

TEST REPORT

of the accredited test laboratory

TÜV Nr.: INE-AT/FG-17/131

Applicant: BlueLocar GmbH
Autokaderstr. 29/BT 2
A-1210 Vienna

Tested Product: Frequency hopping device "ray"

FCC-ID: 2AJPPRAY01

IC-ID: 21949-RAY01

Manufacturer: See applicant

Output power / 407 mW eirp **power supply:** 6 VDC
field strength:

Frequency range: 915,000 – **Channel separation:** 38kHz
916,976 MHz

Standard: FCC: 47 CFR Part 15 (October 1, 2016 edition)
RSS-247 Issue 2, March 16, 2017

Testing Laboratory,
Inspection Body,
Certification Body,
Calibration Laboratory,
Verifizierungsstelle**Notified Body 0408**
IC 2932K-1**Non-executive**
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Mag. Christoph
Weninger**Registered Office:**
Deutschstrasse 10
1230 Vienna/Austria**Branch Offices:**
www.tuv.at/standorte**Company Register**
Court / - Number:
Vienna / FN 288476 f**Bank Details:**
IBAN
AT131200052949001066
BIC BKAUATWW**IBAN**
AT153100000104093282
BIC RZBAATWW**VAT** ATU63240488
DVR 3002476**TUV Austria Services GmbH**
Test laboratory for EMC

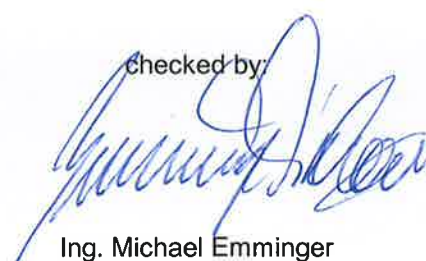
Supervisor of EMC-laboratory:


Ing. Wilhelm Seier

30.10.2017

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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 15 and RSS-247 is given below.

SUBCLAUSE	PARAMETER TO BE MEASURED	PAGE
	Intentional Radiators	
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15.247(a)(1) 5.1 (c)	Number of channels and channel spacing	4
15.247(a)(1) 5.1 (a) (c)	20 dB Bandwidth	5-7
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TEST OBJECT DATA

General EUT Description

This frequency hopping device is using the 902-928 MHz frequency band.

2.1033 (c) Technical description

2.1033 (4) Type of emission: 12K4F1D – Channel spacing 38 kHz.

2.1033 (5) Frequency range: 915,000 to 916,976 MHz (channel center frequencies).

2.1033 (6) Power range and Controls: The maximum peak output power is 407 mW and there is no power regulation.

2.1033 (7) Maximum output power rating: 407 mW eirp.

2.1033 (8) DC Voltage and Current: 6V DC
maximum current consumption: 400 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 August 21st 2017.

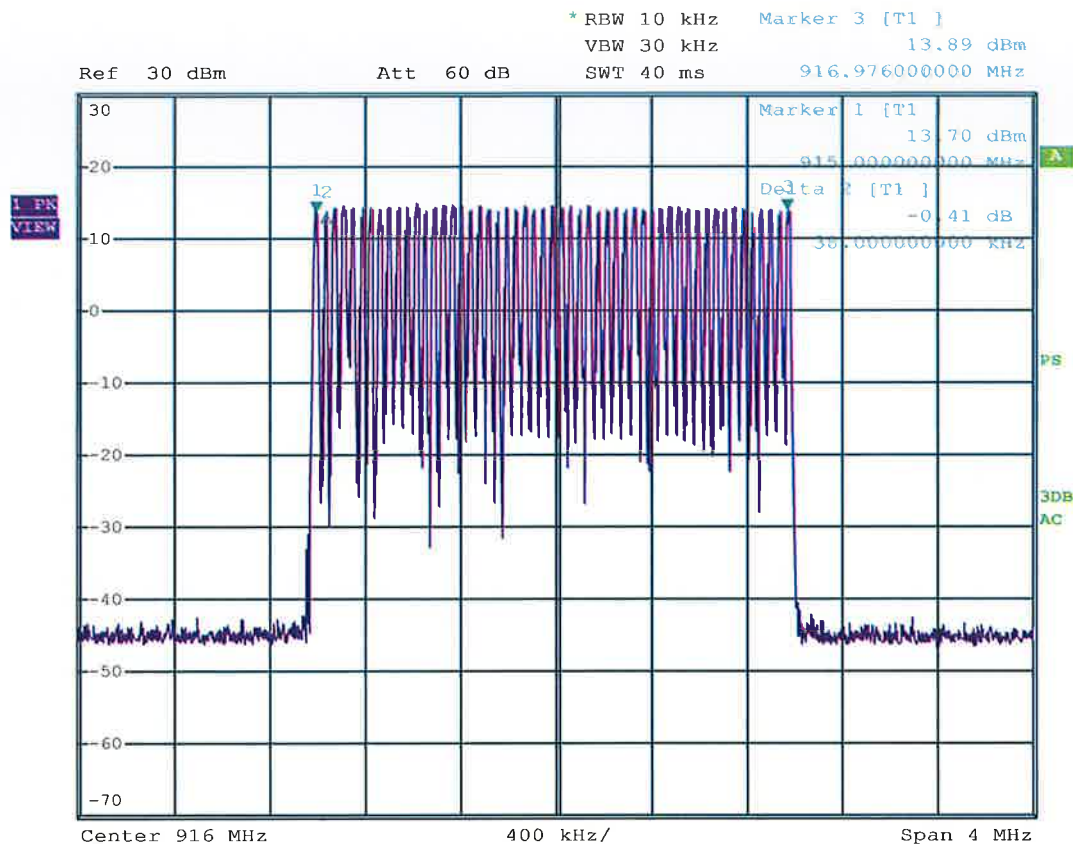
Number of channels and channel spacing

§ 15.247 (a) (1)
5.1 (c)

Mode: Bluetooth

Conducted Measurement

Rated output power: 407 mW



Date: 21.AUG.2017 12:00:31

There are 53 Channels used, starting at 915,000 till 2480 each spaced by 38 kHz channel spacing.

LIMIT SUBCLAUSE 15.247(a) (1) – 5.1(c)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Frequency hopping systems in the 902-928 MHz band shall use at least 50 channels if the 20 dB Bandwidth is less than 250 kHz.

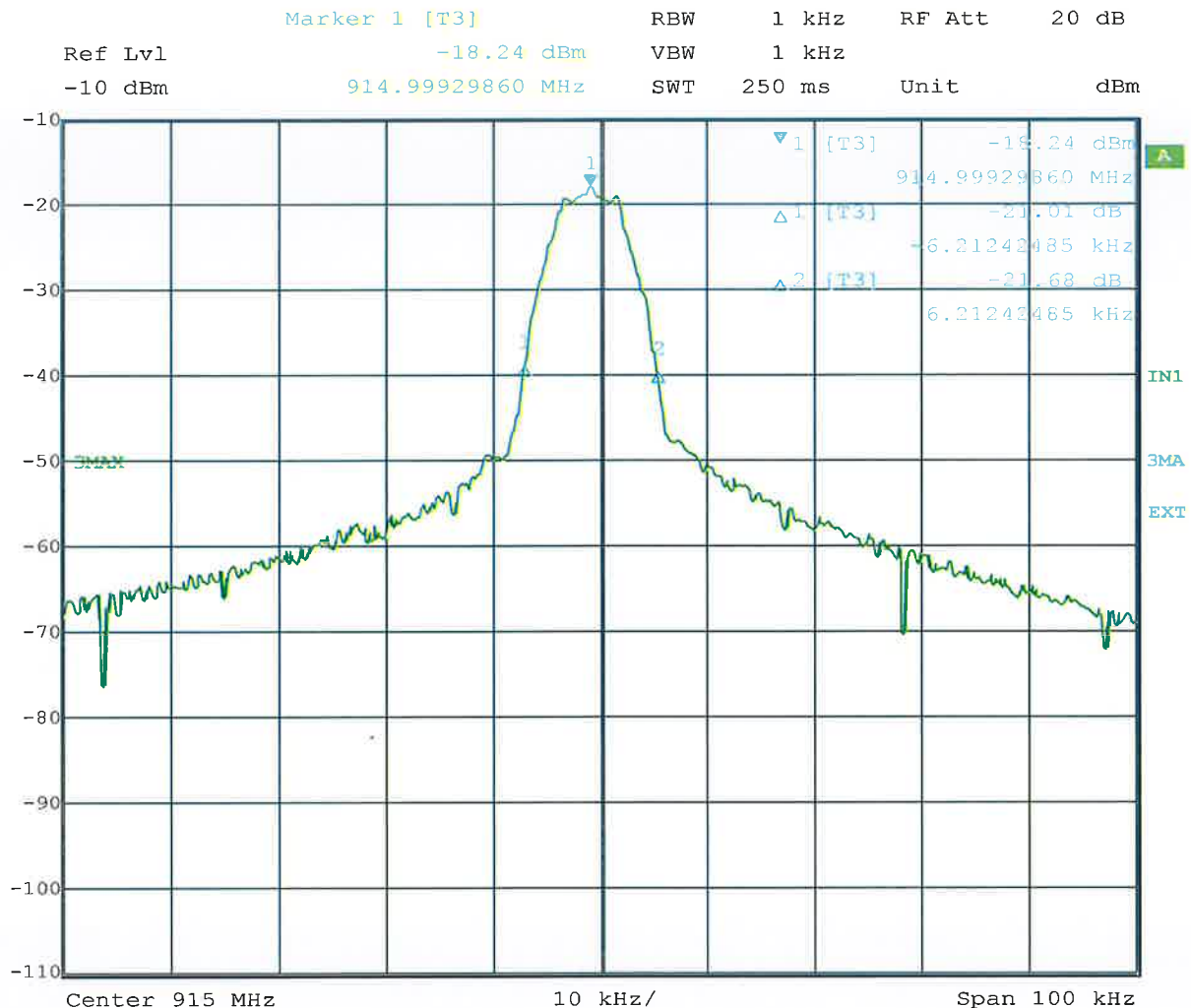
Test Equipment used: NT-203/1

20dB Bandwidth

§ 15.247 (a) (1)
5.1 (a) (c)

Radiated Measurement

Rated output power: 407 mW 915,000 MHz



Date: 21.AUG.2017 10:28:44

20dB Bandwidth: 12,42 kHz

LIMIT SUBCLAUSE 15.247(a) (1) – 5.1(a) (c)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Frequency hopping systems in the 902-928 MHz band shall use at least 50 channels if the 20 dB Bandwidth is less than 250 kHz.

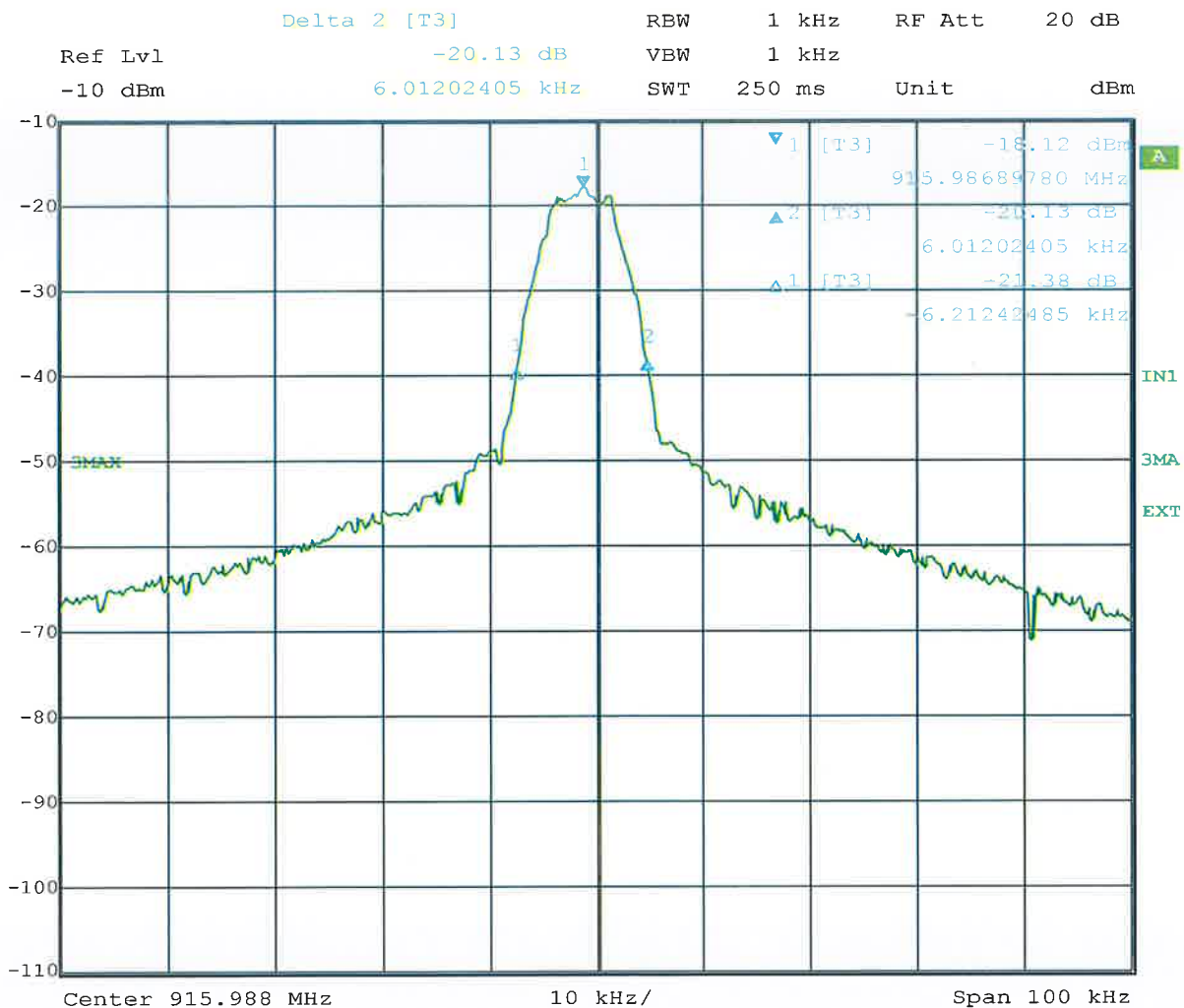
Test Equipment used: NT-100; NT-110/1; NT-111/1; NT-112/1; NT-131/1; NT-207; NT-216

20dB Bandwidth

§ 15.247 (a) (1)
5.1 (a) (c)

Radiated Measurement

Rated output power: 407 mW 915,988 MHz



Date: 21.AUG.2017 10:33:25

20dB Bandwidth: 12,22 kHz

LIMIT SUBCLAUSE 15.247(a) (1) – 5.1(a) (c)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Frequency hopping systems in the 902-928 MHz band shall use at least 50 channels if the 20 dB Bandwidth is less than 250 kHz.

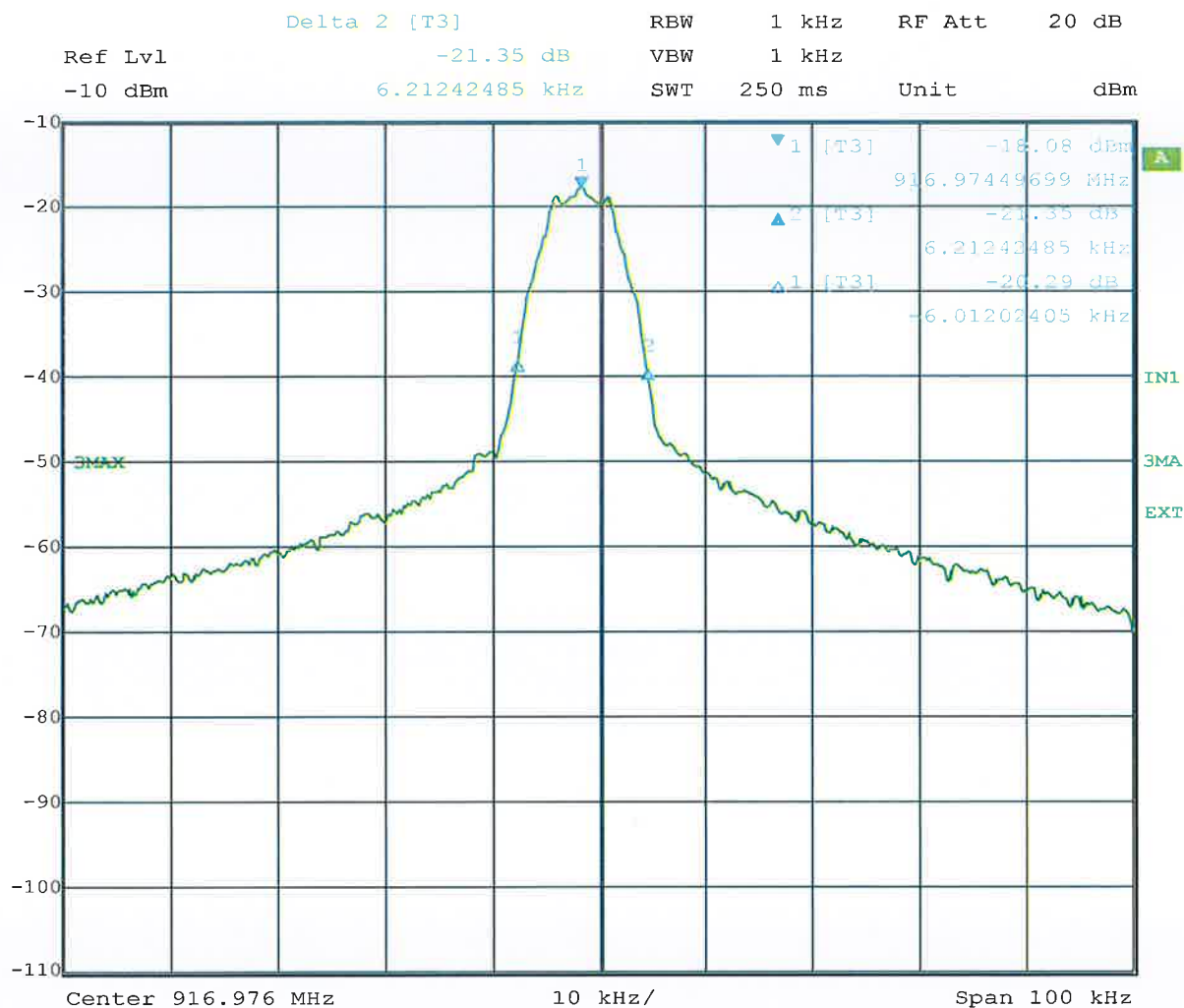
Test Equipment used: NT-100; NT-110/1; NT-111/1; NT-112/1; NT-131/1; NT-207; NT-216

20dB Bandwidth

§ 15.247 (a) (1)
5.1 (a) (c)

Radiated Measurement

Rated output power: 407 mW 916,976 MHz



Date: 21.AUG.2017 10:40:45

20dB Bandwidth: 12,22 kHz

LIMIT SUBCLAUSE 15.247(a) (1) – 5.1(a) (c)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Frequency hopping systems in the 902-928 MHz band shall use at least 50 channels if the 20 dB Bandwidth is less than 250 kHz.

Test Equipment used: NT-100; NT-110/1; NT-111/1; NT-112/1; NT-131/1; NT-207; NT-216

Maximum Peak RF Power Output (EIRP)

**§ 15.247(b)(2)
5.4(a)**

Radiated Measurement

Rated output power: 407 mW

Test conditions		Transmitter power (mW)		
		915,000 MHz	915,988 MHz	916,976 MHz
T _{nom} (28)°C	V _{nom} (6) V	339	339	407
Maximum deviation from rated output power under normal test conditions (dB)				
Measurement uncertainty		± 3 dB		

LIMIT

SUBCLAUSE 15.247(b)(2) – 5.4(a)

Under normal test conditons	1W conducted (4W eirp)
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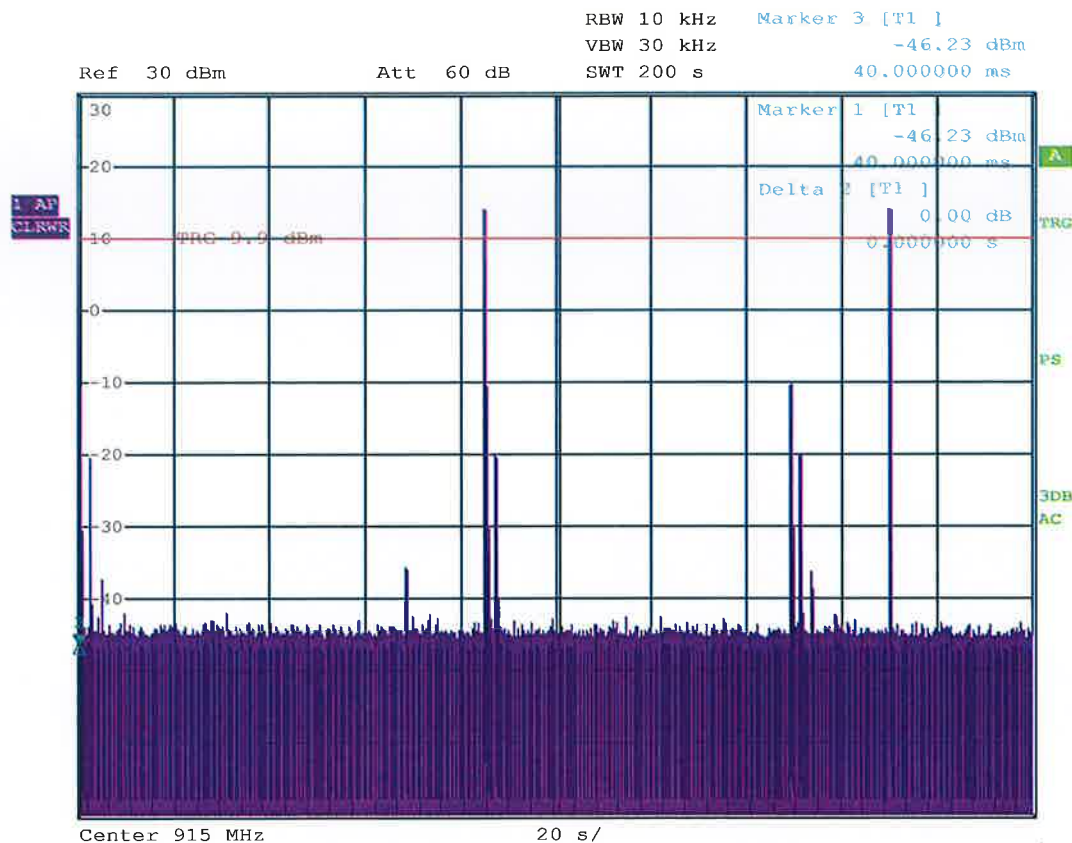
Test Equipment used: NT-100; NT-110/1; NT-111/1; NT-112/1; NT-131/1; NT-207; NT-216

Average Time of Occupancy

**§ 15.247(a)(1)(i)
5.1(c)**

Radiated Measurement

Rated output power: 407 mW 915,000 MHz



Date: 21.AUG.2017 12:07:47

According to the protocol description the channel occupancy time in one transmit sequence is equal to 0,4 seconds. No more than 1 transmit sequence in any 20 seconds period was observed.

LIMIT SUBCLAUSE 15.247(a)(1)(i) – 5.1(c)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 20 seconds if at least 50 hopping channels are employed.

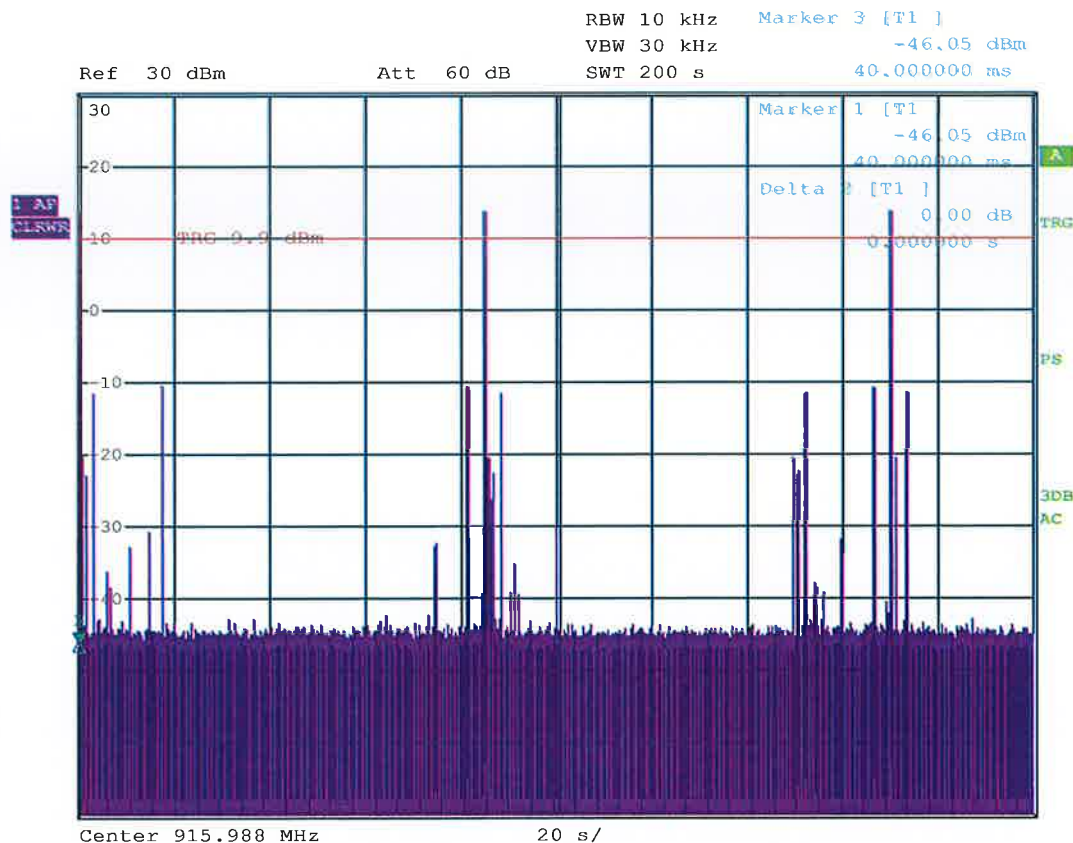
Test Equipment used: NT-203/1

Average Time of Occupancy

§ 15.247(a)(1)(i)
5.1(c)

Radiated Measurement

Rated output power: 407 mW 915,988 MHz



Date: 21.AUG.2017 12:16:14

According to the protocol description the channel occupancy time in one transmit sequence is equal to 0,4 seconds. No more than 1 transmit sequence in any 20 seconds period was observed.

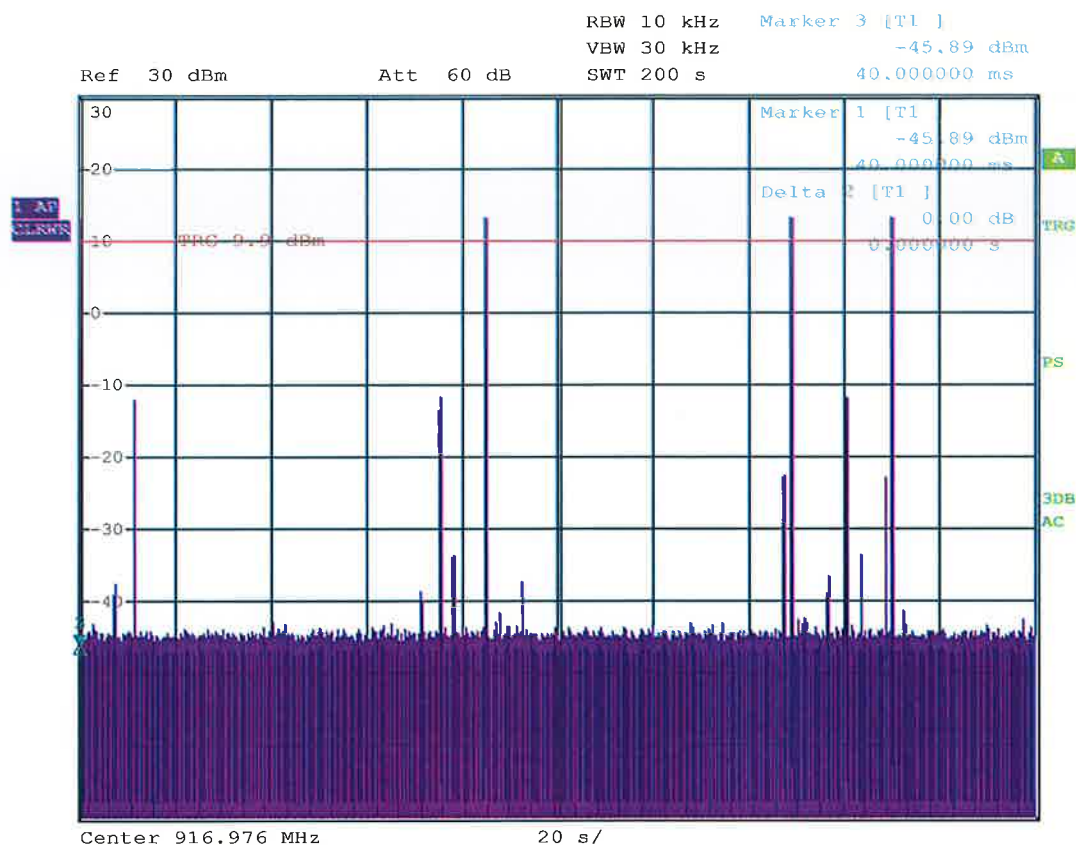
LIMIT SUBCLAUSE 15.247(a)(1)(i) – 5.1(c)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 20 seconds if at least 50 hopping channels are employed.

Test Equipment used: NT-203/1

§ 15.247(a)(1)(i)
5.1(c)

Rated output power: 407 mW 916,976MHz



According to the protocol description the channel occupancy time in one transmit sequence is equal to 0,4 seconds. No more than 1 transmit sequence in any 20 seconds period was observed.

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 20 seconds if at least 50 hopping channels are employed.

Test Equipment used: NT-203/1

Out-of-band Emission

**§ 15.247(d)
5.5**

The 15.209 (RSS-Gen) Limit was checked during radiated emissions testing, see following pages

LIMIT

SUBCLAUSE 15.247(d) – 5.5

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.
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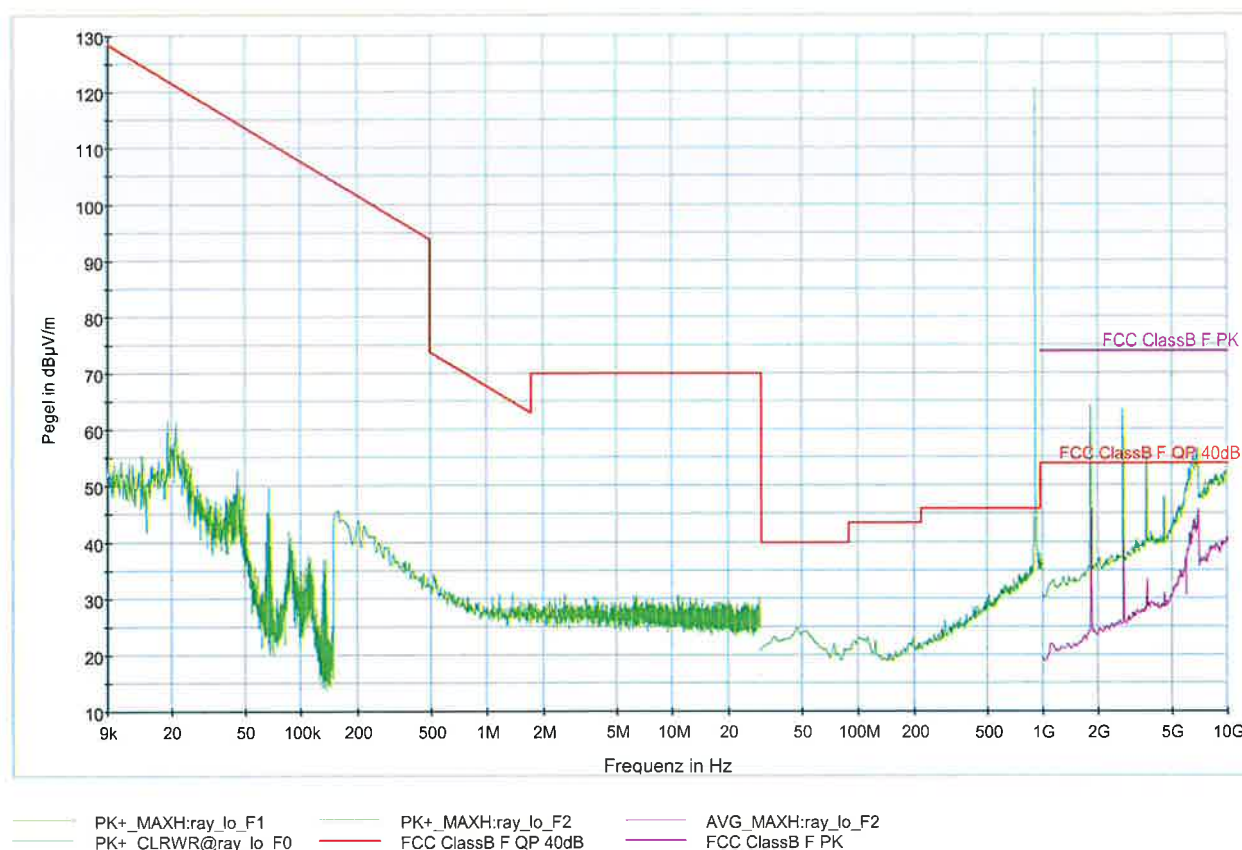
Test Equipment used: N/A

Emissions in restricted bands
Emissions falling within restricted frequency bands

§ 15.209(a)
RSS-Gen

Measurement radiated with Peak-Detector (green line) and Average detector (magenta line):

Radiated measurement - 915,000 MHz



Worst case emission: 53,8 dBµV/m @ 1830,000 MHz

Remark: An averaging factor of -10,2 dB was taken into account at the harmonics. According to the protocol description the worst case transmit time in any 100ms period would be 35,83ms (device transmitting a SYNC packet in the second pretime-slot followed by the first payload packet).

LIMIT **SUBCLAUSE 15.209(a) – RSS-Gen**

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

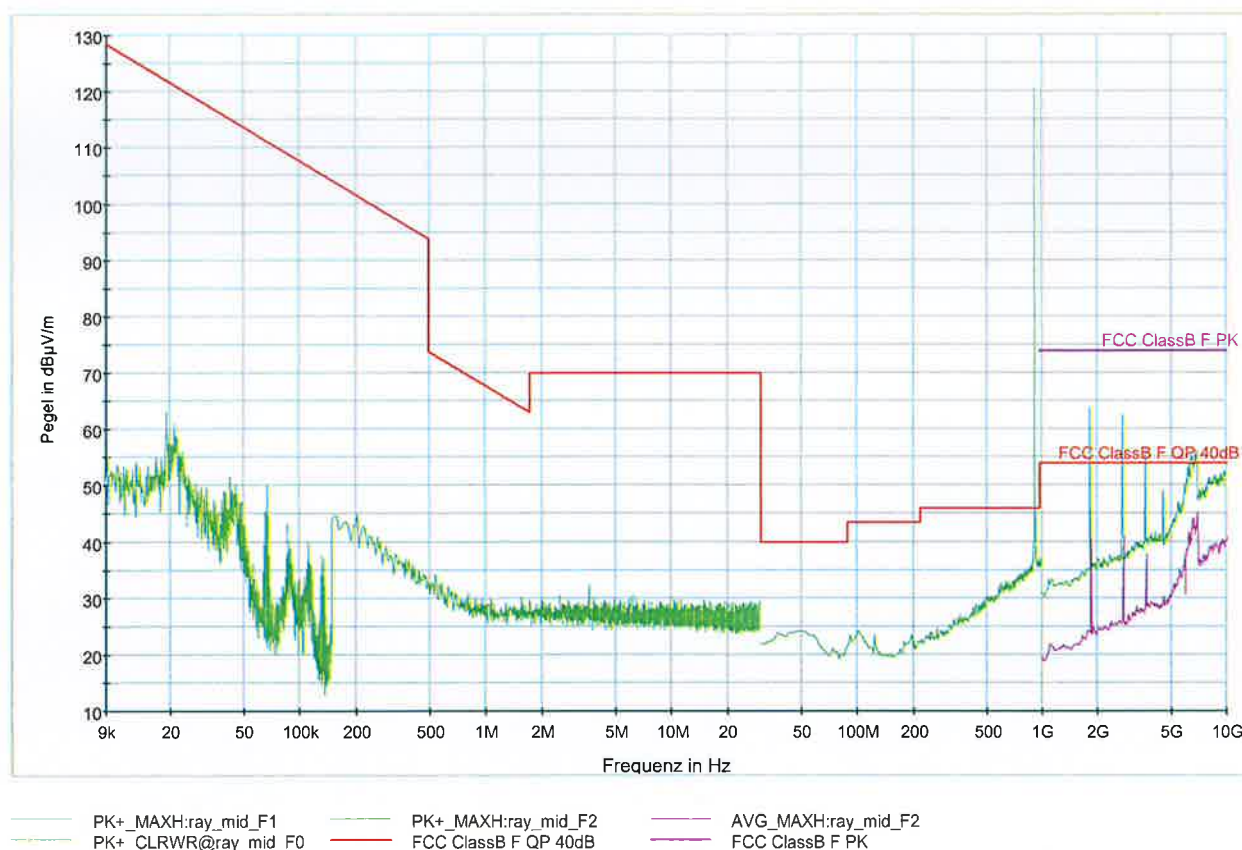
Test Equipment used: NT-100; NT-110/1; NT-111/1; NT-112/1; NT-122; NT-126; NT-131/1; NT-207; NT-216; NT-337; NT-414

Emissions in restricted bands
Emissions falling within restricted frequency bands

§ 15.209(a)
RSS-Gen

Measurement radiated with Peak-Detector (green line) and Average detector (magenta line):

Radiated measurement - 915,988 MHz



Worst case emission: 53,6 dBµV/m @ 1831,976 MHz

Remark: An averaging factor of -10,2 dB was taken into account at the harmonics. According to the protocol description the worst case transmit time in any 100ms period would be 35,83ms (device transmitting a SYNC packet in the second pretime-slot followed by the first payload packet).

LIMIT **SUBCLAUSE 15.209(a) – RSS-Gen**

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

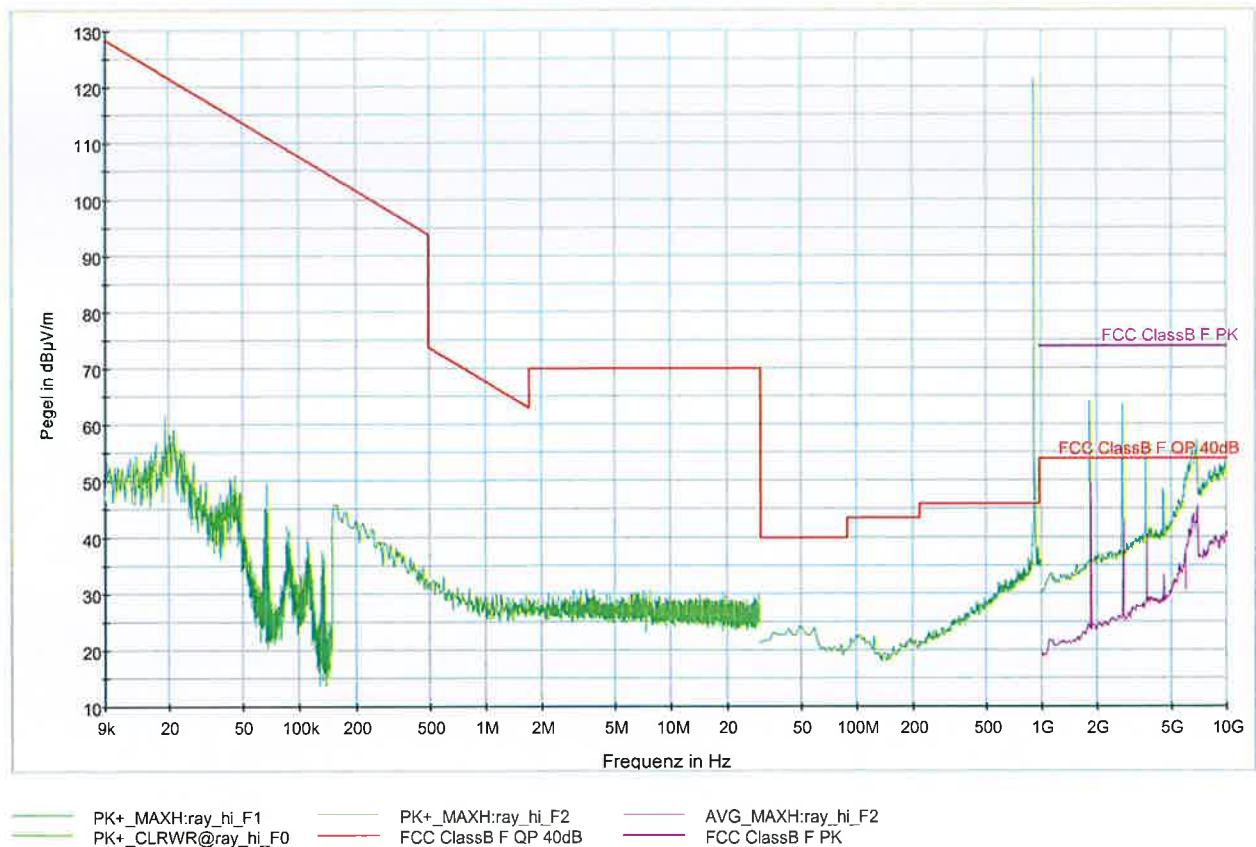
Test Equipment used: NT-100; NT-110/1; NT-111/1; NT-112/1; NT-122; NT-126; NT-131/1; NT-207; NT-216; NT-337; NT-414

Emissions in restricted bands
Emissions falling within restricted frequency bands

§ 15.209(a)
RSS-Gen

Measurement radiated with Peak-Detector (green line) and Average detector (magenta line):

Radiated measurement - 916,976 MHz



Worst case emission: 53,8 dBµV/m @ 1833,952 MHz

Remark: An averaging factor of -10,2 dB was taken into account at the harmonics. According to the protocol description the worst case transmit time in any 100ms period would be 35,83ms (device transmitting a SYNC packet in the second pretime-slot followed by the first payload packet).

LIMIT SUBCLAUSE 15.209(a) – RSS-Gen

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

Test Equipment used: NT-100; NT-110/1; NT-111/1; NT-112/1; NT-122; NT-126; NT-131/1; NT-207; NT-216; NT-337; NT-414

Conducted Limits

**§ 15.207
RSS-Gen 8.8**

As no external power connector is available, no measurement of conducted limits was performed.

LIMIT SUBCLAUSE 15.207(a) – RSS-Gen 8.8

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

Test Equipment used: N/A

Maximum permissible Exposure

§ 15.247(i)

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

Appendix 1

Test equipment used

☐ Anechoic Chamber with 3m measurement distance	NT-100	☐ Spectrumanalyzer – 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	☐ Radiocommunicationanalyzer 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
☐ VULB 9163 Trilog Antenna 30 – 3000 MHz	NT-131/1	☐ 1 kHz Sound calibrator	NT-225
☐ Loop Antenna H-Field	NT-132	☐ B10 - Harmonics and flicker analyzer	NT-232
☐ Horn Antenna 500 MHz - 2900 MHz	NT-133	☐ SRM-3000 Spectrumanalyzer	NT-233
☐ Horn Antenna 500 MHz - 6000 MHz	NT-133/1	☐ SRM-3006 Spectrumanalyzer	NT-233/1a
☐ Log. per. Antenna 800 MHz - 2500 MHz	NT-134	☐ E-field probe SRM 75 MHz – 3 GHz	NT-234
☐ Log. per. Antenna 800 MHz - 2500 MHz	NT-135	☐ Field Meter NBM-500 incl. E- and H-Field probes	NT-240a-d
☐ BiConiLog Antenna 26 MHz – 2000 MHz	NT-137	☐ Hall-Teslameter ETM-1	NT-241
☐ Conical Dipol Antenna PCD8250	NT-138	☐ EFA-3 H-field- / E-field probe	NT-243
☐ HF 906 - Horn Antenna 1 - 18 GHz (emission)	NT-139	☐ EHP-50F H-field- / E-field probe	NT-243/1
☐ HZ-1 Antenna tripod	NT-150	☐ Field Meter EMR-200 100 kHz – 3 GHz	NT-244
☐ BN 1500 Antenna tripod	NT-151	☐ E-field probe 100 kHz – 3 GHz	NT-245
☐ Ant. tripod for EN61000-4-3 Model TP1000A	NT-156	☐ H-field probe 300 kHz – 30 MHz	NT-246
☐ Power quality analyzer Fluke 1760 (complete set)	NT-160 - NT-173		

Division:
Industry & Energy

Department: FG

Test report number:
INE-AT/FG-17/131

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Date: 30.10.2017

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Appendix 1 (continued)

Test equipment used

☐ E-field probe 3 MHz – 18 GHz	NT-247	☐ Oscillatory Wave Simulator incl. Coupling networks	NT-328a+b+c
☐ H-field probe 27 MHz – 1 GHz	NT-248	☐ BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330
☐ ELT-400 1 Hz – 400 kHz	NT-249	☐ T82-50 RF-Amplifier 2 GHz – 8 GHz	NT-331
☐ MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250	☐ 500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332
☐ FCC-203I EM Injection clamp	NT-251	☐ AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333
☐ FCC-203I-DCN Ferrite decoupling network	NT-252	☐ APA01 – RF-Amplifier 0,5 GHz – 2,5 GHz	NT-334
☐ PR50 Current Probe	NT-253	☐ Preamplifier 1 GHz - 4 GHz	NT-335
☐ i310s Current Probe	NT-254/1	☐ Preamplifier for GPS MKU 152 A	NT-336
☐ Fluke 87 V True RMS Multimeter	NT-260	☐ Preamplifier 100 MHz – 23 GHz	NT-337
☐ Model 2000 Digital Multimeter	NT-261	☐ DC Block 10 MHz – 18 GHz Model 8048	NT-338
☐ Fluke 87 V Digital Multimeter	NT-262/1	☐ 2-97201 Electronic load	NT-341
☐ ESH2-Z5-U1 Artificial mains network 4x25A	NT-300	☐ TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
☐ ESH3-Z5-U1 Artificial mains network 2x10A	NT-301	☐ TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
☐ ESH3-Z6-U1 Artificial mains network 1x100A	NT-302	☐ VDS 200 Mobil-impuls-generator	NT-350
☐ ESH3-Z6-U1 Artificial mains network 1x100A	NT-302a	☐ LD 200 Mobil-impuls-generator	NT-351
☐ PHE 4500/B Power amplifier	NT-304	☐ 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
☐ PEFT - Burst generator up to 4 kV	NT-320	☐ IP 4 - Capacitive clamp (Burst)	NT-411
☐ ESD 30 System up to 25 kV	NT-321	☐ Highpass-Filter 100 MHz – 3 GHz	NT-412
☐ PSURGE 4.1 Surge generator	NT-324	☐ Highpass-Filter 600 MHz – 4 GHz	NT-413
☐ IMU4000 Immunity test system	NT-325/1	☐ Highpass-Filter 1250 MHz – 4 GHz	NT-414
☐ VCS 500-M6 Surge-Generator	NT-326	☐ Highpass-Filter 1800 MHz – 16 GHz	NT-415

Division:
Industry & Energy

Department: FG

Test report number:
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Date: 30.10.2017

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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 10.28.00 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 V4.1	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 1 (continued)

Test equipment used

☐	Anechoic Chamber 3 m / 5 m measuring distance	EMV-100	☐	Log.per Antenna 0,7 – 9 GHz STLP9149	EMV-305
☐	Turntabel 6 m diameter	EMV-101	☐	HF- Amplifier 9 kHz-250 MHz BBA150 (low noise)	EMV-306
☐	Antenna mast 1 – 4 m	EMV-102	☐	Load Dump Generator LD 200N	EMV-350
☐	Mast and Turntable controller FC-06	EMV-103	☐	Ultra Compact Symulator UCS 200N100	EMV-351
☐	EMC Video/Audiosystem	EMV-104	☐	Automotive Power fail module PFM 200N100.1	EMV-352
☐	EMC Software EMC32 Version 10.28.00	EMV-105	☐	Voltage Drop Symulator VDS 200Q100	EMV-353
☐	Hornantenna 1 – 18 GHz HF 907	EMV-110	☐	Arb. Generator AutoWave	EMV-354
☐	Antennapre.amp. 1 – 18 GHz ERZ-LNA0200-1800-30-2	EMV-111	☐	Ultra Compact Symulator UCS 500N7	EMV-355
☐	Trilog Antenna 30-3000 MHz VULB9163	EMV-112	☐	Coupling decoupling network CNI 503B7 / 32 A	EMV-356
☐	Monopol 9 kHz – 30 MHz VAMP 9243	EMV-113	☐	Coupling decoupling network CNI 503B7 / 63 A	EMV-357
☐	Antennapre.amp 18 – 40 GHz BBV 9721	EMV-114	☐	Telecom Surge Generator TSurge 7	EMV-358
☐	DC Artificial Network PVDC 8300	EMV-150	☐	Coupling decoupling network CNI 508N2	EMV-359
☐	AC Artificial Network NNLK 8121 RC	EMV-151	☐	Coupling decoupling network CNV 504N2.2	EMV-360
☐	EMI Receiver ESR26	EMV-200	☐	Immunity generator NSG4060/NSG4060-1	EMV-361
☐	Signalgenerator 9 kHz – 40 GHz N5173B	EMV-201	☐	Coupling network CDND M316-2	EMV-362
☐	GPS Frequency normal B-88	EMV-202	☐	Coupling network CT419-5	EMV-363
☐	DC Power supply N5745A	EMV-203	☐	ESD Generator NSG 437	EMV-364
☐	Spektrum Analyzator FSV40	EMV-205	☐	Pulse Limiter VTSD 9561-F BNC	EMV-405
☐	Thd Multimeter Model 2015	EMV-206	☐	Transient emission BSM200N40+BS200N100	EMV-450+451
☐	Poweramplifier PAS15000	EMV-207/abc	☐	Cap. Coupling Clamp HFK	EMV-455
☐	Inrush Current Source	EMV-208/abc	☐	Mag. Field System MS100N+MC26100+MC2630	EMV-456-458
☐	Arb.-generator Sycore	EMV-209	☐	Coupling network CDN M2-100A	EMV-459
☐	Harmonics/Flicker analyzer ARS 16/3	EMV-210	☐	Coupling network CDN M3-32A	EMV-460
☐	HF- Amplifier 9 kHz-250 MHz BBA150	EMV-300	☐	Coupling network CDN M5-100A	EMV-461
☐	HF- Amplifier 80 -1000 MHz BBA150	EMV-301	☐	Current Clamp CIP 9136A	EMV-462
☐	HF- Amplifier 0,8 - 6 GHz BBA150	EMV-302	☐	DC Artificial Network HV-AN 150	EMV-464+465
☐	High Power Ant. 20-200 MHz VHBD 9134	EMV-303	☐	Coupling Clamp EM 101	EMV-466
☐	Log.per Antenna 80-2700 MHz STLP 9128 E special	EMV-304	☐	Decoupling Clamp FTC 101	EMV-467
			☐	Power attenuator 10 dB / 250 Watt	EMV-469/2

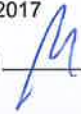
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Appendix 2 Photodocumentation

Description: Front view

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Appendix 2 Photodocumentation

Description: Backside view

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Appendix 2 Photodocumentation

Description: case opened view #1

Division:
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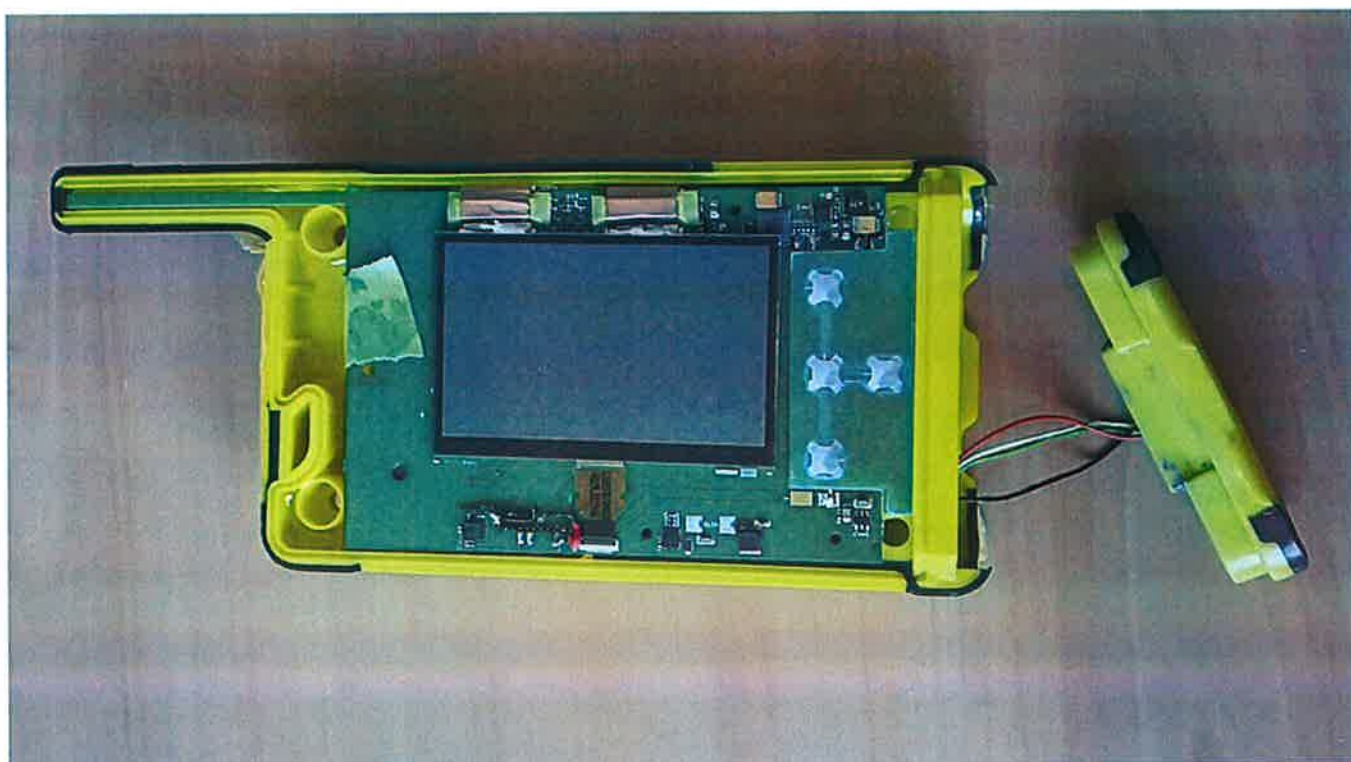
Department: EMC

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Appendix 2 Photodocumentation

Description: Case opened view #2

Division:
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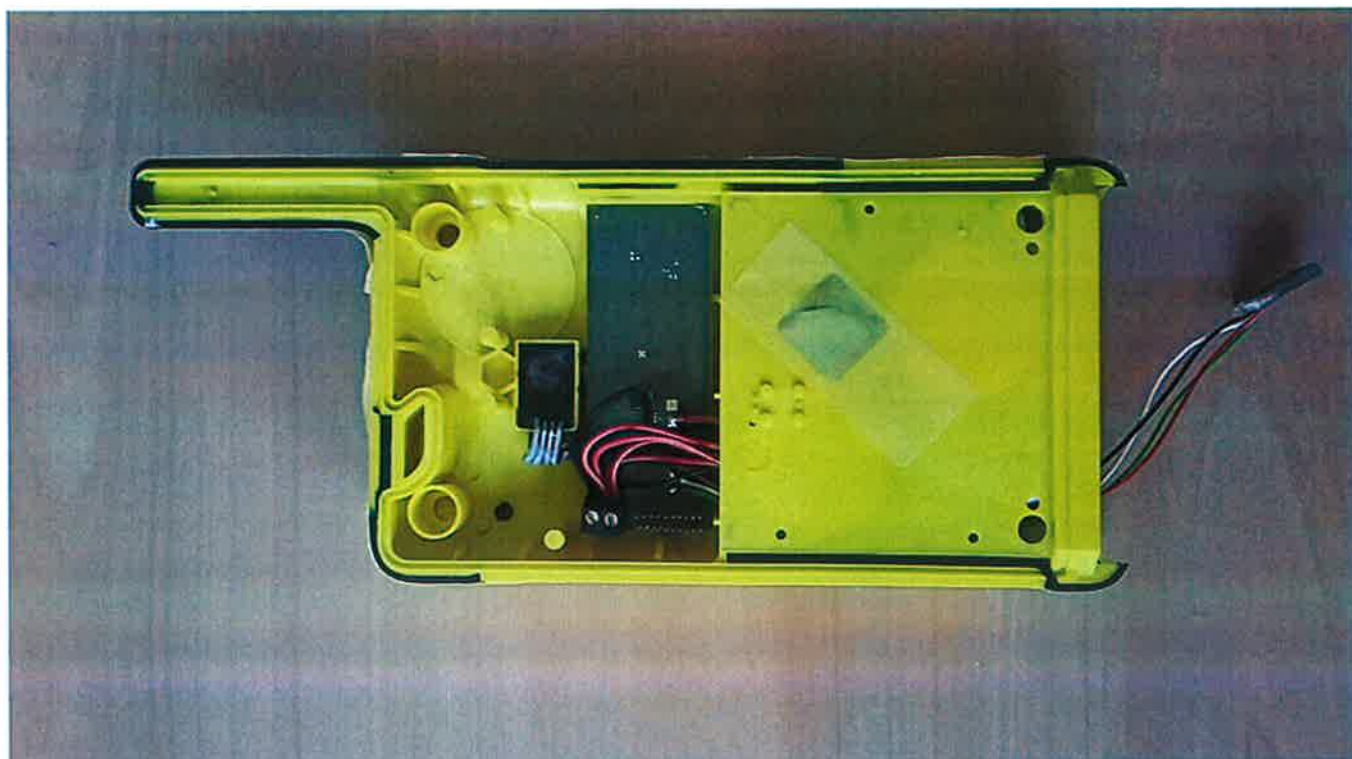
Department: EMC

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Appendix 2 Photodocumentation

Description: Test setup below 30 MHz

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Appendix 2 Photodocumentation

Description: Test setup above 1 GHz

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