TÜV AUSTRIA

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Division:
Medical Technology/ Communication Technology/ EMC

Department:
Testing Body for Communication Technology/ EMC

TÜV ®

TEST REPORT

of the accredited test laboratory

TÜV Nr.:M/FG-10/128

Applicant:	AKG Acoustics GmbH Lemböckgasse 21-25 A – 1230 Wien
Tested Product:	Transmitter for wireless headphone set
FCC-ID:	V3TK840TX
Manufacturer:	AKG Acoustics GmbH Lemböckgasse 21-25 A – 1230 Wien
Output power / field strength:	1,55mW eirp **power supply:** 3,7 VDC
Frequency range:	2403 - 2478 MHz **Channel separation:** 5 MHz
Standard:	FCC: 47 CFR Part 15 (October 1, 2009 edition) RSS-210 Issue 7, June 2007

TUV Austria Services GmbH
Test laboratory for EMC

Supervisor of EMC-laboratory:

Ing. Wilhelm Seier

TUV AUSTRIA SERVICES GMBH Rundsiegel TÜV AUSTRIA

22.09.2010

checked by:

Ing. Michael Emminger

Copy Nbr.: 01

A PIZ

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Inspection Body,
Certification Body,
Calibration Laboratory

Notified Body 0408
IC 2932K-1

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Vienna / FN 288476 f

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UID ATU63240488
DVR 3002476

LIST OF MEASUREMENTS

The complete list of measurements called for in 47 CFR 15 and RSS-210 is given below.

TEST OBJECT DATA

General EUT Description

This digital audio transmitter will be used for transmission of audio signals to wireless headphones. It has no antenna connector, so all technical data were measured radiated.

2.1033 (c) Technical description

2.1033 (4) Type of emission: MSK – Channel spacing 5 MHz.

2.1033 (5) Frequency range: 2403 – 2478 MHz (channel center frequency)

2.1033 (6) Power range and Controls: The maximum peak output power is 1,55 mW and regulated by the system. It can be reduced downto a level 40 dB below the maximum peak output power. The level is choosen by the system to ensure proper audio stream reception.

2.1033 (7) Maximum output power rating: 1,55mW eirp.

2.1033 (8) DC Voltage and Current: 5 V external (for charging the internal battery only) / 3,7V internal battery
maximum current consumption: 300 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

Ambient temperature: 27°C Relative humidity: 53%

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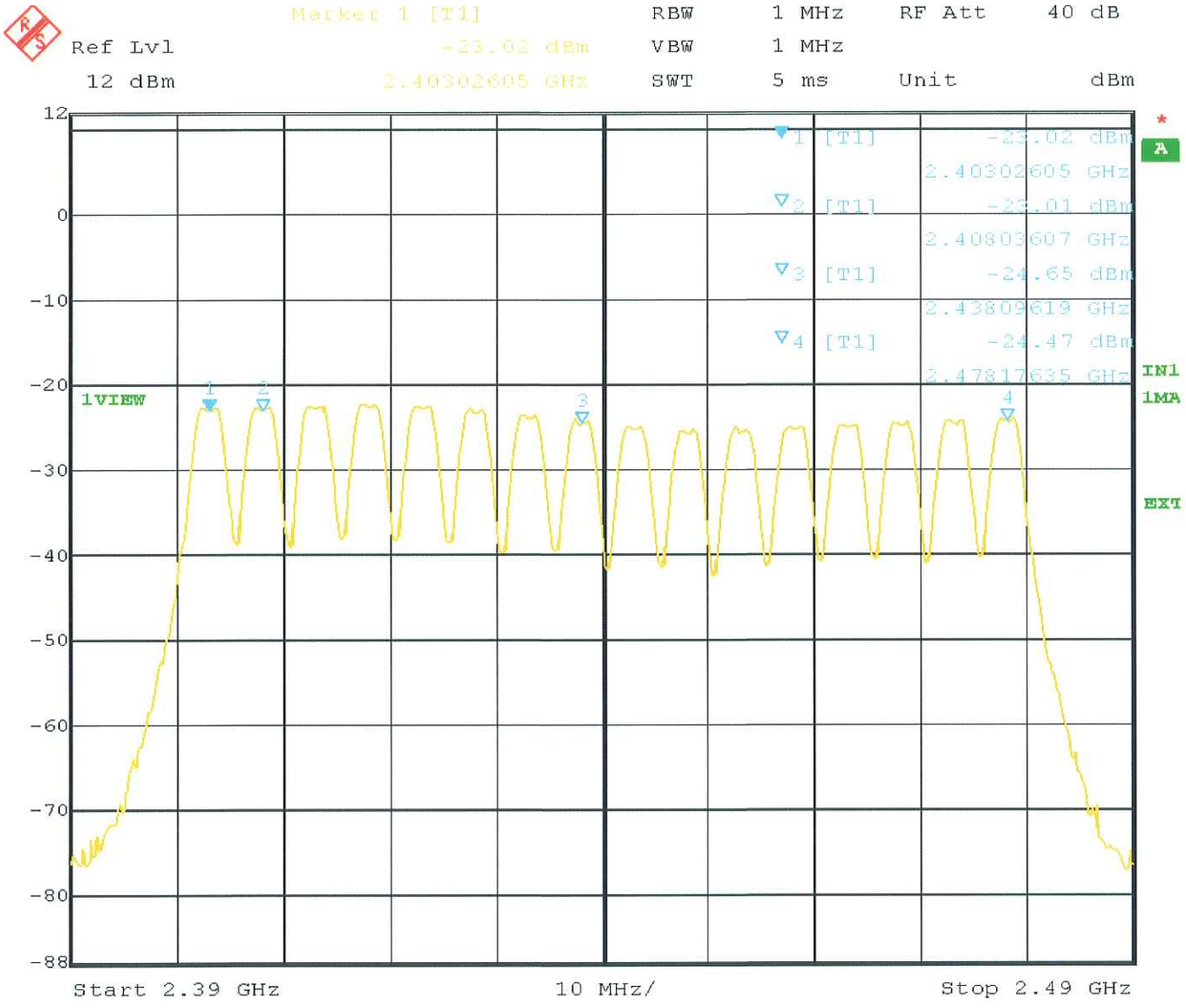
Number of channels and channel spacing § 2.1033

Radiated Measurement

Rated output power: 1,55 mW



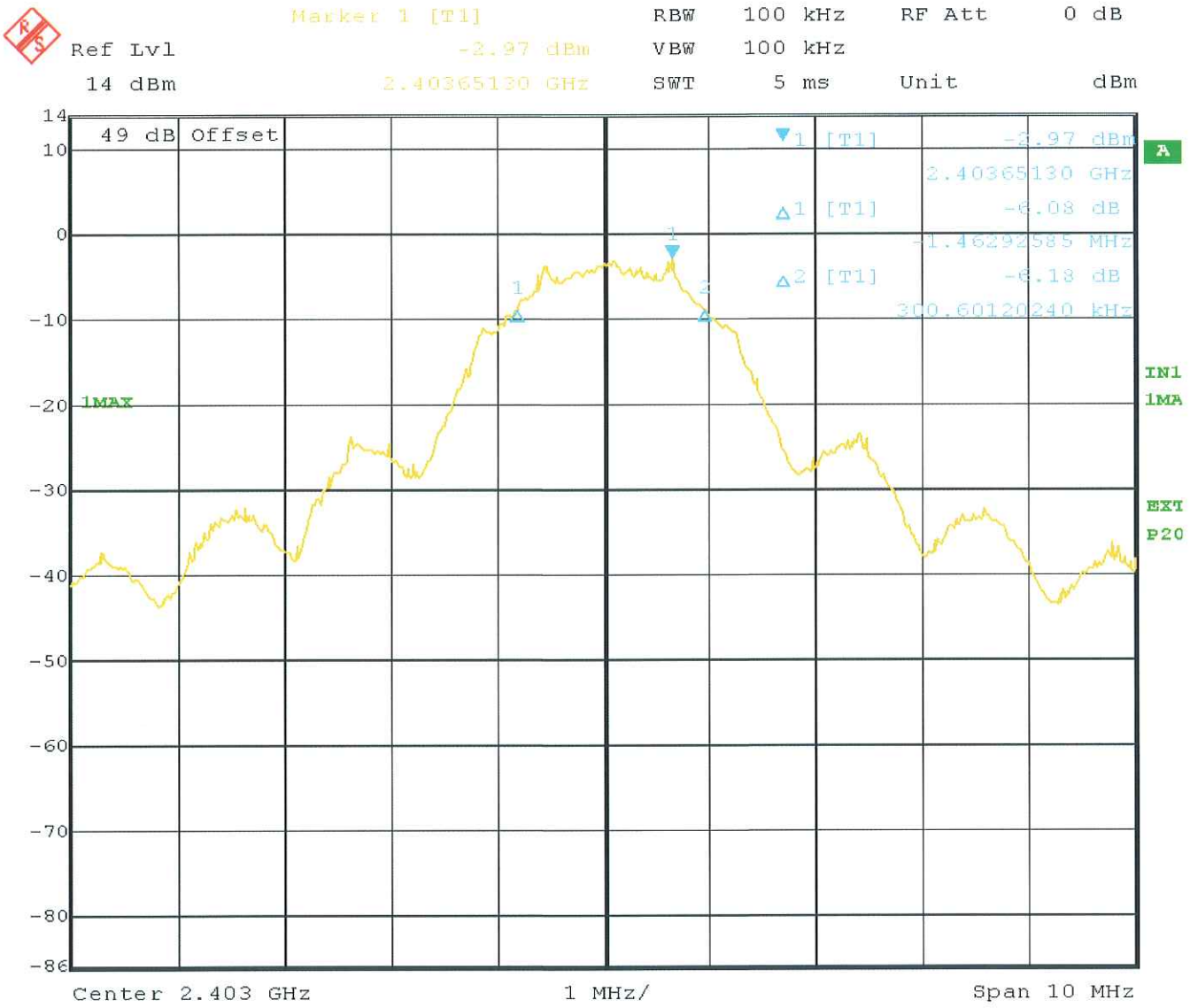
Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-126; NT-150; NT-207; NT-500; NT-520; NT-550

Ambient temperature: 27°C Relative humidity: 53%

6dB Bandwidth **§ 15.247(a)(2)**
A8.2(a)

Radiated Measurement

Rated output power: 1,55 mW Channel 1 (2403 MHz)



6dB Bandwidth: 1,763 MHz

LIMIT **SUBCLAUSE 15.247(e) – A8.2(b)**

Under normal test conditons	6 dB Bandwidth at least 500 kHz

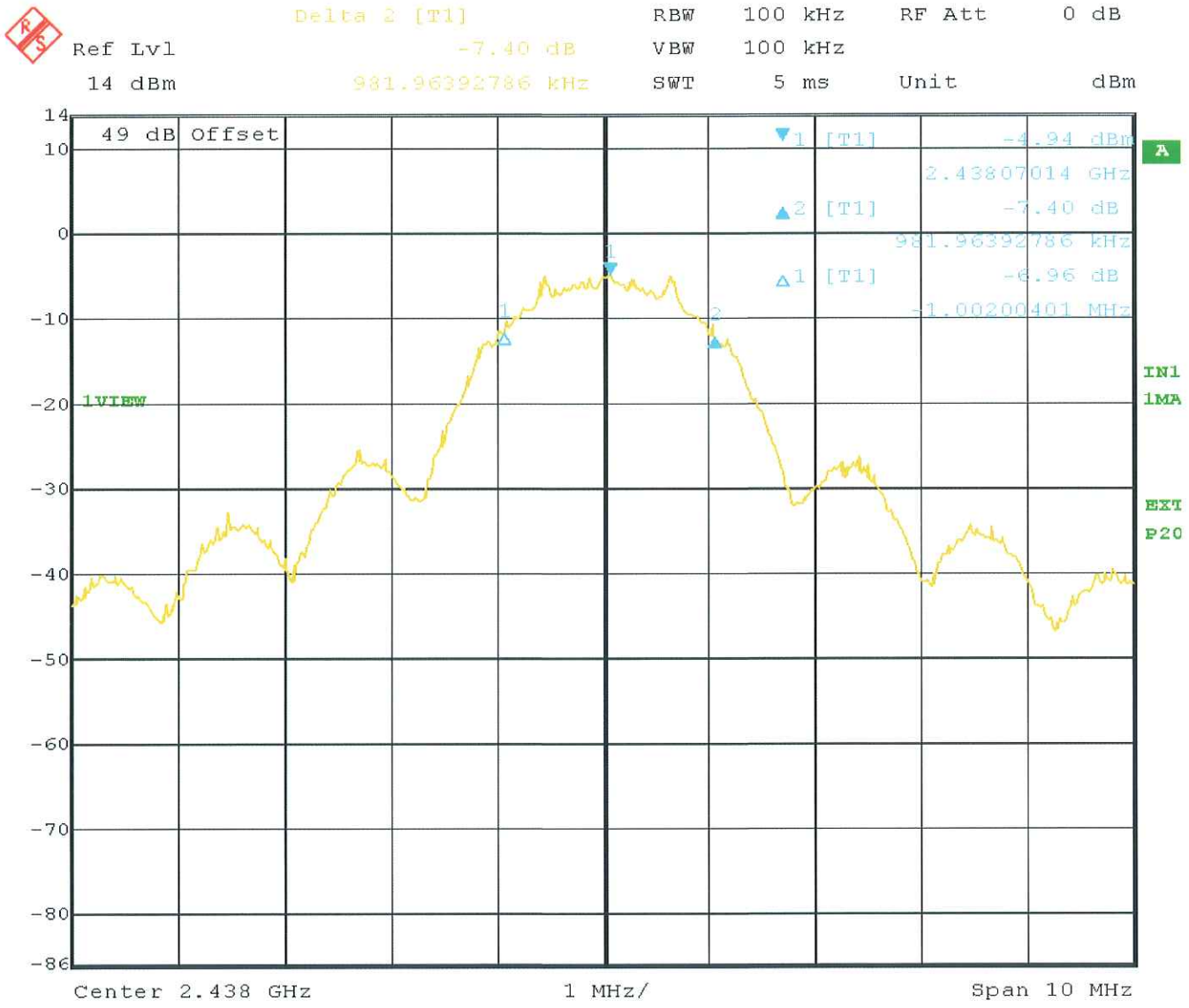
Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-126; NT-150; NT-207; NT-500; NT-520; NT-550

Ambient temperature: 27°C Relative humidity: 53%

6dB Bandwidth **§ 15.247(a)(2)**
A8.2(a)

Radiated Measurement

Rated output power: 1,55 mW Channel 8 (2438 MHz)



6dB Bandwidth: 1,984 MHz

LIMIT **SUBCLAUSE 15.247(e) – A8.2(b)**

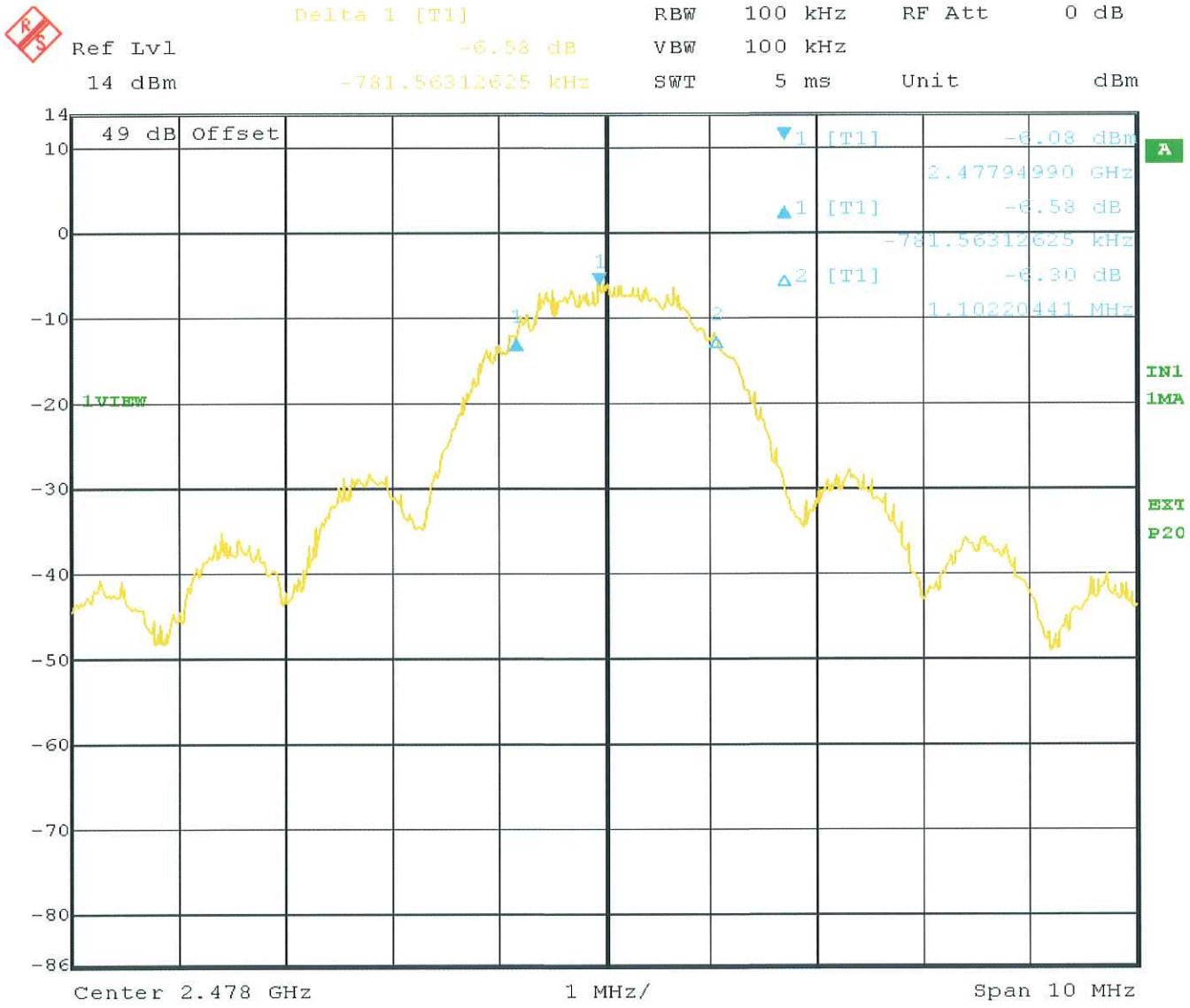
Under normal test conditons	6 dB Bandwidth at least 500 kHz

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

6dB Bandwidth **§ 15.247(a)(2)**
A8.2(a)

Radiated Measurement

Rated output power: 1,55 mW Channel 16 (2478 MHz)



6dB Bandwidth: 1,884 MHz

LIMIT **SUBCLAUSE 15.247(e) – A8.2(b)**

Under normal test conditons	6 dB Bandwidth at least 500 kHz

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

Maximum Peak RF Power Output (EIRP) **§ 15.247(b)(3)**
A8.4(4)

Radiated Measurement

Rated output power: 1,55 mW

Test conditions		Transmitter power (mW) (eirp)		
		2403 MHz	2438 MHz	2478 MHz
T_{nom} (27)°C	V_{nom} (3,7)V	1,55	1,10	0,832
Maximum deviation from rated output power under normal test conditions (dB)		0	-1,5	-2,7
Measurement uncertainty		± 0,75 dB		

LIMIT **SUBCLAUSE 15.247(b)(3) – A8.4(4)**

Under normal test conditons	1W conducted (4W eirp)

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

Power spectral density (EIRP) **§ 15.247(e)**
A8.2(b)

Radiated Measurement

Rated output power: 1,55 mW

Test conditions		Power spectral density (dBm) (eirp)		
		2403 MHz	2438 MHz	2478 MHz
T_{nom} (27)°C	V_{nom} (3,7)V	-12,3	-14,2	-16,4
Measurement uncertainty		± 0,75 dB		

LIMIT **SUBCLAUSE 15.247(e) – A8.2(b)**

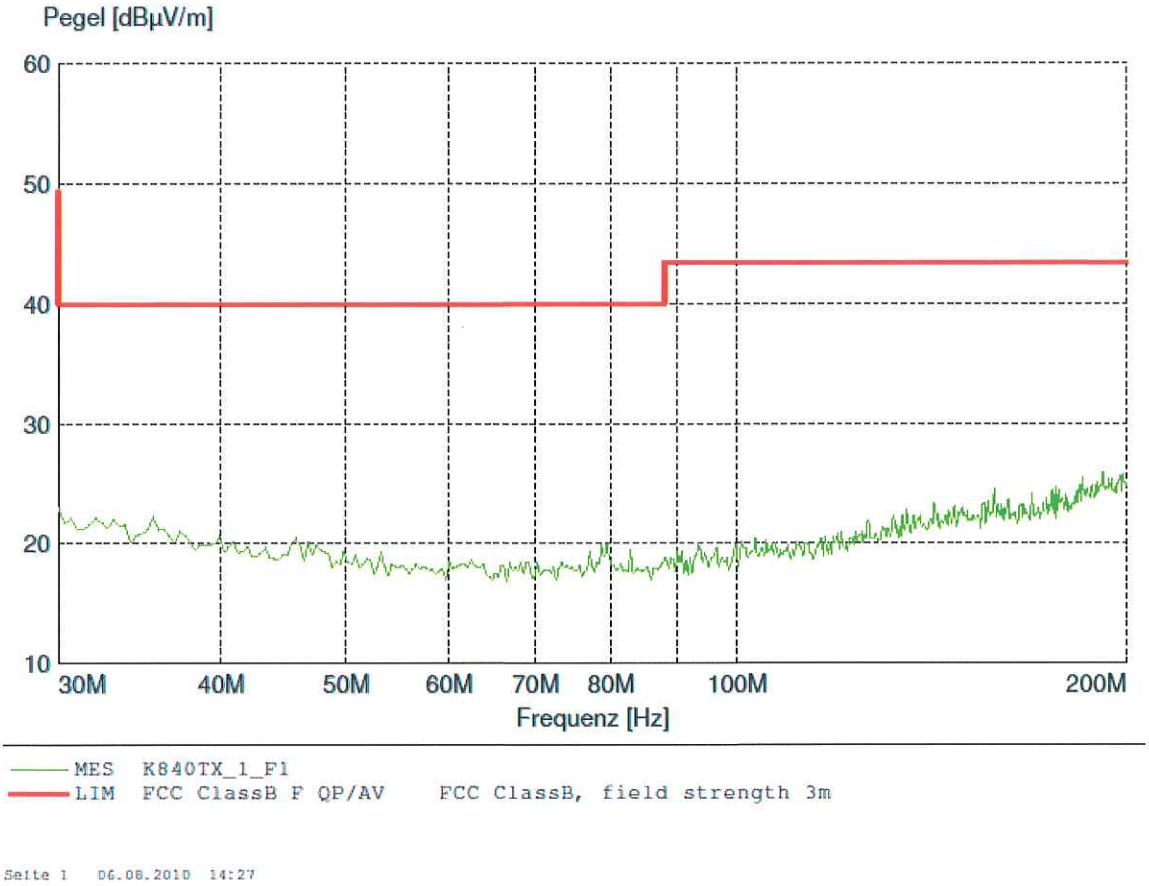
Under normal test conditons	+8dBm in any 3 kHz band

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

Out-of-band Emission **§ 15.247(d)**
A8.5

Measurement with Peak-Detector:

Frequency: 2403 MHz



LIMIT **SUBCLAUSE 15.247(d) – A8.5**

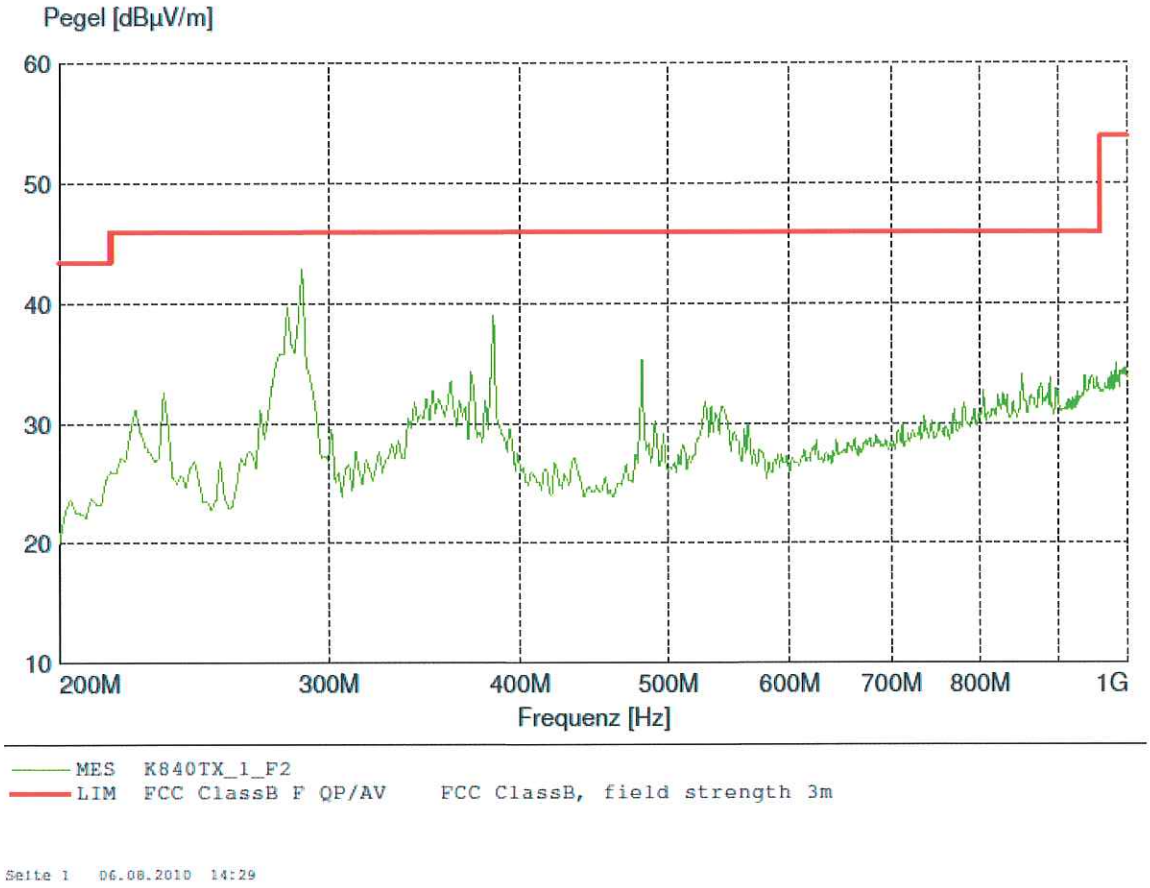
In any 100 kHz bandwidth outside the frequency band in which the radio device is operating.	At least 20dB below the power in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

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

Out-of-band Emission **§ 15.247(d)**
A8.5

Measurement with Peak-Detector:

Frequency: 2403 MHz



LIMIT **SUBCLAUSE 15.247(d) – A8.5**

In any 100 kHz bandwidth outside the frequency band in which the radio device is operating.	At least 20dB below the power in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

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

Ambient temperature: 27°C Relative humidity: 53%

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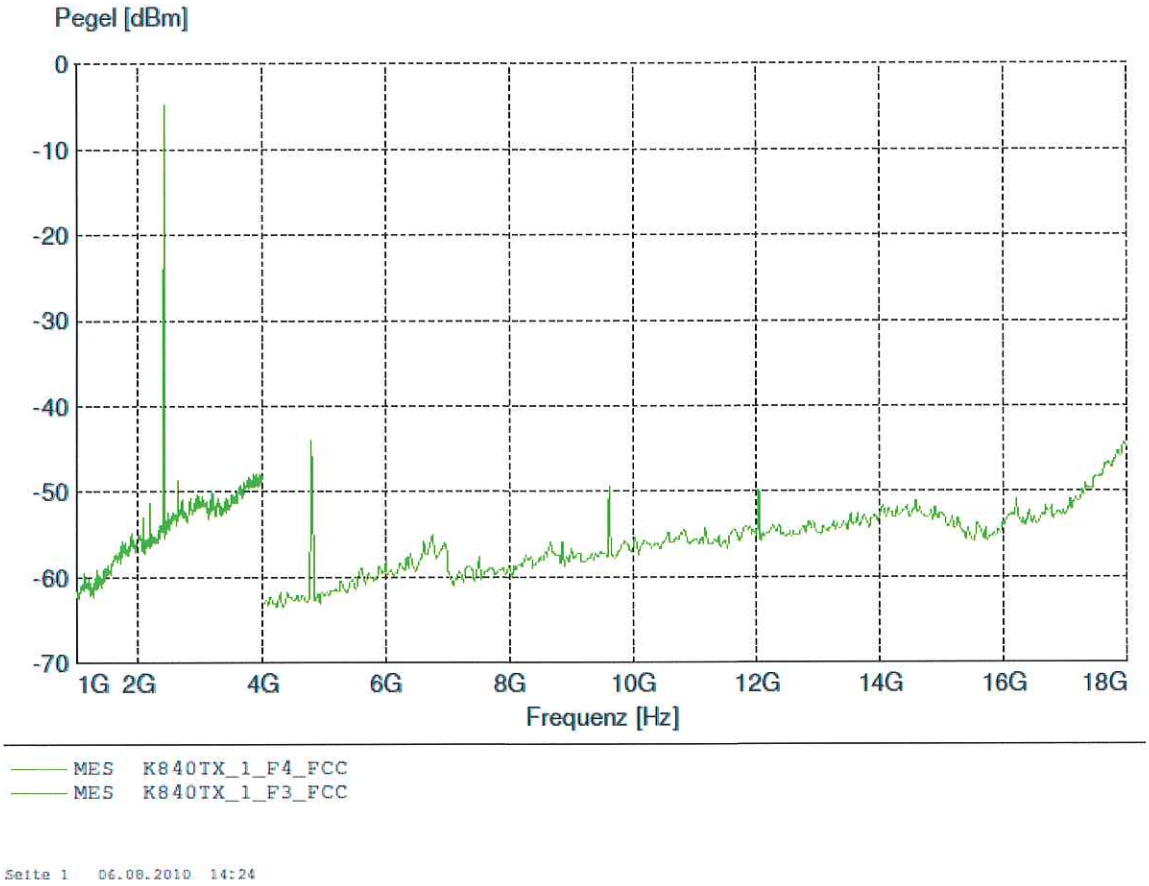
Out-of-band Emission **§ 15.247(d)**
A8.5

Measurement with Peak-Detector:

Frequency: 2403 MHz



LIMIT **SUBCLAUSE 15.247(d) – A8.5**

In any 100 kHz bandwidth outside the frequency band in which the radio device is operating.	At least 20dB below the power in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

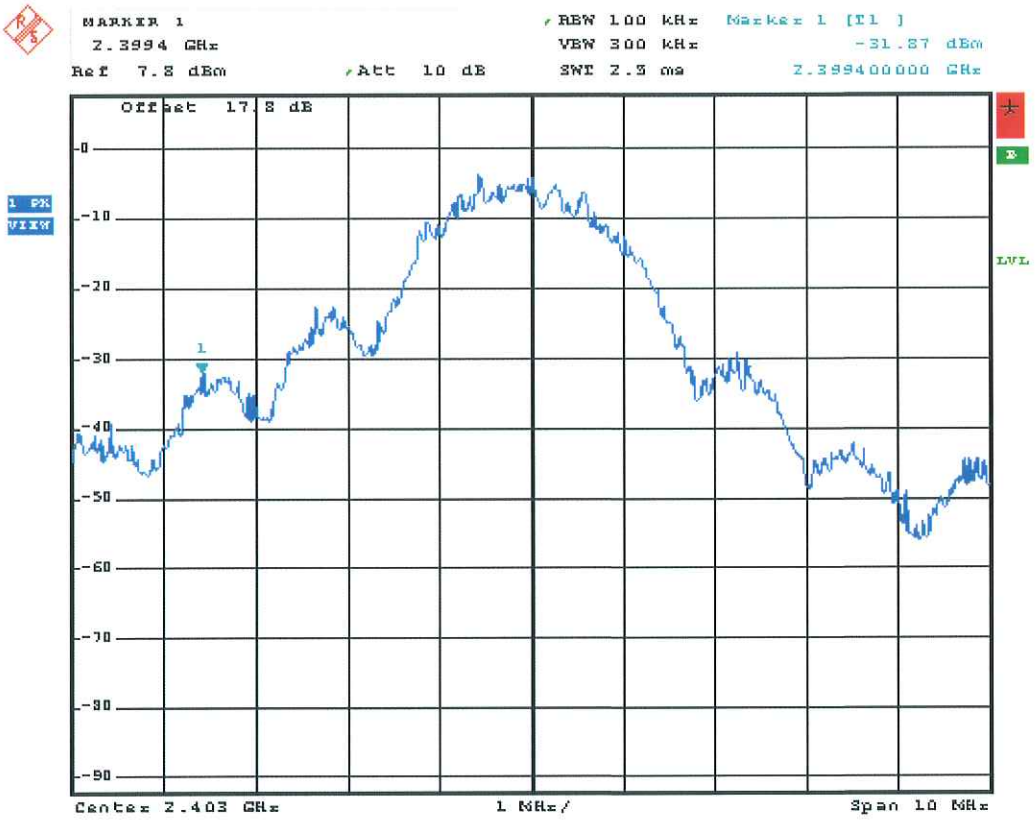
Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-207

Although the measurements were made up to the tenth harmonic, the curve above is ending at 18 GHz. The tests above 18 GHz are not automatized and therefore we were not able to plot the spectrum analyzer display. Above 18 GHz no emission above noise level were found.

Out-of-band Emission **§ 15.247(d)**
A8.5

Measurement with Peak-Detector:

Frequency: 2403 MHz – Band Edge measurement



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LIMIT **SUBCLAUSE 15.247(d) – A8.5**

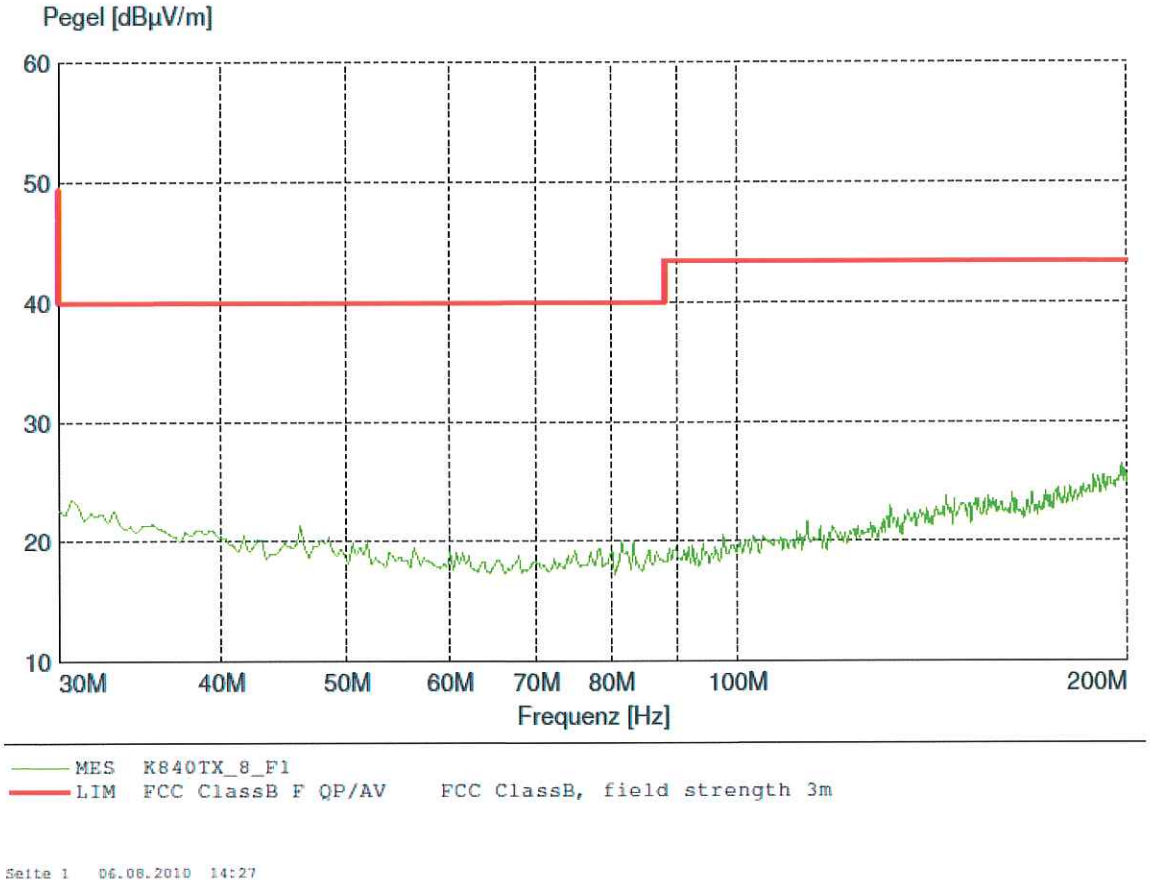
In any 100 kHz bandwidth outside the frequency band in which the radio device is operating.	At least 20dB below the power in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

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

Out-of-band Emission **§ 15.247(d)**
A8.5

Measurement with Peak-Detector:

Frequency: 2438 MHz



LIMIT **SUBCLAUSE 15.247(d) – A8.5**

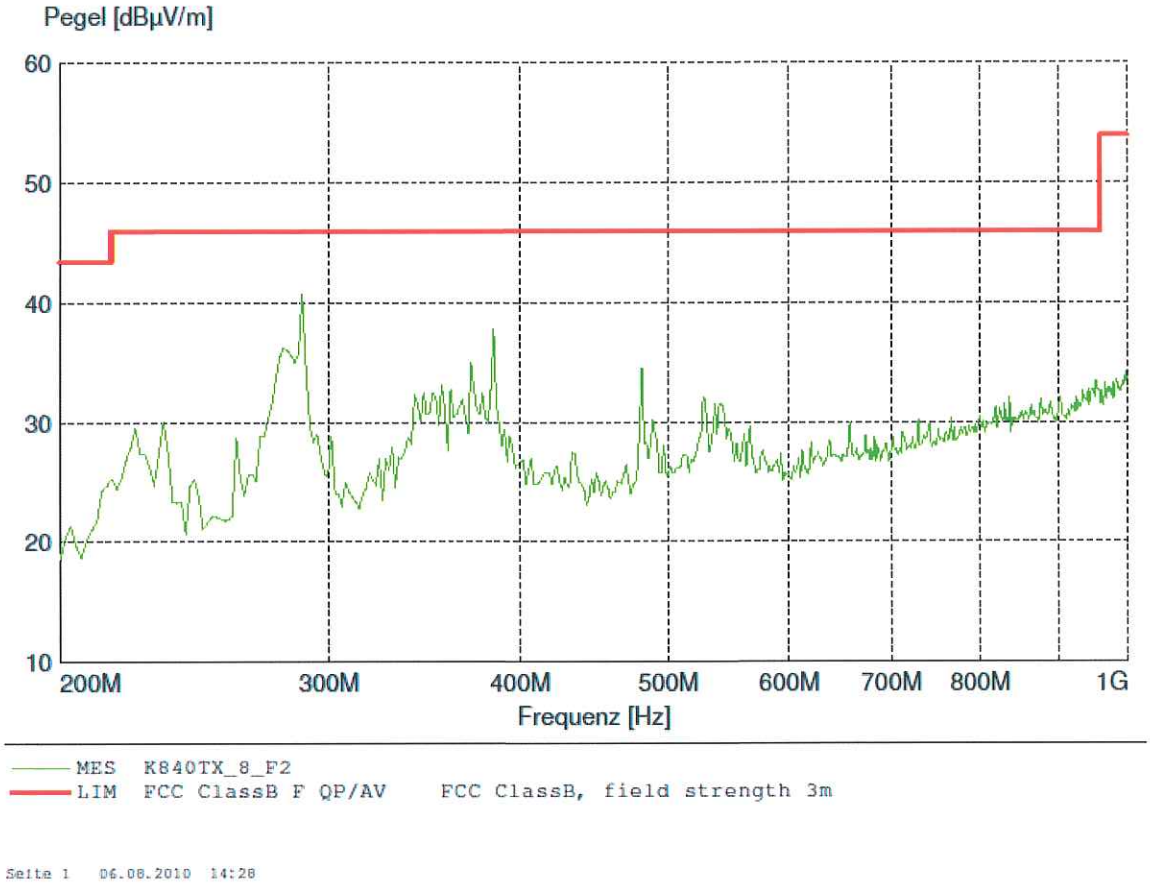
In any 100 kHz bandwidth outside the frequency band in which the radio device is operating.	At least 20dB below the power in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

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

Out-of-band Emission **§ 15.247(d)**
A8.5

Measurement with Peak-Detector:

Frequency: 2438 MHz



LIMIT **SUBCLAUSE 15.247(d) – A8.5**

In any 100 kHz bandwidth outside the frequency band in which the radio device is operating.	At least 20dB below the power in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

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