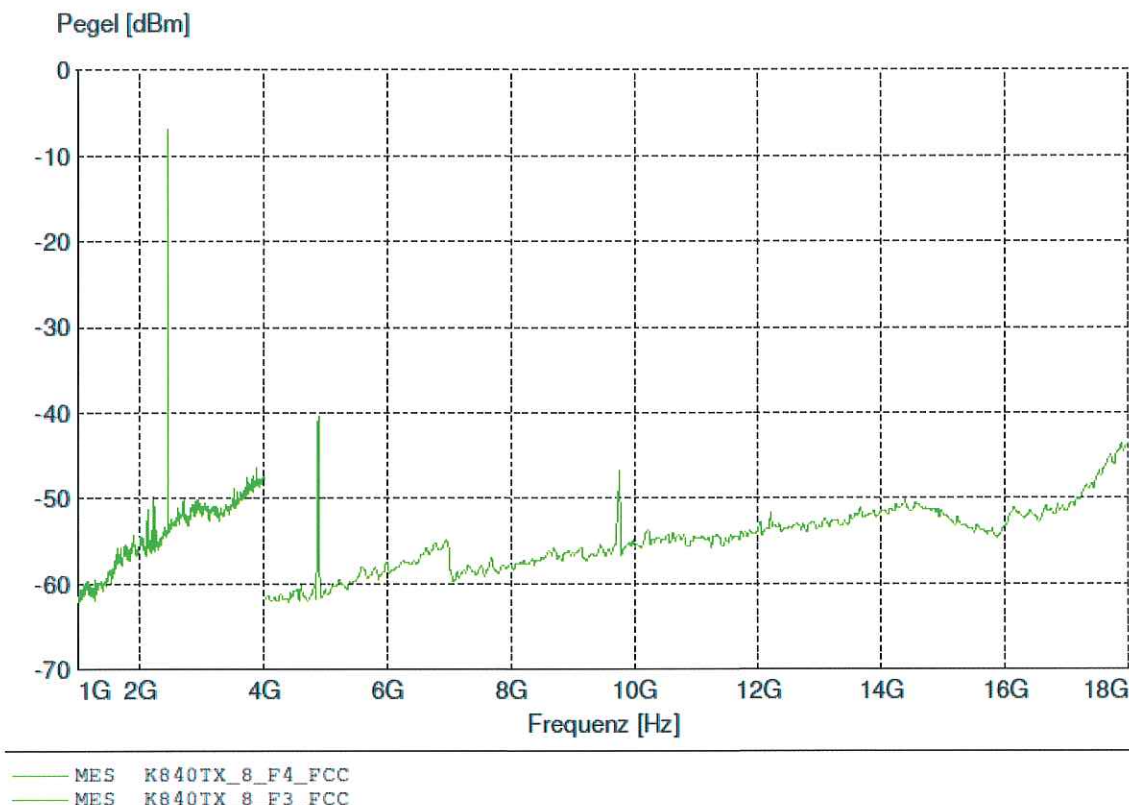


Out-of-band Emission

**§ 15.247(d)
A8.5**

Measurement with Peak-Detector:

Frequency: 2438 MHz



Seite 1 06.08.2010 14:23

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

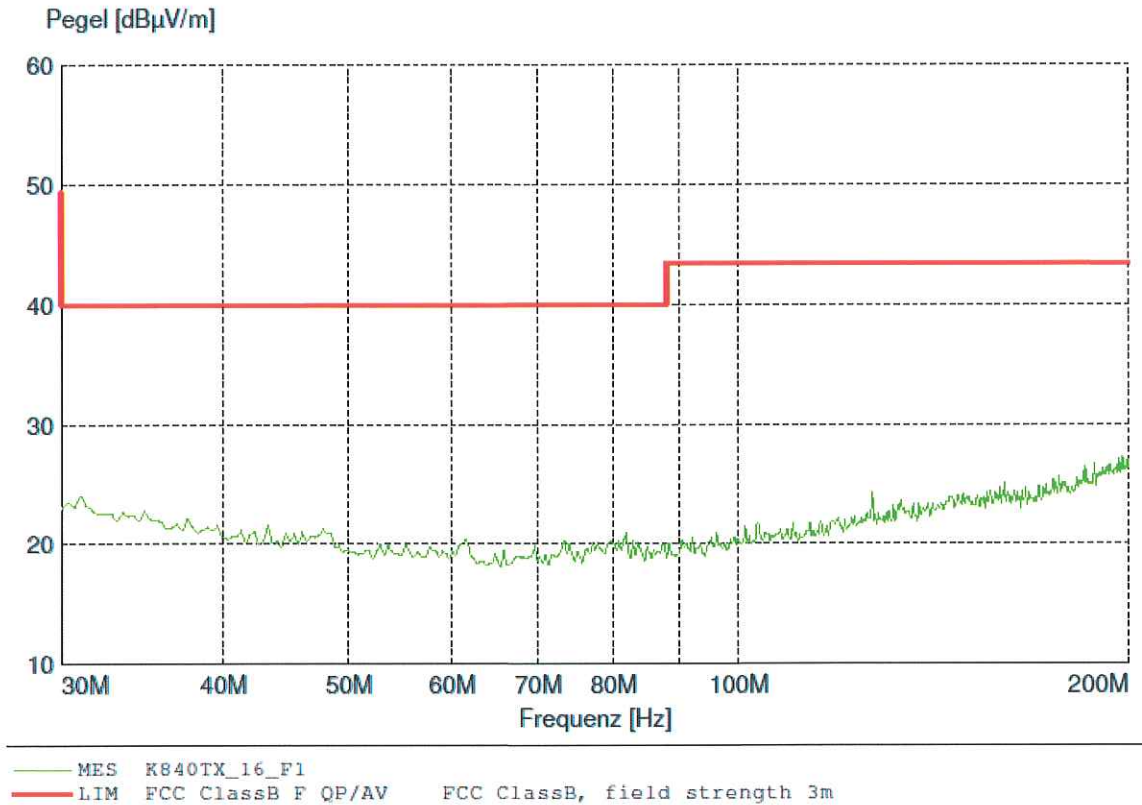
Although the measurements were made up to the tenth harmonic, the curve above is ending at 18 GHz. The tests above 18 GHz are not automatized and therefore we were not able to plot the spectrum analyzer display. Above 18 GHz no emission above noise level were found.

Out-of-band Emission

**§ 15.247(d)
A8.5**

Measurement with Peak-Detector:

Frequency: 2478 MHz



Seite 1 06.08.2010 14:27

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.
---	--

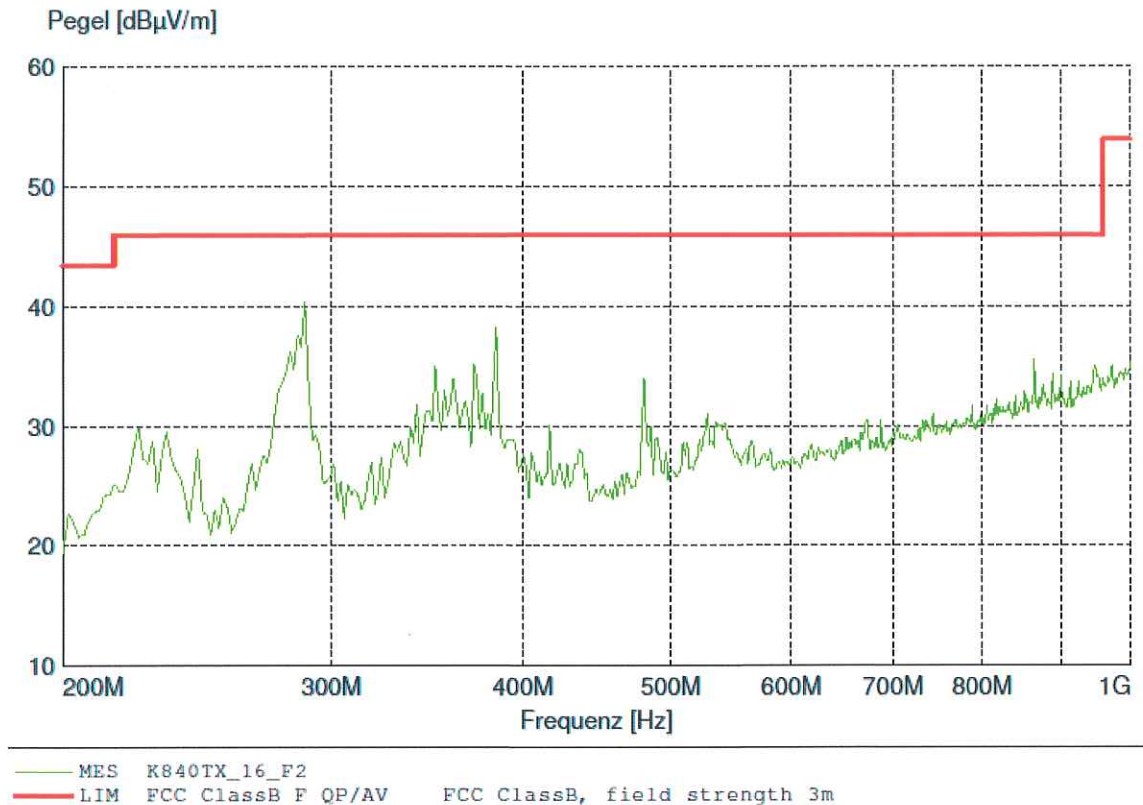
Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-207

Out-of-band Emission

**§ 15.247(d)
A8.5**

Measurement with Peak-Detector:

Frequency: 2478 MHz



Seite 1 06.08.2010 14:29

LIMIT SUBCLAUSE 15.247(d) – A8.5

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

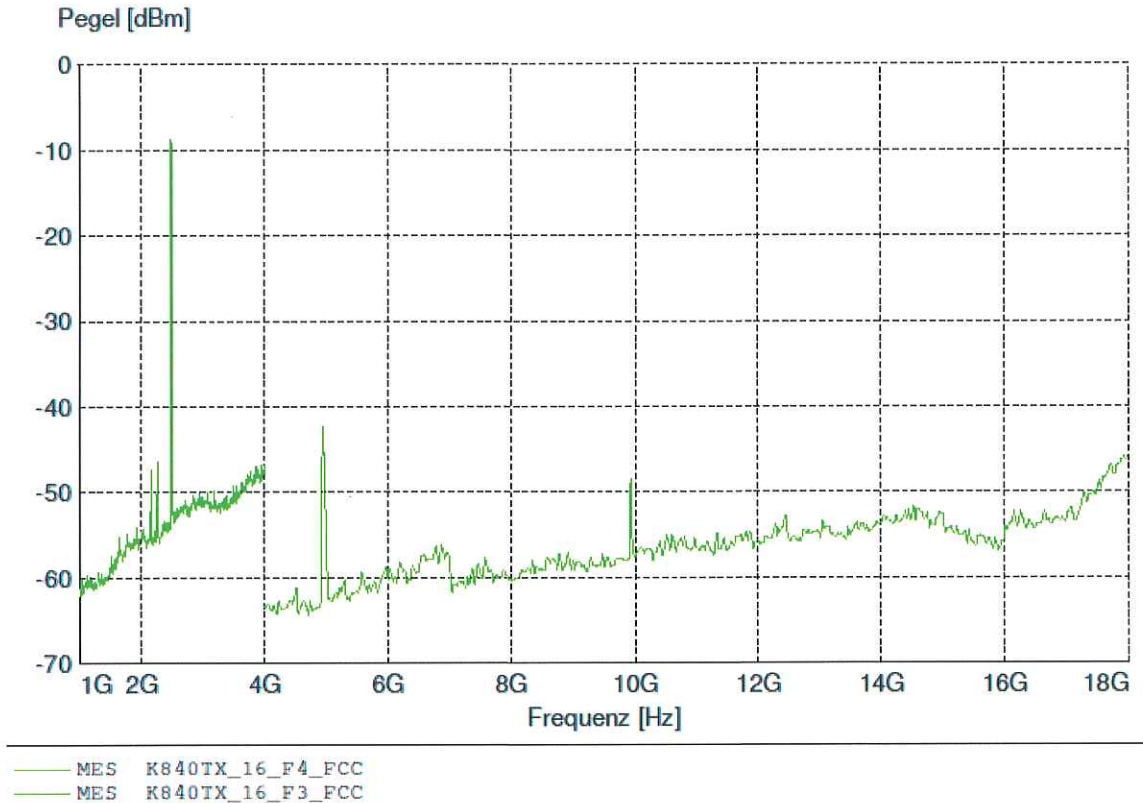
Test Equipment used: NT-100; NT-110; NT-111; NT-112; NT-125; NT-207

Out-of-band Emission

**§ 15.247(d)
A8.5**

Measurement with Peak-Detector:

Frequency: 2478 MHz



Seite 1 06.08.2010 14:24

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

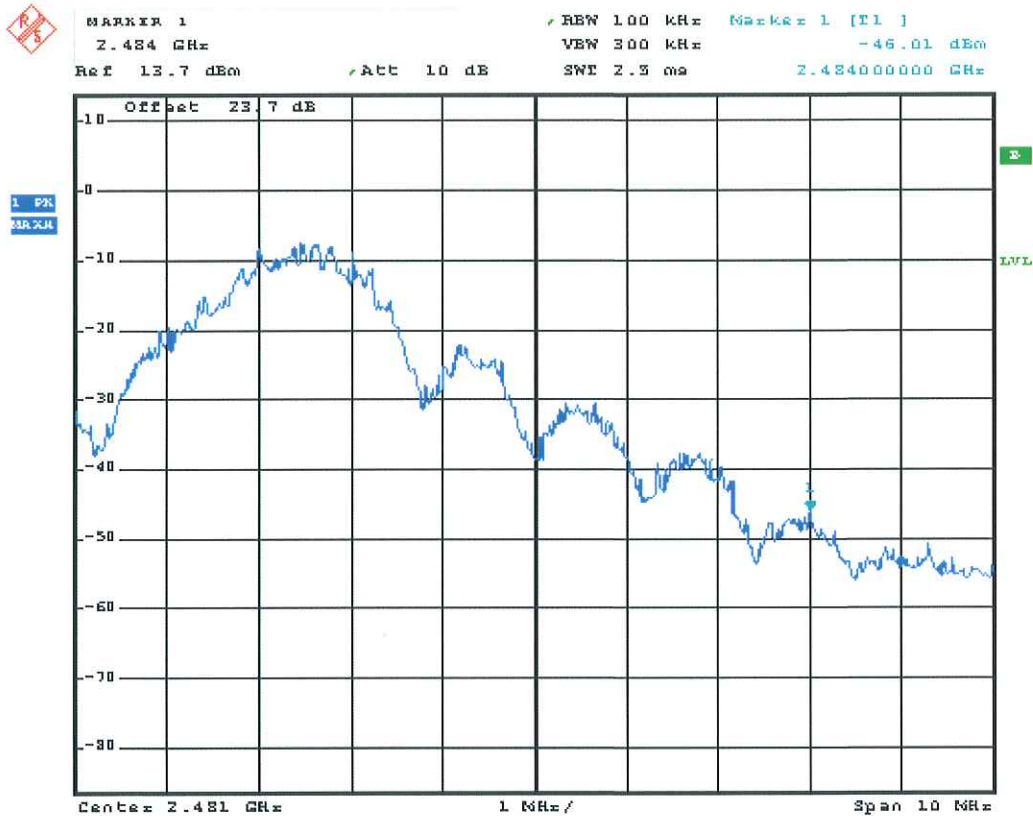
Although the measurements were made up to the tenth harmonic, the curve above is ending at 18 GHz. The tests above 18 GHz are not automatized and therefore we were not able to plot the spectrum analyzer display. Above 18 GHz no emission above noise level were found.

Out-of-band Emission

**§ 15.247(d)
A8.5**

Measurement with Peak-Detector:

Frequency: 2478 MHz – Band Edge measurement



Date: 3.AUG.2010 14:06:48

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

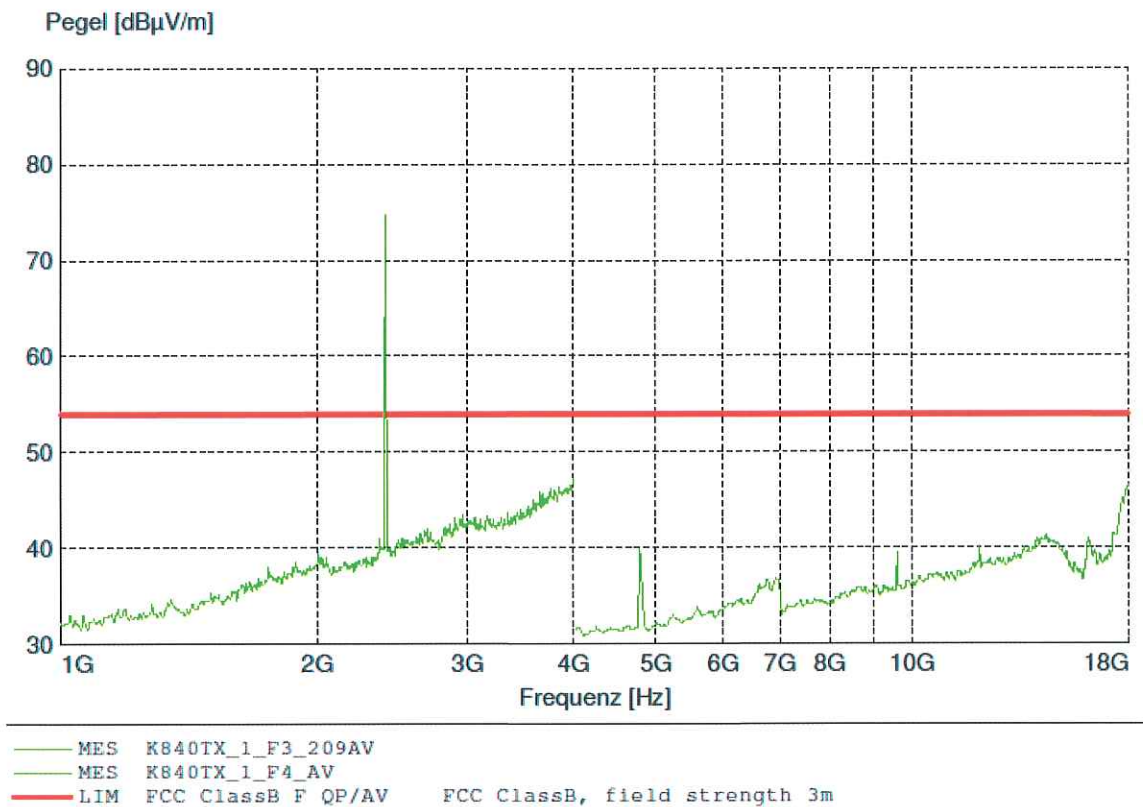
Emissions in restricted bands

§ 15.209(a)

As the limit 15.209 was checked during "Out-of-band Emission" measurements for frequencies below 1 GHz, only the frequency range above 1 GHz was checked.

Measurement with Average-Detector:

Frequency: 2403 MHz



Seite 1 06.08.2010 14:34

LIMIT SUBCLAUSE 15.209

≥ 1GHz	54 dBµV/m average
--------	-------------------

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.

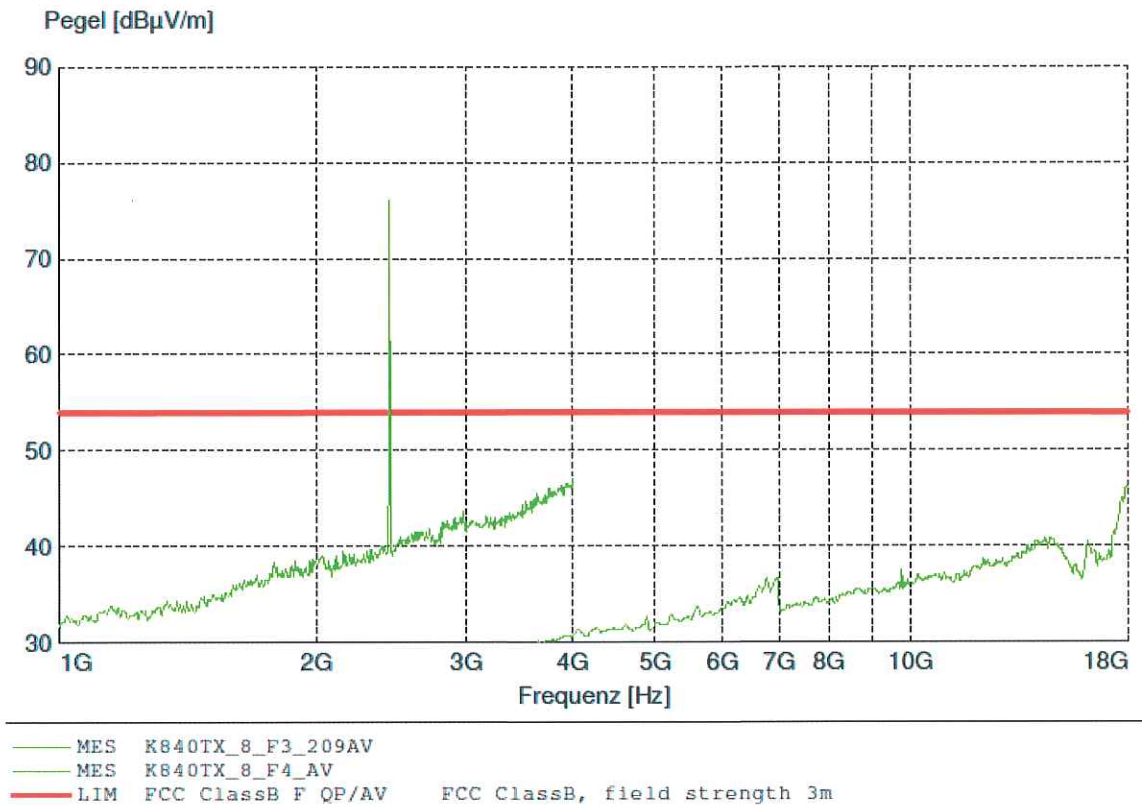
Emissions in restricted bands

§ 15.209(a)

As the limit 15.209 was checked during "Out-of-band Emission" measurements for frequencies below 1 GHz, only the frequency range above 1 GHz was checked.

Measurement with Average-Detector:

Frequency: 2438 MHz



Seite 1 06.08.2010 14:34

LIMIT SUBCLAUSE 15.209

$\geq 1\text{GHz}$	54 dBµV/m average
--------------------	-------------------

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.

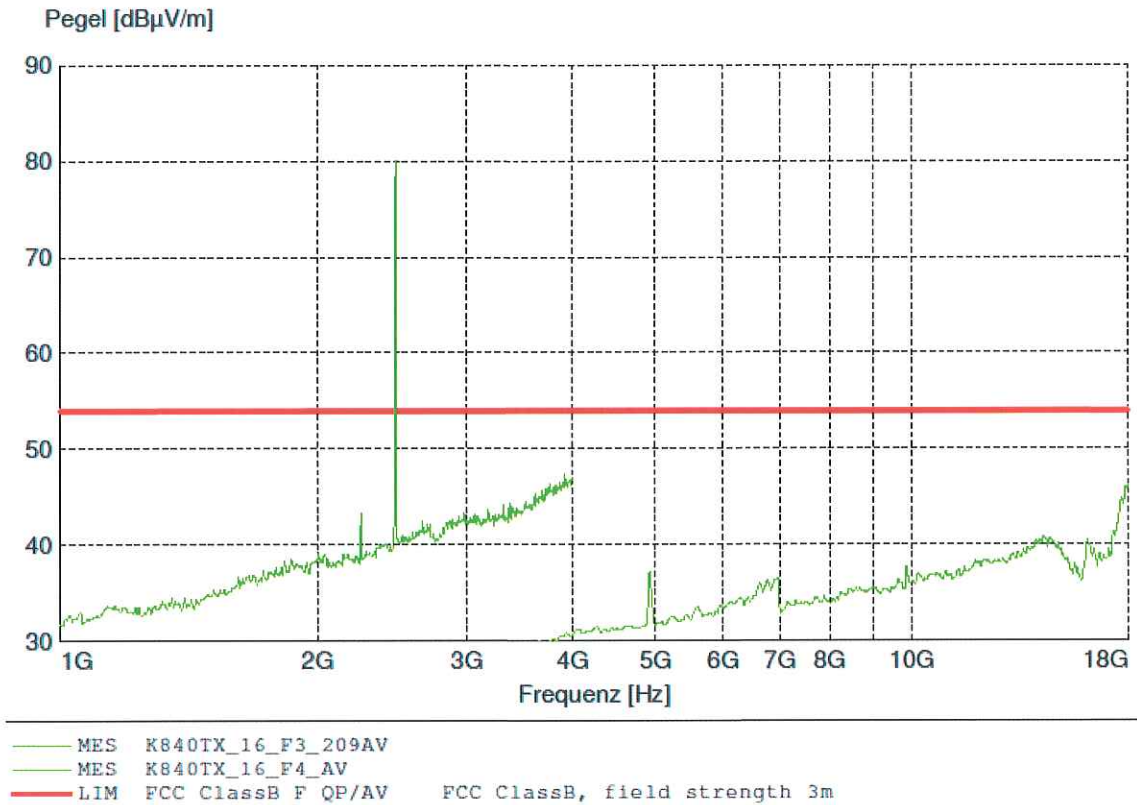
Emissions in restricted bands

§ 15.209(a)

As the limit 15.209 was checked during "Out-of-band Emission" measurements for frequencies below 1 GHz, only the frequency range above 1 GHz was checked.

Measurement with Average-Detector:

Frequency: 2478 MHz



Seite 1 06.08.2010 14:33

LIMIT SUBCLAUSE 15.209

≥ 1GHz	54 dBµV/m average
--------	-------------------

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.

Test Report Reference:
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Ambient temperature: 27°C

Relative humidity: 53%



Maximum permissible Exposure

§ 15.247(i)

This kind of radio equipment is categorically excluded from routine environmental evaluation.

Appendix 1

Test equipment used

<input type="checkbox"/>	Anechoic Chamber with 3m measurement distance	NT-100	<input type="checkbox"/>	Spectrum analyzer – FSP7 9 kHz – 7 GHz	NT-200
<input type="checkbox"/>	Stripline according to ISO 11452-5	NT-108	<input type="checkbox"/>	ESVP - Test receiver 20 - 1000 MHz	NT-201
<input type="checkbox"/>	MA 240 - Antenna mast 1 - 4 m height	NT-110	<input type="checkbox"/>	ESPC - Test receiver 9 kHz - 2,5 GHz	NT-203
<input type="checkbox"/>	DS 412 - Turntable 0 - 400 ° Azimuth	NT-111	<input type="checkbox"/>	ESI26 – Test receiver 20 Hz – 26,5 GHz	NT-207
<input type="checkbox"/>	HD 100 Controller Mast+Turntable	NT-112	<input type="checkbox"/>	Digital Radio Tester CTS55	NT-208
<input type="checkbox"/>	HUF-Z2 - Bicon. Antenna 20 - 300 MHz	NT-120	<input type="checkbox"/>	Noise-gen., ITU-R 559-2 20 Hz – 20 kHz	NT-209
<input type="checkbox"/>	HUF-Z3 - Log. Per. Antenna 200 - 1000 MHz	NT-121	<input type="checkbox"/>	CMTA - Radiocommunication analyzer ; 0,1 - 1000 MHz	NT-210
<input type="checkbox"/>	HFH-Z2 - Loop Antenna 9 kHz - 30 MHz	NT-122	<input type="checkbox"/>	3271 - Spectrum analyzer 100 Hz - 26,5 GHz	NT-211
<input type="checkbox"/>	HFH-Z6 - Rod Antenna 9 kHz - 30 MHz	NT-123	<input type="checkbox"/>	Radiocommunication analyzer Marconi 2945A	NT-212
<input type="checkbox"/>	3121C - Dipole Antenna 28 - 1000 MHz	NT-124	<input type="checkbox"/>	2855S - Communication analyzer	NT-213
<input type="checkbox"/>	3115 - Horn Antenna 1 - 18 GHz (immunity)	NT-125	<input type="checkbox"/>	Mixer M28HW 26,5 GHz - 40 GHz	NT-214
<input type="checkbox"/>	3116 - Horn Antenna 18 - 40 GHz	NT-126	<input type="checkbox"/>	Diode Detector 0,01 GHz - 26,5 GHz	NT-215
<input type="checkbox"/>	SAS-200/543 - Bicon. Antenna 20 MHz - 300 MHz	NT-127	<input type="checkbox"/>	RubiSource T&M Timing reference	NT-216
<input type="checkbox"/>	AT-1080 - Log. Per. Antenna 80 - 1000 MHz	NT-128	<input type="checkbox"/>	Radiocommunication analyzer SWR 1180 MD	NT-217
<input type="checkbox"/>	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-129	<input type="checkbox"/>	Mixer M19HWD 40 GHz – 60 GHz	NT-218
<input type="checkbox"/>	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-130	<input type="checkbox"/>	Mixer M12HWD 60 GHz – 90 GHz	NT-219
<input type="checkbox"/>	3146 - Log. Per. Antenna 200 – 1000 MHz	NT-131	<input type="checkbox"/>	TDS - 540 DSO Digital scope	NT-220
<input type="checkbox"/>	Loop Antenna H-Field	NT-132	<input type="checkbox"/>	DSO9104 Digital scope	NT-220/1
<input type="checkbox"/>	Horn Antenna 500 MHz - 2900 MHz	NT-133	<input type="checkbox"/>	TPS 2014 Digital scope	NT-222
<input type="checkbox"/>	Horn Antenna 500 MHz - 6000 MHz	NT-133/1	<input type="checkbox"/>	Artificial Ear according to IEC 60318	NT-224
<input type="checkbox"/>	Log. per. Antenna 800 MHz - 2500 MHz	NT-134	<input type="checkbox"/>	1 kHz Sound calibrator	NT-225
<input type="checkbox"/>	Log. per. Antenna 800 MHz - 2500 MHz	NT-135	<input type="checkbox"/>	B10 - Harmonics and flicker analyzer	NT-232
<input type="checkbox"/>	BiConiLog Antenna 26 MHz – 2000 MHz	NT-137	<input type="checkbox"/>	SRM-3000 Spectrum analyzer	NT-233
<input type="checkbox"/>	Conical Dipole Antenna PCD8250	NT-138	<input type="checkbox"/>	E-field probe SRM 75 MHz – 3 GHz	NT-234
<input type="checkbox"/>	HF 906 - Horn Antenna 1 - 18 GHz (emission)	NT-139	<input type="checkbox"/>	Hall-Teslameter ETM-1	NT-241
<input type="checkbox"/>	HZ-1 Antenna tripod	NT-150	<input type="checkbox"/>	EFA-3 H-field- / E-field probe	NT-243
<input type="checkbox"/>	BN 1500 Antenna tripod	NT-151	<input type="checkbox"/>	E-field measuring instrument EMR-200; 100 kHz – 3 GHz	NT-244
<input type="checkbox"/>	Ant. tripod for EN61000-4-3 Model TP1000A	NT-156	<input type="checkbox"/>	E-field probe 100 kHz – 3 GHz	NT-245
<input type="checkbox"/>	Power quality analyzer Fluke 1760 (complete set)	NT-160 - NT-172	<input type="checkbox"/>	Magnetic field sensor 300 kHz – 30 MHz	NT-246


Division Medical
Technology/
Communication
Technology/ EMC

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Appendix 1 (continued)

Test equipment used

<input type="checkbox"/>	E-field probe 3 MHz – 18 GHz	NT-247	<input type="checkbox"/>	TRANSIENT 1000 Immunity test system	NT-325
<input type="checkbox"/>	Magneticfield-Sensor 27 MHz – 1 GHz	NT-248	<input type="checkbox"/>	VCS 500-M6 Surge-Generator	NT-326
<input type="checkbox"/>	ELT-400 1 Hz – 400 kHz	NT-249	<input type="checkbox"/>	BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330
<input type="checkbox"/>	MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250	<input type="checkbox"/>	T82-50 RF-Amplifier 2 GHz – 8 GHz	NT-331
<input type="checkbox"/>	FCC-203I EM Injection clamp	NT-251	<input type="checkbox"/>	500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332
<input type="checkbox"/>	FCC-203I-DCN Ferrite decoupling network	NT-252	<input type="checkbox"/>	AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333
<input type="checkbox"/>	PR50 Current Probe	NT-253	<input type="checkbox"/>	APA01 – RF-Amplifier 0,5 GHz – 2,5 GHz	NT-334
<input type="checkbox"/>	PR630 Current Probe	NT-254	<input type="checkbox"/>	Preamplifier 1 GHz - 4 GHz	NT-335
<input type="checkbox"/>	Fluke 87 V True RMS Multimeter	NT-260	<input type="checkbox"/>	Preamplifier for GPS MKU 152 A	NT-336
<input type="checkbox"/>	Model 2000 Digital Multimeter	NT-261	<input type="checkbox"/>	Preamplifier 100 MHz – 23 GHz	NT-337
<input type="checkbox"/>	Fluke 87 V Digital Multimeter	NT-262/1	<input type="checkbox"/>	DC Block 10 MHz – 18 GHz Model 8048	NT-338
<input type="checkbox"/>	ESH2-Z5-U1 Artificial mains network 4x25A	NT-300	<input type="checkbox"/>	2-97201 Electronic load	NT-341
<input type="checkbox"/>	ESH3-Z5-U1 Artificial mains network 2x10A	NT-301	<input type="checkbox"/>	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
<input type="checkbox"/>	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302	<input type="checkbox"/>	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
<input type="checkbox"/>	ESH3-Z4 T-Artificial network	NT-303	<input type="checkbox"/>	VDS 200 Mobil-impuls-generator	NT-350
<input type="checkbox"/>	PHE 4500/B Power amplifier	NT-304	<input type="checkbox"/>	LD 200 Mobil-impuls-generator	NT-351
<input type="checkbox"/>	EZ10 T-Artificial Network	NT-305	<input type="checkbox"/>	MPG 200 Mobil-Impuls-Generators	NT-352
<input type="checkbox"/>	ENY22 Artificial Network	NT-308	<input type="checkbox"/>	EFT 200 Mobil-impuls-generator	NT-353
<input type="checkbox"/>	ENY41 Artificial Network	NT-309	<input type="checkbox"/>	AN 200 S1 Artificial Network	NT-354
<input type="checkbox"/>	SMG - Signal generator 0,1 - 1000 MHz	NT-310	<input type="checkbox"/>	FP-EFT 32M 3 ph. Coupling filter (Burst)	NT-400/1
<input type="checkbox"/>	SMA100A - Signal generator 9 kHz - 6 GHz	NT-310/1	<input type="checkbox"/>	PHE 4500 - Mains impedance network	NT-401
<input type="checkbox"/>	PM 5518 TXVPS Video generator	NT-311	<input type="checkbox"/>	IP 6.2 Coupling filter for data lines (Surge)	NT-403
<input type="checkbox"/>	RefRad Reference generator	NT-312	<input type="checkbox"/>	TK 9421 High Power Volt. Probe 150 kHz - 30 MHz	NT-409
<input type="checkbox"/>	SMP 02 Signal generator 10 MHz - 20 GHz	NT-313	<input type="checkbox"/>	ESH2-Z3 - Probe 9 kHz - 30 MHz	NT-410
<input type="checkbox"/>	40 MHz Arbitrary Generator TGA1241	NT-315	<input type="checkbox"/>	IP 4 - Capacitive clamp (Burst)	NT-411
<input type="checkbox"/>	Artificial mains network NSLK 8127-PLC	NT-316	<input type="checkbox"/>	Highpass-Filter 100 MHz – 3 GHz	NT-412
<input type="checkbox"/>	PEFT - Burst generator up to 4 kV	NT-320	<input type="checkbox"/>	Highpass-Filter 600 MHz – 4 GHz	NT-413
<input type="checkbox"/>	ESD 30 System up to 25 kV	NT-321	<input type="checkbox"/>	Highpass-Filter 1250 MHz – 4 GHz	NT-414
<input type="checkbox"/>	PSURGE 4.1 Surge generator	NT-324	<input type="checkbox"/>	Highpass-Filter 1800 MHz – 16 GHz	NT-415


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Appendix 1 (continued)

Test equipment used

<input type="checkbox"/>	Highpass-Filter 3500 MHz – 18 GHz	NT-416	<input type="checkbox"/>	FCC-801-S25 Coupling decoupling network	NT-462
<input type="checkbox"/>	RF-Attenuator 10 dB DC – 18 GHz / 50 W	NT-417	<input type="checkbox"/>	FCC-801-T4 Coupling decoupling network	NT-463
<input type="checkbox"/>	RF-Attenuator 6 dB DC – 18 GHz / 50 W	NT-418	<input type="checkbox"/>	FCC-801-C1 Coupling decoupling network	NT-464
<input type="checkbox"/>	RF-Attenuator 3 dB DC – 18 GHz / 50 W	NT-419	<input type="checkbox"/>	F-16A - Current probe 1kHz - 70MHz	NT-465
<input type="checkbox"/>	RF-Attenuator 20 dB DC - 1000 MHz / 25 W	NT-421	<input type="checkbox"/>	95242-1 – Current probe 10 MHz – 400 MHz	NT-468
<input type="checkbox"/>	RF-Attenuator 30 dB DC - 1000 MHz / 1 W	NT-423	<input type="checkbox"/>	94106-1L-1 – Current probe 20 Hz – 450 MHz	NT-471
<input type="checkbox"/>	RF-Attenuator 30 dB	NT-424	<input type="checkbox"/>	GA 1240 Power amplifier according to EN 61000-4-16	NT-480
<input type="checkbox"/>	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-425	<input type="checkbox"/>	Coupling networks according to EN 61000-4-16	NT-481 - NT-483
<input type="checkbox"/>	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-426	<input type="checkbox"/>	PC P4 3 GHz Test computer	NT-500
<input type="checkbox"/>	RF-Attenuator 6 dB	NT-428	<input type="checkbox"/>	PC P4 1700 MHz Notebook	NT-505
<input type="checkbox"/>	RF-Attenuator 0 dB - 81 dB	NT-429	<input type="checkbox"/>	PC Intel Centrino 1600 MHz Notebook	NT-506
<input type="checkbox"/>	WRU 27 - Band blocking 27 MHz	NT-430	<input type="checkbox"/>	Monitoring camera with Monitor	NT-511
<input type="checkbox"/>	WHJ450C9 AA - High pass 450 MHz	NT-431	<input type="checkbox"/>	ES-K1 Version 1.71 SP2 Test software	NT-520
<input type="checkbox"/>	WHJ250C9 AA - High pass 250 MHz	NT-432	<input type="checkbox"/>	SRM-TS Version 1.3 software for SRM-3000	NT-522
<input type="checkbox"/>	RF-Load 150 W	NT-433	<input type="checkbox"/>	SPS-PHE Test software V2.5 voltage fluctuations/harmonics	NT-525
<input type="checkbox"/>	Impedance transducer 1:4 ; 1:9 ; 1:16	NT-435	<input type="checkbox"/>	SPS-EM Test software V4.0 EN61000-4-11	NT-527
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 6 dB	NT-436	<input type="checkbox"/>	Noise power test apparatus according to EN 55014	NT-530
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 6 dB	NT-437	<input type="checkbox"/>	Vertical coupling plane (ESD)	NT-531
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 10 dB	NT-438	<input type="checkbox"/>	Test cable #4 for EN 61000-4-6	NT-553
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 20 dB	NT-439	<input type="checkbox"/>	Test cable #3 for conducted emission	NT-554
<input type="checkbox"/>	I+P 7780 Directional coupler 100 - 2000 MHz	NT-440	<input type="checkbox"/>	Test cable #5 ESD-cable (2x470k)	NT-555
<input type="checkbox"/>	ESH3-Z2 - Pulse limiter 9 kHz - 30 MHz	NT-441	<input type="checkbox"/>	Test cable #6 ESD-cable (2x470k)	NT-556
<input type="checkbox"/>	Power Divider 6 dB/1 W/50 Ohm	NT-443	<input type="checkbox"/>	Test cable #8 Sucoflex 104EA	NT-559
<input type="checkbox"/>	Directional coupler 0,1 MHz – 70 MHz	NT-444	<input type="checkbox"/>	Test cable #9 (for outdoor measurements)	NT-580
<input type="checkbox"/>	Directional coupler 0,1 MHz – 70 MHz	NT-445	<input type="checkbox"/>	Test cable #10 (for outdoor measurements)	NT-581
<input type="checkbox"/>	Tube imitations according to EN 55015	NT-450	<input type="checkbox"/>	Test cable #13 Sucoflex 104PE	NT-584
<input type="checkbox"/>	FCC-801-M3-16A Coupling decoupling network	NT-458	<input type="checkbox"/>	Test cable #21 for SRM-3000	NT-592
<input type="checkbox"/>	FCC-801-M2-50A Coupling decoupling network	NT-459	<input type="checkbox"/>	Shield chamber	NT-600
<input type="checkbox"/>	FCC-801-M5-25 Coupling decoupling network	NT-460	<input type="checkbox"/>	Climatic chamber	M-1200
<input type="checkbox"/>	FCC-801-AF10 Coupling decoupling network	NT-461	<input type="checkbox"/>	Control and simulation equipment for EUT	---

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