

TEST REPORT

of the accredited test laboratory

TÜV Nr.: 2022-IN-AT-TICL-E-EX-000109-FG-001

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Technik

TÜV®

Applicant: Metrilog Data Services GmbH
Office Park 4, C38
Vienna Airport City 1300 Wien-Flughafen
Österreich

Product: Remote Terminal Unit M717 (Rev D)

FCC-ID 2A6UM-M717D

Manufacturer: see above

Output power Various (see page 6) **power supply:** 12V DC

Frequency range: Various (see page 6) **Channel separation:** Various (see page 6)

Accredited Standards: FCC: 47 CFR Part 15 (eCFR 22.03.2022);
FCC: 47 CFR Part 22 (eCFR 22.03.2022);
FCC: 47 CFR Part 24 (eCFR 22.03.2022);
FCC: 47 CFR Part 27 (eCFR 22.03.2022);
FCC: 47 CFR Part 90 (eCFR 22.03.2022)

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Inspection Body,
Certification Body,
Calibration Laboratory,
Verifizierungsstelle

Notified Body 0408

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1. Applicant

Company: Metrilog Data Services GmbH

Department: ---

Address: Office Park 4, C38
Vienna Airport City 1300 Wien-Flughafen
Österreich

Contact person: Lix N. Paulian

EUT received on: 22.03.2022

Tests were performed on: 23.03.2022

2. Description of EUT

EUT: Remote Terminal Unit M717 (Rev D)

Manufacturer: Metrilog Data Services GmbH
Office Park 4, C38
Vienna Airport City 1300 Wien-Flughafen
Österreich

Description: Metrilog Data Services GmbH provided the following configuration for the measurements

Prototype

Operating mode: The measurements were carried out at the following running states:

GNSS module continuously enabled + Active LTE connection with maximum duty cycle and transmission power

Technical data EUT: Rated voltage: 12V
Rated frequency: DC

Mains voltage during the tests: 12VDC

Climatic conditions in the emc laboratory: Relative humidity: 29%
Temperature: 23°C

3. Standards / Final result

Name	Title	Deviation	Result
FCC: 47 CFR Part 15 (eCFR 22.03.2022)	RADIO FREQUENCY DEVICES	*)	OK
FCC: 47 CFR Part 22 (eCFR 22.03.2022)	PUBLIC MOBILE SERVICES	*)	OK
FCC: 47 CFR Part 24 (eCFR 22.03.2022)	PERSONAL COMMUNICATIONS SERVICES	*)	OK
FCC: 47 CFR Part 27 (eCFR 22.03.2022)	MISSCELLANEOUS WIRELESS COMMUNICATION SERVICES	*)	OK
FCC: 47 CFR Part 90 (eCFR 22.03.2022)	PRIVATE LAND MOBILE RADIO SERVICES	*)	OK
<p>Result: Opinions and interpretation of testing laboratory OK: EUT passed NOK: EUT failed</p>			

*) Only measurements of spurious emissions were performed to show correct integration of the LTE module.

4. Test results

4.1 TEST OBJECT DATA

This Data Logger System incorporates a LTE and a GNSS module.
All modules have FCC Certification and CE declaration of conformity. Following transmission techniques are in use:

1. LTE Module with:

Operating Mode	Max. Output Power	Bandwidth	Tx Operating Frequency	Modulation
LTE Band 2	21,92 dBm	1,4/3/5/10/15/20 MHz	1850 – 1910 MHz	QPSK / 16QAM
LTE Band 4	24,03 dBm	1,4/3/5/10/15/20 MHz	1710 – 1755 MHz	QPSK / 16QAM
LTE Band 5	24,03 dBm	1,4/3/5/10 MHz	824 – 849 MHz	QPSK / 16QAM
LTE Band 12	23,10 dBm	1,4/3/5/10 MHz	699 – 716 MHz	QPSK / 16QAM
LTE Band 13	22,19 dBm	5/10 MHz	777 – 787 MHz	QPSK / 16QAM
LTE Band 25	22,34 dBm	1,4/3/5/10/15/20 MHz	1850 – 1915 MHz	QPSK / 16QAM
LTE Band 26	22,86 dBm	1,4/3/5/10/15 MHz	814 – 849 MHz	QPSK / 16QAM
LTE Band 41	21,93 dBm	5/10/15/20 MHz	2496 – 2690 MHz	QPSK / 16QAM
LTE Band 66	21,71 dBm	1,4/3/5/10/15/20 MHz	1710 – 1780 MHz	QPSK / 16QAM

2. GNSS Module (Receive only)

As these modules are operated simultaneously, spurious emissions were checked under the following operating conditions:

1. LTE Band 2 + GNSS enabled
2. LTE Band 4 + GNSS enabled
3. LTE Band 5 + GNSS enabled
4. LTE Band 12 + GNSS enabled
5. LTE Band 13 + GNSS enabled
6. LTE Band 25 + GNSS enabled
7. LTE Band 26 + GNSS enabled
8. LTE Band 41 + GNSS enabled
9. LTE Band 66 + GNSS enabled
10. GNSS enabled only

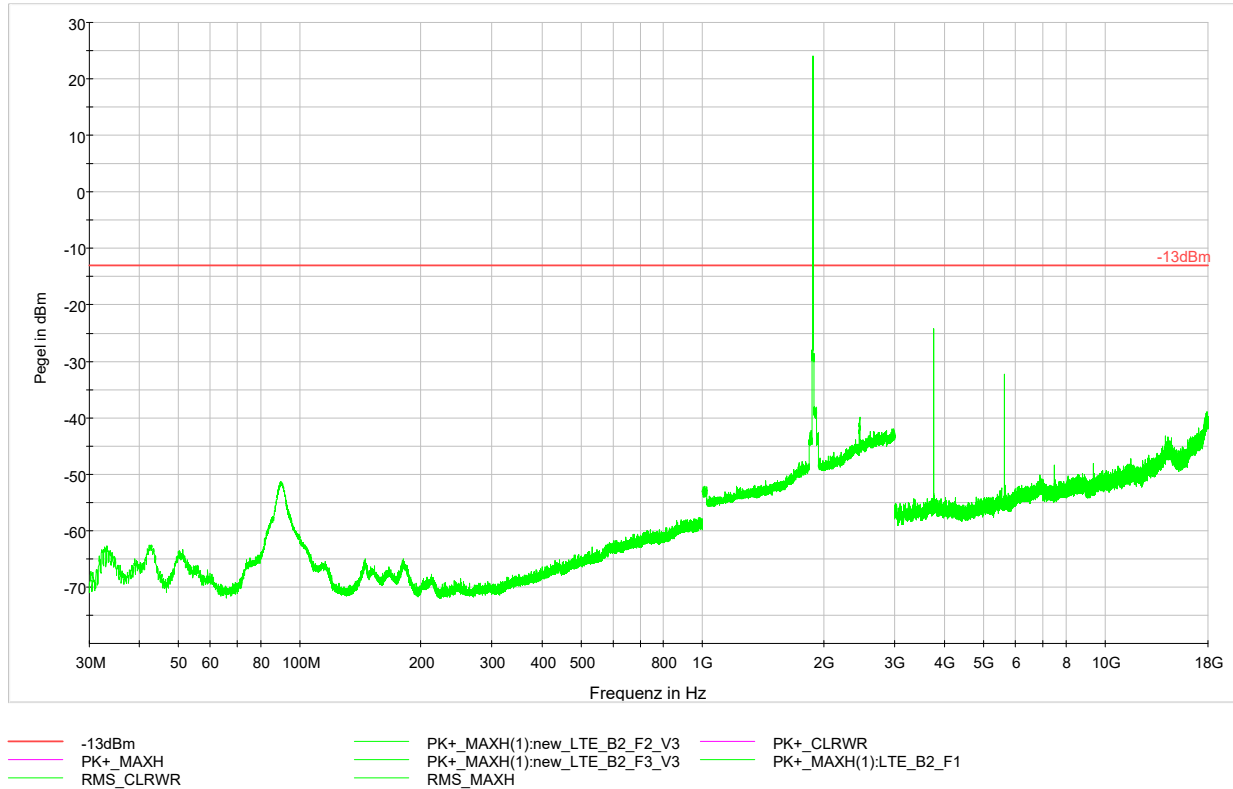
The LTE transmissions were provoked by a CMW500 set to 100% Duty cycle and all transmissions operating at the highest available transmit power. The upload channel was reduced to one resource block to achieve the smallest possible bandwidth giving the highest power spectral density.

If no additional emissions due to simultaneous transmission were found, only one modulation type and only middle channel frequency of the mobile radio frequency band was used for the test. In case of additional emissions found or in case of doubt additional measurements were made at the corner frequencies of the mobile radio frequency bands.

4.2 Spurious Emissions

§24.238 (a)

Operating mode: LTE Band 2 + GNSS enabled



LIMIT FCC §24.238 (a)

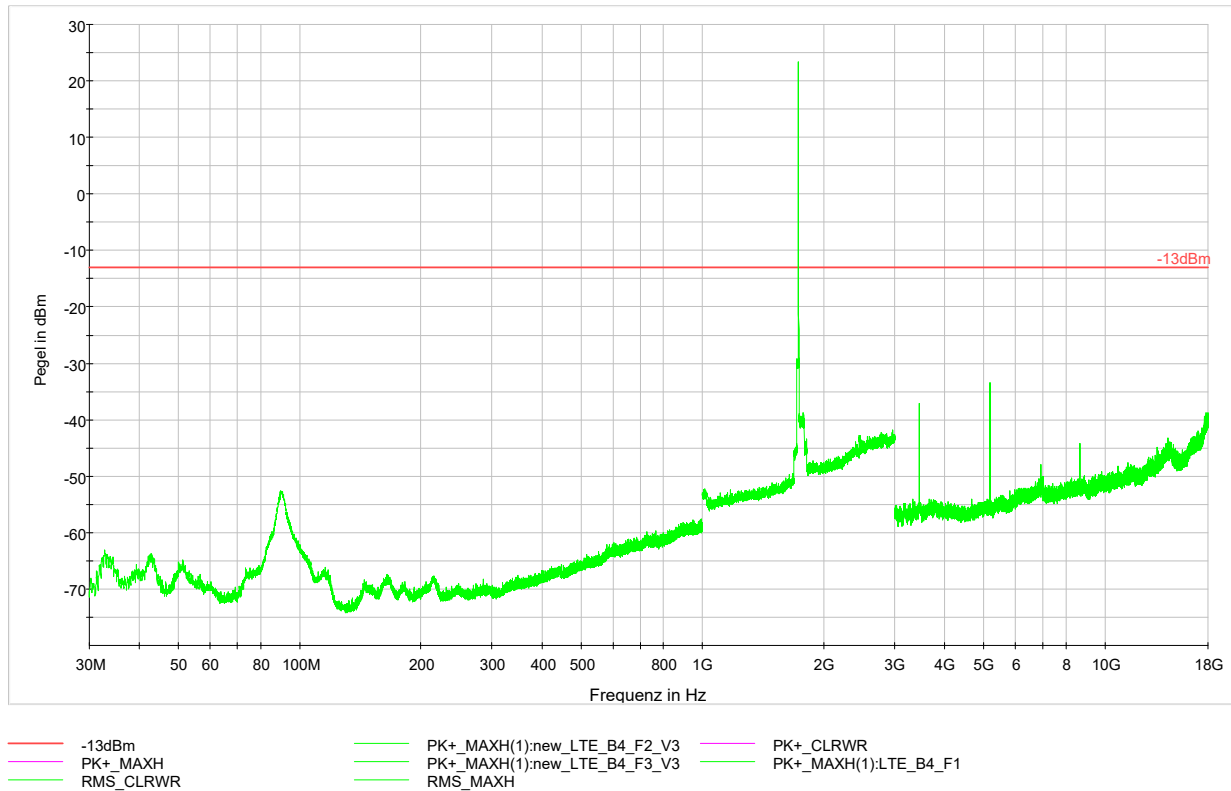
(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§27.53 (h)

Operating mode: LTE Band 4 + GNSS enabled



LIMIT

FCC §27.53 (h)

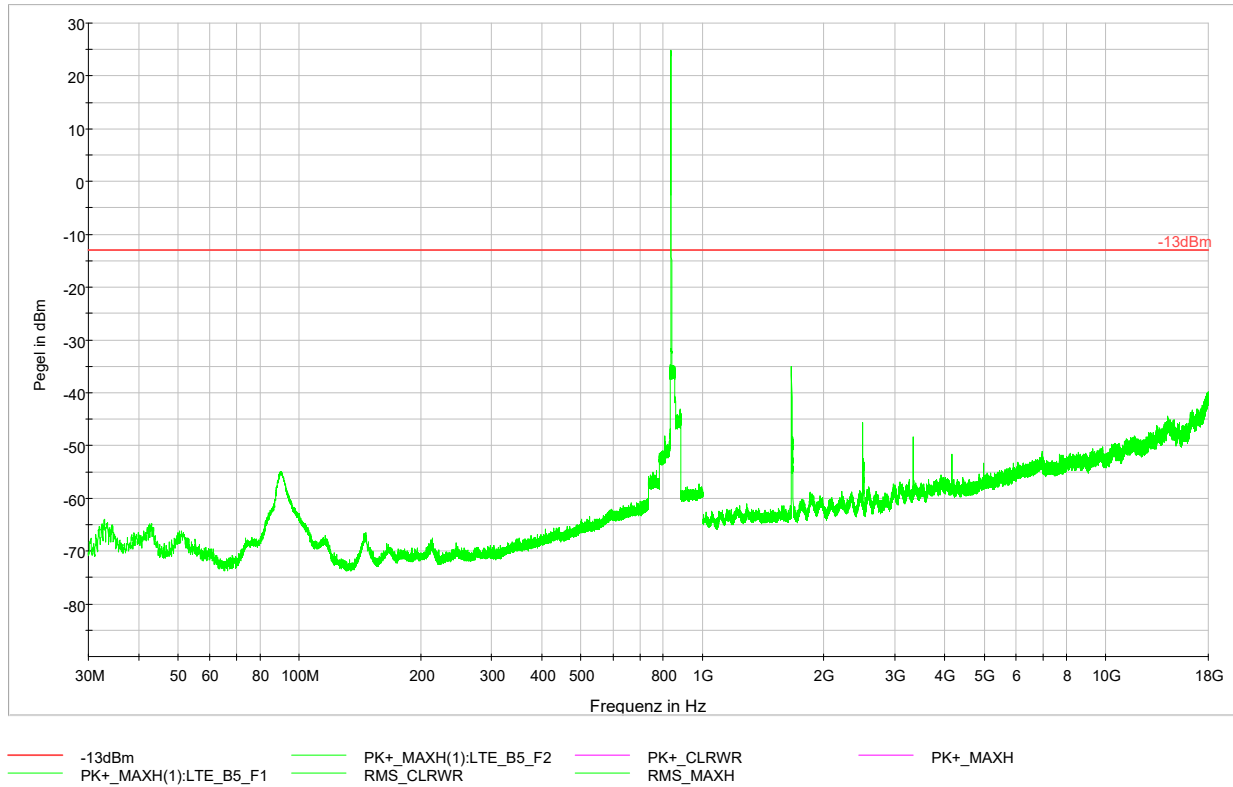
(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§22.917 (a)

Operating mode: LTE Band 5 + GNSS enabled



LIMIT FCC §22.917 (a)

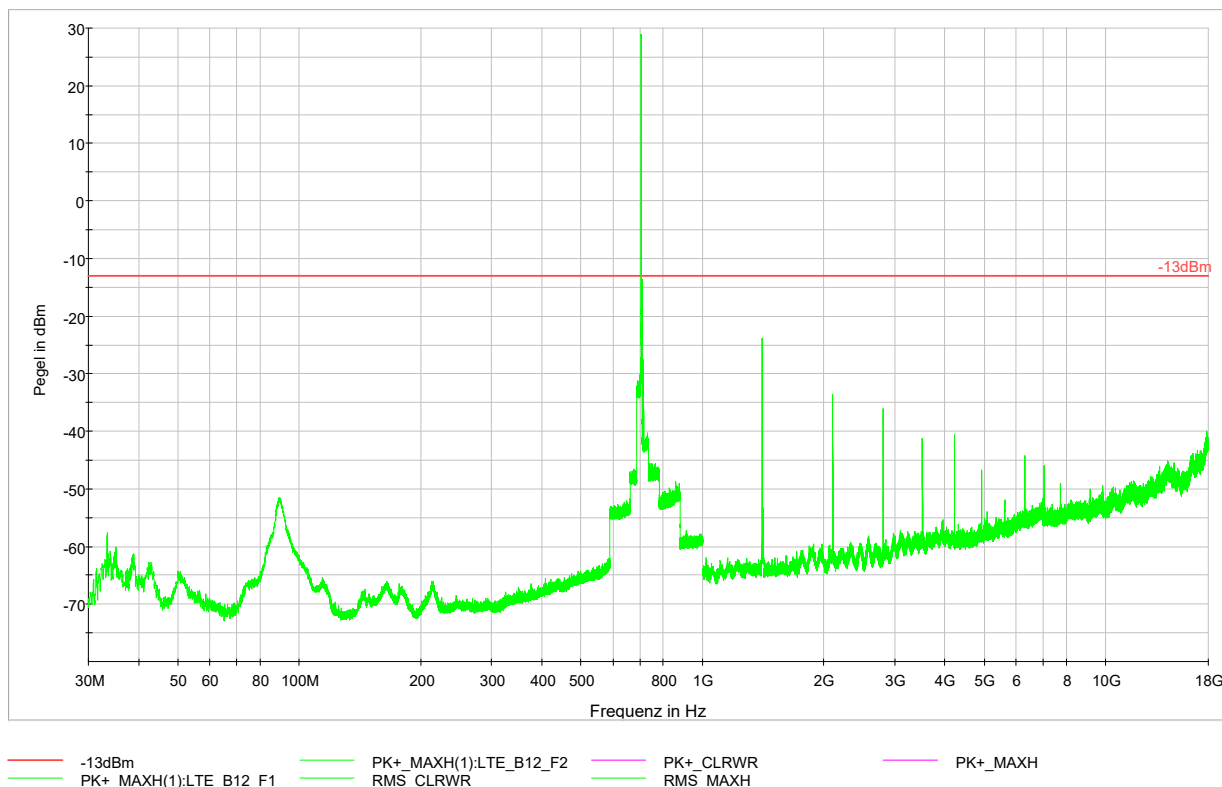
(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§27.53 (g)

Operating mode: LTE Band 12 + GNSS enabled



LIMIT FCC §27.53 (g)

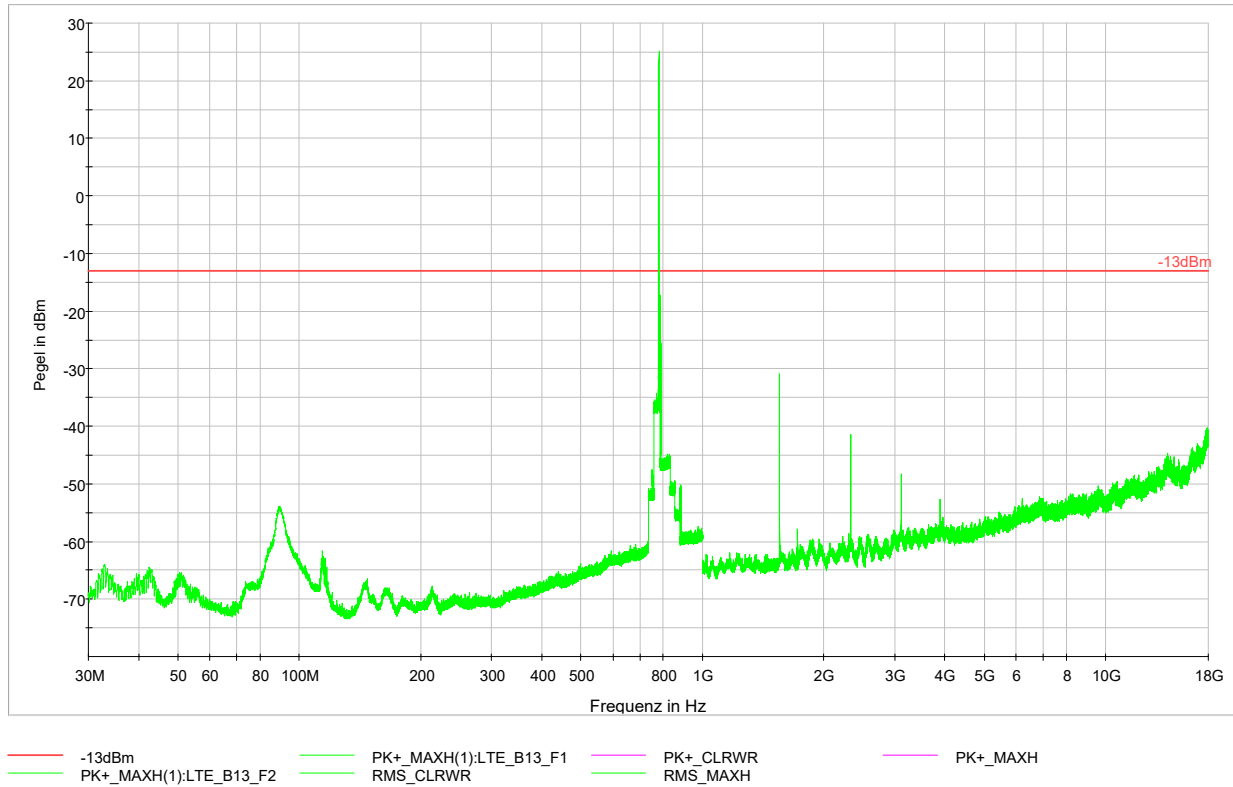
For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§27.53 (c)
§27.53 (f)

Operating mode: LTE Band 13 + GNSS enabled



Limit see page 13

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Limit FCC §27.53 (c)

For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;
- (6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

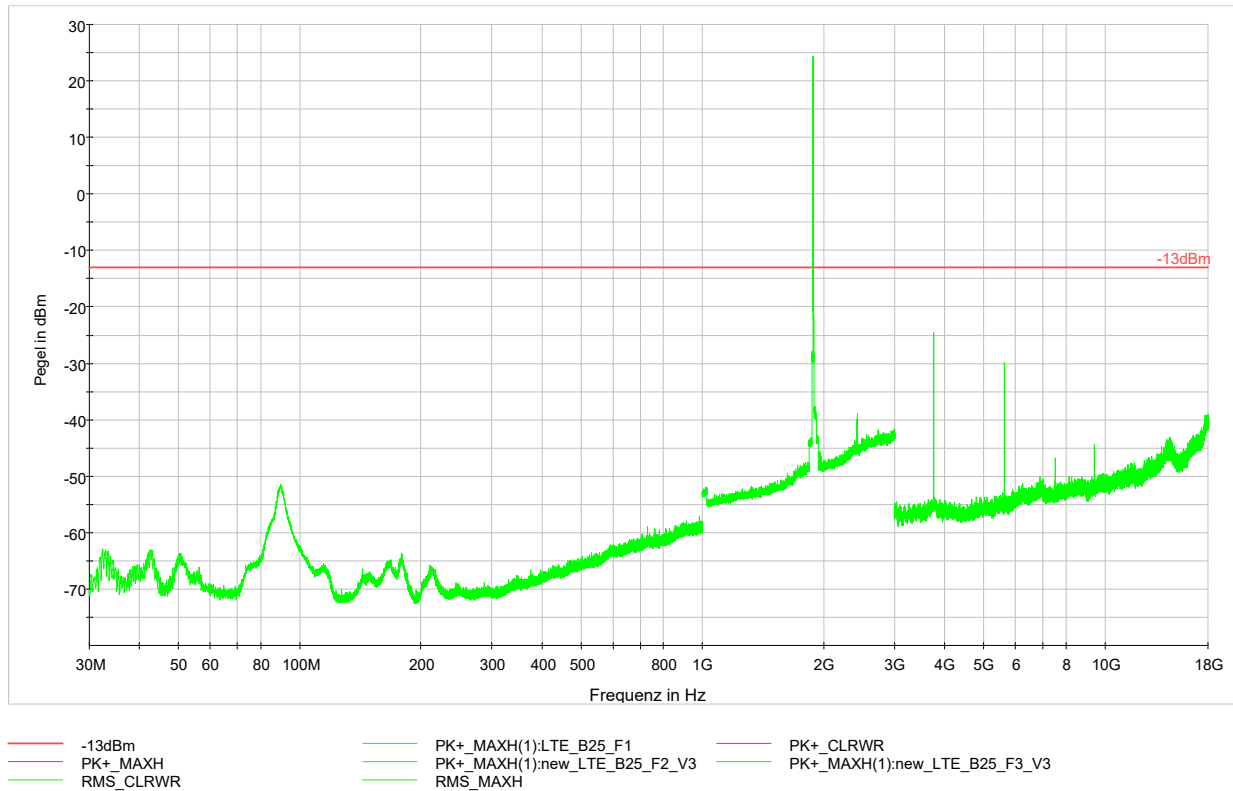
Limit FCC §27.53 (f)

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Spurious Emissions

§24.238 (a)

Operating mode: LTE Band 25 + GNSS enabled



LIMIT FCC §24.238 (a)

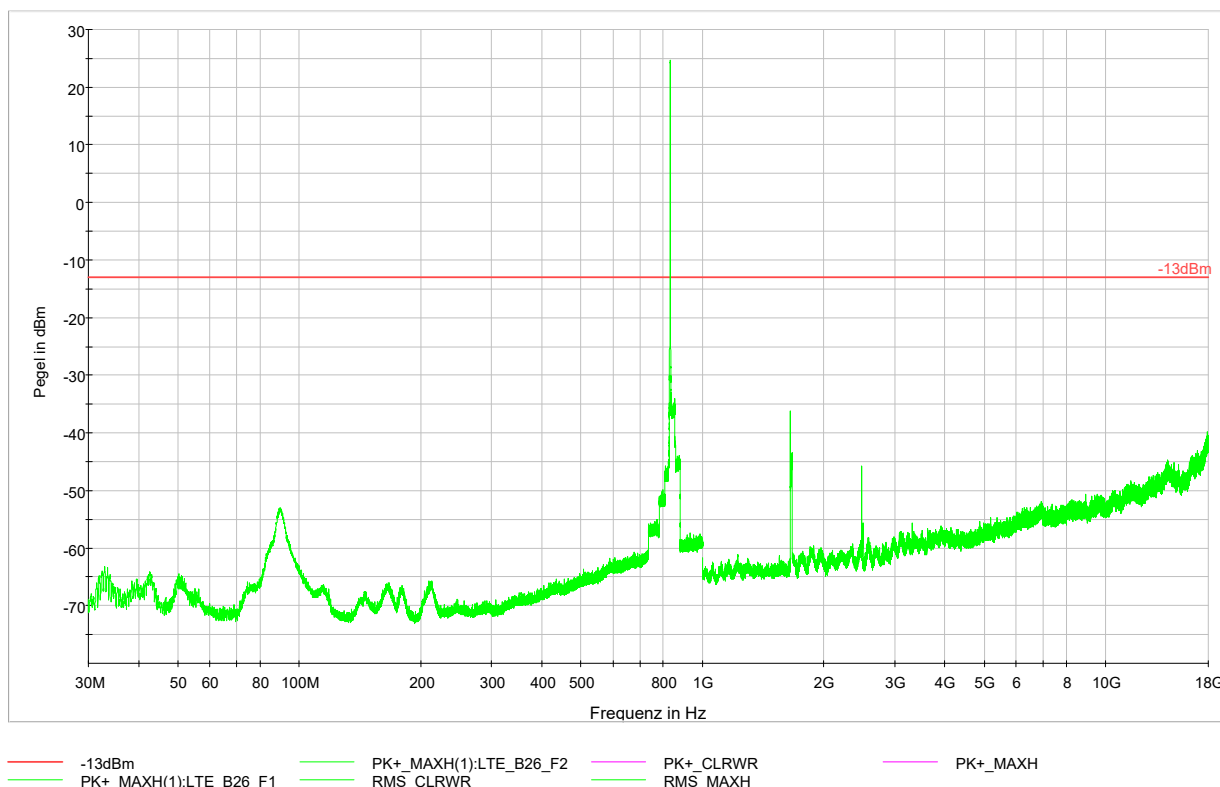
(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§90.669 (a)
§22.917 (a)

Operating mode: LTE B26 + GNSS enabled



LIMIT FCC §90.669 (a)

(a) On any frequency in an MTA licensee's spectrum block that is adjacent to a non-MTA frequency, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 log₁₀(P) decibels or 80 decibels, whichever is the lesser attenuation.

LIMIT FCC §22.917 (a)

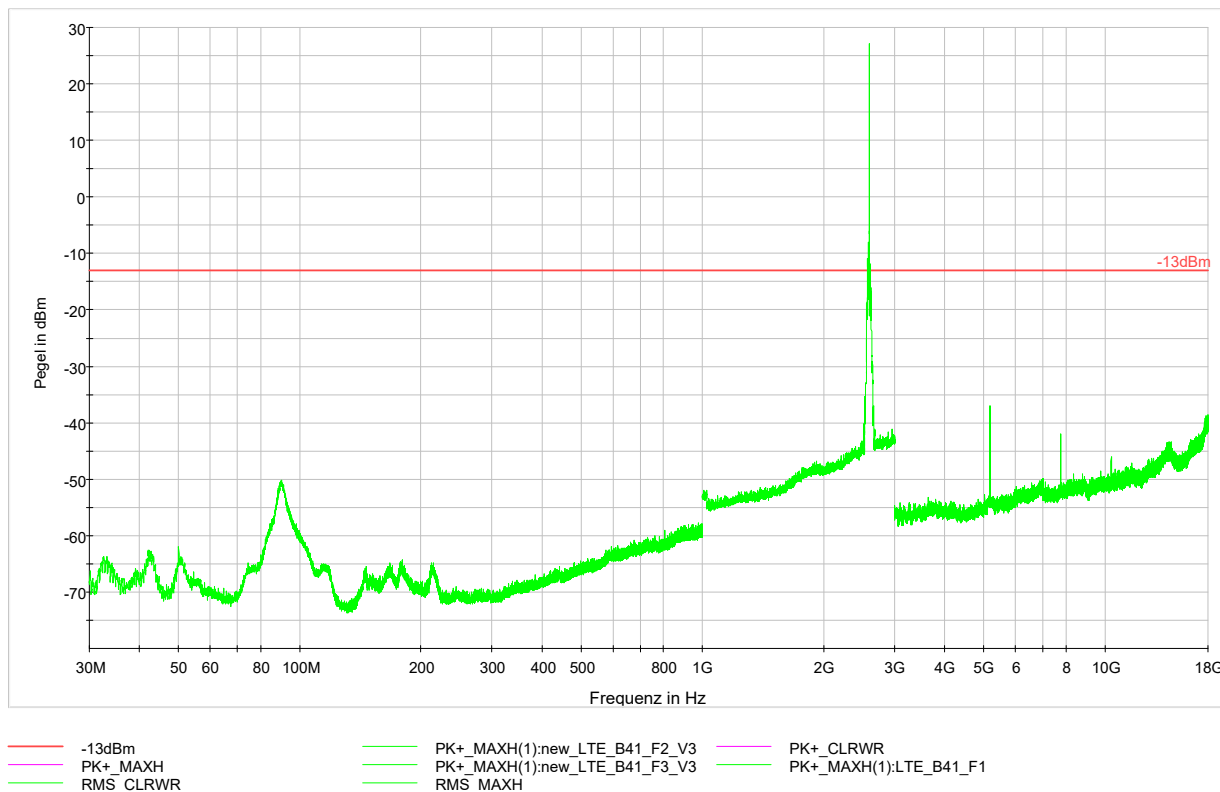
(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§27.53 (m) (4)

Operating mode: LTE B41 + GNSS enabled



LIMIT FCC §27.53 (m) (4)

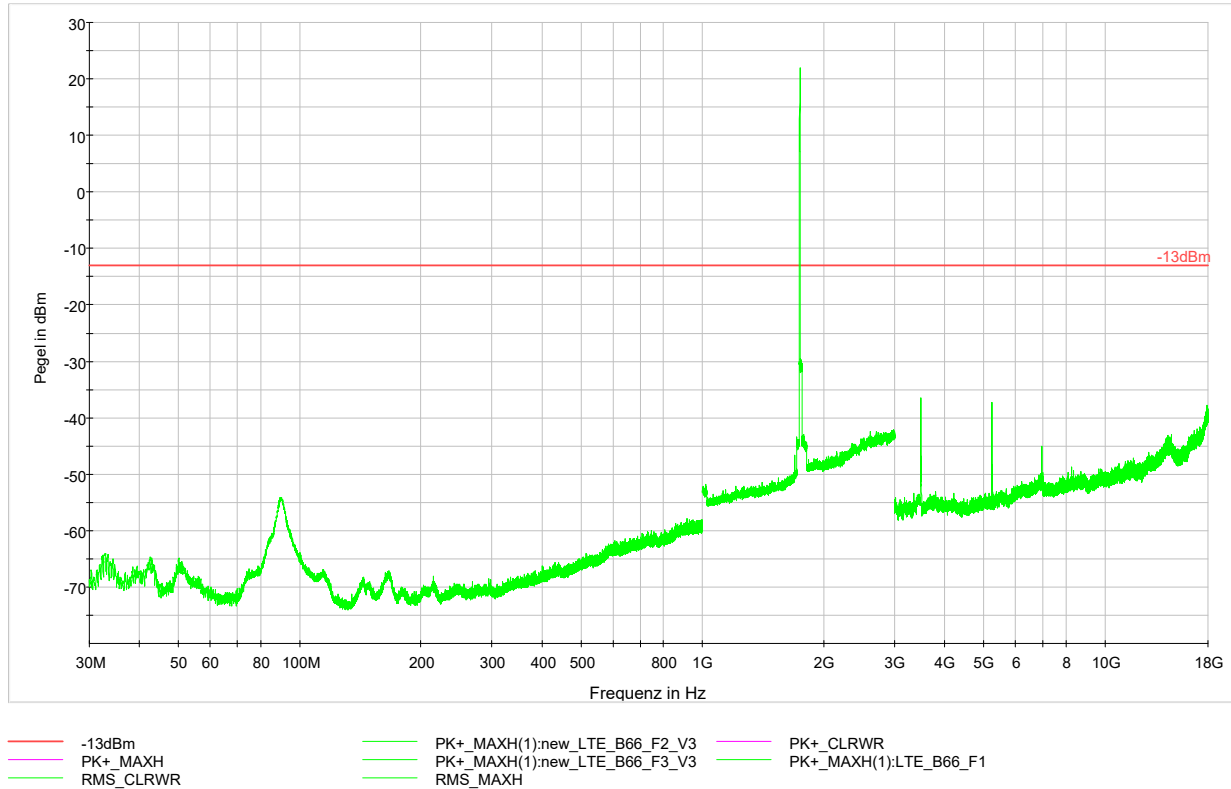
(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§27.53 (h)

Operating mode: LTE B66 + GNSS enabled



LIMIT

§27.53 (h)

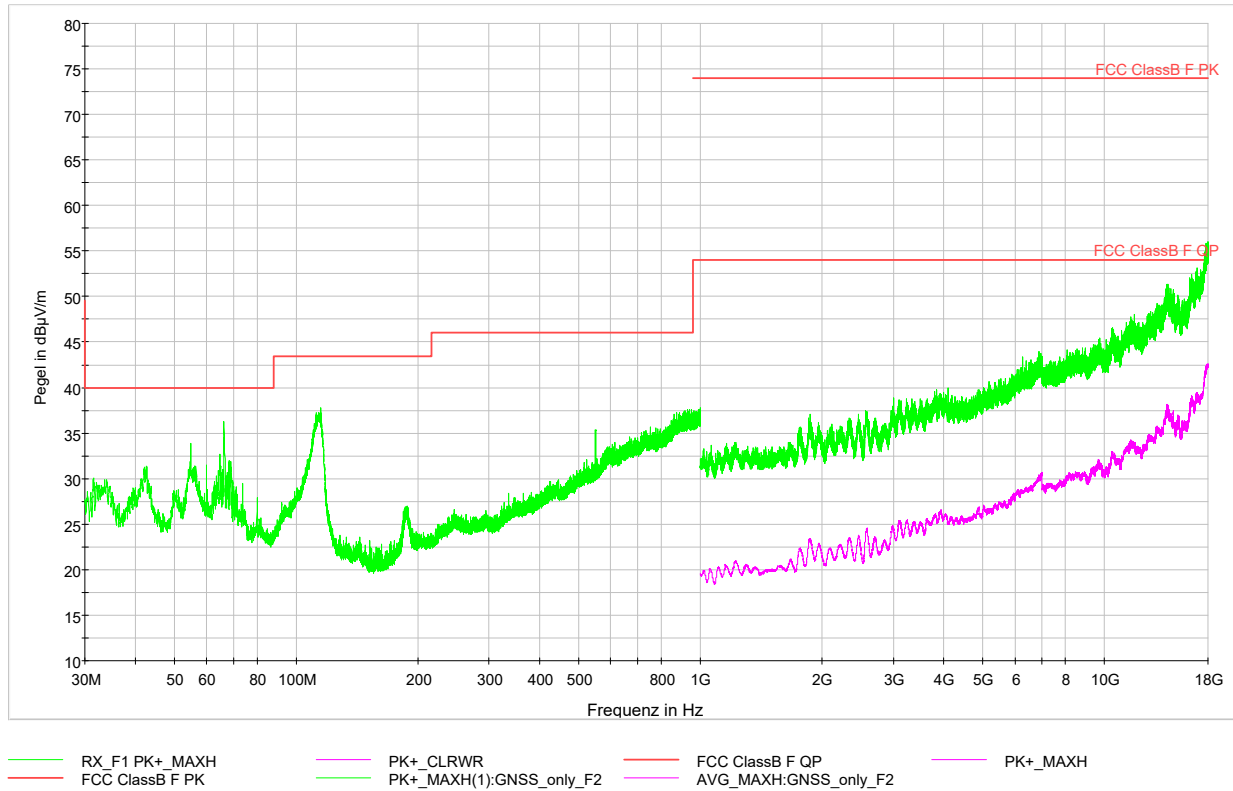
(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Spurious Emissions

§15.109 (b)

Operating mode: GNSS enabled only



LIMIT §15.109 (b)

(b) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of emission (MHz)	Field strength (microvolts/meter)
33-88	100
88-216	150
216-960	200
Above 960	500

Measuring equipment used: NT-100; NT-110; NT-125; NT-131/1; NT-207/1; NT-208/1

Appendix 1

Test equipment used

<input type="checkbox"/>	Anechoic Chamber with 3m measurement distance	NT-100	<input type="checkbox"/>	Power quality analyzer Fluke 1760 (complete set)	NT-160 - NT-173
<input type="checkbox"/>	Stripline according to ISO 11452-5	NT-108	<input type="checkbox"/>	Spectrum analyzer – FSP7 9 kHz – 7 GHz	NT-200
<input type="checkbox"/>	MA4000 - Antenna mast 1 - 4 m height	NT-110/1	<input type="checkbox"/>	ESCI - Test receiver 9 kHz - 7 GHz	NT-203/1
<input type="checkbox"/>	DS - Turntable 0 - 400 ° Azimuth	NT-111/1	<input type="checkbox"/>	ESR – Test receiver 20 Hz – 26,5 GHz	NT-207/1
<input type="checkbox"/>	CO3000 Controller Mast+Turntable	NT-112/1	<input type="checkbox"/>	Digital Radio Tester CMW500	NT-208/1
<input type="checkbox"/>	HUF-Z3 - Log. Per. Antenna 200 - 1000 MHz	NT-121	<input type="checkbox"/>	Noise-gen., ITU-R 559-2 20 Hz – 20 kHz	NT-209
<input type="checkbox"/>	FMZB1513 - Loop Antenna 9 kHz - 30 MHz	NT-122/1	<input type="checkbox"/>	CMTA - Radiocommunication analyzer ; 0,1 - 1000 MHz	NT-210
<input type="checkbox"/>	HFH-Z6 - Rod Antenna 9 kHz - 30 MHz	NT-123	<input type="checkbox"/>	3271 - Spectrum analyzer 100 Hz - 26,5 GHz	NT-211
<input type="checkbox"/>	3121C - Dipole Antenna 28 - 1000 MHz	NT-124	<input type="checkbox"/>	Digital Radio Tester Aeroflex 3920	NT-212/1
<input type="checkbox"/>	3109 - 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"/>	RubiSource T&M Timing reference	NT-216
<input type="checkbox"/>	SAS-200/543 - Bicon. Antenna 20 MHz - 300 MHz	NT-127	<input type="checkbox"/>	Radiocommunication analyzer SWR 1180 MD	NT-217
<input type="checkbox"/>	AT-1080 - Log. Per. Antenna 80 - 1000 MHz	NT-128	<input type="checkbox"/>	Mixer M19HWD 40 GHz – 60 GHz	NT-218
<input type="checkbox"/>	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-129	<input type="checkbox"/>	Mixer M12HWD 60 GHz – 90 GHz	NT-219
<input type="checkbox"/>	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-130	<input type="checkbox"/>	DSO9104 Digital scope	NT-220/1
<input type="checkbox"/>	3146 - Log. Per. Antenna 200 – 1000 MHz	NT-131	<input type="checkbox"/>	TPS 2014 Digital scope	NT-222
<input type="checkbox"/>	VULB 9163 Trilog Antenna 30 – 3000 MHz	NT-131/1	<input type="checkbox"/>	Artificial Ear according to IEC 60318	NT-224
<input type="checkbox"/>	Loop Antenna H-Field	NT-132	<input type="checkbox"/>	1 kHz Sound calibrator	NT-225
<input type="checkbox"/>	Horn Antenna 500 MHz - 2900 MHz	NT-133	<input type="checkbox"/>	SRM-3006 Spectrum analyzer	NT-233/1a
<input type="checkbox"/>	Horn Antenna 500 MHz - 6000 MHz	NT-133/1	<input type="checkbox"/>	E-field probe SRM 75 MHz – 3 GHz	NT-234
<input type="checkbox"/>	Log. per. Antenna 800 MHz - 2500 MHz	NT-134	<input type="checkbox"/>	Field Meter NBM-500 incl. E- and H-Field probes	NT-240a-e
<input type="checkbox"/>	Log. per. Antenna 800 MHz - 2500 MHz	NT-135	<input type="checkbox"/>	Magnetometer HP-01	NT-241/1
<input type="checkbox"/>	BiConiLog Antenna 26 MHz – 2000 MHz	NT-137	<input type="checkbox"/>	EFA-3 H-field- / E-field probe	NT-243
<input type="checkbox"/>	Conical Dipol Antenna PCD8250	NT-138	<input type="checkbox"/>	EHP-50F H-field- / E-field probe	NT-243/1
<input type="checkbox"/>	HF 906 - Horn Antenna 1 - 18 GHz (emission)	NT-139	<input type="checkbox"/>	Field Meter EMR-200 100 kHz – 3 GHz	NT-244
<input type="checkbox"/>	HZ-1 Antenna tripod	NT-150	<input type="checkbox"/>	E-field probe 100 kHz – 3 GHz	NT-245
<input type="checkbox"/>	BN 1500 Antenna tripod	NT-151	<input type="checkbox"/>	H-field probe 300 kHz – 30 MHz	NT-246
<input type="checkbox"/>	Ant. tripod for EN61000-4-3 Model TP1000A	NT-156			

Division:
Industry & Energy

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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"/>	500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332
<input type="checkbox"/>	H-field probe 27 MHz – 1 GHz	NT-248	<input type="checkbox"/>	AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333
<input type="checkbox"/>	ELT-400 1 Hz – 400 kHz	NT-249	<input type="checkbox"/>	APA01 – RF-Amplifier 0,5 GHz – 2,5 GHz	NT-334
<input type="checkbox"/>	MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250	<input type="checkbox"/>	Preamplifier 1 GHz - 4 GHz	NT-335
<input type="checkbox"/>	FCC-203I EM Injection clamp	NT-251	<input type="checkbox"/>	Preamplifier for GPS MKU 152 A	NT-336
<input type="checkbox"/>	FCC-203I-DCN Ferrite decoupling network	NT-252	<input type="checkbox"/>	Preamplifier 1 GHz – 18 GHz	NT-337/1
<input type="checkbox"/>	PR50 Current Probe	NT-253	<input type="checkbox"/>	DC Block 10 MHz – 18 GHz Model 8048	NT-338
<input type="checkbox"/>	i310s Current Probe	NT-254/1	<input type="checkbox"/>	2-97201 Electronic load	NT-341
<input type="checkbox"/>	Fluke 87 V True RMS Multimeter	NT-260	<input type="checkbox"/>	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
<input type="checkbox"/>	Model 2000 Digital Multimeter	NT-261	<input type="checkbox"/>	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
<input type="checkbox"/>	Fluke 87 V Digital Multimeter	NT-262/1	<input type="checkbox"/>	VDS 200 Mobil-impuls-generator	NT-350
<input type="checkbox"/>	ESH2-Z5-U1 Artificial mains network 4x25A	NT-300	<input type="checkbox"/>	LD 200 Mobil-impuls-generator	NT-351
<input type="checkbox"/>	ESH3-Z5-U1 Artificial mains network 2x10A	NT-301	<input type="checkbox"/>	MPG 200 Mobil-Impuls-Generators	NT-352
<input type="checkbox"/>	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302	<input type="checkbox"/>	EFT 200 Mobil-impuls-generator	NT-353
<input type="checkbox"/>	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302a	<input type="checkbox"/>	AN 200 S1 Artificial Network	NT-354
<input type="checkbox"/>	EZ10 T-Artificial Network	NT-305	<input type="checkbox"/>	FP-EFT 32M 3 ph. Coupling filter (Burst)	NT-400/1
<input type="checkbox"/>	SMG - Signal generator 0,1 - 1000 MHz	NT-310	<input type="checkbox"/>	PHE 4500 - Mains impedance network	NT-401
<input type="checkbox"/>	SMA100A - Signal generator 9 kHz - 6 GHz	NT-310/1	<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"/>	PSURGE 4.1 Surge generator	NT-324	<input type="checkbox"/>	Highpass-Filter 600 MHz – 4 GHz	NT-413
<input type="checkbox"/>	IMU4000 Immunity test system	NT-325/1	<input type="checkbox"/>	Highpass-Filter 1250 MHz – 4 GHz	NT-414
<input type="checkbox"/>	VCS 500-M6 Surge-Generator	NT-326	<input type="checkbox"/>	Highpass-Filter 1800 MHz – 16 GHz	NT-415
<input type="checkbox"/>	Oscillatory Wave Simulator incl. Coupling networks	NT- 328a+b+c			
<input type="checkbox"/>	BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330			
<input type="checkbox"/>	T82-50 RF-Amplifier 2 GHz – 8 GHz	NT-331			

Division:
Industry & Energy

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Appendix 1 (continued) Test equipment used

<input type="checkbox"/>	RF-Attenuator 10 dB DC – 18 GHz / 50 W	NT-417/1	<input type="checkbox"/>	FCC-801-T4 Coupling decoupling network	NT-463	Division: Industry & Energy
<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"/>	SW 9605 - Current probe 150 kHz – 30 MHz	NT-465/1	Department: FG
<input type="checkbox"/>	RF-Attenuator 20 dB DC - 1000 MHz / 25 W	NT-421	<input type="checkbox"/>	95242-1 – Current probe 1 MHz – 400 MHz	NT-468	Test report number: 2022-IN-AT-TICL-E-EX- 000109-FG-001
<input type="checkbox"/>	RF-Attenuator 30 dB DC - 1000 MHz / 1 W	NT-423	<input type="checkbox"/>	94106-1L-1 – Current probe 100 kHz – 450 MHz	NT-471	Page: 3 of 5
<input type="checkbox"/>	RF-Attenuator 30 dB	NT-424	<input type="checkbox"/>	WHKX12-2700-3000-18000 3 GHz Highpass filter	NT-472	Date: 19.05.2022
<input type="checkbox"/>	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-425	<input type="checkbox"/>	WHKX10-3870-4500-18000 4,5 GHz Highpass filter	NT-473	
<input type="checkbox"/>	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-426	<input type="checkbox"/>	GA 1240 Power amplifier according to EN 61000-4-16	NT-480	
<input type="checkbox"/>	RF-Attenuator 6 dB	NT-428	<input type="checkbox"/>	Coupling networks according to EN 61000-4-16	NT-481 - NT-483	
<input type="checkbox"/>	RF-Attenuator 0 dB - 81 dB	NT-429	<input type="checkbox"/>	Van der Hoofden Test Head	NT-484	
<input type="checkbox"/>	WRU 27 - Band blocking 27 MHz	NT-430	<input type="checkbox"/>	WRCJV12-5820-5850-5950-5980 5,9 GHz Band Reject Filter	NT-490	
<input type="checkbox"/>	WHJ450C9 AA - High pass 450 MHz	NT-431	<input type="checkbox"/>	WHKX10-5670-6300-18000 6 GHz Highpass filter	NT-491	
<input type="checkbox"/>	WHJ250C9 AA - High pass 250 MHz	NT-432	<input type="checkbox"/>	WHK12-935-1000-7000 1 GHz Highpass filter	NT-492	
<input type="checkbox"/>	RF-Load 150 W	NT-433	<input type="checkbox"/>	EMC Video/Audiosystem	NT-511/1	
<input type="checkbox"/>	Impedance transducer 1:4 ; 1:9 ; 1:16	NT-435	<input type="checkbox"/>	ES-K1 Version 1.71 SP2 Test software	NT-520	
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 6 dB	NT-436	<input type="checkbox"/>	EMC32 Version 10.60.20 Test software	NT-520/1	
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 6 dB	NT-437	<input type="checkbox"/>	SRM-TS Version 1.3 software for SRM-3000	NT-522	
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 10 dB	NT-438	<input type="checkbox"/>	SRM-TS Version 1.3.1 software for SRM-3006	NT-522/1	
<input type="checkbox"/>	RF-Attenuator DC – 18 GHz 20 dB	NT-439	<input type="checkbox"/>	Spitzenberger und Spies Test software V4.1	NT-525	
<input type="checkbox"/>	I+P 7780 Directional coupler 100 - 2000 MHz	NT-440	<input type="checkbox"/>	Vertical coupling plane (ESD)	NT-531	
<input type="checkbox"/>	ESH3-Z2 - Pulse limiter 9 kHz - 30 MHz	NT-441	<input type="checkbox"/>	Test cable #4 for EN 61000-4-6	NT-553	
<input type="checkbox"/>	Power Divider 6 dB/1 W/50 Ohm	NT-443	<input type="checkbox"/>	Test cable #3 for conducted emission	NT-554	
<input type="checkbox"/>	Directional coupler 0,1 MHz – 70 MHz	NT-444	<input type="checkbox"/>	Test cable #5+#6 ESD-cable (2x470k)	NT-555 + NT-556	
<input type="checkbox"/>	Directional coupler 0,1 MHz – 70 MHz	NT-445	<input type="checkbox"/>	Test cable #8 Sucoflex 104EA	NT-559	
<input type="checkbox"/>	Tube imitations according to EN 55015	NT-450	<input type="checkbox"/>	Test cable #9 (for outdoor measurements)	NT-580	
<input type="checkbox"/>	FCC-801-M3-16A Coupling decoupling network	NT-458	<input type="checkbox"/>	Test cable #10 (for outdoor measurements)	NT-581	
<input type="checkbox"/>	FCC-801-M2-50A Coupling decoupling network	NT-459	<input type="checkbox"/>	Test cable #13 Sucoflex 104PE	NT-584	
<input type="checkbox"/>	FCC-801-M5-25 Coupling decoupling network	NT-460	<input type="checkbox"/>	Test cable #21 for SRM-3000	NT-592	
<input type="checkbox"/>	FCC-801-AF10 Coupling decoupling network	NT-461	<input type="checkbox"/>	Shield chamber	NT-600	
<input type="checkbox"/>	FCC-801-S25 Coupling decoupling network	NT-462	<input type="checkbox"/>	Climatic chamber	M-1200	

Appendix 1 (continued)

Test equipment used

<input type="checkbox"/>	Anechoic Chamber 3 m / 5 m measuring distance	EMV-100	<input type="checkbox"/>	HF- Amplifier 9 kHz-225 MHz BBL200	EMV-300/1	Division: Industry & Energy
<input type="checkbox"/>	Turntabel 6 m diameter	EMV-101	<input type="checkbox"/>	HF- Amplifier 80 -1000 MHz BBA150	EMV-301	Department: FG
<input type="checkbox"/>	Antenna mast + controller	EMV-102+ EMV-103	<input type="checkbox"/>	HF- Amplifier 0,8 - 6 GHz BBA150	EMV-302	Test report number: 2022-IN-AT-TICL-E-EX- 000109-FG-001
<input type="checkbox"/>	EMC Video/Audiosystem	EMV-104	<input type="checkbox"/>	High Power Ant. 20-200 MHz HPBA-2510	EMV-303/1	Page: 4 of 5
<input type="checkbox"/>	EMC Software EMC32 Version 10.60.20	EMV-105	<input type="checkbox"/>	High Power Ant. 20-200 MHz S12018-21	EMV-303/2	Date: 19.05.2022
<input type="checkbox"/>	Hornantenna 1 – 18 GHz HF 907	EMV-110	<input type="checkbox"/>	Log.per Antenna 80-2700 MHz STLP 9128 E special	EMV-304	
<input type="checkbox"/>	Antennapre.amp. 1 – 18 GHz ERZ-LNA0200-1800-30-2	EMV-111	<input type="checkbox"/>	Log.per Antenna 0,7 – 9 GHz STLP9149	EMV-305	
<input type="checkbox"/>	Trilog Antenna 30-3000 MHz VULB9163	EMV-112	<input type="checkbox"/>	HF- Amplifier 9 kHz-250 MHz BBA150 (low noise)	EMV-306	
<input type="checkbox"/>	Monopol 9 kHz – 30 MHz VAMP 9243	EMV-113	<input type="checkbox"/>	ISO11451-2 TLS 10 kHz – 30 MHz	EMV-307	
<input type="checkbox"/>	Antennapre.amp 18 – 40 GHz BBV 9721	EMV-114	<input type="checkbox"/>	Load Dump Generator LD 200N	EMV-350	
<input type="checkbox"/>	Hornantenna 200 – 2000 MHz AH-220	EMV-109	<input type="checkbox"/>	Ultra Compact Symulator UCS 200N100	EMV-351	
<input type="checkbox"/>	DC Artificial Network PVDC 8300	EMV-150	<input type="checkbox"/>	Automotive Power fail module PFM 200N100.1	EMV-352	
<input type="checkbox"/>	AC Artificial Network NNLK 8121 RC	EMV-151	<input type="checkbox"/>	Voltage Drop Symulator VDS 200Q100	EMV-353	
<input type="checkbox"/>	EMI Receiver ESW44	EMV-200/1	<input type="checkbox"/>	Arb. Generator AutoWave	EMV-354	
<input type="checkbox"/>	Signalgenerator 9 kHz – 40 GHz N5173B	EMV-201	<input type="checkbox"/>	Ultra Compact Symulator UCS 500N7	EMV-355	
<input type="checkbox"/>	GPS Frequency normal B-88	EMV-202	<input type="checkbox"/>	Coupling decoupling network CNI 503B7 / 32 A	EMV-356	
<input type="checkbox"/>	DC Power supply N5745A	EMV-203	<input type="checkbox"/>	Coupling decoupling network CNI 503B7 / 63 A	EMV-357	
<input type="checkbox"/>	Spektrum Analyzator FSV40	EMV-205	<input type="checkbox"/>	Telecom Surge Generator TSurge 7	EMV-358	
<input type="checkbox"/>	Thd Multimeter Model 2015	EMV-206	<input type="checkbox"/>	Coupling decoupling network CNI 508N2	EMV-359	
<input type="checkbox"/>	Poweramplifier PAS15000	EMV- 207/abc	<input type="checkbox"/>	Coupling decoupling network CNV 504N2.2	EMV-360	
<input type="checkbox"/>	Inrush Current Source	EMV- 208/abc	<input type="checkbox"/>	Immunity generator NSG4060/NSG4060-1	EMV-361	
<input type="checkbox"/>	Arb.-generator Sycore	EMV-209	<input type="checkbox"/>	Coupling network CDND M316-2	EMV-362	
<input type="checkbox"/>	Harmonics/Flicker analyzer ARS 16/3	EMV-210	<input type="checkbox"/>	Coupling network CT419-5	EMV-363	
<input type="checkbox"/>	Power Supply Regatron AC	EMV-214	<input type="checkbox"/>	ESD Generator NSG 437	EMV-364	
<input type="checkbox"/>	Power Supply Regatron DC	EMV-215	<input type="checkbox"/>	Pulse Limiter VTSD 9561-F BNC	EMV-405	
<input type="checkbox"/>	Harmonics/Flicker analyser Zimmer	EMV-216	<input type="checkbox"/>	Transient emission BSM200N40+BS200N100	EMV- 450+451	
<input type="checkbox"/>	Flicker Impedanz Newtons4th 753	EMV-218	<input type="checkbox"/>	Cap. Coupling Clamp HFK	EMV-455	
<input type="checkbox"/>	Comemso	EMV-219	<input type="checkbox"/>	Mag. Field System MS100N+MC26100+MC2630	EMV- 456-458	

Appendix 1 (continued) Test equipment used

<input type="checkbox"/>	Coupling network CDN M2-100A	EMV-459
<input type="checkbox"/>	Coupling network CDN M3-32A	EMV-460
<input type="checkbox"/>	Coupling network CDN M5-100A	EMV-461
<input type="checkbox"/>	Current Clamp CIP 9136A	EMV-462
<input type="checkbox"/>	DC Artificial Network HV-AN 150	EMV-464+465
<input type="checkbox"/>	Coupling Clamp EM 101	EMV-466
<input type="checkbox"/>	Decoupling Clamp FTC 101	EMV-467
<input type="checkbox"/>	Power attenuator 10 dB / 250 Watt	EMV-469/2
<input type="checkbox"/>	HV AMN NNHV 8123 800A	EMV-472
<input type="checkbox"/>	HV AMN NNHV 8123 800A	EMV-473

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Appendix 2 Photodocumentation

Description: view #1

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Description: view #2

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Description: view #3

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Department: FG

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Appendix 2 Photodocumentation

Description: detail view #1

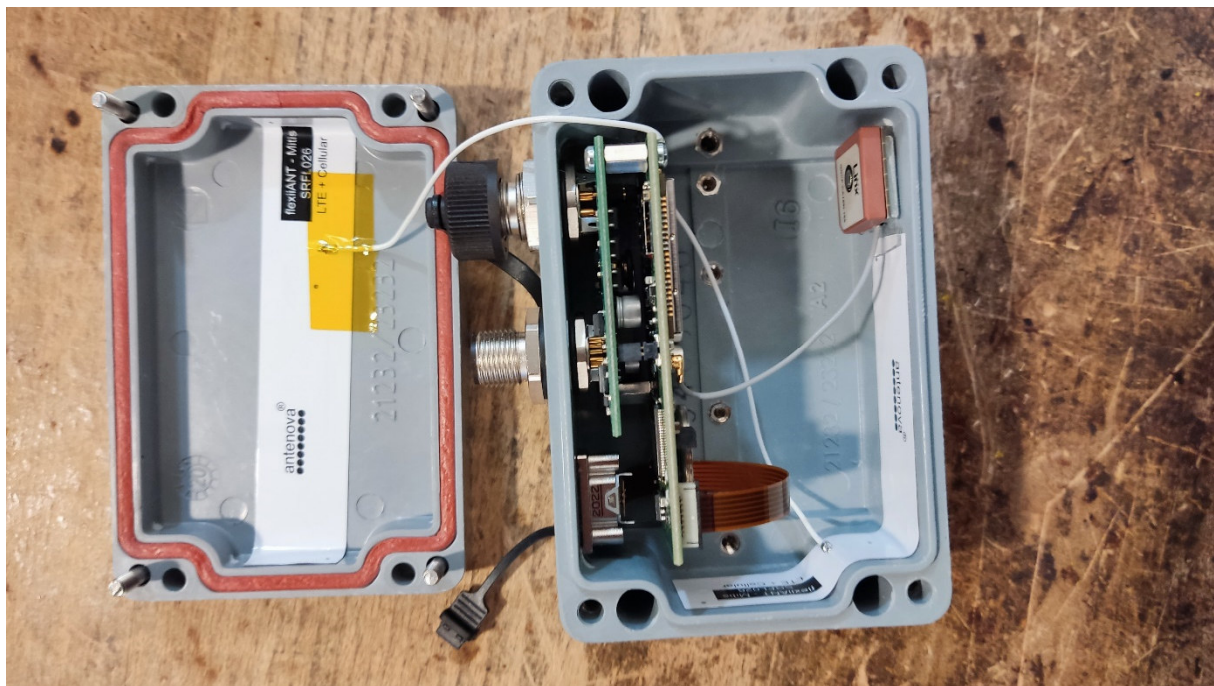
Division:
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Department: FG

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Appendix 2 Photodocumentation

Description: detail view #2

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Description: detail view #3

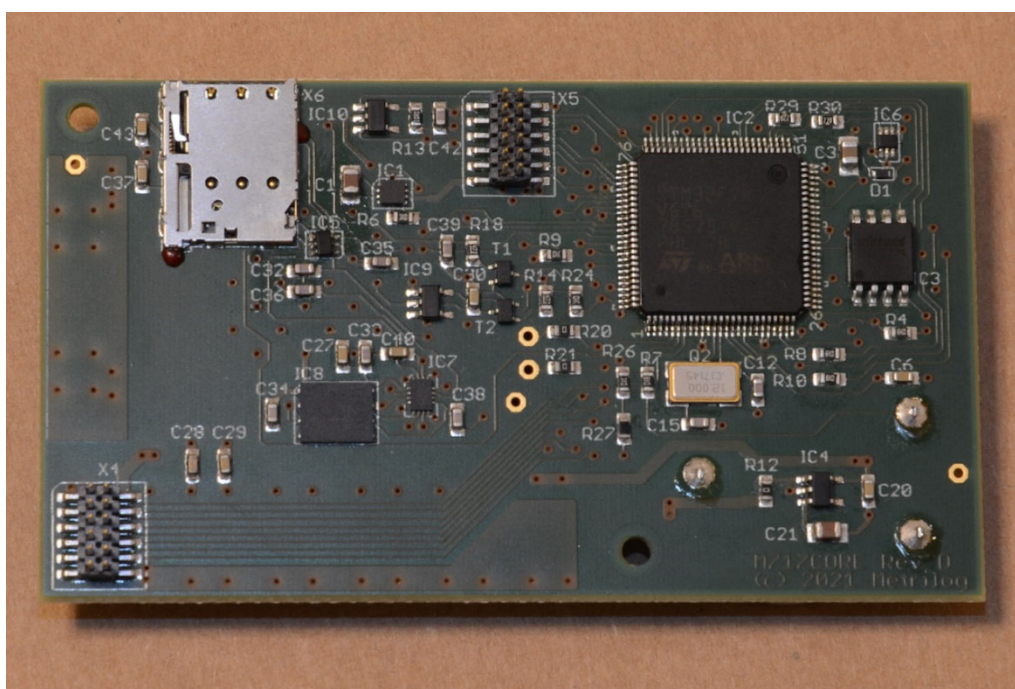
Division:
Industry & Energy

Department: FG

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Appendix 2 Photodocumentation

Description: detail view #4

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Department: FG

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Appendix 2 Photodocumentation

Description: etail view #5

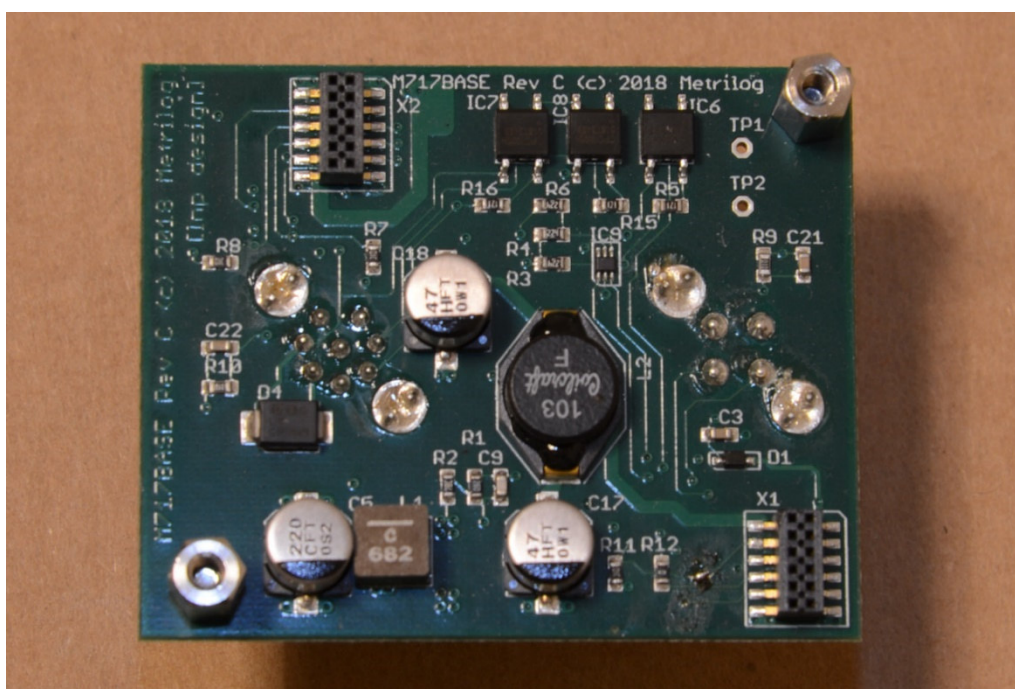
Division:
Industry & Energy

Department: FG

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Appendix 2 Photodocumentation

Description: test setup #1

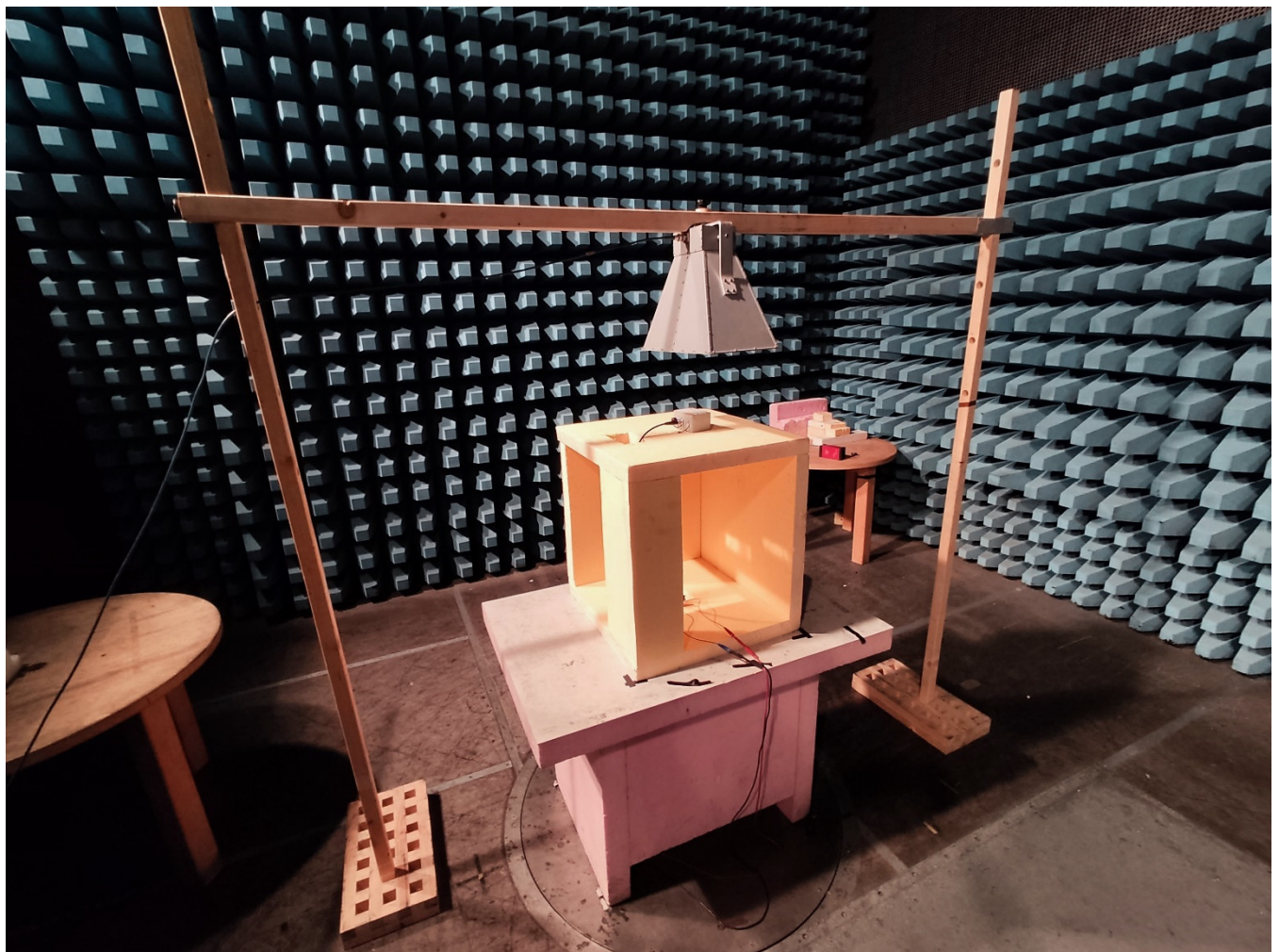
Division:
Industry & Energy

Department: FG

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Appendix 2 Photodocumentation

Description: test setup #2

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Department: FG

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Appendix 2 Photodocumentation

Description: test setup #3

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