmodulated 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

TÜV AUSTRIA

Division Medical Technology/ Communication Technology/ EMC

Department: FG

Test report number: M/FG-14/122

Date: 25.02.2014

Checked by:

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

Appendix 1 (continued)
Test equipment used

TÜV AUSTRIA

☐	E-field probe 3 MHz – 18 GHz	NT-247
☐	H-field probe 27 MHz – 1 GHz	NT-248
☐	ELT-400 1 Hz – 400 kHz	NT-249
☐	MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250
☐	FCC-203I EM Injection clamp	NT-251
☐	FCC-203I-DCN Ferrite decoupling network	NT-252
☐	PR50 Current Probe	NT-253
☐	PR630 Current Probe	NT-254
☐	Fluke 87 V True RMS Multimeter	NT-260
☐	Model 2000 Digital Multimeter	NT-261
☐	Fluke 87 V Digital Multimeter	NT-262/1
☐	ESH2-Z5-U1 Artificial mains network 4x25A	NT-300
☐	ESH3-Z5-U1 Artificial mains network 2x10A	NT-301
☐	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302
☐	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302a
☐	PHE 4500/B Power amplifier	NT-304
☐	PAS 5000 Power amplifier	NT-304/1a
☐	EZ10 T-Artificial Network	NT-305
☐	SMG - Signal generator 0,1 - 1000 MHz	NT-310
☐	SMA100A - Signal generator 9 kHz - 6 GHz	NT-310/1
☐	RefRad Reference generator	NT-312
☐	SMP 02 Signal generator 10 MHz - 20 GHz	NT-313
☐	40 MHz Arbitrary Generator TGA1241	NT-315
☐	Artificial mains network NSLK 8127-PLC	NT-316
☐	Inrush Current Source for PAS 5000	NT-317a
☐	Control and measurement device Sycore	NT-318
☐	PEFT - Burst generator up to 4 kV	NT-320
☐	ESD 30 System up to 25 kV	NT-321
☐	PSURGE 4.1 Surge generator	NT-324
☐	TRANSIENT 1000 Immunity test system	NT-325
☐	VCS 500-M6 Surge-Generator	NT-326
☐	Oscillatory Wave Simulator incl. Coupling networks	NT-328a+b+c
☐	BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330
☐	T82-50 RF-Amplifier 2 GHz – 8 GHz	NT-331
☐	500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332
☐	AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333
☐	APA01 – RF-Amplifier 0,5 GHz – 2,5 GHz	NT-334
☐	Preamplifier 1 GHz - 4 GHz	NT-335
☐	Preamplifier for GPS MKU 152 A	NT-336
☐	Preamplifier 100 MHz – 23 GHz	NT-337
☐	DC Block 10 MHz – 18 GHz Model 8048	NT-338
☐	2-97201 Electronic load	NT-341
☐	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
☐	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
☐	VDS 200 Mobil-impuls-generator	NT-350
☐	LD 200 Mobil-impuls-generator	NT-351
☐	MPG 200 Mobil-Impuls-Generators	NT-352
☐	EFT 200 Mobil-impuls-generator	NT-353
☐	AN 200 S1 Artificial Network	NT-354
☐	FP-EFT 32M 3 ph. Coupling filter (Burst)	NT-400/1
☐	PHE 4500 - Mains impedance network	NT-401
☐	IP 6.2 Coupling filter for data lines (Surge)	NT-403
☐	TK 9421 High Power Volt. Probe 150 kHz - 30 MHz	NT-409
☐	ESH2-Z3 - Probe 9 kHz - 30 MHz	NT-410
☐	IP 4 - Capacitive clamp (Burst)	NT-411
☐	Highpass-Filter 100 MHz – 3 GHz	NT-412
☐	Highpass-Filter 600 MHz – 4 GHz	NT-413
☐	Highpass-Filter 1250 MHz – 4 GHz	NT-414
☐	Highpass-Filter 1800 MHz – 16 GHz	NT-415

Division Medical Technology/ Communication Technology/ EMC

Department: FG

Test report number: M/FG-14/122

Date: 25.02.2014

Checked by:

Appendix 1 (continued)
Test equipment used

TÜV AUSTRIA

Division Medical Technology/ Communication Technology/ EMC

Department: FG

Test report number: M/FG-14/122

Date: 25.02.2014

Checked by:

☐	Highpass-Filter 3500 MHz – 18 GHz	NT-416
☐	RF-Attenuator 10 dB DC – 18 GHz / 50 W	NT-417
☐	RF-Attenuator 6 dB DC – 18 GHz / 50 W	NT-418
☐	RF-Attenuator 3 dB DC – 18 GHz / 50 W	NT-419
☐	RF-Attenuator 20 dB DC - 1000 MHz / 25 W	NT-421
☐	RF-Attenuator 30 dB DC - 1000 MHz / 1 W	NT-423
☐	RF-Attenuator 30 dB	NT-424
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-425
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-426
☐	RF-Attenuator 6 dB	NT-428
☐	RF-Attenuator 0 dB - 81 dB	NT-429
☐	WRU 27 - Band blocking 27 MHz	NT-430
☐	WHJ450C9 AA - High pass 450 MHz	NT-431
☐	WHJ250C9 AA - High pass 250 MHz	NT-432
☐	RF-Load 150 W	NT-433
☐	Impedance transducer 1:4 ; 1:9 ; 1:16	NT-435
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-436
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-437
☐	RF-Attenuator DC – 18 GHz 10 dB	NT-438
☐	RF-Attenuator DC – 18 GHz 20 dB	NT-439
☐	I+P 7780 Directional coupler 100 - 2000 MHz	NT-440
☐	ESH3-Z2 - Pulse limiter 9 kHz - 30 MHz	NT-441
☐	Power Divider 6 dB/1 W/50 Ohm	NT-443
☐	Directional coupler 0,1 MHz – 70 MHz	NT-444
☐	Directional coupler 0,1 MHz – 70 MHz	NT-445
☐	Tube imitations according to EN 55015	NT-450
☐	FCC-801-M3-16A Coupling decoupling network	NT-458
☐	FCC-801-M2-50A Coupling decoupling network	NT-459
☐	FCC-801-M5-25 Coupling decoupling network	NT-460
☐	FCC-801-AF10 Coupling decoupling network	NT-461
☐	FCC-801-S25 Coupling decoupling network	NT-462
☐	FCC-801-T4 Coupling decoupling network	NT-463
☐	FCC-801-C1 Coupling decoupling network	NT-464
☐	F-16A - Current probe 1kHz - 70MHz	NT-465
☐	95242-1 – Current probe 1 MHz – 400 MHz	NT-468
☐	94106-1L-1 – Current probe 100 kHz – 450 MHz	NT-471
☐	GA 1240 Power amplifier according to EN 61000-4-16	NT-480
☐	Coupling networks according to EN 61000-4-16	NT-481 - NT-483
☐	Van der Hoofden Test Head	NT-484
☐	PC P4 3 GHz Test computer	NT-500
☐	PC P4 1700 MHz Notebook	NT-505
☐	Monitoring camera with Monitor	NT-511
☐	ES-K1 Version 1.71 SP2 Test software	NT-520
☐	EMC32 Version 9.12.00 Test software	NT-520/1
☐	SRM-TS Version 1.3 software for SRM-3000	NT-522
☐	SRM-TS Version 1.3.1 software for SRM-3006	NT-522/1
☐	Spitzenberger und Spies Test software V3.4	NT-525
☐	Noise power test apparatus according to EN 55014	NT-530
☐	Vertical coupling plane (ESD)	NT-531
☐	Test cable #4 for EN 61000-4-6	NT-553
☐	Test cable #3 for conducted emission	NT-554
☐	Test cable #5+#6 ESD-cable (2x470k)	NT-555 + NT-556
☐	Test cable #8 Sucoflex 104EA	NT-559
☐	Test cable #9 (for outdoor measurements)	NT-580
☐	Test cable #10 (for outdoor measurements)	NT-581
☐	Test cable #13 Sucoflex 104PE	NT-584
☐	Test cable #21 for SRM-3000	NT-592
☐	Shield chamber	NT-600
☐	Climatic chamber	M-1200