Report No. REP004059B

Test Report
Electromagnetic Compatibility

Product	Ergonomic HID (Human Interface Device; mouse/keyboard) for computers
Name and address of the applicant	Trapper Data AB Spjutvägen 6 17561 Järfälla, Sweden
Name and address of the manufacturer	Trapper Data AB Spjutvägen 6 17561 Järfälla, Sweden
Model	Mousetrapper Delta
Rating	5V DC (USB from host computer)
Trademark	Trapperdata
Additional information	FCC ID: 2AP5U-MT150
Tested according to	EN 55032:2015 + AC:2016 + A11:2020 FCC CFR 47 Subpart 15B ISED Canada ICES-003, Issue 7 AS/NZS CISPR 32:2015 + AMD 1:2020 EN 55035:2017 + A11:2020
Project number	PRJ0023448
Tested in period	2022-12-13 to 2022-12-15
Issue date	2023-02-08
Name and address of the testing laboratory	Nemko Scandinavia AS Philip Pedersens vei 11, 1366 Lysaker, Norway

ilac-MRA NORWEGIAN ACCREDITATION TEST 033

An accredited technical test executed under the Norwegian accreditation scheme

Prepared by [Tore Løvlien]

Approved by [Roger Berget]

REPORT REVISIONS

Report Edition	Date	Project	Description
REP004059A	2022-12-19	PRJ0023448	First issued
REP004059B	2023-02-08	PRJ0023448	Updated variants and FCC info

THIS REPORT APPLIES ONLY TO THE ITEM(S) AND CONFIGURATION(S) TESTED.

It is the manufacturer's responsibility to assure the additional production units of this product are manufactured with identical electrical and mechanical components. The manufacturer is responsible to the authorities for any modifications made to the product, which result in non-compliance to the relevant regulations.

Opinions expressed within this report regarding general assessments and qualifications for PASS or FAIL to the standards limits and requirements, are not part of the current accreditation. Neither is opinions expressed regarding model variants covered by the testing performed in this report.

Deviations from, additions to, or exclusions from the test specifications are described in “Test Report Summary”.

This report was originally distributed electronically with digital signatures. For more information contact Nemko.

DESCRIPTION OF TESTED ITEM(S)

Product description ..... :	The tested device is an Ergonomic HID (Human Interface Device; mouse/keyboard) for computers It is mainly made for office use but will work as well in private use. No training needed. User can be anyone.

Model/type ..... :	Mousetrapper Delta
Serial number ..... :	MT150 2306 0001
Operating voltage..... :	5V DC (USB from host computer)
Maximum power/current..... :	/
Insulation class ..... :	I
Highest clock frequency ..... :	12MHz
Hardware version ..... :	/
Software version ..... :	/

Mounting position..... :	☒ Tabletop equipment ☐ Wall/ceiling mounted equipment ☐ Floor standing equipment ☐ Handheld equipment ☐ Rack mounted equipment ☐ Console equipment ☐ Other:

ACCESSORIES USED DURING TEST

Description	Manufacturer	Type
Laptop	Dell	Latitude 5420

MODEL VARIANTS

The following model variants have been inspected and are confirmed to be identical or believed to be less disposed with regard to electromagnetic compatibility.

Model/type	Comment	Tested
MT150	Color gray. Wide wrist pad.	☒
MT151	Color gray. Narrow wrist pad.	☐
MT152	Color black. Wide wrist pad.	☐
MT153	Color black. Narrow wrist pad.	☐

INPUT/OUTPUT PORTS

Port name and description	Cable		
	Longer than 3m	Attached during test	Shielded
AC mains supply	☒	☒	☐
USB via a Laptop	☐	☒	☒

This equipment has been tested with certain cable types and cable configurations. Any changes to these parameters when installed may influence the EMC properties of this equipment.

OPERATING MODES

OP no.	Description	Applied for testing	
		Emissions	Immunity
OP1	Normal mode via a Laptop	☒	☒

POWER SUPPLY CONDITIONS

The following nominal power supply conditions have been tested:

PC no.	Voltage	Frequency	Type	Ground terminal
PC1	120 V	☐ AC 50Hz / ☒ AC 60Hz / ☐ DC	☐ 3AC / ☐ 3ACN / ☐ PoE	☒ PE / ☐ GND / ☐ None
PC2	230 V	☒ AC 50Hz / ☐ AC 60Hz / ☐ DC	☐ 3AC / ☐ 3ACN / ☐ PoE	☒ PE / ☐ GND / ☐ None

The power supply conditions are the supply voltages provided to the laptop computer (host compouter) during test.

☐ The power supply voltage has been selected after a maximum disturbance investigation over the product's rated voltage range.
☐ Additional chassis grounding was applied.

PHOTOS AND DRAWINGS

Photo of the test item ..... :	
Label on the test item ..... :	

OTHER INFORMATION

Modifications ..... :	/
Additional information ..... :	/

TEST ENVIRONMENT

Test laboratory ..... :	☒ KJELLER (Instituttveien 6, N-2007 Kjeller, Norway)
	☐ LYSAKER (Philip Pedersens vei 11, N-1366 Lysaker, Norway)
Laboratory accreditation ..... :	NORWEGIAN ACCREDITATION TEST 033 **Norsk Akkreditering – TEST 033** P06 – Electromagnetic Compatibility
Environmental conditions ..... :	The climatic conditions during the tests are within limits specified by the manufacturer for the operation of the product and the test equipment. The climatic conditions during tests are within the following limits: **Ambient temperature:** 15 – 35 °C **Relative humidity:** 25 – 75 %RH **Atmospheric pressure:** 86 – 106 kPa If explicitly required by the test standard, or the requirements are tighter than the above; the climatic conditions are recorded and documented separately in this test report.
Calibration ..... :	All instruments used in the tests of this test report are calibrated and traceable to national or international standards. Between calibrations test set-ups are controlled and verified on a regular basis by intermediate checks to ensure, with 95% confidence that the instruments remain within their calibrated levels. The instrumentation accuracy is within limits agreed by the IECEE/CTL and defined by Nemko.
Measurement uncertainties ..... :	Uncertainty in EMC emission measurements stated in this report are calculated from the standard measurement uncertainties multiplied by the coverage factor k=2. It was determined in accordance with CISPR 16-4-2. The true value is in the corresponding interval with a probability of 95%. Uncertainties for continuous immunity tests are calculated based on the same principles as for EMC emission uncertainties. For Harmonics and Flicker measurements the measurement uncertainty is calculated based on the same principles as for EMC emission uncertainties. Uncertainties for transient immunity are kept within the requirements of the relevant basic standard. *Further information about measurement uncertainties is provided on request.*
Decision rules ..... :	As specified by CISPR 16-4-2; if our measurement uncertainty U_{LAB} is less than or equal to U_{CISPR} , compliance is deemed to occur if no measured disturbance level exceeds the limit hence “PASS” is indicated, and non-compliance is deemed to occur if any measured disturbance level exceeds the limits hence “FAIL” is indicated. For continuous immunity tests, uncertainties are not considered when applying the calibrated test levels. Tests are performed at the test levels specified by the test standard. PASS and FAIL decisions are based on behaviour observations of the specimen. For transient immunity tests, uncertainties are not considered if the test equipment is kept within the requirements of the relevant basic standard. Tests are performed at the test levels specified by the test standard. PASS and FAIL decisions are based on behaviour observations of the specimen. For Harmonics and Flicker measurements the measurement uncertainty is considered, and measurements are marked if necessary. In doing so, the associated uncertainty of measurement has been considered. *Further information about decision rules is provided on request.*

EVALUATION OF PERFORMANCE

PERFORMANCE TESTS

Performance checks ..... :	See if the mouse pointer is movable on the laptop screen
Performance tests ..... :	See the mouse pointer is movable on the laptop screen
Monitoring during tests ..... :	See the mouse pointer is movable on the laptop screen
Information: Performance check is a short functional test carried out during or after a technical test to confirm that the equipment operates. Performance test is a measurement, or a group of measurements carried out during and/or after a technical test to confirm that the equipment complies with selected parameters as defined in the equipment standard. Monitoring during tests describes which functions were monitored and how.	

GENERAL PERFORMANCE CRITERIA

For the specimen to pass each test, it shall meet the following general criteria:

During test	After test
Performance criterion A: Operate as intended. No loss of function. No unintentional responses.	**Performance criterion A:** Operate as intended. No loss of function. No degradation of performance. No loss of stored data or user programmable functions.
Performance criterion B: May be loss of function (one or more). No unintentional responses.	**Performance criterion B:** Operate as intended. Lost function(s) shall be self-recoverable. No degradation of performance. No loss of stored data or user programmable functions.
Performance criterion C: May be loss of function (one or more).	**Performance criterion C:** Lost function(s) shall be recoverable by the operator. Operate as intended after recovering. No degradation of performance.
Information: In the subsequent test sections of this report, the required and actual specimen performance during immunity testing is indicated by the nomenclatures as given by the table above (A, B or C).	

TEST REPORT SUMMARY

APPLIED STANDARDS

Standards	Titles
EN 55032:2015 + AC:2016 + A11:2020	*Electromagnetic compatibility of multimedia equipment - Emission requirements*
FCC CFR 47 Subpart 15B	*Digital devices - Unintentinal radiators, Class B Digital Device*
ISED Canada ICES-003, Issue 7	*Spectrum Management and Telecommunications Policy. Interference-Causing Equipment Standard. Information Technology Equipment (Including Digital Apparatus - Limits and Methods of Measurement (Issue 7, June 2020)*
AS/NZS CISPR 32:2015 + AMD 1:2020	*Electromagnetic compatibility of multimedia equipment - Emission requirements*
EN 55035:2017 + A11:2020	*Electromagnetic compatibility of multimedia equipment - Immunity requirements*

TEST SUMMARY

Requirements – Tests	Reference standards	Verdict
Conducted Emissions	EN 55032:2015 + AC:2016 + A11:2020 FCC CFR 47 Subpart 15B:0 ISED Canada ICES-003, Issue 7:0 AS/NZS CISPR 32:2015 + AMD 1:2020 CISPR 16-2-1:2017, Ed.3.1	PASS
Conducted Emissions (Telecom Port)	EN 55032:2015 + AC:2016 + A11:2020 AS/NZS CISPR 32:2015 + AMD 1:2020 CISPR 16-2-1:2017, Ed.3.1	N/A
Radiated Emissions (Below 1GHz)	EN 55032:2015 + AC:2016 + A11:2020 FCC CFR 47 Subpart 15B:0 ISED Canada ICES-003, Issue 7:0 AS/NZS CISPR 32:2015 + AMD 1:2020 CISPR 16-2-3:2019, Ed.4.1	PASS
Radiated Emissions (Above 1GHz)	EN 55032:2015 + AC:2016 + A11:2020 FCC CFR 47 Subpart 15B:0 ISED Canada ICES-003, Issue 7:0 AS/NZS CISPR 32:2015 + AMD 1:2020 CISPR 16-2-3:2019, Ed.4.1	N/A
Electrostatic Discharge (ESD) Immunity	EN 55035:2017 + A11:2020 EN 61000-4-2:2009, Ed.2.0	PASS
Radiated RF Disturbance Immunity	EN 55035:2017 + A11:2020 EN 61000-4-3:2020, Ed.4.0	PASS
Electric Fast Transients Immunity	EN 55035:2017 + A11:2020 EN 61000-4-4:2012, Ed.3.0	N/A
Surge Immunity	EN 55035:2017 + A11:2020 EN 61000-4-5:2017, Ed.3.1	N/A
Conducted RF Disturbance Immunity	EN 55035:2017 + A11:2020 EN 61000-4-6:2014, Ed.4.0	N/A
Power Frequency Magnetic Field Immunity	EN 55035:2017 + A11:2020 EN 61000-4-8:2010, Ed.2.0	N/A
Voltage Dips and Interruptions Immunity	EN 55035:2017 + A11:2020 EN IEC 61000-4-11:2020, Ed.3.0	N/A

PASS	:	Tested and complied with the requirements
FAIL	:	Tested and failed the requirements
N/A	:	Test not relevant to this specimen (evaluated by the test laboratory)
–	:	Test not performed (instructed by the applicant)
*	:	An asterisk (*) placed after the verdict in the Result column indicates test items that are not within Nemko's scope of accreditation
#	:	A grid (#) placed after the verdict in the Result column indicates test items that are only partly covered by Nemko's scope of accreditation. Further information is detailed in the test section

ABOUT REFERENCE STANDARDS AND TEST LEVELS

Product standards with dated references to basic standards may have been performed according to the newest edition of the basic standard. This may impact the compliance criteria or technical performance of the test, still this is adequate if the test is expected to confirm compliance to the intention of the product standard. The table above lists the actual editions of the basic standards which have been used during testing.

The choice of immunity test levels could be higher than those specified by the reference standards when we consider the nature of the specimen and its intended use or based on customer requests.

NOTES

None

Test Results

CONDUCTED EMISSIONS

TEST DESCRIPTION

Method
The reference method for this test is listed in the table under clause TEST SUMMARY.

Set-up
The measurement was performed at the power supply terminal of the HOST COMPUTER. Nominal supply voltage was provided. The specimen was energized and in normal operating mode during the measurement.

☐ The specimen and its cables were elevated 10 cm above a ground plane.
☐ The specimen and its cables were elevated 40 cm above a ground plane.
☒ The specimen and its cables were placed 40 cm from a vertical ground plane, 80 cm over ground plane.
☐ The specimen was mounted directly on, and bonded to a ground plane. Cables and auxiliary equipment were elevated by 1 cm

☒ The specimen was connected to an Artificial Mains Network (AMN) by its power supply cable, which was adjusted to 100cm length by folding.
☐ The specimen was connected to an Artificial Mains Network (AMN) by a 0.8 m shielded power supply cable directly connected to the AMN

Conditions
☐ Frequency range was 9kHz – 30MHz.
☐ Frequency range was 10kHz – 30MHz.
☒ Frequency range was 150kHz – 30MHz.

The measuring bandwidth is 200Hz in the frequency range 9 kHz – 150 kHz. Measurement was made with a 100 Hz step size and 100 ms dwell time.
The measuring bandwidth is 9 kHz in the frequency range 150 kHz – 30 MHz. Measurement was made with a 4.5 kHz step size and 20 ms dwell time.

Measurement uncertainty: ± 3.7 dB (9 kHz – 150 kHz); ± 3.3 dB (150 kHz – 30 MHz)

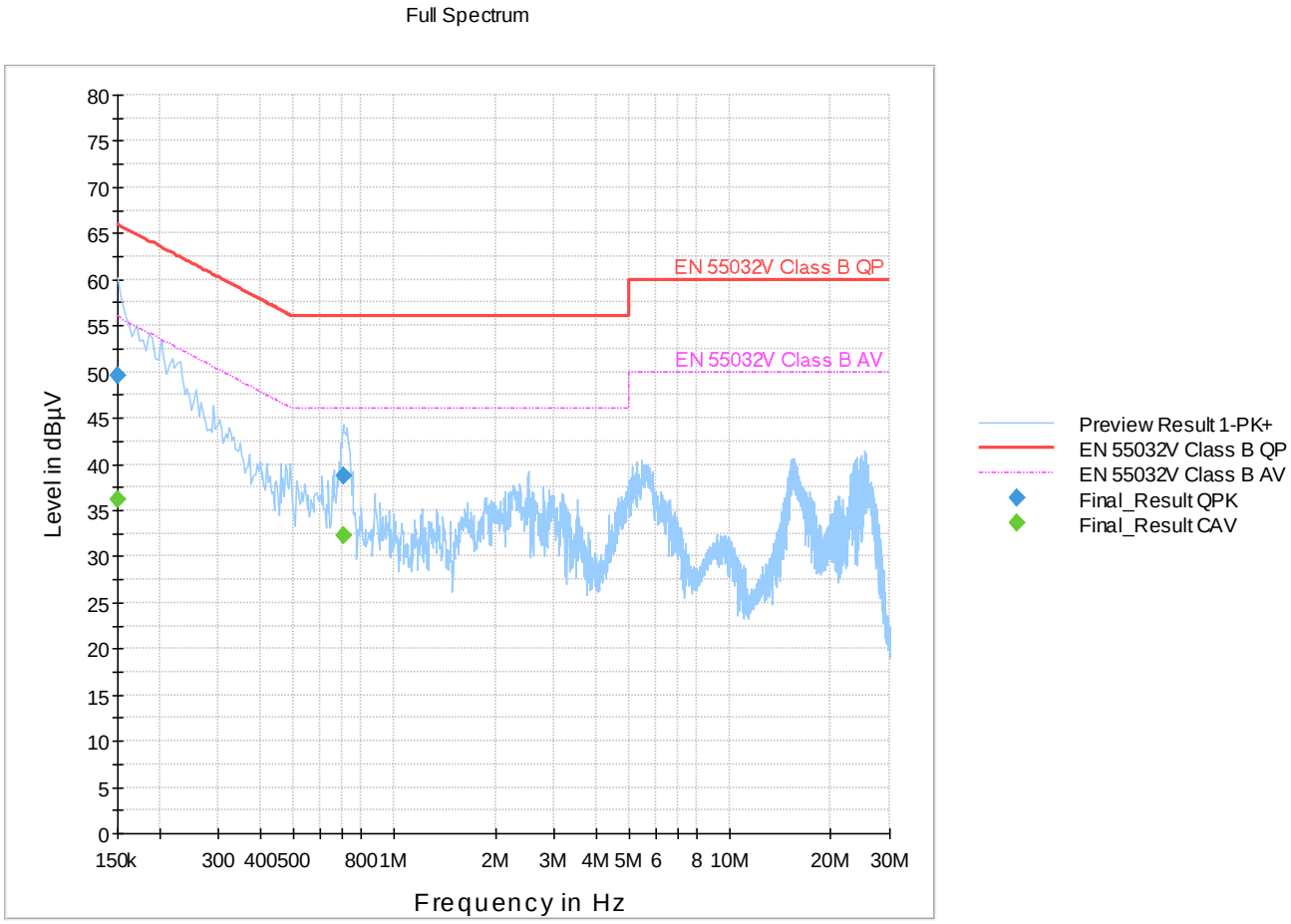
Instruments used during measurement

Instrument list: AMN: R&S / ENV216 (LR-1665) (11/2023)
EMI Receiver: R&S / ESCI 3 (N-4259) (10/2023)

Conformity

Verdict:	PASS
Test engineer:	TLO

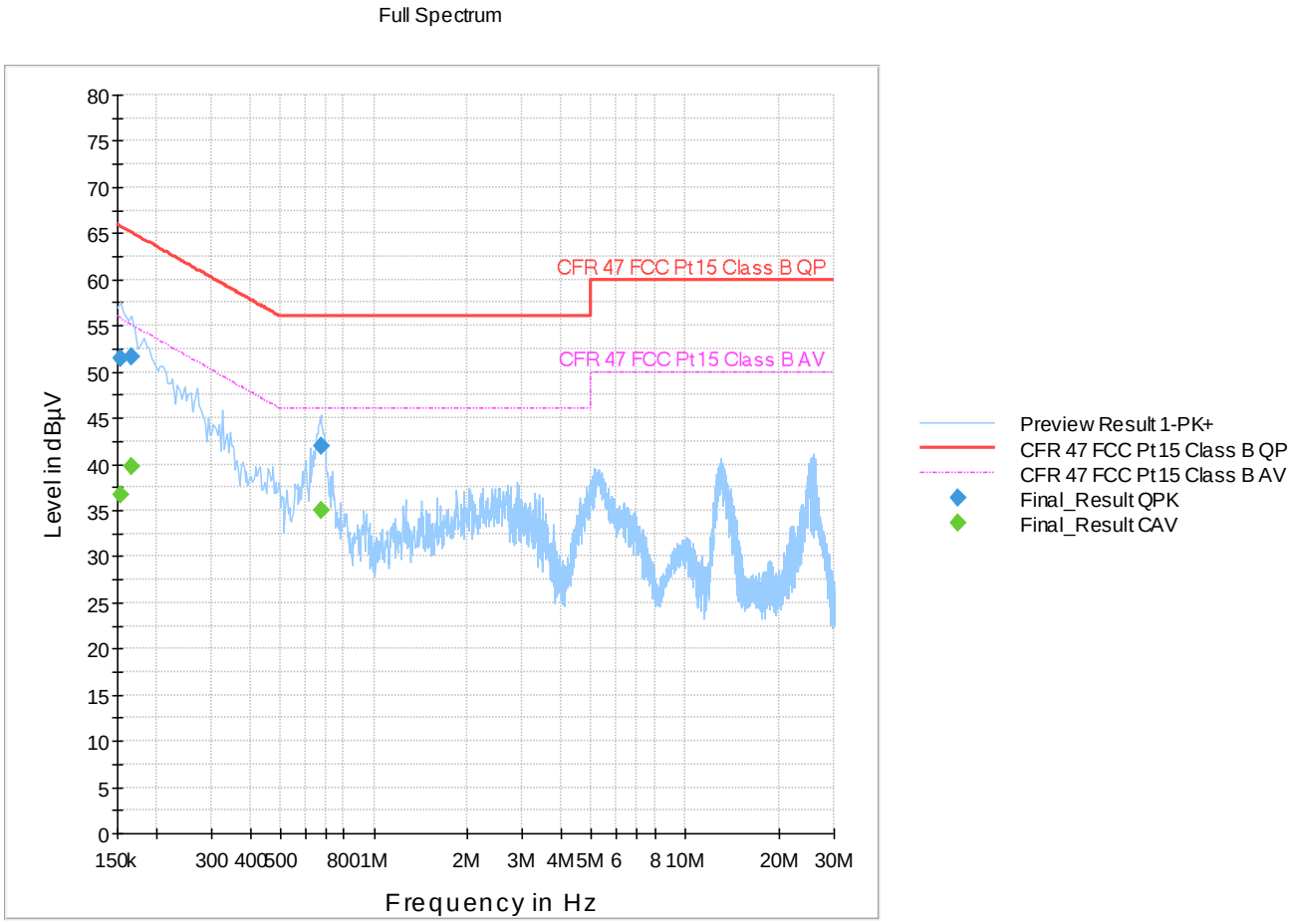
EMISSION SPECTRUM 230V AC (EN 55032)



MEASUREMENT DATA

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.150000	---	36.23	56.00	19.77	15000.0	9.000	N	ON	9.7
0.150000	49.57	---	66.00	16.43	15000.0	9.000	N	ON	9.7
0.706000	---	32.27	46.00	13.73	15000.0	9.000	N	ON	9.6
0.706000	38.71	---	56.00	17.29	15000.0	9.000	N	ON	9.6

EMISSION SPECTRUM 120V AC (FCC)



MEASUREMENT DATA

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.154000	---	36.71	55.78	19.08	15000.0	9.000	N	ON	9.7
0.154000	51.43	---	65.78	14.36	15000.0	9.000	N	ON	9.7
0.166000	51.59	---	65.16	13.57	15000.0	9.000	L1	ON	9.7
0.166000	---	39.77	55.16	15.39	15000.0	9.000	L1	ON	9.7
0.674000	41.93	---	56.00	14.07	15000.0	9.000	L1	ON	9.6
0.674000	---	35.01	46.00	10.99	15000.0	9.000	L1	ON	9.6

RADIATED EMISSIONS (BELOW 1GHZ)

TEST DESCRIPTION

Method
The reference method for this test is listed in the table under clause TEST SUMMARY.

Set-up
The measurements were performed in a semi-anechoic chamber (SAC). Nominal supply voltage was provided.
The specimen was energized and in normal operating mode during the measurement.

☐ The specimen and its cables were elevated 10 cm above the site ground plane and placed in the centre of the turntable.
☒ The specimen and its cables were placed on a table 80 cm above the site ground plane and placed in the centre of the turntable.
☐ Ferrite clamps type CMAD were applied to cables leaving the test volume.
☐ A CDNE was applied to the power supply cable.

Antenna type = Hybrid bilog antenna
Antenna elevation = 100-400 cm above the ground reference plane.
Specimen rotation = 0-360º.

☐ Band-stop filter(s) was used to suppress the wanted RF transmission band to protect the measurement equipment.

Frequency range:	Measurement distance:
☐ 30-300MHz	☒ 3m
☒ 30-1000MHz	☐ 5m
☐ Other:	☒ 10m

Conditions
The measuring bandwidth is 120 kHz in the frequency range 30 MHz – 1000 MHz. Frequency sweeps with RBW = 120 kHz and VBW = 1 MHz was applied with a sweep time of 20 ms (step size resolution < 60 kHz).

Measurement uncertainty: ± 4.9 dB (3m distance in SAC10); ± 4.6 dB (3m distance in SAC3); ± 4.6 dB (10m distance in SAC10)

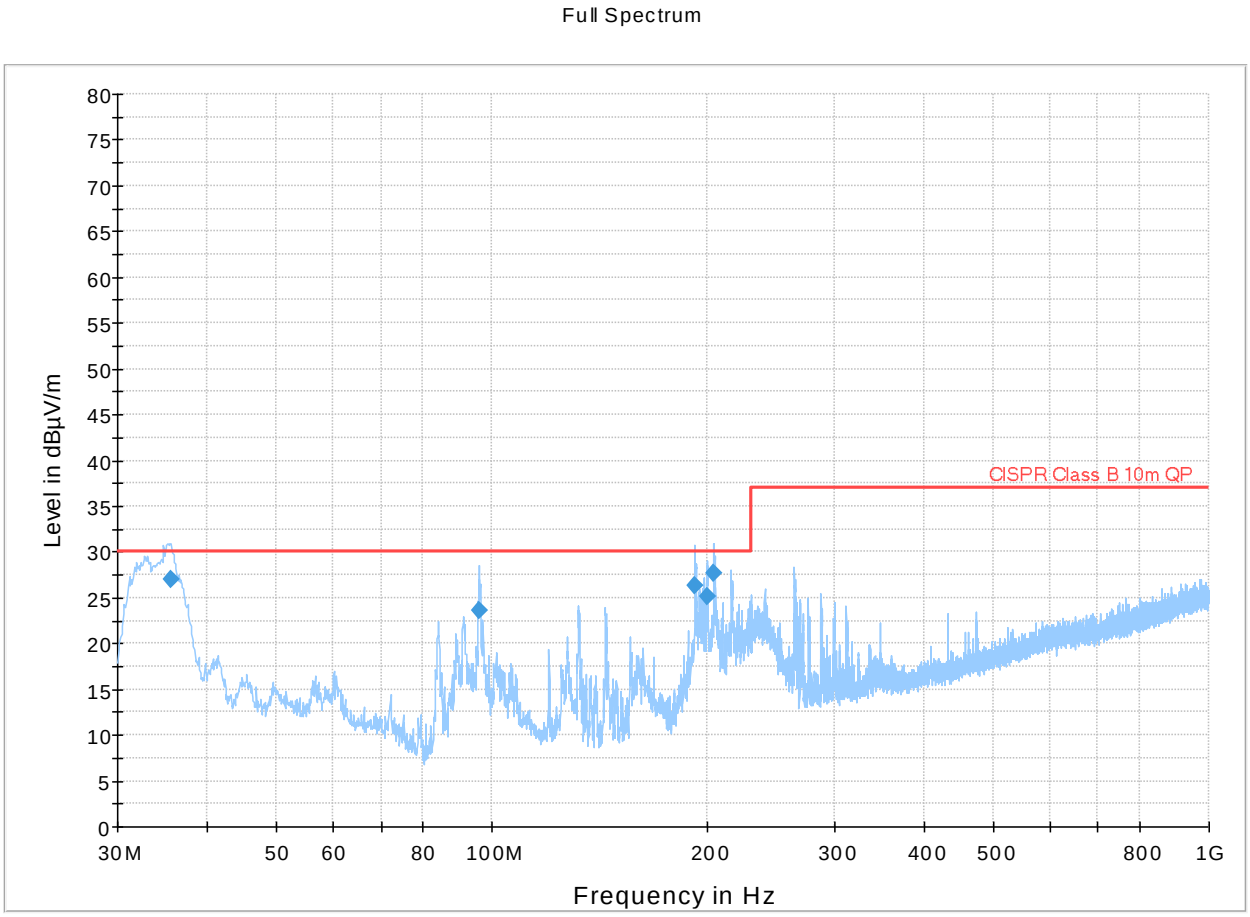
Instruments used during measurement

Instrument list:
Antenna, bilog: Schwarzbeck / VULB 9163 (LR-1616) (05/2023)
EMI Receiver: R&S / ESU40 (LR-1639) (01/2023)
Preamplifier: Sonoma / 310N (LR-1686) (08/2023)

Conformity

Verdict:	PASS
Test engineer:	TLO

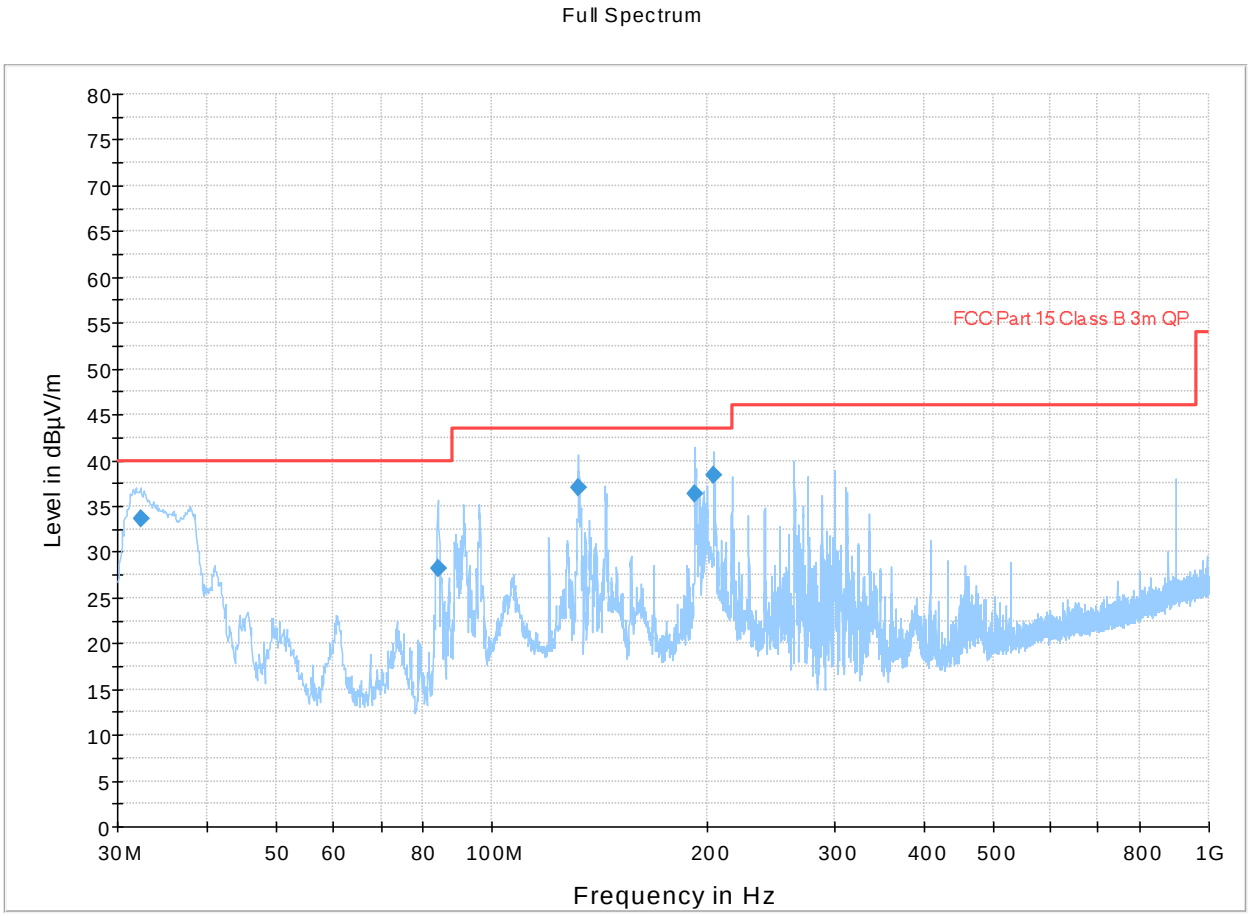
EMISSION SPECTRUM 230V AC (EN 55032)



MEASUREMENTS DATA

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.538594	26.96	30.00	3.04	15000.0	120.000	118.0	V	344.0	-14.5
95.999744	23.57	30.00	6.43	15000.0	120.000	288.0	V	98.0	-14.9
191.949988	26.32	30.00	3.68	15000.0	120.000	300.0	H	29.0	-14.7
199.565754	25.13	30.00	4.87	15000.0	120.000	407.0	H	24.0	-13.8
204.107226	27.62	30.00	2.39	15000.0	120.000	300.0	H	5.0	-13.7

EMISSION SPECTRUM 120V AC (FCC)



MEASUREMENTS DATA

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
32.374980	33.55	40.00	6.45	15000.0	120.000	100.0	V	4.0	-15.4
83.990842	28.25	40.00	11.75	15000.0	120.000	350.0	H	100.0	-17.7
132.024400	37.02	43.50	6.48	15000.0	120.000	300.0	H	147.0	-16.9
191.839362	36.26	43.50	7.24	15000.0	120.000	150.0	H	41.0	-14.7
204.041868	38.44	43.50	5.06	15000.0	120.000	150.0	H	22.0	-13.7

ELECTROSTATIC DISCHARGE (ESD) IMMUNITY

TEST DESCRIPTION

Method
The reference method for this test is listed in the table under clause TEST SUMMARY.

Set-up
The specimen was energized and in normal operating condition.

☐ Floor standing equipment. Specimen was elevated 10 cm above the ground reference plane.
☒ Table top equipment. Specimen was placed on a test table 80 cm above the reference ground plane.
A horizontal coupling plane (HCP) of 160x80 cm was placed on the test table, just beneath the specimen, and connected to the reference plane via a cable with two 470kΩ resistors located one in each end of the cable. The specimen was separated from the HCP by a 0.5mm insulating support.

A vertical coupling plane (VCP) of 50x50 cm was placed 10 cm from the specimen exterior. This VCP is connected to the reference plane via a cable with two 470kΩ resistors located one in each end of the cable.

The ESD generator's reference ground was connected to the reference ground plane.

Procedure
☒ Indirect contact discharges were applied to the mid edge of the VCP.
☒ Indirect contact discharges were applied to the mid edge of the HCP.
☐ Direct contact discharges were applied to various selected test points of the specimen at conductive surfaces,
☒ Direct air discharges were applied to various selected test points of the specimen at non-conductive surfaces.

Discharges were applied at increasing levels to each test point.

Uncertainty figures: Peak voltage: ± 10 %; Transient shape: ± 30 %

A functional test was performed before and after the exposure. The specimen was observed during exposure in order to detect unintended responses.

Instruments used during measurement

Instrument list:	ESD Generator: EMTest / Dito (N-4808) (09/2023)

		Conformity	
Temperature:	22 ºC	Verdict:	PASS
Humidity:	35 %RH	Test engineer:	TLO
Atmos. pressure:	1010 hPA		

PHOTO OF SELECTED TEST POINTS

★ = Contact discharge points

★ = Air discharge points

DETAILED TEST LOG

Test Point	Applied Level [kV]	Discharge Type	Discharges per test level	Required Criteria	Complied Criteria	Result
Enclosure	±4, ±8	Air	10	B	A	PASS
Buttons and LED	±4, ±8	Air	10	B	A	PASS
Cable	±4, ±8	Air	10	B	A	PASS
HCP	±2, ±4	Contact	10	B	A	PASS
VCP	±2, ±4	Contact	10	B	A	PASS

Note: ND = No Discharge, indicates discharge attempts, which have given no actual observable discharge.

OBSERVATIONS

No malfunctions were recorded during or after the applied test(s).
Observations showed no unintended responses during test(s).

RADIATED RF DISTURBANCE IMMUNITY

TEST DESCRIPTION

Method
The reference method for this test is listed in the table under clause TEST SUMMARY.

Set-up
The tests were performed at 3 meter antenna distance in an anechoic chamber.

☐ The specimen was placed on a Styrofoam support 10 cm above the floor.
☒ The specimen was placed on a Styrodur/styrofoam table 80 cm above the floor.

The specimen was placed within the calibrated volume, and the cables connected to the specimen was arranged so that 100 cm of each cable was exposed to the electromagnetic field.
Interconnecting cables specified ≤ 300 cm whose length exceeded 100 cm were bundled to achieve 100 cm length.
Interconnecting cables specified > 300 cm and other cables connected to the specimen are exposed for 100 cm, and the remaining cable length was decoupled with the use of ferrites.

Procedure
The specimen was exposed to the RF electromagnetic field generated by one or more antennas. The polarization of the field requires testing each side of the specimen twice, once with the antenna horizontally and again with the antenna vertically. The antenna height during test was 150 cm.

Exposed side of the specimen:
☒ 0º (front)
☒ 90º
☒ 180º (rear)
☒ 270º
☐ Top (handheld)
☐ Bottom (handheld)

Frequency sweep rate:
☒ 1% step with 3 sec dwell time
☐ $1.5x10^{-3}$ decades/sec (80 – 1000MHz)
☐ $0.5x10^{-3}$ decades/sec (1000 – 2000MHz)
☐ Other:

Frequency range:
☐ 80MHz – 1000MHz
☐ 1400MHz – 2000MHz
☐ 2000MHz – 2700MHz
☐ 80MHz – 2000MHz
☒ 80MHz – 6000MHz

Modulation:
☒ 80% AM @ 1000Hz
☐ 80% AM @ 400Hz
☐ 50% PM @ 217Hz

Uncertainty figures:
Field level: ± 2.4 dB

A functional test was performed before and after the exposure. The specimen was observed during exposure in order to detect unintended responses.

Instruments used during measurement

Instrument list:
Amplifier, GF: AR / 120S1G4M3 (LR-1595) (N/A)
Amplifier, RF: R&S / BBA150-BC500 (LR-1720) (N/A)
Amplifier, RF: R&S / BBA150-D110E100 (LR-1721) (N/A)
Antenna, Broadband: Schwarzbeck / STLP 9129 (LR-1801) (N/A)
Field probe: ETS / HI-6153 (LR-1722) (07/2023)
Generator, RF: R&S / SMB100A (LR-1603) (10/2023)
Power Sensor: R&S / NRP8SN (LR-1804) (04/2023)
Power Sensor: R&S / NRP8SN (LR-1803) (04/2023)

Conformity

Verdict:	PASS
Test engineer:	TLO

DETAILED TEST LOG

Frequency range [MHz]	Field strength [V/m]	Polarization	Required Criteria	Complied Criteria	Result
80 - 6000	3	HOR	A	A	PASS
80 - 6000	3	VER	A	A	PASS

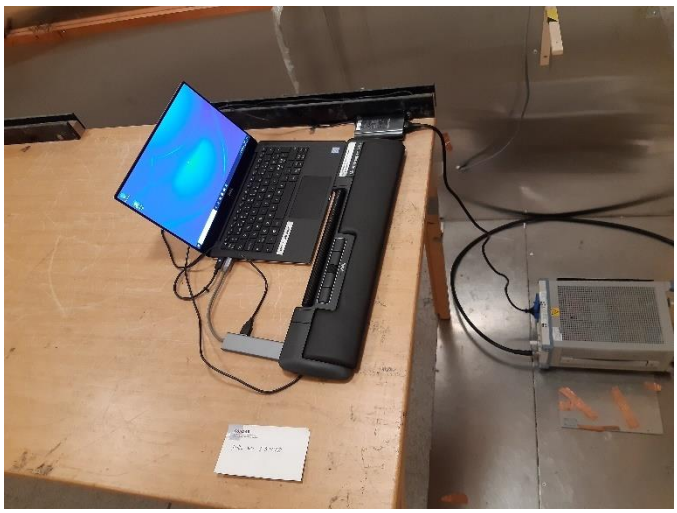
☒ Additional tests were performed at discrete spot frequencies with 3V/m test level. Spot frequencies which were tested: 80 MHz, 120 MHz, 160 MHz, 230 MHz, 434 MHz, 460 MHz, 600 MHz, 863 MHz, 900 MHz, 1800 MHz, 2600 MHz, 3500 MHz, and 5000 MHz

OBSERVATIONS

No malfunctions were recorded during or after the applied test(s).
Observations showed no unintended responses during test(s).

Annexes

PHOTOS

Test set-up for EMC emissions measurements	
	
Conducted emission	Radiated emission

Test set-up for EMC immunity tests	
	
Radiated RF Immunity	ESD